RESEARCH ON STRESS MANAGEMENT IN INFORMATION TECHNOLOGY COMPANIES

A Thesis
Submitted for the Award of Ph. D. degree

In Business Administration
(Faculty of Commerce and Management)

To the
University of Kota

By
Richa Sharma

Under the supervision of
Dr. Anukrati Sharma
Associate Professor

Department of Commerce and Management

UNIVERSITY OF KOTA
KOTA (Rajasthan)

2020

SUPERVISOR'S CERTIFICATE

I feel great pleasure in certifying that the thesis entitled **"Research on Stress Management in Information Technology Companies"** by **Richa Sharma** Reg. No. RS/299/16 is completed under my guidance. She has completed the following requirements as per Ph.D. regulations of the university.

(a) Course work as per the university rules.

(b) Residential requirements of the university (200 days).

(c) Regularly submitted Annual Progress Report.

(d) Presented her work in the departmental committee.

(e) Published/accepted minimum of one research paper in a referred research journal.

I recommend the submission of the thesis

Date:
Place: Kota, Rajasthan

Dr. Anukrati Sharma
Associate Professor
Department of Commerce and Management
University Of Kota, Kota

ANTI-PLAGIARISM CERTIFICATE

It is certified that Ph.D. Thesis titled **"RESEARCH ON STRESS MANAGEMENT IN INFORMATION TECHNOLOGY COMPANIES"** by **Richa Sharma** has been examined by us with the following anti-plagiarism tools. We undertake the follows:

a. Thesis has the significant new work / knowledge as compared already published or is under consideration to be published elsewhere. No sentence, equation, diagram, table, paragraph or section has been copied verbatim from previous work unless it is placed under quotation marks and duly referenced.
b. The work presented is original and own work of the author (i.e. there is no plagiarism). No ideas, process, results or words of others have been presented as author's own work.
c. There is no fabrication of data or results which have been compiled and analyzed.
d. There is no falsification by manipulating research materials, equipment or processes or changing or omitting data or results such that the research is not accurately represented in the research record.
e. The Thesis has been checked using **Urkund Software** and found within limits as per HEC Plagiarism Policy and instructions issued from time to time.

Richa Sharma
Research Scholar

Place: Kota
Date:

Dr. Anukrati Sharma
Research Supervisor

Place: Kota
Date:

Abstract

Professionals of I.T. companies are always under constant Stress due to several factors. They are under pressure to deliver target-oriented and cost-effective services. Strict deadlines, long working hours, job insecurity, work-family imbalance, unachieved ambitions are some of the several acute stress builders, which develop psychological and health related problems among them. This stress causes damped initiative, reduced commitment and poor motivation, which adversely affect their performance. As such, stress among I.T. professionals has been a matter of attention and great concern.

This research study follows the standard methods of statistical research with a new and innovative approach, to investigate the various factors that contribute to stress among professionals of Multinational I.T. Companies of Noida City. The study also investigates the effects of stress on I.T. professionals along with various stress management method used by individual employees and companies. Useful suggestions are made for I.T. professionals and companies.

Extensive review of literature made the researcher to fix four major categories of stressors among I.T. professionals: Individual Stressors, Group Stressors, Organizational Stressors and Extra-Organizational Stressors. Organizational Stressors are the most important category of Stressors and they are further classified among eight sub-categories: Stressors related to – Environment, Nature of Job, Subordinates, Organizational Climate, Relationship within Organization, Role in Organization, Career Design and I.T. Specific Issues.

Ten demographic and job-related variables have been selected for in depth study: Gender, Age, Experience, Education, Salary, Food Habits, Marital Status, Type of Family, Spouse's Employment and Present Staying.

Census survey method has been selected for this study. A suitable instrument (Questionnaire) has been developed for primary data collection for measurement of stress among professionals of I.T. Companies of Noida City. A suitable sample of

150 professionals working in different multinational I.T. companies was selected for this study. Out of 150 distributed questionnaires, 137 were received completely filled in. Statistical Analysis of data was done using various statistical tools made available by world renowned Statistical Software Packages: SPSS, JASP and Real Statistics Using Excel.

The profile of the sample-respondents as portrayed by their demographic and job-related variables has been analyzed in detail. Explorative study has shown that majority of respondents are having high stress level. The study measures the levels of stress and correlation among various stressors. A linear multiple regression model, has been presented to express the combined effect of various stressors on overall stress level.

Effects of stress on respondents' health have been studied in detail. It has been observed that majority of respondents experience dominant level of effect. The observed effects of stress experienced by various categories of respondents have been identified and listed in order of their occurrence. Analysis reveals that effects of stress because of various demographic as well as job-related variables on the health of majority of respondents are of dominant nature. Effects of positive stress (Eustress) and COVID-19 have also been discussed.

It is believed that the findings of the present research study will help IT professionals and companies in understanding of stress and its effects in a better way. This will help them in developing strategies for better stress management.

In brief, the results of this investigation would contribute significantly in better understanding of stress and its effects on I.T. professionals of multinational companies and will be helpful in managing this important problem. The results of this research study would certainly enrich the present literature on stress management.

The thesis is divided into 5 chapters.

Chapter 1 introduces the background related to the present problem of stress management of employees of Information Technology companies and explains the need for this research study. It brings forth the research design along with the research questions that arise. It lists the objectives set for the study. It also elaborates

the significance of this research investigation and outlines the scope of this study. Structure of this thesis is presented at the end.

Chapter 2 covers a detailed review of the wide range of research literature available for this research investigation. It also explains the issues emerged and gaps in the earlier studies.

Chapter 3 starts with an introduction of stress management research for professionals of Information Technology companies. It explains the categories of various stressors, variables, hypotheses, method of study, design of tool for data collection, classification of stress levels and levels of stress effects. It discusses pre-testing of data collecting tool, data collection process and its tabulation, internal consistency/reliability test for data, statistical software and tools used for data analysis and the limitations of this study. Thus this chapter elaborates research methodology for the present research work.

Chapter 4 is concerned with the detailed analysis and interpretation of primary data collected using a self-designed questionnaire for the study of stress and its adverse effects on professionals of I.T. companies located at Noida City. For reasons of better consistency and convenience, the researcher selected three world renowned statistical software packages for the present data analysis: SPSS, Real Statistics Using Excel and JASP. The outcome of this data analysis consists of results in the form of several tables and charts. These results are interpreted and conclusions are drawn from them.

Chapter 5 presents a summary of findings of this research investigation. Conclusion drawn from these findings is provided along with valuable suggestions.

SUMMARY: provides the summary of the thesis.

BIBLIOGRAPHY: lists the references.

PUBLISHED PAPERS: presents two research papers published in referred journals.

APPENDIX: provides the **'Questionnaire'** used for collecting primary data for the present research study.

This research concludes that majority of I.T. professionals are experiencing high level of stress, which causes dominant effects on them. Popular stress management methods used by I.T. employees and companies have been identified and valuable suggestions have been made for I.T. professionals and companies for better stress management. COVID-19 effect can be viewed as a mix of challenges and opportunities for I.T. companies and their professionals.

CANDIDATE'S DECLARATION

I, hereby, certify that the work, which is being presented in the thesis, entitled **"Research on Stress Management in Information Technology Companies"** in partial fulfillment of the requirement for the award of the Degree of Doctor of Philosophy, carried out under the supervision of **Dr. Anukrati Sharma** and submitted to University of Kota, Kota represents my ideas in my own words and where others ideas or words have been included, I have adequately cited and referenced the original sources. The work presented in this thesis has not been submitted elsewhere for the award of any other degree or diploma from any Institutions.

I also declare that I have adhered to all principles of academic honesty and integrity and have not misrepresented or fabricated or falsified any idea/data/fact/source in my submission. I understand that any violation of the above will cause for disciplinary action by the University and can also evoke penal action from the sources which have thus not been properly cited or from whom proper permission has not been taken when needed.

Date: **Richa Sharma**
Place: Kota

This is to certify that the above statements made by Richa Sharma (Reg. No. RS/299/16) is correct to the best of my knowledge.

Date: **Dr. Anukrati Sharma**
Place: Kota Research Supervisor
Department of Commerce and Management
University Of Kota, Kota

ACKNOWLEDGEMENT

This research study would be short of completion, if I do not mention the persons whose immense cooperation helped in making it possible. I was able to bring this thesis to the present shape only because of hearty support and immense cooperation of several well-wishers.

First and foremost, I am immensely grateful to my research supervisor Dr. Anukrati Sharma, Associate Professor, Department of Commerce and Management, University of Kota, for her constant encouragement, support and valuable guidance. She has exceptionally inspired me and enriched the growth of my research work, through her novel ideas, comments and suggestions at every stage. I am highly indebted to her for her affectionate help, without which this work would not be possible.

I am indebted to (Late) Dr. D. C. Jain, former Dean of the University for his Encouragement, Constant support and Guidance, during the evolution of my research study.

I express my gratitude to Dr. Anita Sukhwal, Head of Department, Commerce and Management, University of Kota, for providing various research facilities of the department. I also thank members of the faculty for their support and useful suggestions.

I am highly thankful to Dr. Rajeev Jain, Former Dean & HOD of the department for his Cordial help and advice.

I am highly grateful to Dr. O. P. Rishi, Former Director Research of University of Kota for his cordial help and encouragement.

I extend my sincere gratitude to Dr. Ashu Rani, Director Research and Dr. Vipul Sharma, Deputy Registrar Research, University of Kota for their constant help and cooperation.

I wish to thank Mr. O. P. Gupta, Mr. Chaman Tiwari and other members of the Research Department for their cordial help.

I wish to record hearty thanks to my family and my well-wishers for their love, care and blessings. I am grateful to my maternal Uncle Prof. R. K. Sharma and maternal Aunt Dr. Sudha Sharma, for their useful comments and suggestions.

I am short of words in expressing my gratitude to my affectionate father-in-law Dr. Prakash Sharma and loving mother-in-law Dr. Mridula Sharma for the motivation, guidance and inspiration, they extended all through my research work. I am highly thankful to my caring brother-in-law Shri Gaurav Mudgal and my loving sister-in-law Dr. Aditi Mudgal for their inspiration and encouragement. I thank my little niece Anaya for her cheering smile and love for me.

I am highly grateful to my affectionate father Shri Vinod Sharma and my loving mother Smt. Chandrakala Sharma for their hearty support and blessings. I thank my brother Akshaya Sharma for his love and constant support.

Words fail to express my gratitude to my husband Dr. Aditya Sharma for his love and persistent confidence in me. Thanks to my loving son Pinaksh for his radiant smile that leaves my spirit high.

I also thank all the officers and staff of various multinational IT companies of Noida city for their cheerful help in distribution and

collection of questionnaires, which helped me in obtaining primary data for this research study.

Finally, I thank everybody who has helped me directly or indirectly in realization of my thesis.

I thank Almighty for his blessings and ignoring my flaws.

Date: (Richa Sharma)

Contents

List of Tables

List of Figures

Abbreviations

AI	**-**	**Artificial Intelligence**
IT	**-**	**Information Technology**
MNC	**-**	**Multi National Company**
SMI	**-**	**Stress Management Interventions**

CHAPTER 1

INTRODUCTION

CHAPTER 1

INTRODUCTION

1.1 BACKGROUND

An individual encounters stress whenever he faces an occasion or circumstance which is beyond his capability to cope. Stress disorganizes an individual's capabilities to control social, psychological and biological variables, thus influencing his normal working. Generally, high demands with a little power of control at workplace cause job stress. Growing job stress is a significant problem faced by all professions.

Stress at the workplace has adverse effects on employees and they experience anxiety, fatigue, depression, tension, headache and stomach disorder, loss of sleep or cardiovascular disease. This causes absenteeism, reduced productivity and poor performance. Thus, job stress among employees has been a matter of attention and great worry to organizations as well as individuals. In today's fast-moving society, dealing with employee stress and adopting the most suitable stress management approach is very challenging for any organization.

Information Technology sector has made a tremendous contribution in accelerating India's economy. It has placed country's name among top in the planet's I.T. business. Our country is a hub of abundant skilled I.T. professionals. This has helped I.T. companies in the development of cost-effective products for their clients. As such, it is possible for them to place their products as well as services in the world market at competitive rates. Because of this reason, India has become a preferred place of outsourcing for I.T. multinational companies. The biggest advantage that I.T. industry provides is the huge employment it generates for the youth. The future continues to appear bright. This industry expected to create about five lakh jobs during 2019.

While one can celebrate and feel proud of the huge success of I.T. industry, one cannot forget its all-around effect on work lives of professionals of I.T. companies. I.T. jobs widely differ from traditional jobs. They are mostly contractual

with no job security. However, they offer high pay and a glamorous lifestyle. These professionals are always under constant pressure to deliver target-oriented and cost-effective services. They need to align to the time zones of their customers, which greatly alter their sleep schedules. Events like mergers, downsizing, short-time duration of projects and rapid changes in new technologies create job insecurity and anxiety.

Many times unreasonable work demands, strict deadlines, long working hours, fear about making mistakes, no participation in decision making regarding their job work, difficulty in adjustment with job team etc. are some of the other common stress-builders among I.T. professionals. Moreover, I.T. professionals give high priority to their personal goals and growth. They have a different set of needs, aspirations and expectations from other categories of employees. Acute stressful dissatisfaction develops among them if their ambitions are not achieved. Thus, I.T. professionals are known to witness maximum stress.

In short, I.T. professionals are in a constant state of stress, which develops several psychological and health-related problems. As such, they are known to suffer from exhaustion, depression, poor health, frequent absenteeism, damped initiative, reduced commitment and motivation with performance and desire of job shift.

I.T. companies have understood that I.T. professionals with their high skill and expertise are precious to them. They have also realized that they must adopt an innovative management approach to attract, motivate and retain them. Moreover, there must be an appropriate stress management strategy for them, so that they give their best performance.

1.2 NEED FOR THE STUDY

Stress is an unavoidable factor in the life of an employee of an IT Company. Stress has implications for both the individual and the IT Company.

An individual IT employee, when stressed, can experience sickness, anxiety, depression, poor performance and reduced productivity. Stress may cause poor health, excess use of alcohol, smoking or drugs. This might lead to a high rate of absenteeism, work burn out and a desire to change careers. His well-being and family life may also be adversely affected.

From IT Company's perspective, employee stress may affect the company in several ways at a substantial cost. Employees' poor performance and reduced productivity may adversely affect the company's overall performance, progress and growth. The company may face the problem of absenteeism and subsequent loss of numerous working hours. Some stressed employees may quit the job. Thus, money and time invested in their training are lost. Moreover, the company may fail to deliver a high quality of customer service, thus affecting its reputation. The company may lose valuable clients and may lag in the present competitive global market. This, in turn, will fail to attract talented youth to take up the company's challenging jobs.

When several IT Companies are adversely affected by employee stress, their contribution to IT sector and national economy is greatly reduced. Thus, the problem of employee stress in IT companies is a matter of great concern. As such, a detailed research study to identify the various factors leading to stress among IT professionals is urgently needed. It is also required to evaluate the level of their stress and to reveal the various approaches and techniques adopted by individuals and IT Companies to deal and cope with employee stress. The study should also focus on suggesting the most appropriate stress management methodologies for the individual employees and for the IT Companies to reduce employee stress.

Literature review has shown that a few detailed research studies have so far been made on stress management among employees of IT Companies.

This motivated the researcher to take up the present study on the topic:

"Research on Stress Management in Information Technology Companies."

1.3 RESEARCH DESIGN

The present research study follows the standard methods of statistical research, as discussed by the renowned authors of this field [Kothari, 2004; Marczyk et al., 2005; Singh, 2006; Adams et al., 2007; Kumar, 2011 & Shinde, 2015]. However, it uses a new and innovative approach to analyze the various factors causing employee stress and its level. Adverse effects of stress on individual employees as well as I.T. companies have been explored. The study focuses on identification of most appropriate stress management methods for handling employee stress. Various statistical tools provided by the world-renowned Statistical Software Packages: SPSS 16.0, Real Statistics Using Excel [Zaiotz, 2019] and JASP [JASP Team, 2019], have been selected for statistical analysis of research data.

1.4 RESEARCH QUESTIONS

The present study is aimed to reveal the answers to the following research questions:

1. What are the causes of stress among professionals of I.T. Companies?
2. What is the level of their stress?
3. What are the effects of stress on their health?
4. What are the coping strategies, adopted by individual employees to handle their stress?
5. What are the stress reducing strategies, adopted by I.T. Companies for their employees?
6. How can their stress be further reduced?

1.5 OBJECTIVES OF THE STUDY

For the employees of I.T. Companies:

1. To identify various sources of stress in employees.
2. To know the level of stress in employees.
3. To identify physical, emotional and mental effects of stress.
4. To ascertain the methods adopted by employees to overcome their stress.
5. To ascertain the methods adopted by I.T. companies to overcome employee stress.
6. To identify the steps further required for handling stress of I.T. company employees.

1.6 SIGNIFICANCE OF THE STUDY

A detailed research study on Stress Management in Information Technology Companies is very important, because no such study has so far been conducted with the innovative approach, as followed in this study. The research investigation highlights the various stress related issues and suggests appropriate solutions. This enhances the present learning of this field. The study is in larger interest of the society.

In brief, the results of this research investigation would contribute significantly in better understanding of stress and its effects on professionals of I.T. companies along with identification of most appropriate stress management methods to tackle this important problem. The results of this research study would enrich the present literature on stress management.

1.7 SCOPE OF THE PRESENT STUDY

Scope of the present research study/investigation is limited to employees of Multinational Information Technology Companies located at Noida City. The research study is focused on identification of causes of employee stress and its adverse effects on these employees. The study is aimed to highlight the most suitable stress management methods to handle the problem. This will enable I.T companies to meet effectively the several challenges presently faced by them, due to employee stress.

1.8 STEPS IN RESEARCH WORK

Following steps were followed in this research work:

STEP 1

Literature Review of previous research findings and writings of experts relevant to the present topic of study. This included review of books, journals, dissertations, theses, and other relevant sources of information on the topic. This gave a clear perspective of the field of study. It also revealed the gaps in the research work done so far.

STEP 2

Adopting a quantitative approach to the research work and designing a data collecting tool: A Questionnaire prepared in view the research questions and objectives. Distributing the questionnaires to a representative and a suitable sample of employees of multinational I.T. companies, located at Noida City and collecting the filled-in questionnaires.

STEP 3

Entering of primary data from the filled-in questionnaires to a spreadsheet package in computer to obtain the main data file.

STEP 4

Analyzing the main data file, using various statistical tools supplied by world renowned Statistical Software Packages and obtaining the results in the tabular and charts form.

STEP 5

Interpreting the results along with summarizing the findings of study. Submitting appropriate and valuable suggestions.

1.9 STRUCTURE OF THESIS

The thesis on: **"Research on Stress Management in Information Technology Companies"** has been organized into five chapters.

CHAPTER 1 - INTRODUCTION

Chapter 1 introduces the background related to the present problem of stress management of employees of Information Technology companies and explains the need for this research study. It brings forth the research design along with the research questions that arise. It lists the objectives set for the study. It also elaborates the significance of this research investigation and outlines the scope of this study. Structure of this thesis is presented at the end.

CHAPTER 2 - REVIEW OF LITERATURE

Chapter 2 covers a detailed review of the wide range of research literature available for this research investigation. It also explains the issues emerged and gaps in the previous studies.

CHAPTER 3 - RESEARCH METHODOLOGY

This chapter starts with an introduction of stress management research for professionals of Information Technology companies. It explains the categories of various stressors, variables, hypotheses, method of study, design of tool for data

collection, classification of stress levels and levels of stress effects. It discusses the pre-testing of data collecting tool, data collection process and its tabulation, internal consistency/reliability test for data, statistical software and tools used for data analysis and the limitations of this study. Thus this chapter elaborates research methodology for the present research work.

CHAPTER 4 - DATA ANALYSIS AND INTERPRETATION

This chapter is concerned with the detailed analysis and interpretation of primary data collected using a self-designed questionnaire for the study of stress and its adverse effects on professionals of I.T. companies located at Noida City. For reasons of better consistency and convenience, the researcher selected three world-renowned statistical software packages for the present data analysis: SPSS, Real Statistics Using Excel and JASP. The outcome of this data analysis consists of results in the form of several tables and charts. These results are interpreted and conclusions are drawn from them.

CHAPTER 5 - FINDINGS, CONCLUSION AND SUGGESTIONS

This chapter presents a summary of findings of this research investigation. Conclusion drawn from these findings is provided along with valuable suggestions.

SUMMARY: provides the summary of the thesis.

BIBLIOGRAPHY: lists the references.

PUBLISHED PAPERS: presents two research papers published in referred journals.

APPENDIX: provides the **'Questionnaire'** used for collecting primary data for the present research study.

REFERENCES:

Adams, J., Khan, H. T. A., Raeside, R. & White, D. (2007). *Research Methods for Graduate Business and Social Science Students*. New Delhi: Response Books.

JASP Team (2019). JASP (version 0.9.2.0) [Computer Software]. Retrieved March 20, 2019, from https://jasp-stats.org

Kothari, C. R. (2004). *Research Methodology: Methods & Techniques* (2nd ed.). New Delhi: New Age International (P) Limited Publishers.

Kumar, R. (2011). *Research Methodology: a step-by-step guide for beginners* (3rd ed.). London: SAGE Publications Ltd.

Marczyk, G., DeMatteo, D., & Festinger, D. (2005). *Essentials of Research Design and Methodology*. New Jersey, NJ: John Wiley & Sons, Inc.

Shinde, S. R. (Ed.) (2015). *The Peer Reviewed Proceedings of UGC Sponsored One Day Interdisciplinary National Conference on Research Methodology*, 28 November 2015. Nanded, Maharashtra: Shivani Publication.

Singh, Y. K. (2006). *Fundamental of Research Methodology and Statistics*. New Delhi: New Age International (P) Limited Publishers.

Zaiotz, C. (2019). Real Statistics Using Excel [Computer Software]. Retrieved March 13, 2019, from http://www.real-statistics.com

CHAPTER 2

REVIEW OF LITERATURE

CHAPTER 2

REVIEW OF LITERATURE

This chapter covers a detailed review of the wide range of available research literature on the related subject. This includes review of books, journals, dissertations, theses and other relevant sources of information on the topic. This gives a clear perspective of the field of study. It also explains the gaps in the previous studies.

2.1 INTRODUCTION

The earliest research related to Stress is traced to **Canon (1932)** in the 1930s, who conceptualized the "*fight or flight*" theory to highlight how living organisms respond to harmful environment. **Selye (1956)** introduced for the first time the term **"Stress"** into life science. It was derived from a Latin word "Stringere" meaning: '*to be drawn tight*'. Various terms used synonymously with stress are frustration, anxiety and pressure. Factors which lead to stress are called "**stressors**".

According to **Robbins (2003) -** "Stress is a dynamic condition in which an individual is confronted with an opportunity, constraint, or demand related to what he or she desires and for which the outcome is perceived to be both uncertain and important". **Bennet (1994)** defined stress "as a wide collection of physical and psychological symptoms that result from difficulties experienced by an individual while attempting to adapt to an environment".

Stress at workplace emerged as a big problem for organizations. National Institute for Occupational Safety and Health found that about 80% of workers are affected by job stress. **Keeley and Harcourt (2001)** showed that "Stress is caused by heavy work demands in the job itself". **Sauter and Murphy (1995)** defined work stress as "the harmful physical and emotional responses that occur when requirements of the job do not match the capabilities, resources or need of the worker". Generally, high demands of job and little control of the situation leads to stress.

Quick and Quick (1984) suggested four major types of stressors: Physical demands, task demands, role demands and interpersonal demands. **Hendrix (1994)** proposed work overload, control supervision with support, work autonomy, role conflicts and role ambiguity as five major organizational stressors. **Cooper and Marshal (1976)** identified "intrinsic nature of work demands, employee intrinsic role participation, interpersonal workplace conflicts, slow career progression and fragmented organizational structure & climate" as the five broad factors causing workplace stress.

The work stress is found in all professional jobs **(Premkumar, 2018)**. However, IT jobs are known for their very high stress level. These jobs are mostly contractual, highly target driven and result oriented. Globalization, cut throat competition, long working hours, fear of obsolescence, threat to job security are some of the major reasons of high stress in IT professionals.

Several investigations have shown that job stress (occupation stress) leads to many negative consequences. This may adversely affect employee health and cause anxiety, tension, absenteeism, reduce motivation and productivity, and desire to leave the job. All these reasons adversely affect overall performance and productivity of the organization. As such, it is essential for an organization to follow such policies and programs which effectively manage job stress at workplace.

Several researchers have investigated the problem of stress management and effective coping methods. A review of these investigations is presented here.

2.2 REVIEW OF LITERATURE

The reviews of various studies referred from journals, dissertations and theses are presented in two parts:

1) Research Studies relating to stress in general
2) Research Studies relating to stress in Information Technology companies

2.3 RESEARCH STUDIES RELATING TO STRESS IN GENERAL

Imtiaz & Ahmed (2009) investigated the influence of stress over productivity, performance as well as turnover of employees. Findings show that general attitude of managers is the main cause of high stress and poor employee performance. The study suggested that effective management should be practiced by the managers otherwise potential of efficient employees may be wasted. This may cause threat to organizational goals & may lower overall performance.

Banu et al. (2010) investigated factors causing employee stress and examined the effectiveness of practiced stress management policies in SRF Limited, which is a private sector unit. The study noticed that job-security threat, high targets, high workload and noise pollution are the main factors of work stress among employees. Suitable measures to minimize work stress are needed to be taken urgently by the management.

Kumari & Pandey (2011) analyzed the stress management practices at Avtar Steel Industries located at Chennai. Most of the employees found that physical & psychological environmental conditions were quite satisfactory at the workplace. Training programs conducted by organization were useful. However, many employees were not happy with the grievance-handling procedures. The study suggested that organization should treat the employees with respect and should value their contribution.

Dwamena (2012) investigated the factors causing work stress and their influence on employees' productivity. It was noticed that negative factors which stressed employees, had a negative impact on productivity. Thus, it was proved that stress had a negative impact on employees' productivity.

Majidi et al. (2012) examined the influence of stress management related training in happiness to employees of ports & shipping. The study observed that

occupational stress and employees' happiness are inversely related. Holding training workshops in stress management help in developing employees' mental status and reducing occupational stress thus improving organizational efficiency. This in turn enhances employees' happiness and saves the costs of job desertion, employee substitution and transfer.

Deshpande (2012) focused his study on practices followed by various organizations for prevention, minimization and controlling workplace stress. The study examined the adoption of yoga, meditation & soothing humor to control workplace stress. The study inferred that workplace stress and yoga, meditation & soothing humor have a positive as well as significant relationship. Thus, yoga-based interventions result in significant reduction in workplace stress.

Sujatha & Raju (2013) examined stress management of workers employed in MNC's of Chennai City. The study noticed that employee stress was independent of gender, age, present position and total experience. Organization can reduce employee stress to a larger extent by using proper stress management methods.

Habibi et al. (2013) conducted a study to evaluate the influence of stress management related skill training on anxiety, depression & levels of stress in drug addicts when interventions are withdrawn. Findings showed that skill training in stress management effected in significant reduction of emotional reaction. It was noticed that even after two months of completion of training, the effect was retained.

George (2014) investigated job stress among various Bank Managers of Trichi City in Tamilnadu. The study noticed that majority of Bank Managers were experiencing high stress level. Majority of them had tolerable effects of stress. Mother tongue, gender and present stay of bank managers were not related to

their stress levels. However, salary and experience were related to their stress level. All the stressors were contributing towards total stress but not equally.

Gopika (2014) examined the impact of experience over stress level in banking industry. The study noticed that majority of the employees in banks were under stress. The study suggested introduction of appropriate job oriented programs and open channels of communication to reduce employees' work stress. The study also suggested improvement in grievance handling procedures of the organization.

Kotteeswari & Sharief (2014) investigated employees' satisfaction at BPOs. The study found that irrespective of age and gender, most of the BPOs' employees were experiencing job stress which influenced their performance. This study recommended that management should control some of the stress causing factors and the employees should use yoga, meditation and some exercise to overcome their stress. In this way employees' satisfaction level can be enhanced.

Nirmala (2015) investigated the stress factors of bank employees and examined their coping methods at workplace. Findings indicated that the employees were stressed due to fear of lacking in their quality of work. Work overloads, high targets, conflict among employees, neglect of family related problems due to job work were the leading stressors. Employees were using yoga or some other stress relieving methods. In spite of stress, most of them were able to balance their social life.

Akanji (2015) conducted a critical study of various views about work stress and its influence on employees as well as organization. The study suggested that more emphasis be placed on active communication with the employees regarding their workplace stressors. Organizations should prioritize those practices and policies that involve its employees in decision making by focusing

on employee empowerment, work autonomy, effective workplace communications and self-managed team work. Other suggested interventions are - proper workload adjustment, proper workplace ergonomics, role clarification, suitable performance evaluation with feedback systems and adoption of transformational style of management.

Narban et al. (2016) conducted a conceptual study over occupational stress along with its subsequent effects. The study indicated that too much stress at workplace generates a toxic effect, whereas too little stress creates boredom, apathy and poor performance. Job satisfaction & job stress are inversely correlated. Organizational, environmental and individual variables manifest themselves in occupation stress. Stress is additive and role stressors and job stress, are positively related. Occupational stress should be harnessed and be reduced to minimum, so that proper work-environment is created in the organization.

Bhui et al. (2016) conducted a study to determine causes of work stress along with personal and organizational interventions used to manage stress at private, public and non-governmental organizations. The study noticed that adverse working conditions along with improper management practices were the common causes of job stress. Stress-causing management practices included lack of support, unrealistic demands, unfair treatment, lack of appreciation, low decision latitude, effort-reward imbalance, lack of transparency, conflicting roles and poor communication. The study suggested following of those stress interventions which include physical exercise, proper work breaks, and provision of sufficient time for planning work tasks.

Ekienabor (2016) conducted a study to examine the influence of employee job stress on productivity and commitment of academic staff employed at Nigerian Universities. The study observed that job stress affected both productivity and commitment of these professionals. High job stress with no control lowers

employee performance which in turn lowers organizational reputation and this causes loss of skilled talent. The study suggests introduction of suitable stress interventions to reduce work stress, thus enhancing employee satisfaction.

Hoboubi et al. (2016) investigated the influence of job induced stress and observed job satisfaction on workplace productivity of employees in Iranian Petrochemical Industry. The study noticed that employees' perceived stress as well as job satisfaction was moderately high and moderate respectively, whereas productivity was moderate. Regression modeling depicted that productivity was related to shift schedule, role insufficiency, role ambiguity and supervision support. The investigation suggested that role insufficiency and role ambiguity should be enhanced, and supervision support should be improved to decrease job stress and improve productivity as well as job satisfaction.

Okeke et al. (2016) examined the impact of employee stress over employee productivity at Nigerian banking industry. The study found that pressure of workload caused stress, and greatly affected employee performance and productivity. The study observed the necessity of suitable remedial measures for reduction in employee stress.

Sagunthala & Karthikeyan (2016) examined occupational stress of employees at textile shops such as 'The Chennai Silks, Coimbatore'. The study noticed that workload, time pressure, lack of rewards & recognition and lack of individual autonomy were the major stressors. The study suggested that management should arrange suitable stress management training programs for the benefit of employees. It was also suggested that the employees should be treated with respect and their contribution should be valued. These measures will increase business revenue and will improve employee retention.

Nivethitha & Rita (2016) focused their research study on issues of identification of causes, symptoms and outcome of stress among student

community. It also included role of parents, friends and faculty members in managing stress of students. Findings noted that students everywhere are experiencing stress due to irritating conditions, excess of work, high educational requirements, stiff competition and high ambitions. The study suggested that special stress management training programs must be geared specifically for students.

Jani (2016) in the research investigation on "*Stress Management Practices in Indian Industry*" focused on causes of stress at workplace and study of stress management techniques followed by best employers of Indian industry. Findings indicated that best employers provide very warm and sound organization culture to their every employee. They focus on stress management and essential healthcare to enhance employee well-being as well as work-life balance.

Jeevitha et al. (2017) investigated stress level of top level professionals along with their coping strategies. Although the views of the professionals varied, yet it was true that many of them practiced yoga and meditation for reducing their stress. The study found that yoga and meditation revitalized and nourished their minds, bodies and spirits over a prolonged duration of time. This in turn enabled long as well as healthy lives.

Vijayan (2017) investigated the impact of employee's job stress on the job performance. It was observed that job stress had a significant influence on employee's job performance. Irrespective of age and gender, majority of the employees were experiencing job stress, which they felt, was reducing their performance. The study suggested that the management should create a conducing organizational climate so that employees can work in stress free environment. The study also recommended some useful measures for stress mitigation such as counseling, meditation programs, better incentives and open communication.

Soegoto & Narimawati (2017) conducted a study over stress management and its influence on employee's performance. The study noticed that stress is related to lack of commitment and passion for work. Feelings of boredom and bad mood lead to poor performance. The study suggested that suitable measures should be taken by organization to reduce employees' stress.

Mathur & Bisawa (2017) examined the various approaches taken by organizations to deal with the problem of employee stress. The study noticed that combination of organization behavior along with stress management is the most effective approach to tackle stress level at work. The study observed that designing jobs for their employees using their skills, establishing employees' work schedule and monitoring workload of each employee to ensure that it is practically in line with his capabilities and resources etc. are some of the very useful approaches to handle employee stress. The study suggested that organization should provide opportunities to their employees to socially interact with others. It was also recommended that organization should follow participating leadership style and should involve maximum number of their employees in resolving stress related problems. Other measures suggested were changing procedures and policies, establishing employee assistance programs and conducting stress management training programs.

Bhargava & Trivedi (2018) examined the stressors causing stress among youth. The study noticed that most of youth were highly stressed. The identified symptoms were being eating, headaches and depression. Besides others, main causes observed were relationship stress, psychological and financial stress. In the present competitive environment youth faces career related stress due to fear of scares job opportunities. Stress management strategies used by youth are sound sleep, meditation, practicing yoga, seeking counseling and going out in company of friends. It was also observed that excess involvement with social media has made young generation more self-centered and they now connect mostly through technology. This has reduced physical movement of body and

spending time with relatives and friends. All these things have increased the cases of depression and suicide. The study suggested that young people should plan their objectives systematically, uses technology within limit and should share their emotions with loved ones.

Kumar & Purushothama (2018) reviewed thirty articles which were related to management of stress among working women teachers. The study found that 72% of the respondents were suffering from moderate to high stress. The study noticed that extra workload for non-productive activities; unhealthy work environment and family related problems were the main causes of stress. The investigation suggested that the management should provide conducive and healthy work environment and should reduce allotment of non-productive work to teachers.

Krithika & Rajam (2018) reviewed 47 research papers on occupational stress of women employees. The reviewer noticed that most of the research investigations were conducted on women working in BPOs, IT companies, school level teaching and home. A very few research investigations were conducted on collegiate women teachers. As such, the researcher made an attempt to investigate this field to know about the stressors along with coping strategies used.

Rawal & Mhatre (2018) conducted a research study to examine the stressors, their effects and practiced coping methods by teachers at self-financing schools. The study noted that major cause of stress among these employees is overloaded work. Many times they had to sacrifice their domestic functions in order to complete work assigned at school. It was observed that in spite of huge stress they somehow manage to balance their social life.

Pal et al. (2018) examined work related stress & professional adjustments among medical professionals. The study noted that senior doctors experience

higher stress due to several responsibilities on their shoulders whereas junior doctors do not face such problems. The study suggested that if settled guidelines are made available to doctors, they would be able to better handle their stress. In this way their life may become meaningful and they would be able to perform their duties with better efficiency.

Ehsan & Ali (2019) investigated the influence of work stress over employee productivity in banking staff at Faisalabad, Pakistan. The stress causing variables identified by the study were workload, role ambiguity as well as role conflict. It was observed that stress related factors had negative effects on job environment and decreased employee performance. The investigation suggested that employee stress can be reduced by redesigning of jobs to lower workload, cutting back role conflict & role ambiguity. Moreover the organization can provide counseling and arrange stress management training programs for the benefit of their employees.

Amith et al. (2019) conducted a research study on work-life balance of women teachers. The study noticed that multirole of working women is a major source of work stress. A working woman has to balance among personal health, family health, child care, elder care, economic issues and support to spouse. As such a working woman is highly stressed. The study suggested that management should conduct suitable training programs on stress management for reducing their work stress so that they can lead stress-free happy life.

Bajpai & Srivastava (2019) have investigated the stress management techniques used by various business organizations to empower employees with better management. They have also suggested action plans for employers as well as employees to manage workplace stress and thus achieve business symbiosis.

2.4 RESEARCH STUDIES RELATING TO STRESS IN INFORMATION TECHNOLOGY COMPANIES

Thong & Yap (2000) proposed a theoretical framework for explaining the stress among information system professionals. They reviewed presently existing stress models and made an attempt to classify them. Their analysis revealed that stimulus-response based stress definition is the most appropriate one among these stress models. The proposed model can be employed as a framework to empirically develop and test unified occupational stress model, most appropriate for IS professionals.

Huarng (2001) conducted a study to examine the burnout levels among information system developers of the United States. His findings indicate that burnout levels in these professionals depend on their work content and job types.

Ahuja (2002) presented a new model of barriers generally faced by women professionals in the present information technology field. They attempted to analyze three separate career stages: choice of career, persistence and advancement. Effects of social as well as structural factors which present barriers are explored and discussed. It is suggested that social and structural factors and their mutual interactions result in women turnover in the field of information technology.

Acton & Golden (2002) made a descriptive research study of influence of training initiatives on employee retention in software companies. They explored training initiatives as well as training types along with their consequences. They also investigated influence of these initiatives on knowledge retention. Their research revealed that training helps in knowledge retention within the organization. However, it may not help in employee retention.

Rajeswari (2003) developed an instrument for the measurement of stress among Indian software professionals. She used exploratory factor analysis to identify

ten key factors causing stress in these professionals. These factors are able to explain two-third part of the variance. This study revealed that maximum variance is accounted for by the stress caused because of fear of obsolescence as well as individual team interactions. The measured stress level of the respondents was not high.

Aziz (2003) conducted a study to examine the prevailing organizational role stress affecting Indian IT professionals. His findings show that Resource inadequacy is the most potential stressor. This study also reported that men experienced higher stress than women.

Aziz (2004) investigated organizational role stress intensity among female IT professionals employed in the private sector of India. His findings reported Resource inadequacy as the most potential role stressor. Other identified stressors were personal inadequacy and role overload. This research study also reported that married and unmarried women experience different levels of stress. However, educational level did not appear as a considerable differentiator.

Sethi et al. (2004) conducted a research study to investigate primary stressors among IS professionals. This study categorized and listed 33 most common stressors which affect information system professionals.

Hu et al. (2004) investigated non-pecuniary factors affecting job satisfaction among IT professionals. Their study focused on employees working in business intelligence and data warehousing areas only. It was noted that IT professionals were more satisfied if their job opportunities were better aligned with their career expectations. Moreover, better alignment of jobs with company strategies and jobs giving decision and recommending power, enhanced their job satisfaction.

Danziger & Dunkle (2005) examined job satisfaction determinants for US employees regularly using computers. Findings revealed that job satisfaction is definitely positively related to feelings of autonomy as well as influence on the job. It was observed that increase in working duration on computers decreased job satisfaction. It was also noticed that time pressure creates a dampening consequence on job satisfaction. The study concluded that job satisfaction level is lowered by heavy use of computer technology.

Sharma et al. (2006) examined computer related health issues and their alarming magnitude and pattern among Delhi based IT professionals. Their study revealed that about 93% of them suffered from any one or many of health related problems. They concluded that computer dependent morbidity is a vital occupational health issue and it should be considered a matter of huge concern.

Tsai et al. (2007) investigated the problem of technical obsolescence and relevant coping strategies among IT professionals. The study revealed that not all IT professionals view this problem as a threat. A few of them were of the opinion that updating was enjoyable and in their own interest. However, many of them found continuous demand of updating of technical skill as very stressful and they were forced to use several coping methods.

Bhattacharya & Basu (2007) investigated distress, wellness and related organizational role stress in IT professionals. Findings of this study revealed that women experienced more wellness whereas older professionals experienced more distress. It was also observed that stressful life events together with coping resources were not able to predict distress among IT professionals. However, the two variables mentioned above could help in predicting wellness as well as organizational role stress.

Rao & Pradhan (2007) investigated the effect of personality over perceived deadlines among IT professionals. Their study included 78 IT professionals

employed in different IT companies. The results show that there is considerable difference among different types of personality groups.

Joseph et al. (2007) presented a review of 33 research studies in the field of turnover of IT professionals using meta-analytic techniques. They proposed a better model for IT turnover which addresses the gaps in the existing research work.

Lim (2008) investigated job satisfaction level of IT library workers using demographic, socioeconomic as well as work-related variables. This study concluded that salary, sense of belonging, feeling of acceptance, promotion opportunities, job autonomy and MLS degree were directly in relation to job satisfaction. The study provided answer to the question – why some IT professionals are more satisfied in their jobs than others?

Balasubramanian & Chokalingam (2009) studied the effect of age as well as experience over stress and depression of female IT professionals located at Chennai City, India. This research investigation revealed that age and experience greatly influence the stress and depression of female IT professionals.

Talwar et al. (2009) investigated health related disorders and their associated dependence on working environment in computer professionals employed in Delhi NCR. The study concluded that a large number of these computer professionals are having health related problems due to their working environment and this should be properly addressed.

Rashidi & Jalbani (2009) investigated job stress among 200 software professionals of Pakistan, using 10 stress factors. Findings revealed that all factors did not contribute equally towards overall job stress. '*Fear of obsolescence*' was the highest contributing factor whereas *'workload'* and *'client interaction'* were the next bigger contributing factors. Highest correlation

was observed among *'workload'* with *'work family support'* and *'client interaction'*. Male professionals experienced higher stress level than corresponding female counterparts. Software professionals holding dual role of technology and management responsibilities, experienced higher stress level. However, degree or other qualifications of these professionals did not show any significant influence on their stress level.

Kanwar et al. (2009) examined the impact of *'burnout'* and *'work life balance'* on job satisfaction among professionals working in IT and ITES industries. Findings revealed a positive relation between job satisfaction and work life balance. However, negative relationships were exhibited by exhaustion, de-motivation and meaninglessness towards job satisfaction. Male professionals had higher job satisfaction than corresponding female counterparts.

Subramanian & Vinodkumar (2009) conducted a research study selecting 140 IT professionals to examine relationship among self-esteem, hardiness personality and occupational stress. Findings of correlation analysis revealed that self-esteem and hardiness have a tendency to exhibit negative as well as significant correlation with role ambiguity, role overload, low status and tough working conditions.

Sumangala (2009) investigated stress and its management in IT industry, using a sample of 600 IT professionals selected from various organizations. This research indicated that stress level of IT professionals was moderate. It was also revealed that IT employees were having *'unhealthy coping habits'* and were using *'high risk coping methods'*.

Raghavan et al. (2008) investigated various factors leading to stress in IT professionals. Role ambiguity, perceived workload, decision latitude and work-facilitation, were selected from earlier studies, as main stressors. Flexible schedule of work, employee training and support, and telecommuting were

examined as stress relieving resources. Results showed that improving work-facilitation and removing role ambiguity, diminished work-related stress. Permitting flexible schedule of work eased perceived workload. Training and employee support strategies showed their effect on role ambiguity and decision latitude. However, telecommuting did not show any effect on the stressors.

Kumar & Siddique (2011) conducted a research study to measure occupational stress experienced by IT professionals in various companies located at Chennai, India. The results found that professionals of middle ranks experienced more stress than professionals of lower and higher ranks. The study suggested certain interventions for improvement of organizational resources in IT professionals.

Sharan et al. (2011) examined the prevailing adverse work style and its effects on Indian computer professionals. The research study inferred that work style must be considered as a mediating factor influencing discomfort, musculoskeletal pain and productivity loss. Findings suggest that stress intervention efforts must be directed towards preventing musculoskeletal disorders by focusing on adverse work style as well as biomechanical risk factors.

Calisir et al. (2011) studied various factors influencing intention to quit in IT professionals of Turkey. Role ambiguity, job stress, role conflict, work overload, organizational commitment, job satisfaction as well as work-family conflict, were considered as potential stressors. Findings suggested that intention to leave job could be explained by organizational commitment with job satisfaction. Job stress as well as role ambiguity exert negative indirect influence on intention to leave job. In addition, organizational commitment is meaningfully explained by the influence of job satisfaction. Moreover, prediction of job satisfaction is possible to be made by job stress and role ambiguity.

Wallgren (2011) examined the psychosocial work conditions with a special focus on work motivation of IT consultants. Findings indicate that job demands and motivators are key elements in the framework of job stress. Motivation explains organizational behavior. It also increases performance and commitment of employees. IT workers face constant threat of obsolescence as such they need high level of flexibility and adaptability.

Manojkrishnan (2011) conducted an empirical study of stress and stress management for executives employed in Kerala based IT industries located at Technopark. The study found that many executives experienced stress of moderate level. For senior executives, long working hours, work related travelling, lack of clarity, lack of proper communication, excessive work, low pay, tough competition, feeling of stagnation and job insecurity were the major stressors. Foe executives of middle level, non-transparency of performance evaluation, excessive workload, cultural maladjustment, lot of travelling and office politics were major stressors. For executives of junior level, night shifts, boring job routines, excessive workload, irate customers and office politics were the main factors causing stress. Findings suggest that effective stress management can produce improvement in wellbeing of these professionals, which in turn will improve their productivity.

Uma Devi (2011) focused her study to evaluate stress level of IT employees. The study suggested certain coping strategies which include stress management programs, life style modification programs, planned physical activities in job design, supportive organization culture, finding triggers and stressors, stress counseling programs and spiritual programs.

Rao & Chaudraiah (2012) investigated occupational stress, related mental health, subsequent job satisfaction and stress coping among IT professionals employed at Hyderabad City. Findings showed that mental health and subsequent job satisfaction were mutually correlated but not very significantly.

Moreover, job satisfaction was significantly as well as positively correlated with stress coping pattern. Mental health was found to be significantly and negatively correlated with corresponding occupational stress. The study inferred that increase in job satisfaction as well as mental health, increase coping behavior. However, increase in stress causes decrease in mental health.

Bolhari et al. (2012) conducted an investigation to measure occupational stress level and its relationship with gender, age, work experience as well as stress management programs among IT professionals in Iran. Results showed high occupational stress in these IT professionals. As such, the study pointed out the necessity of suitable stress management strategies and programs for such professionals.

Shrivastava & Bobhate (2012) investigated computer-related health issues among software professionals employed in Mumbai. This research found that musculo-skeletal disorders as well as ocular discomfort along with psycho-social problems are the key health issues faced by these software professionals. The study brought into focus various factors that contribute towards the occurrence of such problems.

Bhattacharya & Ghosh (2012) analyzed various issues related to opportunities and constraints faced by female employees in Indian IT sector. Their study, based on wide secondary literature, revealed that by providing various opportunities, IT sector has increased social mobility and high work participation of women employees. Consequently, this enhanced their financial autonomy and active role in day to day decision-making process and social status. This has also resulted in double income family replacing the single male bread-winner model. However, it is observed that women stagnate at a few lower hierarchy ranks and are constrained to certain specific areas only. There is scant representation of women at top level of hierarchy of IT sector.

Mohan et al. (2013) conducted a study to examine stress levels of software professionals employed in Chennai City of India. The study explored the mutual relationship of stress with self-esteem. Impact of employees' job stress on their health was also investigated. Results revealed that IT professionals with high and medium self-esteem experience high stress level. Work pressure, long working hours, erratic food intervals and anxiety were the major factors influencing their health.

Sailaja et al. (2013) investigated factors contributing towards stress among software professionals employed in Bangalore City. Findings showed that most of the IT employees experienced moderate stress level. Only a few of them experienced high stress level. This study considered work stressors, role stressors, organizational stressors and personal development stressors along with interpersonal relation stressors, as the potent contributors towards overall stress. The correlation analysis showed that highest correlation existed between organizational climate stressors and role stressors. This study also presented a fitted regression line for overall stress.

Darshan et al. (2013) conducted a study of professional stress and depression along with use of alcohol among IT professionals of India. Findings revealed that 51.2% of respondents were professionally stressed, whereas 43.4% of them were at the risk of depression development. Results also revealed that professionally stressed employees were at ten time's higher risk of depression development. Moreover, professionally stressed employees showed 5-9 times' higher harmful alcohol use. Higher professional stress causes risk for depression development and harmful alcohol use among software professionals. It could also affect the advancement of IT development and significantly increase the incidence of psychiatric disorders.

Nanjamari (2013) investigated job satisfaction level among IT professionals employed at Bangalore City (Karnataka). The study started with all possible

factors affecting job satisfaction in general and narrowed down to those factors which are most important for IT employees. Findings of this investigation indicated that general satisfaction is significantly and positively associated with satisfaction level about independence and fundamental factors. Results also indicated that two most important factors of job satisfaction for IT employees are self-rule and occasion for progress.

Shih et al. (2013) focused their study on job burnout and work exhaustion in IT professionals. Earlier studies considered the effects of perceived workload, emotional disorders, conflict autonomy, role ambiguity and fairness of rewards towards work exhaustion of IT employees. This study included additional factors from job burnout theory – reduced feelings about personal accomplishment and depersonalization, thus extending the previous models of IT employee burnout. The new model was found to be more reliable in predicting burnout symptoms.

Babu et al. (2013) investigated job stress and associated hypertension in younger IT professionals of India. Findings showed that dimensions of work place autonomy and work place environment are associated with hypertension.

Thirumaleswari (2013) highlighted stress level of software employees of Chennai City. The study found that the stress level of these professionals vary with the type and nature of work practices followed by the organization. The study suggested that these professionals must be managed differently. They should be treated with respect and their contribution should be valued. To retain skilled workers, their participation in decisions and up gradation of their skills through training programs is needed. Moreover, employees must be encouraged to follow suitable stress relaxation practices to overcome their stress, thus ensuring their better health.

Muthumani & Saranya (2014) aimed to study the perception of female employees working in IT companies located at Chennai City. The study found that most of the female employees working in IT industry never appeared to fear from job or got fed up by job work. However, organization should provide them a satisfactory working environment. It is also needed that their pay is periodically enhanced and they are encouraged to take up part time study programs to ensure brighter future.

Nayak (2014) investigated the comparative level of anxiety along with mental health of mechanical and software professionals. Findings showed that anxiety level of software professionals differed widely from that of mechanical professionals. Significant positive relationship appeared in psychological related dimension of their mental health.

Jomoah (2014) conducted an investigation on work-related effects of health disorder in computer users of Saudi Arabia. The study observed high level of instances of vision-related and musculoskeletal-related complaints. The quantum of complaints was found to increase when - (a) work station ergonomic score decreases (b) duration and age progresses (c) smoking increases (d) computer use increases (e) there is lack of work related satisfaction and (f) operators have history of previous ailments. The study recommended enhancement of work station ergonomics, setting up of proper training programs and conducting periodical examinations of these employees.

Joshy (2014) conducted an investigation to analyze main causes of stress and its consequences on IT professionals in Ireland and India. The investigation also examined the coping strategies followed by these professionals. Findings indicated that the main causes of stress were (a) job related factors (b) organizational structure & climate (c) role of professional in organization. It was observed that many of these professionals did not have access to stress management interventions.

Sahukar et al. (2014) investigated the relationship between job stress, job satisfaction as well as psychosomatic health in software professionals of India. Yoga based coping strategy of these professionals against stress as well as psychosomatic health related problems were also examined. It was observed that in yoga practitioners, no significant relationship is observed between job satisfaction & psychosomatic health. However, in non-yoga practitioners, significant relationship was observed between psychosomatic health symptoms and job satisfaction.

Tharini et al. (2014) submitted a review of research work on stress experienced by working women in IT sector. It highlighted the current concern about the effects of multiple roles of professional women on their health as well as wellbeing along with the impact on their work-family performance. It was observed that these professional women adopted both problem-focused and emotional coping strategies to face role conflict. It was suggested that future research in this field should focus on working hours, working environment, job satisfaction and family support for women IT professionals.

Saleem et al. (2015) carried out an investigation to determine the pattern related to Musculo-Skeletal Disorders as well as its prevalence among Indian software professionals. The investigation concluded that Musculo-Skeletal Disorder is widely reported among Indian software professionals employed in IT field. As such, an appropriate preventive strategy is urgently needed, so that these professionals can work comfortably.

Rathore & Ahuja (2015) analyzed various factors contributing towards organizational stress along with demographic factors' role on Role stress among professionals employed in IT industry of India. The investigation reported that there is significant effect of demographic factors on the Role stress amongst the IT professionals.

Nagaraj & Mahadevan (2015) presented a review of factors leading to employee burnout in IT industry. The investigation identified work overload, zig-zag work allotment, age, role ambiguity as well as role conflict as the major factors leading to burnout of these professionals.

Misra (2015) investigated the influence of globalization on stress level of Indian computer professionals. The study reported a high correlation between the computer professionals working for 5 to 8 years and dissatisfaction. Work pressure, irregular working hours and job dissatisfaction were the main causes of stress among these professionals.

Kowal, & Roztocki (2015) explored the impact of business competence over IT professionals' job satisfaction in Poland. Findings of the analysis showed that in transition economies business competence positively influences IT professionals' job satisfaction. However, it has mixed effects on several aspects regarding job satisfaction.

Jeyaseelan & Bridget (2015) evaluated employees' job satisfaction level in telecom companies of Indian IT sector. It was found that efficiency and job satisfaction have a strong inverse mutual relationship among these professionals. Thus, job satisfaction determines efficiency level of these IT professionals.

Satpathy & Mitra (2015) highlighted various factors contributing towards job stress and the policies followed by various IT companies to overcome the problem of employee stress. The study pointed out that stress management has emerged as the most important parameter to judge the quality of an organization. Organizations implementing stress management effectively are better positioned in attracting as well as retaining talented IT professionals.

Cook (2015) explored the factors predicting burnout of IT professionals. The study showed that emotional exhaustion levels were fairly and evenly distributed

among low, medium and high burnout levels. However, cynicism levels were somewhat skewed towards the higher side. Age is found to be positively correlated with cynicism. IT professionals having lower educational levels experience higher emotional exhaustion and lack of professional achievement.

Setor et al. (2015) investigated the professional obsolescence in IT sector. Results indicated that professional obsolescence's threat is correlated positively with problem-focused coping and not with emotional-focused coping. In addition, professional obsolescence's emotional-focused coping is related to higher ranks of psychological strain. However**,** professional obsolescence's problem-focused coping is not related significantly to psychological strain.

Padma et al. (2015) studied the stress and health related issues in business outsourced IT professionals. It was observed that such professionals were prone to develop several health related problems due to constant physical and mental work stress. It was suggested that proper diet advice, suitable lifestyle modification and psychological counseling would reduce work stress and health related problems in IT professionals, thus improving quality of this work force.

Krishnamurthy & Prabhakaran (2015) highlighted work stress level among IT employees of Chennai City. The investigation found that influence of stress on these professionals, were different in different companies. However, Overall IT sector is quite stressful. Organizational, psychological and personal health related stress factors affect the aged employees to a larger extent. Female employees are largely affected by stress factors related to their job work, emotions and health.

Srinivas et al. (2015) explored the effect of yoga-based intervention on job anxiety as well as perceived stress of IT professionals of India. Findings showed that after a period of eight week intervention, job anxiety was reduced by 19.51% and perceived stress was reduced by 34.77%. The study proves that

yoga based practices help to greatly reduce Job Anxiety and Perceived Stress among Indian IT professionals. The study also highlights the need to examine the role of yoga based practices in IT professionals' work life to a larger extent.

Nakka & Naidu (2016) investigated the challenges and work stress faced by women employed in IT organizations located at Visakhapatnam City. The study observed that changing expectations at home and work have made the situation quite complex. The investigation suggests suitable coping strategies that can help these women workers in better performing their duties.

Shobha & Kalpana (2016) conducted a study to explore the stress causing factors that lead to several diseases like heart attack, obesity and cancer in IT employees. The study highlighted the factors that are needed improvement for reducing occupational stress among IT workers.

Prasad et al. (2016) performed a comparative study to analyze the sources of stress and their impact over employee performance at workplace in Information Technology Sector and International Agricultural Research Institute. The results indicated that the job related stress in general and stress factor job security in particular greatly affects employee performance in IT industry. Long sitting hours at work is reported to cause chronic back and neck pain and other health related problems in IT employees.

Janani, (2016) explored the stress level and its influence on women workers in IT companies located at Coimbatore City. The study observed that with the increase of stress level, impact level also increases. However, employees' productivity level is not affected. Physical and psychological consequences like anxiety, depression, low self-esteem related problems affect married women more than unmarried women employees. The study suggested coping strategies such as positive attitude, medications, proper time management, sound sleep and

healthy food intake for married women. Unmarried women employees are advised to follow basic relaxing techniques and should avoid known stressors.

Jan et al. (2016) developed a new survey instrument for measuring job satisfaction among IT professionals and verified it using factor analysis. Survey findings minimized the variables to five namely: 'Training & development activities', 'Suitable incentives & welfare measures', 'Financial rewards & promotion opportunities', 'Changes in working environment', and 'Proper timing and growth for personnel talent'. Findings suggest that monetary schemes with welfare measures are not sufficient. IT professionals expect up-gradation of their knowledge and skills, challenges in job and proper utilization of their talent.

Nair (2016) explored the influence of stress management in Infosys Company of IT sector. Findings indicated that employees were satisfied with the working environment and were happy with the team work. Shifts and working hours were quite satisfactory. The study noticed that the employees were working with medium stress level that improved their working styles.

Deivasigamani & Shankar (2017) explored work-life balance related issues among female employees in IT sector of Chennai. The research work showed that most of these employees are facing several psychological and physical problems due to their peculiar nature of work. They are facing occupational challenges such as long and late working hours, deadlines, job related pressures, unfair treatment, lack of break timings during work and sexual assaults. They suffer from anxiety and mental tension due to problems in balancing office and home work. As such, better care should be taken to reduce their stress at work place.

Kala et al. (2017) during their research analysis observed that occupational stress greatly affects IT professionals' work-life balance. They concluded that

minimization of occupational stress is essential for improving IT employees' work-life balance.

Dixit (2017) studied the influence of occupational stress over female employees of Telecom industry. Findings indicated that women having internal control over life experience lesser stress than those having external control over their personal lives. An addition, married women are more stressed than unmarried women.

Babu & Balkrishna (2017) analyzed the factors influencing occupational stress, satisfaction in job and coping strategies adopted by Indian IT professionals. Findings reported that biggest contributor towards stress is routine hassle at work place. The study noticed that age, experience, education, income and average working hours have significant relationship with occupational stress. Certain useful suggestions for stress management of IT professionals have been given for improving their workplace environment and work-life balance.

Sabbarwal et al. (2017) identified the prevailing stressors among IT employees. The study noticed that high workload, long & late working hours and family related problems are major contributors towards occupational stress of these employees. Insecurity of job, family issues, ill health, low monetary compensations are the other factors causing occupational stress. These stressors cause physical & mental problems such as high B. P., body and back pain, exhaustion, depression and sleep disorders in IT employees. The study suggested suitable stress management programs for all IT employees.

Shalini & Brindha (2018) explored the job stress among women employees in IT companies of Coimbatore City. The study indicated that majority of these employees are experiencing high stress which causes back pain and other health related problems. The study emphasized the necessity of proper stress management programs for them. It was also suggested that excellent work done

by women IT employees should be acknowledged by suitable rewards and awards. This will make IT industry an attractive and preferred career destination for women employees.

Anantharaman et al. (2018) investigated occupational stress along with demographic characteristics of employees working in IT companies of Chennai and Bangalore. It was observed that employees aged more than 30 years experienced higher stress owing to work-family interface. Employees normally working lesser than ten hours per day, were more stressed owing to the fear of obsolescence, work culture, individual team interaction, technical risk propensity and lack of proper family support. Gender wise, women and men professionals did not differ much in occupational stress. Software development professionals experienced more stress due to the fear of obsolescence. Suitable coping methods have been discussed and recommended for these employees.

Govindaraju (2018) studied the influence of commuting stress on employee turnover problem in IT companies of Chennai. The study noticed that in order to handle the problem of employee turnover, it is essential to eliminate their commuting stress. The study suggested that a lengthy commute can be avoided by changing residence or workplace. 'Work from home' plan can also solve this problem.

Narendra et al. (2018) examined work-life balance of IT professionals in view of corporate and private interests. The study discussed various problems as well as their possible remedies related to work-life balance for different age groups of men and women. The study inferred that the accessibility of work-life policies to all employees is essential in organization to retain brilliant and talented employees.

Subikshaa & Jasmin (2018) analyzed the stress faced by employees in IT sector of India. The study observed that work stress is the most common factor

in IT professionals. The study inferred that the stress is experienced owing to lack of suitable physical environment, long working hours and absence of delegation of authority by seniors.

George & Jayamohan (2018) examined the factors influencing stress among IT professionals. The study identified five major factors influencing stress as – Self-role distance, Inter-role distance, Personal Inadequacy, role boundedness, and Environment. Environmental factors have the greater influence, whereas role boundedness has only little effect towards stress. It was observed that stress resulted in burnout, depression and anxiety.

Premkumar et al. (2018) explored the stress level among employees in IT companies located in and around Tamilnadu State. The study observed that stress can make person constructive and productive if it is timely identified and managed properly. The study advises stressed employee to keep himself busy and harness his anger & energy for some positive achievement. Some of the suitable coping strategies suggested include stress management programs, life style modifications, planned physical activities in job design, identifying triggers and stressors, spiritual programs, supportive organization culture, and stress counseling programs.

Sudarshini et al. (2018) explored the health related problems in computer professionals due to exposure of computer work. The study found that more than three-fourth of such employees suffered from one or more health related problems. The study suggested that an appropriate ergonomic should be applied to enhance the quality of work and reduce their health related problems.

Paul & Krishnan (2018) submitted a working paper on career progression of women in Indian IT sector. Findings reveal that social, biological and family support, are the major factors that influence the women managers' participation and career progression in IT companies. The study observed that although work

policies of IT companies are gender neutral, yet the way they are implemented especially in appraisal process, are constraints in promoting women managers. The study suggested that IT companies need to address the complex and cultural issues limiting the advancement of women so that they can secure better growth and better participation in leadership teams.

Arasu et al. (2019) conducted an investigation to assess the prevailing stress levels of employees working in software companies in urban Coimbatore, Tamilnadu. The study inferred that India being a leading sector in IT, its development is largely dependent on its employees' physical and mental health. Occupation stress (Work stress/Job stress) should be harnessed and should be reduced to minimum in order to provide conducing working environment within the organization.

Bandla (2019) submitted a comprehensive review of literature on occupational stress among IT professionals in India. The analysis revealed that IT professionals are characterized by long working hours, tight schedules, high competition, continuous viewing of Visual Display Units etc., that increase occupational stress and put their health in danger. The review informs about the factors causing stressful situations at work place. It highlights the health related problems along with coping strategies followed by IT professionals.

Satyavathi & Angayarkanni (2019) have observed in their investigation that workplace wellness and job satisfaction of IT sector workers are closely associated. They have suggested wellness program as a measure to enhance the job satisfaction and corporate wellness.

Edward (2019) has outlined the features to improve the employee morale towards their employment in IT sector companies. He has also given certain useful suggestions to the IT companies to lessen employee turnover.

Pradeep & Ramnatha (2019) have developed a conceptual model to reveal the relationship among factors influencing the stress level among IT employees. They concluded that there exists a significant association between stress level with working load and working hours across variables.

2.5 CONCLUSION

From the detailed review of literature following information is obtained:

1. Professionals working in Information Technology Companies experience high level of stress.
2. Stress of IT professionals is a matter of huge concern to IT organizations as well as individual employees because it adversely affects employees' health as well as performance.
3. A few research investigations have been made on employee stress, its effect and coping methods. However, these attempts have been in pieces. A detailed and comprehensive research study with an innovative approach is needed to investigate this problem and find suitable solutions.
4. Broadly, four categories of stressors have been observed among IT professionals: Individual Stressors, Group Stressors, Organizational Stressors along with Extra-Organizational Stressors. Role, effects and Ways of dealing of these stressors should be investigated in detail.
5. Results of this study will be very useful to IT professionals as well as IT companies. Thus, the study will be in larger interest of the society.

REFERENCES

Acton, T. and Golden, W. (2002). Training: The Way to Retain Valuable IT Employees? *Informing Science,* 2(June 2002), 1-12. https://doi.org/10.28945/2434

Ahuja, M. K. (2002). Women in the information technology profession: a literature review, synthesis and research agenda. *European Journal of Information Systems*. 11(1). 20-34. doi: 10.1057/palgrave/ejis/3000417

Akanji, B. (2015). Organisational Stress: Theoretical Reflections and Proposed Directions for Management Research and Practice. *Economic Insights – Trends and Challenges*, IV (LXVII)(4), 27-36. Retrieved February 10, 2018, from http://upg-bulletin-se.ro/archive/2015-4/3.Babatunde.pdf

Amith, D., Vinay, K. B. & Gowramma, Y. P. (2019). Effective Strategies for Stress Management in Work Life Balance among Women Teaching Profession (With special reference to Technical Teachers). *International Journal of Recent Technology and Engineering (IJRTE)*, 8(1S2), 177-182. Retrieved June 21, 2019, from http://ijrte.org/wp-content/uploads/papers/v8i1S2/A00390581S219.pdf

Anantharaman, R. N., Rajeswari, K. S., Ajitha, A. & Jayanty, K. (2018). Occupational Stress and Demographic Characteristics among Information Technology Professionals. *International Journal of Business and Management*, 13(12), 140-150. doi: 10.5539/ijbm.v13n12p140

Arasu, S. K., Dhivakar, R., Chakravarthi, J. C., Kaushik, M. & Kumar, M. A. (2019). Evaluation of professional stress in IT professionals. *International Journal of Community Medicine and Public Health*, 6(3), 1079-1082. http://dx.doi.org/10.18203/2394-6040.ijcmph20190589

Aziz, M. (2003). Organizational role stress among Indian information technology professionals. *Asian-Pacific Newsletter on Occupational Health and Safety*, 2003, 10 (2), 31-39.

Aziz, M. (2004). Role Stress among women in the Indian information technology sector. *Women in Management Review*, 19(7), 356-363. https://doi.org/10.1108/09649420410563412

Babu, G. R., Mahapatra, T. & Detels, R. (2013). Job stress and hypertension in younger software professionals in India. *Indian Journal of Occupational & Environmental Medicine*, 17(3), 101-107. doi: 10.4103/0019-5278.130848

Babu, P. V. S. & Balkrishna, S. (2017). Impact Of Stress On IT Professionals In Information Technology Industry – A Select Study. *International Journal of Human Resource & Industrial Research*, 4(2), 32-41. doi: 10.5281/zenodo.802742

Bajpai, R. & Srivastava, S. (2019). Achieving Business Symbiosis Using Stress Management Techniques. *International Journal of Management, IT & Engineering*, 9(6), 379-387. Retrieved August 20, 2019, from http://www.ijmra.us/project%20doc/2019/IJMIE_JUNE2019/IJMRA-15758.pdf

Balasubramanian, V. & Chokalingam, M. (2009). A study on stress and depression experienced by women IT professionals in Chennai, India. *Psychology Research and Behavior Management*, 2, 81-91. doi: 10.2147/prbm.s6049

Bandla, P. (2019). Occupational Stress among Information Technology Professionals in India: A Systematic Review of Literature. *International Journal of Scientific Research in Computer Science Applications & Management Studies*, 8(1), 43: 1-7. Retrieved February 9, 2019, from https://www.researchgate.net/publication/335619506

Banu, C. V., Santhosh, N. & Venkatakrishnan, Y. B. (2010). A Study On Stress Management With Special Reference To A Private Sector Unit. *International Journal of Management*, 1(1), 1-16. Retrieved January 2, 2018, from http://www.iaeme.com/MasterAdmin/Journal_uploads/IJM/VOLUME_1_ISSUE_1/IJM_01_01_001.pdf

Bennet, R. (1994). *Organisational Behavior* (2nd ed.). London: Pitman Publishing.

Bhargava, D. & Trivedi, H. (2018). A Study of Causes of Stress and Stress Management among Youth. *IRA-International Journal of Management & Social Sciences*, 11(3), 108-117. http://dx.doi.org/10.21013/jmss.v11.n3.p1

Bhattacharya, A. & Ghosh, B. N. (2012). Women in Indian Information Technology (IT) Sector : a Sociological Analysis. *IOSR Journal of Humanities and Social Science (JHSS)*, 3(6), 45-52. Retrieved January 5, 2019, from http://iosrjournals.org/iosr-jhss/papers/Vol3-issue6/F0364552.pdf

Bhattacharya, S. & Basu, J. (2007). Distress, Wellness and Organizational Role Stress among IT Professionals: Role of Life Events and Coping Resources. *Journal of the Indian Academy of Applied Psychology*, 33(2), 169-178. Retrieved March 20, 2018, from http://medind.nic.in/jak/t07/i2/jakt07i2p169.pdf

Bhui, K., Dinos, S., Galant–Miecznikowska, M., Jongh, B. & Stansfeld, S. (2016). Perceptions of Work stress causes and effective interventions in employees working in public, private and non-governmental organisations: a qualitative study. *BJPsych Bulletin*, 40, 318-325. doi: 10.1192/pb.bp.115.050823

Bolhari, A., Rezaeian, A., Bolhari, J. & Bairamzadeh, S. (2012). Occupational Stress Level among Information Technology Professionals in Iran. *International Journal of Information and Electronics Engineering*, 2(5), 682-685. Retrieved June 16, 2018, from http://ijiee.org/papers/187-X128.pdf

Calisir, F., Gumussoy, C. A. & Iskin, I. (2011). Factors affecting intention to quit among IT Professionals in Turkey. *Personnel Review*, 40(4), 514-533. https://doi.org/10.1108/00483481111133363

Cannon, W. (1932). *Wisdom of the body*. New York, NY: Norton and Company.

Cook, S. (2015). Job Burnout of Information Technology Workers. *International Journal of Business, Humanities and Technology*, 5(3), 1-12. Retrieved November 10, 2018, from http://pdfs.semanticscholar.org/0500/d3c6ea9f3a61203b5ae8499405f5698aa0c8.pdf

Cooper, C. L. & Marshal, J. (1976). Occupational Sources of Stress: A review of the literature relating to coronary heart disease and mental ill hearth. *Journal of Occupational Psychology*, 49, 11-28.

Danziger, J. & Dunkle, D. (2005). *Information Technology and Worker Satisfaction*, Irvine CA 92697-4650. Center for Research on Information Technology and Organizations, School of Social Sciences, University, of California. Retrieved March 10, 2018, from https://escholarship.org/uc/item/731586mv

Darshan M. S., Raman, R., Rao, T. S. S., Ram, D. & Annigeri, B. (2013). A study on professional stress, depression and alcohol use among Indian IT professionals. *Indian Journal of Psychiatry*, 55(1), 63-69. doi: 10.4103/0019-5545.105512

Deivasigamani, J. & Shankar (2017). A Study on Problems Related to Work Life Balance among Women Employees in Information Technology Sector, Chennai. *Asian Journal of Applied Sciences*, 5(2), 308-314. doi: 10.24203/ajas.v5i2.4602

Deshpande, R. C. (2012). A healthy way to handle work place stress through Yoga, Meditation and Soothing Humor. *International Journal of Environmental Sciences*, 2(4), 2143-2154. doi: 10.6088/ijes.00202030097

Dixit, N. (2017). Impact of Occupational Stress on Women in Telecom Industry. *International Journal of Environmental Science Development & Monitoring*, 7(1), 1-6. Retrieved December 12, 2019, from http://www.ripublication.com/ijesdm17/ijesdmv7n1_01.pdf

Dwamena , M. A. (2012). *Stress And Its Effects On Employees Productivity – A Case Study Of Ghana Ports and Harbours Authority, Takoradi*. (MBA thesis). Institute of Distance Learning, Kwame Nkrumah University of Science and Technology, Ghana. Retrieved February 8, 2018, from http://ir.knust.edu.gh/xmlui/bitstream/handle/123456789/4835/Mark%20A.%20Dwamena.pdf?sequence=1

Edward, S. (2019). Employee Morale in Selected IT Companies in Chennai City. *International Journal of Recent Technology and Engineering (IJRTE)*, 8(4S3), 274-277. doi: 10.35940/ijrte.D1055.1284S319

Ehsan, M. & Ali, K. (2019). The Impact of Work Stress on Employee Productivity: Based in the Banking Sector of Faisalabad, Pakistan. *International Journal of Innovation and Economic Development*, 4(6), 32-50. doi: 10.18775/ijied.1849-7551-7020.2015.46.2003

Ekienabor, E. E. (2016). Impact Of Job Stress On Employees' Productivity And Commitment. *International Journal for Research in Business, Management and Accounting*, 2(5), 124-133. Retrieved January 10, 2018, from https://gnpublication.org/index.php/bma/article/view/571/563

George, C. M. (2014). *Job Stress Among Bank Managers in Trichy, Tamilnadu*. (Doctoral thesis). Bharathidasan University, Trichy, India. Retrieved January 6, 2019, from https://shodhganga.inflibnet.ac.in/handle/10603/207676

George, L. M. & Jayamohan, M. S. (2018). A Study On Factors Influencing Stress Among IT Professionals. *International Journal of Advance Engineering and Research*, 5(6), 397-402. Retrieved January 6, 2019, from http:// http://ijaerd.com/papers/finished_papers/A_Study_on_Factors_Influencing_Stress_Among_IT_Professionals-IJAERDV05I0637473.pdf

Gopika, G. (2014). A Quantitative Analysis On The Correlation Between Industrial Experience And Stress Level Changes In Banking Industry. *International Journal of Advance Research In Science And Engineering (IJARSE)*, 3(12), 25-32. Retrieved February 10, 2018, from http://ijarse.com/images/fullpdf/1418639419_4_Research_paper.pdf

Govindaraju, N. (2018). Commuting Stress Impact on Employees turnover of Information Technology Small and medium sized enterprises, Chennai. *International Journal of Arts, Humanities and Management Studies*, 4(7), 69-76. Retrieved January 12, 2019, from http://academia.edu/37964177

Habibi, Z., Tourani, S., Sadeghi, H. & Abolghasemi, A. (2013). Effectiveness of Stress Management Skill Training on the Depression, Anxiety and Stress Levels in Drug Addicts after Drug Withdrawal. *International Journal of High Risk Behaviors and Addiction*, 2(2), 82-86. doi: 10.5812/ijhrba.10695

Hendrix, W. et al. (1994). Organizational and Extra Organizational Factors Affecting Stress, Employee Well-being, and Absenteeism for Males and Females. *Journal of Business & Psychology*, 9(2), 103-128.

Hoboubi, N., Choobineh, A., Ghanvati, F. K., Keshavarzi, S. & Hosseini, A. A. (2016). The Impact of Job Stress and Job Satisfaction on Workforce Productivity in an Iranian Petrochemical Industry. *Safety and Health at Work*, 8, 67-71. https://doi.org/10.1016/j.shaw.2016.07.002

Hu, N., Poon, S., Zhong, J. & Wan, Y. (2004). Job Satisfaction of Information Technology Professionals. In *Proceedings of the Tenth Americas Conference on Information Systems (AMCIS 2004)*, New York. Retrieved January 10, 2019, from https://www.researchgate.net/publication/220591626

Huarng, A. S. (2001). Burnout Syndrome among Information System Professionals. *Information Systems Management*, 18(2), 15-20. https://doi.org/10.1201/1078/43195.18.2.20010301/31272.3

Imtiaz, S. & Ahmed, S. (2009). Impact of Stress On Employee Productivity, Performance And Turnover: An Important Managerial Issue. *International Review of Business Research Papers*, 5(4), 468-477. Retrieved January 2, 2018, from https://www.researchgate.net/publication/254406148

Jan, N. A., Raj, A. N. and Subramani, A. K. (2016). Employee's Job Satisfaction in Information Technology Organization in Chennai City – An Empirical Study. *Asian Journal of Research in Social Sciences and Humanities*, 6(4), 602-614. doi: 10.5958/2249-7315.2016.00082.4

Janani, T. S. (2016). A Study on Stress Management Among Women Employees In The Information Technology Sector, Coimbatore City, Tamilnadu. *Namex International Journal of Management Research*, 6(1), 52-56.

Jani, J. M. (2016). Stress Management Practices in Indian Industry. *Journal of Research in Humanities and Social Science*, 4(11), 141-144. Retrieved March 2, 2018, from http://www.questjournals.org/jrhss/papers/vol4-issue11/T411141144.pdf

Jeevitha, M., Nandhinee, E. V. S., Sathish, R., Madhavan, R. & Mathukumar, S. (2017). A Questionnaire Based Survey Study On Stress Management Among Top Level Professionals In Chennai City. *International Journal of Advanced Research in Biological Sciences*, 4(5), 58-65. http://dx.doi.org/10.22192/ijarbs.2017.04.05.006

Jeyaseelan, S. & Bridget, C. (2015). A Study on Job satisfaction of IT Sector Employees in Chennai. *International Journal of Advance Research in Computer Science and Management Studies*, 3(6), 331-337. Retrieved April 6, 2018, from http://www.ijarcsms.com/docs/paper/volume3/issue6/V316-0095.pdf

Jomoah, I.M. (2014). Work-Related Health Disorders among Saudi Computer Users. *The Scientific World Journal*, 2014, 1-27. https://doi.org/10.1155/2014/723280

Joseph, D., Ng, K., Koh, C. & Ang, S. (2007). Turnover of Information Technology Professionals: A Narrative Review, Meta-Analytic Structural Equation Modeling, and Model Development. *MIS Quarterly*, 31(3), 547-577. doi: 10.2307/25148807

Joshy, C. O. (2014). *Analysis Of Stress And Stress Management Interventions Among Employees In The Information Technology (IT) Sector In India And Ireland* (MBA dissertation), I.T. Department, Dublin Business School, Ireland. Retrieved December 20, 2018, from http://esource.dbs.ie/bitstream/handle/10788/2065/mba_joshy_c_2014.pdf?sequence=4&isAllowed=y

Kala, K., Jan, N. A., Subramani, A. K. & Banureka, R. (2017). Upshot of Occupational Stress on Work Life Balance of Employees Working in Information Technology

Organizations in Chennai. *Prabandhan: Indian Journal of Management*, 10(7), 50-59. doi: 10.17010/pijom/2017/v10i7/116494

Kanwar, Y. P. S., Singh, A. K. & Kodwani, A. D. (2009). Work-Life Balance and Burnout as Predictors of Job Satisfaction in the IT-ITES Industry. *Vision: The Journal of Business Perspective*, 13(2), 1-12. https://doi.org/10.1177/097226290901300201

Keeley, K. & Harcourt, M. (2001). Occupational Stress: A Study of the New Zealand and Reserve Bank. *Research and Practice in Human Resource Management*, 9(2), 109-118.

Kotteeswari, M. & Sharief, S. T. (2014). Job Stress And Its Impact On Employees' Performance: A Study With Reference To Employees Working In BPOS. *International Journal of Business and Administration Research Review*, 2(4), 18-25. Retrieved February 10, 2018, from http://ijbarr.com/downloads/2014/vol2-issue4/3.pdf

Kowal, J. & Roztocki, N. (2015). Job satisfaction of IT professionals in Poland: does business competence matter? *Journal of Business Economics and Management*, 16(5), 995-1012. https://doi.org/10.3846/16111699.2014.924988

Krishnamurthy, K. & Prabhakaran, S. (2015). Work Stress Among The Employees In Information Technology (IT) Sector In Chennai City. *Asia Pacific Journal of Research*, I(XXVII), 32-43. Retrieved December 15, 2018, from http://www.apjor.com/downloads/310720158.pdf

Krithika, A. & Rajam, K. (2018). Occupational Stress Of Working Women – Review And Concepts (With Special Reference To Collegiate Teachers In Tiruchirappalli District, Tamilnadu, India). *International Journal of Research and Analytical Reviews (IJRAR)*, 5(4), 398-408. Retrieved January 20, 2019, from http://ijrar.com/upload_issue/ijrar_issue_20542210.pdf

Kumar, M. S. & Siddique, A. M. (2011). A Study On Occupational Stress Among IT Professionals Chennai. *International Journal of Enterprise Innovation Management*

Studies (IJEIMS), 2(2), 119-124. Retrieved December20, 2018, from http://ijcns.com/pdf/2006.pdf

Kumar, V. & Purushothama, M. K. (2018). A Study On Stress Among Working Women In Service Sector With Special Reference To Ramanagara District, Bangolore. *Elk Asia Pacific Journal of Finance and Risk Management*, 9(3), 1-11. doi: 10.16962/EAPJFRM/issn. 2349-2325/2015

Kumari, G. & Pandey, K. M. (2011). Studies on Stress Management: A Case Study of Avatar Steel Industries, Chennai, India. *International Journal of Innovation Management and Technology*, 2(5), 360-367. doi: 10.7763/IJIMT.2011.V2.159

Lim, S. (2008). Job Satisfaction of Information Technology Workers in Academic Libraries. *Library & Information Science Research*, 30(2), 115-121. doi: 10.1016/j.lisr.2007.10.002

Majidi, T., Jafari, P. & Hosseini, M. A. (2012). The effect of stress management technique training on the ports and shipping organization employees' happiness. *Procedia – Social and Behavioral Sciences*, 47, 2162-2168. doi: 10.1016/j.sbspro.2012.06.966

ManojKrishnan, C. G. (2011). *A Study On Stress & Stress Management Among The Executives In Kerala Based Organisations With Special Reference To IT Industry In Kerala (Technopark Campus)* (Doctoral thesis). Department of Management Studies, Sri Chandrasekharendra Saraswathy Viswa Mahavidyalaya, Enathur, Kanchipuram, India. Retrieved January 25, 2019, from https://shodhganga.inflibnet.ac.in/handle/10603/49321

Mathur, D. & Bisawa, T. (2017). Organizational Behavior Approaches to Cope with Stress Management in Workplace, In *Proceedings of the 12th Biyani International Conference (BICON-17)* (pp. 131-136). Jaipur, India: Biyani Group of Colleges.

Misra, A. (2015). Globalization and Stress among Computer Professionals. *International Journal of Multidisciplinary Research and Development*, 2(2), 288-291.

Retrieved January 15, 2019, from http://allsubjectjournal.com/vol2/issue2/PartF/pdf/48.1.pdf

Mohan, A. C. Balaji, K. D. & Kumar, T. K. (2013). An Empirical Study On Stress Levels Among Software Professionals In The City Of Chennai, India. *ABHINAV National Monthly Refereed Journal of Research in Commerce & Management*, 2(5), 33-40. Retrieved January 7, 2019, from https://www.researchgate.net/publication/305323686

Muthumani, S. & Saranya, R. (2014). Perceived Work Environment Of Women Employees In Information Technology Industry With Reference To Chennai City. *International Journal of Business and Administration Research Review*, I(3), 184-189. Retrieved December 15, 2018, from http://ijbarr.com/downloads/2014/vol1-issue3/28.pdf

Nagaraj, K. & Mahadevan, A. (2015). A Review on the Factors Leading to Employee Burnout in IT Sector. *International Journal of Accounting & Business Management*, 3(1), 334-343. doi: 10.24924/ijabm/2015.04/v3.iss1/334.343

Nair, V. R. (2016). A Study On Stress Management In I.T. Sector (With Special Reference To Infosys). *IJARIIE*, 1(4), 296-299. Retrieved January 5, 2019, from http:// http://ijariie.com/AdminUploadPdf/A_STUDY_ON_STRESS_MANAGEMENT_IN_I_T_SECTOR__WITH_SPECIAL_REFFERENCE_TO_INFOSYS__1361.pdf

Nakka, A. & Naidu, N. V. (2016). Stress Management among women employees in IT sector industry: A study in Visakhapatnam. *International Journal of Applied Research*, 2(1), 686-689. Retrieved January 5, 2019, from http://www.allresearchjournal.com/archives/2016/vol2issue1/PartK/2-1-32.pdf

Nanjamari, K. (2013). Job Satisfaction amongst Information Technology (IT), Employees in Bangalore City–A Sociological Approach. *IOSR. Journal of Humanities and Social Science (IOSR-JHSS)*, 6(6), 35-40. Retrieved January 6, 2019, from http://iosrjournals.org/iosr-jhss/papers/Vol6-issue6/G0663540.pdf?id=5952

Narban, J. S., Narban, B. P. S. & Singh, J. (2016). A Conceptual Study on Occupational Stress (Job Stress/Work Stress) and its Impacts. *International Journal of Advance Research and Innovative Ideas in Education (IJARIIE)*, 2(1), 47-56. DUI: 16.0415/IJARIIE-1544

Narendra, P., Sharma, S. & Fernandes, L. (2018). Work Life Balance of IT Professional. *International Journal of Latest Engineering and Management Research (IJLEMR)*, 3(3), 7-17. Retrieved January 12, 2019, from http://www.ijlemr.com/papers/volume3-issue3/14-IJLEMR-33099.pdf

Nayak, R. D. (2014). Anxiety and Mental Health of Software Professionals and Mechanical Professionals. *International Journal of Humanities and Social Science Invention*, 3(2), 52-56. Retrieved December 12, 2018, from http://ijhssi.org/papers/v3(2)/Version-2/G0322052056.pdf

Nirmala, R. (2015). A Study On Stress Management Among The Employees Of Banks. *International Journal of Science, Technology & Management*, 4(1), 11-14. Retrieved February 10, 2018, from http://ijstm.com/images/short_pdf/162a.pdf

Nivethitha, P. & Rita, S. (2016). A Study On Stress Management Among Student Community. *International Journal of Engineering Sciences & Research Technology*, 5 (11), 480-483. doi: 10.5281/zenodo.168432

Okeke, M. N., Ojan, E. & Oboreh, J. C. (2016). Effects Of Stress On Employee Productivity. *International Journal of Accounting Research (IJAR)*, 2(11), 38-49. Retrieved February 11, 2018, from https://www.arabianjbmr.com/pdfs/AC_VOL_2_11/2.pdf

Padma, V., Anand, N. N., Gurukul, S. M., Javid, S. M., Prasad, A. & Arun, S. (2015). Health problems and stress in Information Technology and Business Process Outsourcing employees. *Journal of Pharmacy & BioAllied Sciences*, 7 (Suppl 1), S9-S13. doi: 10.4103/0975-7406.155764

Pal, K., Gairola, P., Tyagi, A & Srivastava, R. (2018). Level of stress and work adjustment among medical professionals. *Santosh University Journal of Health Sciences*, 4(2), 100-104. doi: 10.18231/2455-1732.2018.0023

Paul, A., Krishnan, T. N. & Scullion, H. (2018). *Career Progression of Women in the Indian IT Sector: Matching Talent Management Practices and Employee Perspectives*. Kozhikode, Kerala, India: Indian Institute of Management. Retrieved January 10, 2019, from http://iimk.ac.in/websiteadmin/FacultyPublications/Working%20Papers/2809274%20May.pdf?t=09

Pradeep, M. P., & Ramnatha, H. R. (2019). A Study on Stress Causing Factors among Information Technology Employees Affecting Organization Productivity. *International Journal of Management and Social Sciences (IJMSS)*, 8(2.5), 69-72. Retrieved November 17, 2019, from https://journals.foundationspeak.com/index.php/ijmss/article/view/841

Prasad, K. D. V., Vaidya, R. and Kumar, V. A. (2016). Study On The Causes Of Stress Among The Employees In IT Sector And Its Effect On The Employee Performance At The Workplace With Special Reference To International Agricultural Research Institute, Hyderabad: A Comparative Analysis. *International Journal of Management (IJM)*, 7(4), 76-98. Retrieved January 15, 2019, from https://www.researchgate.net/publication/308886650

Premkumar, K., Ganapathi, P. & Sumathipremkumar (2018). A Study On Stress Management And Coping Strategies With Reference To IT Companies In Tamilnadu. *International Journal of Current Engineering and Scientific Research (IJCESR)*, 5(1), 61-69. Retrieved January 15, 2019, from http://troindia.in/journal/ijcesr/vol5iss1part5/61-69.pdf

Quick, J. C. & Quick, J. D. (1984). *Organizational stress and preventive management*. New York, NY: McGraw-Hill.

Raghavan, V. V., Sakaguchi, T. & Mahaney, R. C. (2008). An Empirical Investigation of Stress Factors in Information Technology Professionals. *Information Resources Management Journal*, 21(2), 38-62. doi: 10.4018/irmj.2008040103

Rajeswari, K. S. (2003). Development of an Instrument to Measure Stress Among Software Professionals: Factor Analytic Study. In *SIGMIS-CPR'03: Proceedings of the 2003 SIGMIS Conference on Computer Personnel Research: Freedom in Philadelphia - Leveraging Differences and Diversity in the IT Workforce* (pp. 34-43). Philadelphia, Pennsylvania, USA: ACM. https://doi.org/10.1145/761849.761855

Rao, J. V. & Chandraiah, K. (2012). Occupational stress, mental health and coping among information technology professionals. *Indian Journal of Occupational & Environmental Medicine*, 16(1), 22-26. doi: 10.4103/0019-5278.99686

Rao, T. V. A. & Pradhan, N. (2007). Perceived Work Deadlines: The Influence of Personality among Software Personnel. *Journal of the Indian Academy of Applied Psychology*, 33(2), 183-188. Retrieved March 20, 2018, from http://medind.nic.in/jak/t07/i2/jakt07i2p183.pdf

Rashidi, Z. & Jalbani, A. A. (2009). Job Stress among Software Professionals in Pakistan: A Factor Analytic Study. *Journal of Independent Studies and Research (MSSE)*, 7(1), 1-17. Retrieved January 20, 2019, from https://www.researchgate.net/publication/330350055

Rathore, S. & Ahuja, V. (2015). A Study of Role Stress among the IT Professionals in India: Examining the Impact of Demographic Factors. *Internationals Journal of Human Capital and Information Technology Professionals*, 6(2), 1-13. doi: 10.4018/IJHCITP.2015040101

Rawal, A. & Mhatre, S. (2018). A Study on Work Stress and Its Impacts on Employee's Productivity With Respect To Teacher's (Self Financing). *IOSR Journal of Business and Management (IOSR-JBM)*, 15-23. Retrieved January 20, 2019, from http://www.iosrjournals.org/iosr-jbm/papers/Conf.ADMIFMS1808-2018/Volume-1/3.%2015-23.pdf

Robbins, S. P. (2003). *Organizational Behavior* (10th ed.). Delhi: Pearson Education.

Sabbarwal, S., Singh, M. M. & Amiri, M. (2017). Occupational Stress On Employees In Information Technology Organizations. *Asian Journal of Social Sciences & Humanities*, 6 (3), 103-109. Retrieved January 10, 2019, from https://www.researchgate.net/publication/320126367

Sagunthala, C. & Karthikeyan, R. (2016). A Study on Occupational Stress Level of Employees in Textile Shops with Special Reference to Coimbatore District. *International Journal of Advance Research in Computer Science and Management Studies*, 4(2), 67-73. Retrieved March 2, 2018, from http://www.ijarcsms.com/docs/paper/volume4/issue2/V4I2-0018.pdf

Sahukar, M., Pailoor, S. & Pradhan, B. (2014). Job satisfaction, job stress and psychosomatic health problems in software professionals in India. *Indian Journal of Occupational & Environmental Medicine*, 18(3), 153-161. doi: 10.4103/0019-5278.146917

Sailaja, A., Reddy, T. N. & Kumar, D. P. (2013). Factors Associated with Job Stress of Software Professionals in Banglore City. *IOSR Journal of Business and Management (IOSR-JBM)*, 14(6), 15-20. Retrieved January 7, 2018, from http://iosrjournals.org/iosr-jbm/papers/Vol14-issue6/C01461520.pdf?id=7380

Saleem, M., Priya, S., Govindrajan, R., Balaji, E., Diwahar, A. J., ShylendraBabu, P. G. & Dhivypriya, S. (2015). A cross sectional study on work related musculoskeletal disorders among software professionals. *International Journal of Community Medicine and Public Health*, 2(4), 367-372. http://dx.doi.org/10.18203/2394-6040.ijcmph20150941

Sathyavathi, V. & Angayarkanni, R. (2019). Impact of Workplace Wellness in Influencing Job Satisfaction of IT Employees in Chennai. *International Journal of Recent Technology and Engineering (IJRTE)*, 8(4S3), 53-56. doi: 10.35940/ijrte.D1043.1284S319

Satpathy, I. & Mitra, B. (2015). Stress Management Policies adopted by the IT companies – An Overview. *International Interdisciplinary Research Journal*, V(Special Issue), 139-148. Retrieved November 11, 2018, from https://www.researchgate.net/publication/282331582

Sauter, S. L. & Murphy, L. R. (1995). *Organizational risk factors for job stress*. Washington, DC: American Psychological Association.

Selye, H. (1956). *The Stress of Life*. London: Longmans, Green and Co.

Sethi, V., King, R. C. & Quick, J. C. (2004). What Causes Stress In Information System Professionals? *Communication of the ACM*, 47(3), 99-102. doi: 10.1145/971617.971623

Setor, T., Joseph, D. & Srivastava, S. C. (2015). Professional Obsolescence in IT: The Relationships between the Threat of Professional Obsolescence, Coping and Psychological Strain. In *SIGMIS-CPR'15: Proceedings of the 2015 ACM SIGMIS Conference on Computers and People Research* (pp. 117-122). Newport Beach, New York, NY, USA: ACM. https://doi.org/10.1145/2751957.2751962

Shalini, S. & Brindha, C. (2018). A study on job stress of IT women employees in selected IT Companies: With special reference to Coimbatore City. *International Journal of Applied Research*, 4(1), 342-348. Retrieved from http://www.allresearchjournal.com/archives/2018/vol4issue1/PartF/3-12-102-239.pdf

Sharan, D., Parijat, P., Sasidharan, A. P., Ranganathan, R., Mohandoss, M. & Jose, J. (2011). Workstyle risk factors for work related musculoskeletal symptoms among computer professionals in India. *Journal of Occupational Rehabilitation*, 21(4), 520-525. doi: 10.1007/s10926-011-9294-4

Sharma, A. K., Khera, S. & Khandekar, J. (2006). Computer related health problems among information technology professionals in Delhi. *Indian Journal of Community Medicine*, 31(1), 36-38. doi: 10.4103/0970-0218.54936

Shih, S., Jiang, J. J., Klein, G. & Wang, E. (2013). Job burnout of the information technology worker: Work exhaustion, depersonalization, and personal accomplishment. *Information & Management*, 50(7), 582-589. https://doi.org/10.1016/j.im.2013.08.003

Shobha, K. & Kalpana, R. P. (2016). A Study on Determinants that Cause the Occupational Stress among the Information Technology Employees in Chennai City. *Sumedha Journal of Management*, 5(2), 147-156. Retrieved December 8, 2018, from http://www.cmrcetmba.in/SUMEDHA_ADMIN/journal_attachment/1548170233_550397821.pdf

Shrivastava, S. R. & Bobhate, P. S. (2012). Computer related health problems among software professionals in Mumbai: A cross-sectional study. *International Journal of Heath & Allied Sciences*, 1(2), 74-78. doi: 10.4103/2278-344X.101684

Soegoto, E. S. & Narimawati, U. (2017). The Contribution of Stress Management and Good Employee Performance Towards the Success of a Company. *The Open Psychology Journal*, 10, 154-160. doi: 10.2174/1874350101710010154

Srinivas, P. S., Kumari, S., Akhilesh, K. B. & Nagendra, H. R. (2015). Is job anxiety and perceived stress modifiable in Indian IT Professionals? An experimental study using Yoga-based intervention. *Journal of Health Research and Reviews*, 2(3), 81-85. doi: 10.4103/2394-2010.168370

Subikshaa, P. & Jasmin, K. S. S. (2018). Stress Faced by Employees in Information Technology Sector in India. *International Journal of Pure and Applied Mathematics*, 119(17), 201-206. Retrieved January 15, 2019, from http://acadpubl.eu/hub/2018-119-17/1/19.pdf

Subramanian, S. & Vinothkumar, M. (2009). Hardiness Personality, Self-Esteem and Occupational Stress among IT Professionals. *Journal of the Indian Academy of Applied Psychology*, 35(Special Issue), 48-56. Retrieved March 20, 2018, from http://medind.nic.in/jak/t09/s1/jakt09s1p48.pdf

Sudarshini, S., Anantha Raman, V. V. & Mathew, A. M. (2018). Computer Professionals and their Health issues and Managements. *International Journal of Public health Research*, 5(3), 117-122. doi: 10.17511/ijphr.2018.i3.03

Sujatha, N. & Raju, D. V. (2013). Stress Management of Employees Working in MNC's of Chennai City. *International Journal of Exclusive Management Research (IJEMR)*, 3(3), 1-5. Retrieved February 8, 2018, from http://ijemr.in/wp-content/uploads/2018/01/Stress-Management-of-Employees-Workingin-MNCs-of-Chennai-city.pdf

Sumangala, C. (2009). *A Study Of Stress And Its Management In Information Technology Industry*. (Doctoral thesis). Department of Studies in Commerce, Manasagangotri, University of Mysore, Mysore-570006, India. Retrieved January 10, 2019, from https://shodhganga.inflibnet.ac.in/handle/10603/73582

Talwar, R., Kapoor, R., Puri, K., Bansal, K. & Singh, S. (2009). A Study of Visual and Musculoskeletal Health Disorders among Computer Professionals in NCR Delhi. *Indian Journal of Community Medicine*, 34(4), 326-328. doi: 10.4103/0970-0218.58392

Tharini, R. S., Ramnathan, M. & Ganesh, R. (2014). Research Reviews on Stress among working women in IT field. *International Journal of Scientific and Research Publications*, 4(9), 1-3. Retrieved December 15, 2018, from http://ijsrp.org/research-paper-0914/ijsrp-p3303.pdf

Thirumaleswari, T. (2013). A Study On Job Stress Among Employees Of Software Industries In Chennai. *International Research Journal of Business and Management (IRJBM)*, III, 1-6. Retrieved January 10, 2018, from http://irjbm.org/irjbm2013/Sep/Papernew1.pdf

Thong, J. Y. L. and Yap, C. (2000). Information systems and occupational stress: a theoretical framework. *Omega, The International Journal of Management Science*, 28, 681-692. https://doi.org/10.1016/S0305-0483(00)00020-7

Tsai, H., Compeau, D. & Haggerty, N. (2007). Of races to run and battles to be won: Technical skill updating, stress, and coping of IT professionals. *Human Resource Management*, 46(3), 395-409. https://doi.org/10.1002/hrm.20170

Uma Devi, T. (2011). A Study on Stress Management and Coping Strategies With Reference to IT Companies. *Journal of Information Technology and Economic Development*, 2(2), 30-48. Retrieved January 25, 2019, from http://search.proquest.com/openview/c0e37e549aaedf5d98e81611eb95e76d/1?pq-origsite=gscholar&cbl=2032033

Vijayan, M. (2017). Impact of Job Stress on Employees' Job Performance in Aavin, Coimbatore. *Journal of Organisation & Human Behaviour*, 6(3), 21-29. Retrieved January 10, 2019, from https://www.researchgate.net/publication/325734383

Wallgren, L. G. (2011). *Motivation requested – Work motivation and the work environment of IT consultants* (Doctoral dissertation). Department of Psychology, University of Gothenburg, Sweden. Retrieved January 20, 2019, from https://www.researchgate.net/publication/277242041

CHAPTER 3

RESEARCH METHODOLOGY

CHAPTER 3

RESEARCH METHODOLOGY

This chapter introduces the importance of stress management research for I.T. professionals of multinational companies along with the research design, research objectives and questions. It also explains the categories of various stressors, variables, hypotheses, method of study, design of tool for data collection, classification of stress levels and levels of stress effects. It discusses pre-testing of tool, data collection process and its tabulation, internal consistency/reliability test for data, statistical software and tools used for data analysis and the limitations of this study. Thus this chapter elaborates research methodology for the present research work.

3.1 Introduction

I.T. Professionals in Multinational Companies are always under constant pressure to deliver target-oriented and cost-efficient services. This causes high stress among them and develops several psychological and health related problems. I.T. Companies have understood that I.T. professionals with their high skill and expertise are extremely valuable to them. They have realized that there should be an appropriate stress management strategy for them, so that they give their best performance.

Many studies have been conducted on stress and stress management in general by many researchers worldwide. However, examination of published work has revealed that only a few studies have been conducted on stress management of I.T. professionals. As such a detailed study is needed to find the various factors leading to stress among I.T. professionals of Multinational Companies. It is also required to evaluate the level of their stress and to identify the various approaches and techniques adopted by individuals and companies to deal and cope with employee stress. The study should also focus on suggesting the most appropriate stress management methodologies for the individual employees and for the organizations to reduce employee stress.

3.2 Research Design

The present research study has been designed following the standard research methods as discussed by the renowned authors of this field [Marczyk et al., 2005; Kothari, 2004; Adams et al., 2007; Kumar, 2011; Singh, 2006 & Shinde, 2015]. However, the investigation uses a new and innovative approach. The study analyzes the various stress causing factors (stressors) among professionals of I.T. companies. The effects of the stressors have been examined and coping strategies followed by individuals as well as I.T. companies have been explored. The study suggests most suitable stress management methods for individual professionals as well as I.T. companies.

3.3 Research Questions

This study aims to reveal the answers of the following research questions:

1. What are the causes of stress among I.T. professionals of Multinational Companies?
2. What is the level of their stress?
3. What are the major effects of stress on their health?
4. What are the coping strategies, used by individual employees to handle their stress?
5. What are the stress reducing strategies, adopted by Multinational I.T. Companies for their employees?
6. How can their stress be further reduced?

3.4 Objectives of the Study

For the employees of Multinational Companies of Noida City:

1. To identify various sources of stress in employees.
2. To know the level of stress in employees.
3. To identify mental, physical and emotional effects of stress.

4. To ascertain the methods adopted by employees to overcome their stress.
5. To ascertain the methods adopted by I.T. companies to overcome employee stress.
6. To identify the steps further required for handling stress of I.T. company employees.

3.5 Categories of Stressors

The factors causing stress among individuals are called 'Stressors'. In brief 'A stressor causes stress' [Stranks, 2005, p. 4]. Extensive review of literature made the researcher to fix the following four major categories of stressors among I.T. professionals:

1. Individual Stressors
2. Group Stressors
3. Organizational Stressors
4. Extra-Organizational Stressors

Organizational Stressors are the most important category of Stressors and they can be further classified among eight sub-categories:

i. Environmental Stressors
ii. Stressors related to Nature of Job
iii. Stressors related to subordinates
iv. Stressors related to organizational climate
v. Stressors related to relationship within organization
vi. Stressors related to role in organization
vii. Stressors related to career design
viii. I.T. Specific Stressors

3.6 Variables

Following demographic and job-related variables have been selected for the in depth study:

1) Gender
2) Age

3) Experience
4) Education
5) Salary
6) Food Habits
7) Marital Status
8) Type of Family
9) Spouse's Employment
10) Present Staying

3.7 Hypotheses

The empirical establishment of objectives of this study is based on the following hypotheses:

1. The demographic or job-related variables of the respondents and their overall stress are independent.
2. Each stressor is linearly related to the overall stress of the respondents.
3. Various stressors are equally contributing towards the overall stress.

3.8 Universe/Population of the Study

"All items in any field of inquiry constitute a **'Universe'** *or* **'Population'***"* [Kothari, 2004, p. 55].

In this research study, causes and levels of stress and physical effects of stress on I.T. professionals are to be investigated. The study is limited to Multinational I.T. Companies located at Noida City. As such, universe of this research consists of all I.T. professionals of Multinational I.T. Companies located at Noida City.

3.9 Survey Method of Study

Census method is selected for this survey. This means that each and every individual in the universe/population is considered for data collection.

3.10 Type of Data

The study uses both primary as well as secondary data. Primary data is collected directly from the respondents through a well-designed questionnaire. Secondary data is obtained from I.T. Company policy documents, theses, books, Journals and research papers.

3.11 Tool for Data Collection

After a wide review of literature, a suitable questionnaire has been developed to collect the primary data to measure the stress and its effects for I.T. professionals of multinational companies. This questionnaire also explores the most appropriate and popular stress management methods for individual I.T. professionals as well as for adoption by I.T. companies.

Questionnaire Preparation

The present questionnaire has been structured into 5 components. The data gathered by the first component is related to personal background of the respondents. This includes information regarding designation, age, experience, education, salary, food habits, marital status, type of family, spouse's employment status and their present staying.

The second component is related to the measurement of various stressors. It has 75 statements which are divided into 4 major groups:

1. Individual Stressors - 10 Statements
2. Group Stressors - 5 Statements
3. Organizational Stressors - 55 Statements
4. Extra-Organizational Stressors - 5 Statements

The organizational stressors are further classified into 8 sub-groups:

i. Environmental Stressors - 5 Statements
ii. Stressors related to Nature of Job - 5 Statements
iii. Stressors related to subordinates - 6 Statements
iv. Stressors related to organizational climate - 9 Statements
v. Stressors related to relationship within orgn. - 5 Statements
vi. Stressors related to role in organization - 5 Statements

vii.	Stressors related to career design	-	5 Statements
viii.	IT Specific Stressors	-	15 Statements

Measurement of Stress

The responses of the above 75 statements were recorded using Likert's 5 point scale scoring method. The responses are Strongly Disagree (SD), Disagree (D), Not Sure (NS), Agree (A) and Strongly Agree (SA) having corresponding score values of 1, 2, 3, 4 and 5 respectively.

Classification of Stress Level

For the above mentioned set of 75 statements, minimum score is 75 (75x1) and the maximum score is 375 (75x5). Difference of these scores (375 – 75=300) is divided by 4 to define 4 ranges of stress level as shown below:

Stress Level	Range of scores
Low Stress	75 – 150
Medium Stress	151 – 225
High Stress	226 – 300
Extreme Stress	301 – 375

Classification of Stress for a Factor
[On the basis of Mean Index (%)]

It is noticed that each dimension of stress in the questionnaire has different number of statements. As such, instead of Mean value, Mean value in percentage [Mean Index (%)] is used as measure to quantify stress level for a factor.

Mean Score for a factor = (Total Score for a factor) / (Number of Respondents)

Mean Value in percentage = Mean index (%)

= [(Mean Score for a factor) / (Max. score for the factor)] X 100

As such classification of Stress Level for a factor will be:

Mean Index (%)	Classification
Less than 40.00	Low
40.01 to 60.00	Medium
60.01 to 80.00	High
80.01 to 100.00	Extreme

Effects of Stress

There are twenty statements in the third component of the questionnaire. The responses of these twenty statements address the effects of stress on I.T. professionals. The responses are – Always (A), Frequently (F), Often (O), Sometimes (S) and Never (N). The corresponding score values are 5, 4, 3, 2 and 1 respectively.

Classification of Effects of Stress

For the above set of 20 statements, minimum score is 20 (20x1) and the maximum score is 100 (20x5). Difference of these scores (100 – 20 = 80) is divided by 4 to define 4 ranges of effects of stress as shown below:

Level of Effect of Stress	Range of scores
Mild	20 – 40
Tolerable	41 – 60
Dominant	61 – 80
Highly Dominant	81 – 100

The overall scores of each effect are subjected to rank correlation. The effects are also ranked.

Stress Management Methods used by I.T. Employees

The fourth component of the present questionnaire has twenty statements. They explore the preferential stress management methods used by I.T. professionals. The responses are – Always (A), Frequently (F), Often (O), Sometimes (S) and Never (N). The corresponding score values are 5, 4, 3, 2 and 1 respectively.

The most popular stress reducing practices are identified using weighted average method with subsequent ranking.

Stress Management Methods used by I.T. Companies

The fifth component of the present questionnaire has twenty statements. They explore the preferential stress management methods used by I.T. companies. The responses are – Always (A), Frequently (F), Often (O), Sometimes (S) and Never (N). The corresponding score values are 5, 4, 3, 2 and 1 respectively.

The most popular stress reducing practices are identified using weighted average method with subsequent ranking.

3.12 Pre–Testing of Questionnaire

For pre-testing, the questionnaire was given to a small sample of twenty selected respondents. The responses and the personal interview with the sample respondents confirmed that the tool is primarily fit for the intended purpose. Some modifications were done to incorporate the suggestions of the sample respondents and the experts of the field. Being satisfied with the completeness and quality of the tool, the researcher finalized this tool for data collection.

3.13 Data Collection Process

The researcher distributed 150 questionnaires to a suitable sample of I.T. professionals of different multinational companies of Noida City. The respondents were given sufficient time to fill in the questionnaires. They were not required to write their names or company names. Thus they could give their responses without any fear.

Out of 150 distributed questionnaires, 137 were received completely filled in. In spite of many efforts, 13 questionnaires could not be received back. Thus the response rate was 137/150 i.e. 91.33%.

This final population of 137 respondents answered all the statements. Since there were no missing values, the *'missing value technique'* was not required to be adopted for this study.

Data collection period was between February 2019 and May 2019. .

3.14 Tabulation of Data

Data of this research study was tabulated using Microsoft Excel 2010 spreadsheet package. All responses of each respondent were recorded in a separate row of the spreadsheet. Thus total 138 rows were used for the data entries of 137 respondents. The topmost row contained the column headings.

3.15 Internal Consistency/Reliability Test of Data

Data was subjected to Internal Consistency/Reliability Test by calculating **'Cronback's Alpha' (α)** using ***'Real Statistics Using Excel'*** open software package, for responses related to stress, effects of stress, stress management methods used by I.T. employees and I.T. companies separately. The results are tabulated below:

Part of the Questionnaire	No. of Statements	Purpose	Calculated value of **α**
II	75	Measurement of Stress	**0.725760**
III	20	Measurement of Effects Of stress	**0.685640**
IV	20	Stress Management Methods used by I.T. Employees	**0.694028**
Part of the Questionnaire	No. of Statements	Purpose	Calculated value of **α**
V	20	Stress Management Methods used by I.T. Companies	**0.720019**

Since all the calculated values of α, are above 0.6 and very close to 0.7, Internal Consistency/Reliability Test indicate acceptable Consistency/Reliability. Thus the test is successful and the data can be relied upon for correct results.

3.16 Statistical Analysis of Data

Statistical Analysis of Data is done using various Statistical Tools which are made available by Statistical Software Packages.

(a) Statistical Tools

Various Statistical Tools are vividly described and explained by the renowned authors of the field [Freund et al., 2003; Landau & Everitt, 2004;

Berk & Carrey, 2011 & Guerrero, 2010]. Following Statistical Tools are generally used for data analysis:

1. Descriptive Analysis
2. Inferential Statistical
    i. F – test
    ii. t – test
    iii. ANOVA – test
    iv. Chi-Square – test
3. Correlation Analysis
4. Regression Analysis
5. Factor Analysis

(b) Selection of Statistical Software Package

Following world renowned Statistical Software Packages were considered for selection of most suitable Software Package for the present study:

1. SPSS 16.0
2. Real Statistical Using Excel [Zaiotz, 2019]
3. JASP [JASP Team, 2019]
4. OpenStat [Miller, 2019]
5. MicrOSiris [Neal & Susan Van Eck, 2014]
6. R
7. SAS University Edition

Above Statistical Software Packages were tested in view of their suitability and convenience of use in the data analysis of the present study. The researcher found the following Packages most convenient and useful:

1. SPSS
2. Real Statistics Using Excel
3. JASP

The results of the analysis were tabulated using Microsoft Word 2010 Package. Various Charts were drawn using graphical facilities of Microsoft Excel 2010 Package [Walkenback, 2003; Jelen, 2013].

3.17 Limitations of the Study

1. The study is limited to I.T. professionals of Multinational Companies located at Noida City. The findings may vary slightly for other places or regions.
2. The findings of this study are based on the responses of the respondents at the particular period of study. The findings may not hold exactly the same for-ever.

3.18 Chapter Summary

This chapter highlighted the methodology used for this present research work. Research questions along with the objectives have been listed. Various variables, hypotheses, method of study and the development of questionnaire as a tool for collecting data are discussed. Levels of stress and levels of effects of stress have been defined. Pre-testing of questionnaire, data collection process and the internal consistency/reliability test for data have been explained. Statistical software and tools used for data analysis have been elaborated along with the limitations of this study. Thus, this chapter has set ground for the analysis of research data.

REFERENCES:

Adams, J., Khan, H. T. A., Raeside, R. & White, D. (2007). *Research Methods for Graduate Business and Social Science Students*. New Delhi: Response Books.

Bark, K. N. & Carey, P. (2010). *DATA ANALYSIS with Microsoft EXCEL* (3rd ed.). Boston, MA: Brooks/Cole, Cengage Learning.

Freund, R. J. & Wilson, W. J. (2003). *Statistical Methods* (2nd ed.). Academic Press, Elsevier Science (USA).

Guerrero, H. (2010). *Excel Data Analysis : Modeling and Simulation*. Berlin Heidelberg: Springer-Verlag.

JASP Team (2019). JASP (version 0.9.2.0) [Computer Software]. Retrieved March 20, 2019, from https://jasp-stats.org

Jelen, B. (2013). *Excel 2013 Charts and Graphs*. Indianapolis, Indiana: Que Publishing.

Kothari, C. R. (2004). *Research Methodology: Methods & Techniques* (2nd ed.). New Delhi: New Age International (P) Limited Publishers.

Kumar, R. (2011). *Research Methodology: a step-by-step guide for beginners* (3rd ed.). London: SAGE Publications Ltd.

Landau, S. & Everitt, B. S. (2004). *A Handbook of Statistical Analysis using SPSS*, Chapman & Hall / CRC Press LLC (USA).

Marczyk, G., DeMatteo, D., & Festinger, D. (2005). *Essentials of Research Design and Methodology*. New Jersey, NJ: John Wiley & Sons, Inc.

Miller, W. G. (2019). OpenStat [Computer Software]. Retrieved March 20, 2019, from http://openstat.en.softonic.com

Neal & Susan van Eck (2014). MicrOSiris [Computer Software]. Retrieved March 20, 2019, from https://www.microsiris.com

Shinde, S. R. (Ed.) (2015). *The Peer Reviewed Proceedings of UGC Sponsored One Day Interdisciplinary National Conference on Research Methodology*, 28 November 2015. Nanded, Maharashtra: Shivani Publication.

Singh, Y. K. (2006). *Fundamental of Research Methodology and Statistics*. New Delhi: New Age International (P) Limited Publishers.

Stranks, J. (2005). *Stress at Work : Management and Prevention*. Burlington: Elsevier Butterworth Heinemann.

Walkenbach, J. (2003). *Excel Charts*. Indianapolis, Indiana: Wiley Publication, Inc.

Zaiotz, C. (2019). Real Statistics Using Excel [Computer Software]. Retrieved March 13, 2019, from http://www.real-statistics.com

CHAPTER 4

DATA ANALYSIS AND INTERPRETATION

CHAPTER 4

DATA ANALYSIS AND INTERPRETATION

4.1 Introduction

Statistics often deals with principles and procedures for collecting, describing and obtaining conclusions from data. Thus, this discipline is generally concerned with data analysis.

"The statistical data analysis gives meaning to the meaningless numbers, thereby breathing life into a lifeless data" [Ali & Bhaskar, 2016].

A set of observations on one or more variables, is a set of data [Freud & Wilson, 2003, p. 48]. The nature of statistical analysis is dictated by the type of variable being analyzed. Primary data are generally collected using a data collecting tool – questionnaire.

Statistical Software Package implements the various statistical methods of data analysis. Today, several dedicated statistical software packages are available for conducting statistical data analysis.

The present chapter is concerned with the detailed analysis and interpretation of primary data collected using a self-designed questionnaire for the study of stress and its effects on I.T. professionals of multinational companies located at Noida City. For reasons of better consistency and convenience, the researcher selected three world renowned statistical software packages for the present data analysis: SPSS, Real Statistics Using Excel and JASP. The outcome of this data analysis consists of results in the form of several tables and charts. These results are interpreted and conclusions are drawn from them.

4.2 Statistical Tools for Analysis of Data

Several statistical tools are available for data analysis. Some of them are simple and some are complicated. Before deciding which statistical tool to use, one must first

understand the collected data. Describing data is an important part of statistical analysis. This provides a clear picture of the data to be analyzed before moving to higher methods. **Descriptive Statistics** [Bark & Carey, 2010] tool is used for this purpose. This tool summarizes the data set and extracts useful information about central tendencies along with dispersion. This tool also describes relationships among various variables of a population or sample. This helps in understanding the association among variables.

Inferential Statistics [Asadoorian & Kantarelis, 2005] on the other hand analyzes data of a sample or population to make inferences. Here the aim is to answer or test various hypotheses. **F-test, t-test, ANOVA test** and **Chi-square test** are very useful tools for testing hypotheses.

Correlation [Adams at al., 2007, p. 196] looks for an association among variables. **Pearson's correlation** measures strength of association of two continuous variables.

Regression [Gupta, 2002, p. 210] is a useful tool to analyze the relationship of two or more samples or population variables in such a way that one variable can be predicted or explained by using information on the others. Both **linear** and **multiple regression** are frequently used in data analysis and data modeling.

Factor analysis [Landau & Everitt, 2004, Chapter 11] is viewed as a useful data reduction method. This is generally used where variables are in large numbers. This technique can reduce the effective dimensionality of data.

Above mentioned statistical tools have been frequently applied in the present research study. World renowned statistical software packages: SPSS, Real Statistics Using Excel and JASP have been used for data analysis.

All the statistical hypotheses have been tested at 5% level of significance. That is $\alpha = 0.05$

The results of the analysis have been tabulated using Microsoft Word 2010 Package. Various Charts are drawn using graphical facilities of Microsoft Excel 2010 Package.

4.3 Demographic & Job-Related Profile of the Sample-Respondents

TABLE 4.1

PROFILE OF THE SAMPLE-RESPONDENTS

S. No.	Criteria	Description				Total
1	Gender	Male			Female	137
		87 (63.50%)			50 (36.50%)	
2	Age (Years)	25-30	31-40		41-50	137
		45 (32.85%)	81 (59.12%)		11 (8.03%)	
3	Experience (Years)	1-5	6-10		11-15	137
		42 (30.66%)	83 (60.58%)		12 (8.76%)	
4	Education	UG	PG/PG+		Professional	137
		45 (32.85%)	63 (45.98%)		29 (21.17%)	
5	Salary (Rs.) (p.m.)	<35000	35001-45000	45001-55000	>55000	137
		12 (8.76%)	43 (31.39%)	46 (33.57%)	36 (26.28%)	
6	Food Habits	Vegetarian			Non-Vegetarian	137
		86 (62.77%)			51 (37.23%)	
7	Marital Status	Un-married	Married		Others	137
		46 (33.58%)	91 (66.42%)		0 (0.00%)	
8	Type of Family	Joint			Nuclear	137
		36 (26.28%)			101 (73.72%)	
9	Spouse Employment	Employed	Not Employed		Not Applicable	137
		65 (47.44%)	26 (18.98%)		46 (33.58%)	
10	Presently Staying	With Family			Away from Family	137
		70 (51.09%)			67 (48.91%)	

Table 4.1 highlights the following notable facts:

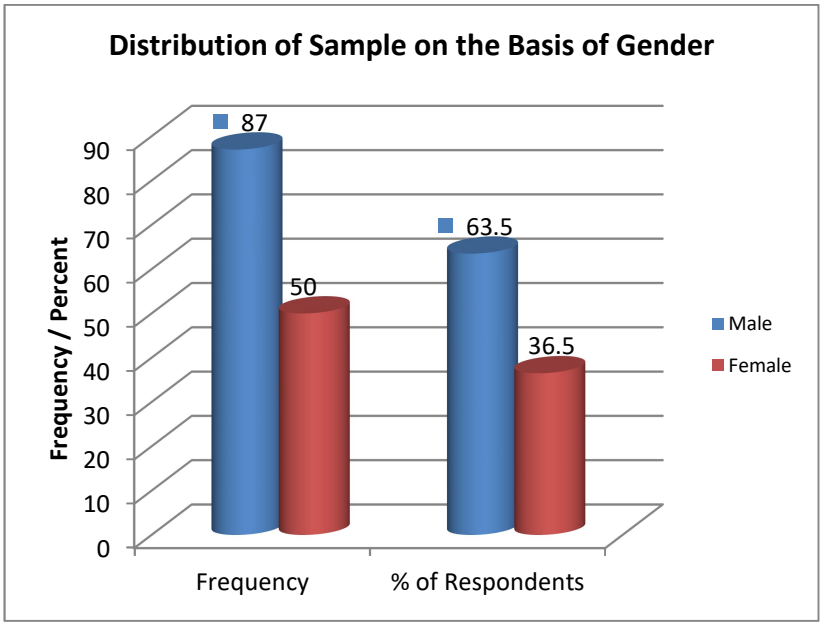
(i) Gender

The distribution of sample-respondents according to gender is:

Male: (63.50%) and Female: (36.50%)

(Figure 4.1)

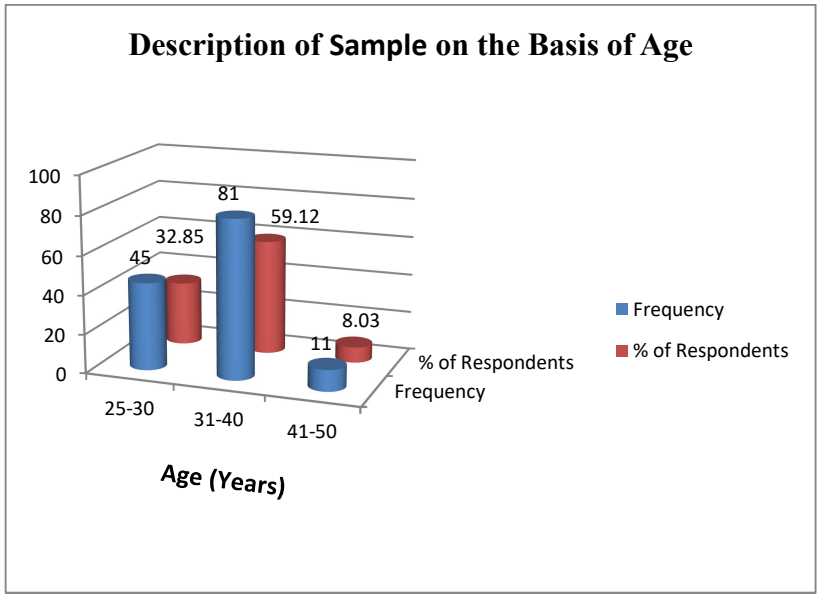
Figure 4.1



(ii) Age Group

According to age sample-respondents are grouped as: (25 to 30 years), (31 to 40 years) and (41 to 50 years). Major number (59.12%) of the respondents belongs to the age group 31-40, followed by 25-30 (32.85%) and 41-50 (8.03%). (Figure 4.2)

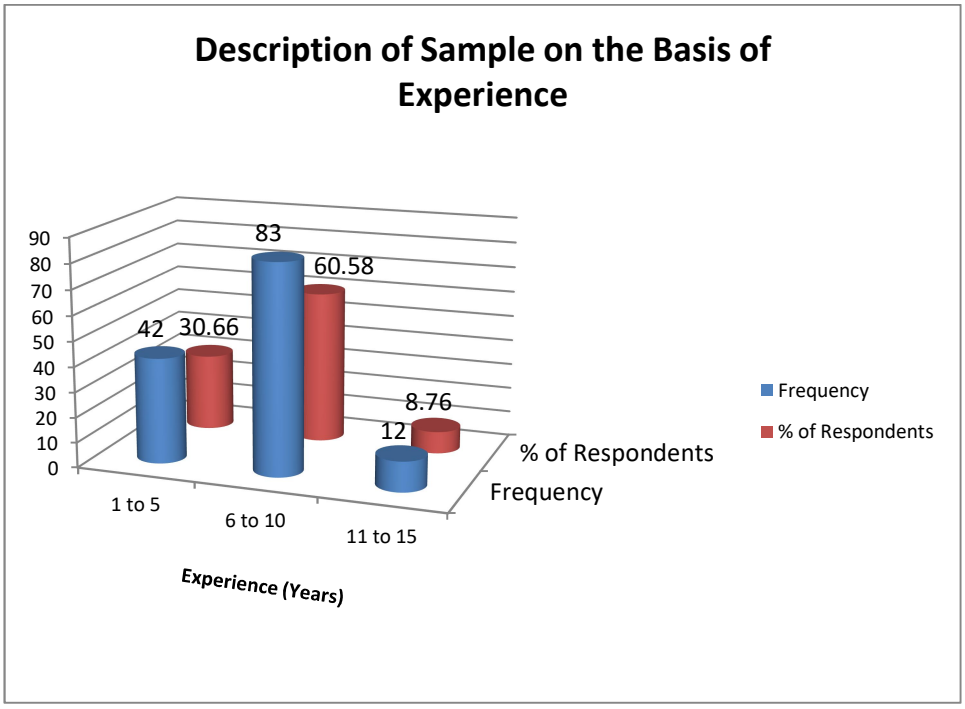
Figure 4.2



(iii) Experience

According to experience sample-respondents are grouped as: (1-5), (5-10) and (11-15) years. 60.58% of the respondents possess experience of 6-10 years, 30.66% respondents have 1-5 years of experience and 8.76% respondents have 11-15 years of experience (Figure 4.3).

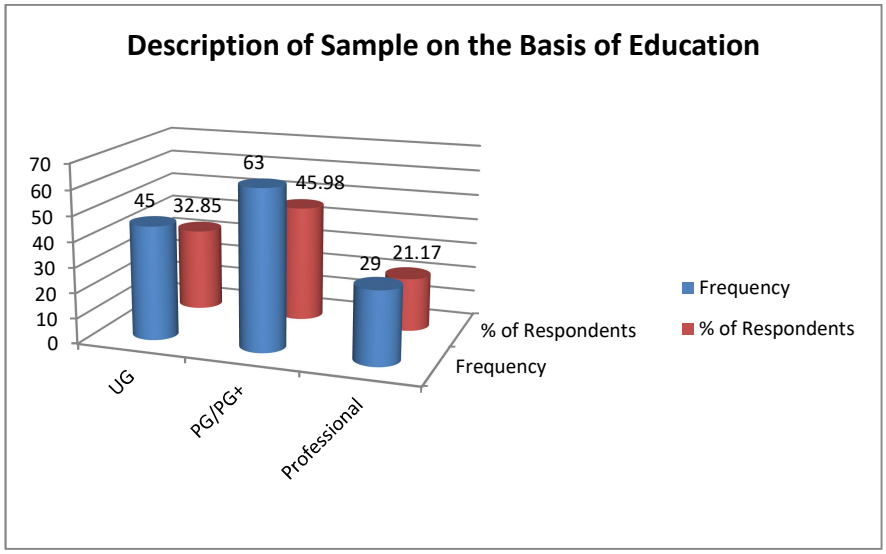
Figure 4.3



(iv) Education

According to education, sample-respondents are grouped as: UG, PG/PG+ and Professional. 45.98% of the respondents are postgraduates or possess higher qualification, 32.85% are graduates and the rest 21.17% possess professional qualification (Figure 4.4).

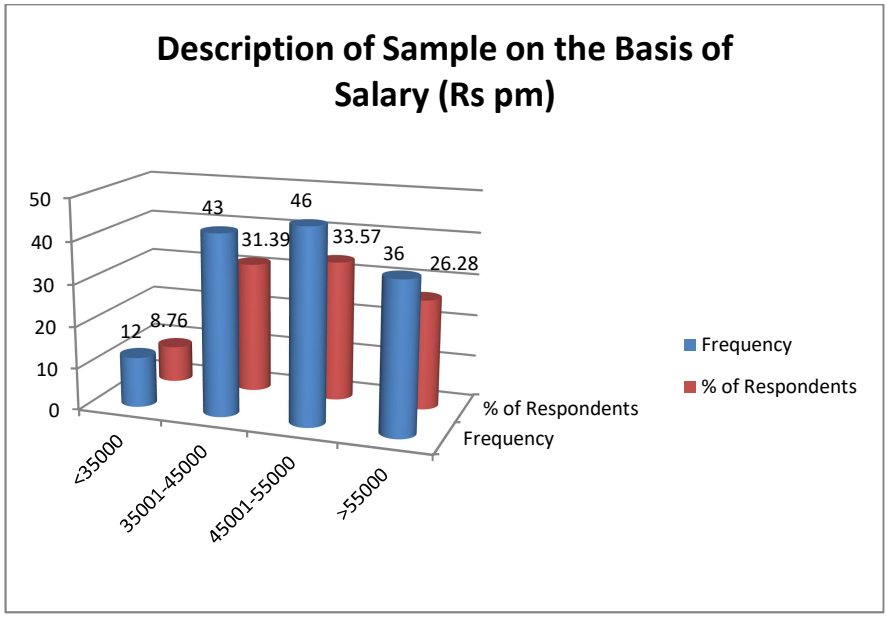
Figure 4.4



(v) Salary (Rs. - p.m.)

33.57% of the respondents draw salary between Rs. 45001-55000, and 31.39% draw between 35001-45000. 26.28% draw more than 55000, while 8.76% draw less than 35000 (Figure 4.5).

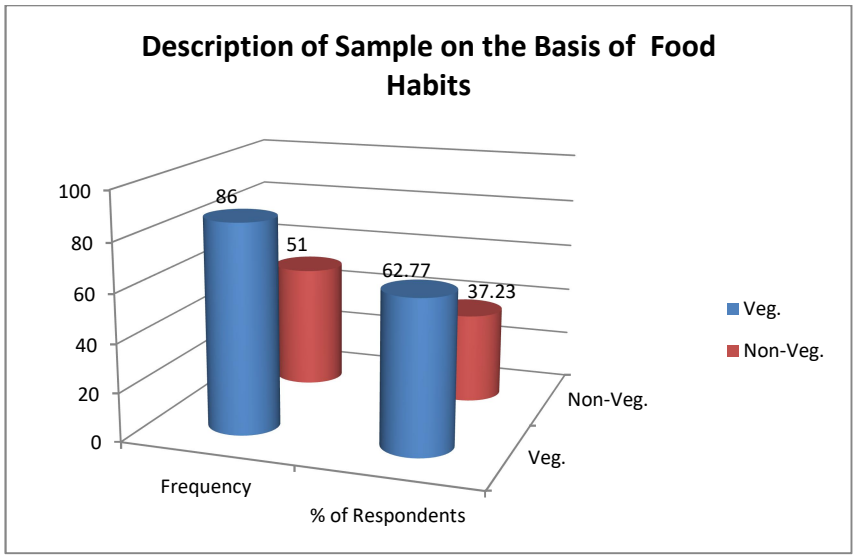
Figure 4.5



(vi) Food Habits

62.77% of the respondents are vegetarians, while 37.23% are non-vegetarians (Figure 4.6).

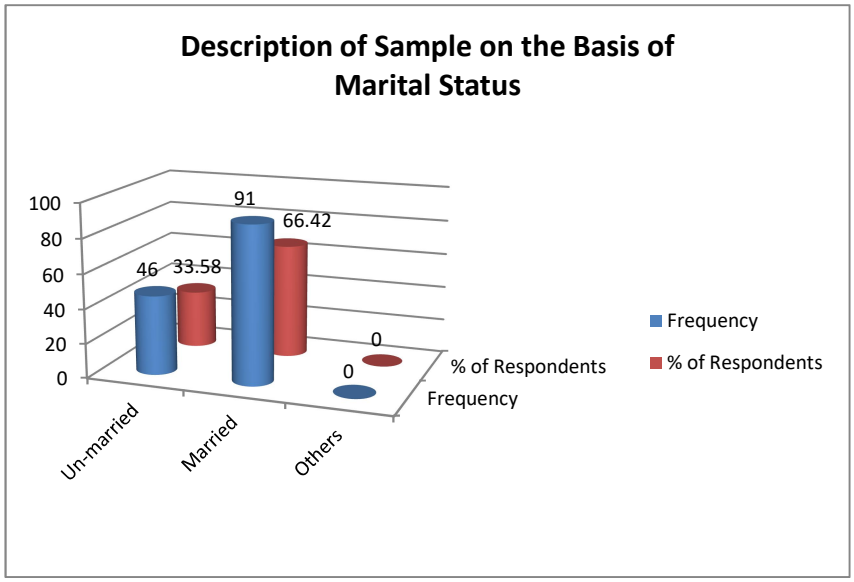
Figure 4.6



(vii) Marital Status

66.42% of the respondents are married, while 33.58% are un-married (Figure 4.7).

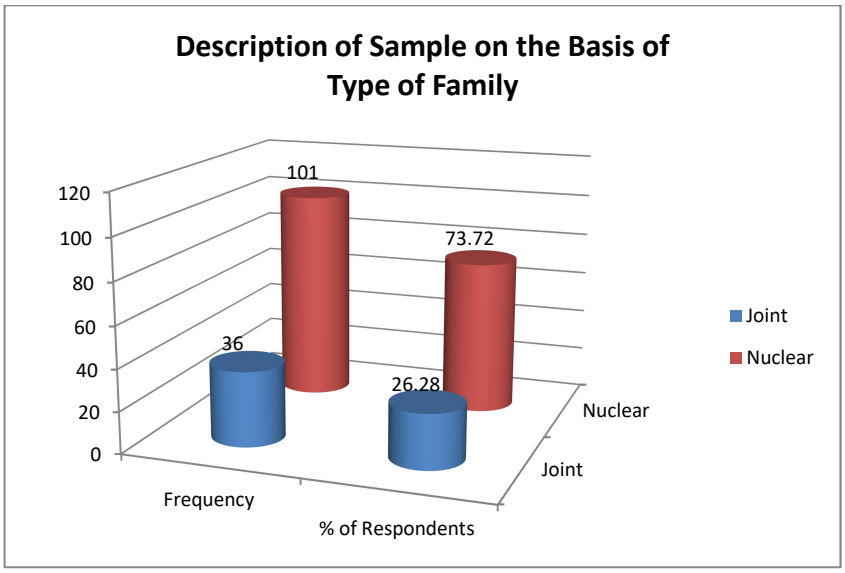
Figure 4.7



(viii) Type of Family

The family of 73.72% of the respondents is nuclear type, while 26.28% lead a joint family life (Figure 4.8).

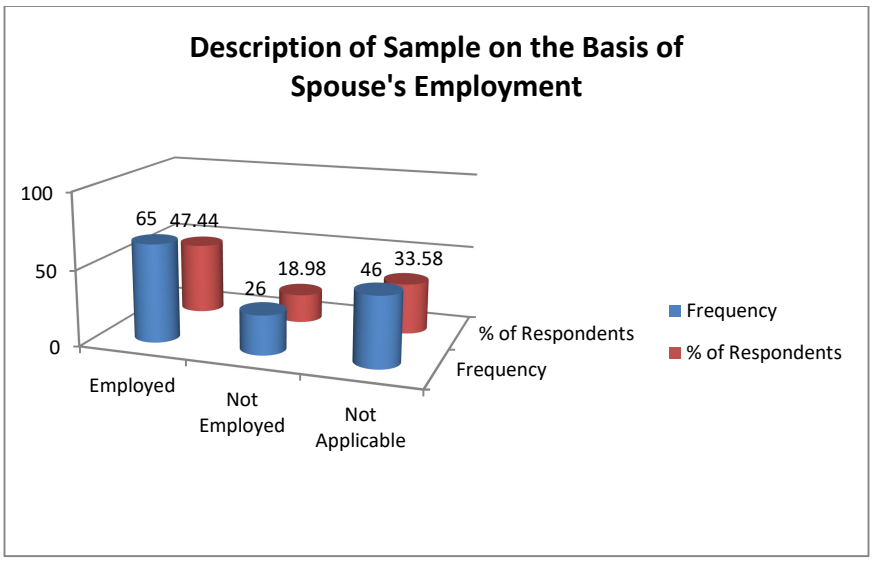
Figure 4.8



(ix) Spouse's Employment

47.44% of the respondents have employed spouse & spouse of 18.98% are not employed, while the rest belong to not applicable category (Figure 4.9).

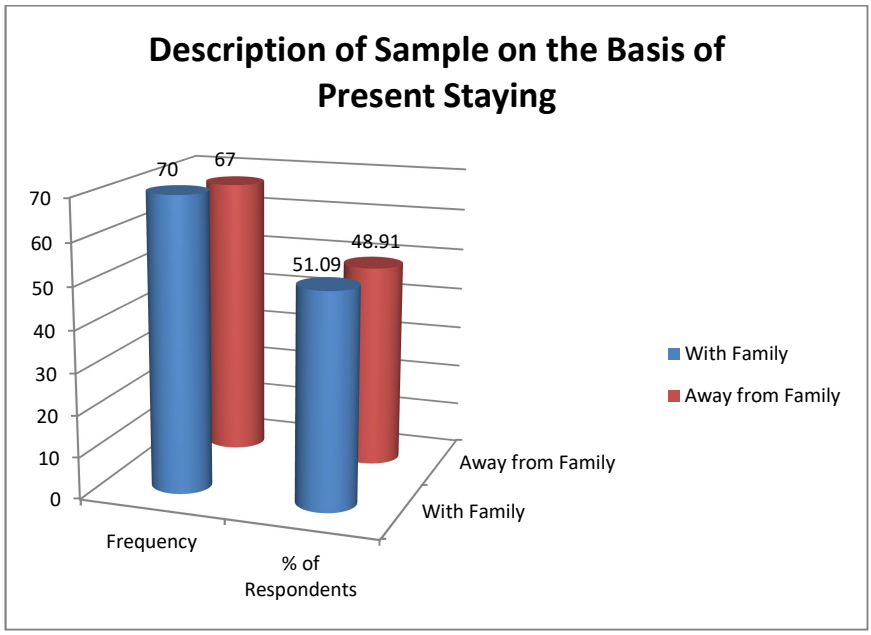
Figure 4.9



(x) Present Staying

51.09% of the respondents are staying with their families and 48.91% are staying away from their families due to job's nature which involves transfer, spouse' employment or children education (Figure 4.10).

Figure 4.10



4.4 Explorative Data Analysis

Salient features of this research study are elaborated by the following tables:

Table 4.2

OVERALL STRESS LEVEL OF RESPONDENTS

S. No.	Stress Level	Frequency	Percent
1	Low	0	0.00
2	Medium	16	11.68
3	High	119	**86.86**
4	Extreme	2	1.46
	Total	**137**	**100.00**

According to Table 4.2, **majority of the respondents (86.86%) are experiencing high level stress**. 11.68% respondents experience medium level stress

followed by 1.46% having extreme stress. Low level stress is not visible in the respondents. Only medium, high and extreme levels of stress are observed (Figure 4.11).

Figure 4.11

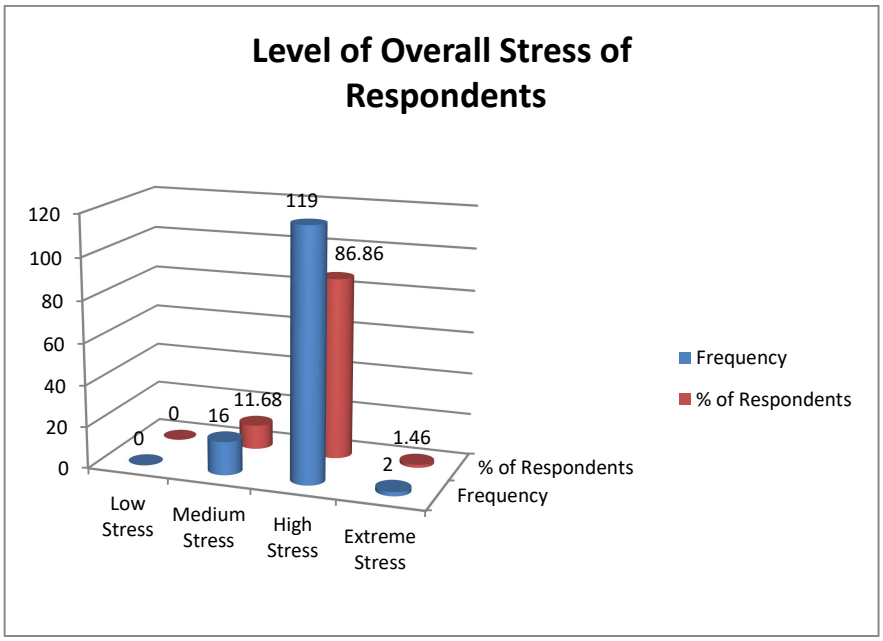


Table 4.3

EFFECTS OF STRESS ON RESPONDENTS

S. No.	Effects	Frequency	Percent
1	Mild	4	2.92
2	Tolerable	53	38.69
3	Dominant	80	**58.39**
4	Highly Dominant	0	0.00
	Total	**137**	**100.00**

According to Table 4.3 **majority of the respondents (58.39%) are experiencing dominant level of Stress effect**, 38.69% are experiencing tolerable level of stress effect, while only 2.92% are having mild effect. Highly dominant level of stress effect is not present among the respondents (Figure 4.12).

Figure 4.12

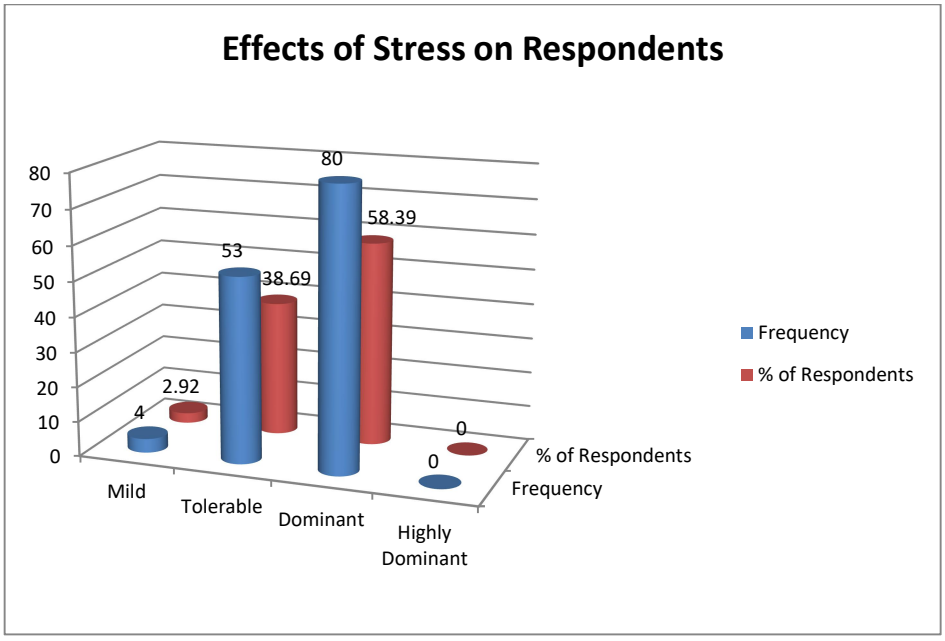


Table 4.4

STRESS LEVEL AND EFFECTS OF STRESS ON RESPONDENTS

Stress Level	Effect of Stress on health				Total
	Mild	Tolerable	Dominant	Highly Dominant	
Low Stress	0	0	0	0	**0**
	0.00%	0.00%	0.00%	0.00%	**0.00%**
Medium Stress	3	3	10	0	**16**
	18.75%	18.75%	**62.50%**	0.00%	**100.00%**
High Stress	1	48	70	0	**119**
	0.84%	40.34%	**58.82%**	0.00%	**100.00%**
Extreme Stress	0	2	0	0	**2**
	0.00%	100.00%	0.00%	0.00%	**100.00%**
Total	**4**	**53**	**80**	**0**	**137**
	2.92%	**38.69%**	**58.39%**	**0.00%**	**100.00%**

Table 4.4 depicts relationship between Stress Level and Effects of Stress on health of the respondents. In the Medium and High Stress categories, majority of the respondents are having dominant effects of stress.

Table 4.5

GENDER & STRESS LEVEL OF RESPONDENTS

Gender	Stress level				Total
	Low	Medium	High	Extreme	
Male	0	12	75	0	87
	0.00%	13.79%	**86.21%**	0.00%	100.00%
Female	0	4	44	2	50
	0.00%	8.00%	**88.00%**	4.00%	100.00%
Total	0	16	119	2	137
	0.00%	11.68%	86.86%	1.46%	!00.00%

Table 4.5 reveal that majority of male respondents (86.21%) and female (88.00%) are experiencing high stress level. 13.79% of male and 8.00% of female respondents are having medium stress level, whereas 4.00% of female respondents are having extreme stress level.

Table 4.6

GENDER & EFFECTS OF STRESS ON RESPONDENTS

Gender	Effects of Stress				Total
	Mild	Tolerable	Dominant	Highly Dominant	
Male	3	38	46	0	87
	3.45%	43.68%	**52.87%**	0.00%	100.00%
Female	1	15	34	0	50
	2.00%	30.00%	**68.00%**	0.00%	100.00%
Total	4	53	80	0	137
	2.92%	38.69%	58.39%	0.00%	!00.00%

Table 4.6 Explains that majority of male (52.87%) and female (68.00%) respondents are experiencing dominant effects of stress. 43.68% of male and 30.00% of female respondents are having tolerable effects of stress, whereas only 3.45% of male and 2.00% of female respondents are having mild effects on their health.

4.5 Descriptive Statistics on Components of Stress Based on Likert's 5 Point Scale

The present questionnaire has total 75 statements for measuring level of stress on four dimensions:

1. Individual Stressors : 10 Statements
2. Group Stressors : 5 Statements
3. Organizational Stressors : 55 Statements
4. Extra-Organizational Stressors : 5 Statements

It is noticed that each dimension of the questionnaire has different number of statements. As such, instead of Mean value, Mean value in percentage [Mean Index (%)] is used as measure to quantify stress level for a factor.

Mean Score for a factor = (Total Score for a factor)/(Number of Respondents)

Mean Value in percentage = Mean index (%)

= [(Mean Score for a factor)/ (Max. score for the factor)] X 100

As such classification of Stress Level for a factor will be:

Table 4.7

CLASSIFICATION OF STRESS LEVEL FOR A FACTOR

Mean Index (%)	Classification
Less than 40.00	Low
40.01 to 60.00	Medium
60.01 to 80.00	High
80.01 to 100.00	Extreme

ANALYSIS OF OVERALL STRESS (Level I)

Table 4.8

OVERALL STRESS SCORE

S. No.	Components	No. of Statements	Min. Score	Max. Score	Mean Score	Mean Index (%)	Classification
1.	**Overall Stress Score**	75	75	375	256.92	**68.51**	**High**

Table 4.8 and Table 4.2 indicate that high level stress is experienced by majority of respondents.

ANALYSIS OF OVERALL STRESS (Level II)

For in depth study, various factors: Individual Stressors, Group Stressors, Organizational Stressors and Extra-Organizational Stressors are analyzed on the basis of Mean Index(%).

Table 4.9

VARIOUS FACTORS OF STRESS

S. No.	Component	No. of Questions	Min. Score	Max. Score	Mean Score for the factor	Mean Index (%)	Classification
1	**Individual Stressors**	10	10	50	32.05	64.10	**High**
2	**Group Stressors**	5	5	25	17.36	69.44	**High**
3	**Organizational Stressors**	55	55	275	190.11	69.13	**High**
4	**Extra – Organizational Stressors**	5	5	25	17.39	69.56	**High**

Table 4.10

VARIOUS FACTORS OF STRESS DISTRIBUTION

Factors of Stress	Level	Frequency	Percent
Individual Stressors	Low	2	1.46%
	Medium	48	35.04%
	High	84	**61.31%**
	Extreme	3	2.19%
	Total	137	100.00%
Group Stressors	Low	3	2.19%
	Medium	29	21.17%
	High	94	**68.61%**
	Extreme	11	8.03%
	Total	137	100.00%

Factors of Stress	Level	Frequency	Percent
Organizational Stressors	Low	0	0.00%
	Medium	15	10.95%
	High	118	**86.13%**
	Extreme	4	2.92%
	Total	137	100.00%
Extra – Organizational Stressors	Low	2	1.46%
	Medium	18	13.14%
	High	106	**77.37%**
	Extreme	11	8.03%
	Total	137	100.00%

Table 4.10 displays the distribution of respondents according to various dimensions of stress. As far as, Individual, Group, Organizational and Extra-Organizational stressors are concerned, the majority of respondents (61.31%, 68.61%, 86.13% and 77.37% respectively) belong to high level stress.

ANALYSIS OF OVERALL STRESS (Level III)

As the Organizational Stressors play an important and vital role in determining the overall stress, they are further probed into 8 sub-factors of Organizational stressors separately.

Table 4.11

SUB-FACTORS OF ORGANIZATIONAL STRESSORS

Sub – factors of Organizational Stressors						
S. No.	**Component**	**No. of Questions**	**Max. Score**	**Mean Score**	**Mean Index (%)**	**Classification**
1	**Subordinates**	6	30	21.08	70.27	**High**
2	**Environment**	5	25	16.43	65.72	**High**
3	**Nature of Job**	5	25	17.10	68.40	**High**
4	**Organizational Climate**	9	45	30.59	67.98	**High**
5	**Relationship Within Organization**	5	25	17.49	69.96	**High**
6	**Role in Organization**	5	25	17.37	69.48	**High**
7	**Career Design**	5	25	17.54	70.16	**High**
8	**IT Specific**	15	75	52.50	70.00	**High**

4.6 Descriptive Statistics for Demographic and Job-Related Variables

It is very important to explore the association between demographic variables (such as Gender, Age, Education, Food Habit, Marital Status, Type of Family, Spouse's Employment and Present Staying) and the level of stress, and the association between Job-related variables (such as Experience and Salary) and the level of stress. Statistical Tools at three levels are used for this purpose:

a) Measures of Mean and Dispersion
b) Cross Tabulation or Bi-variate, data analysis, and
c) ANOVA TEST for SINGLE FACTOR

4.6.1 Gender and Level of Stress

The physique of women and men are different. Both have their own unique features. The physical difference may influence the stress level. So, it is useful to analyze the difference in gender and their level of stress.

Table 4.12

DESCRIPTIVE STATISTICS FOR GENDER

S. No.	Gender	Frequency	Percent	Mean Score	Range		S.D.
					Min.	Max.	
1	Male	87	63.50	255.87	178	296	26.17
2	Female	50	36.50	258.74	177	306	26.40
	Total	137	100.00				

Table 4.12 reveals that the mean score of men and women respondents have a minimal difference. This means the role of gender is irrelevant to their stress level.

Table 4.13

GENDER & STRESS LEVEL OF RESPONDENTS (CROSS-TAB)

Gender	Stress level				Total
	Low	Medium	High	Extreme	
Male	0	12	75	0	87
	0.00%	13.79%	**86.21%**	0.00%	100.00%
Female	0	4	44	2	50
	0.00%	8.00%	**88.00%**	4.00%	100.00%
Total	0	16	119	2	137
	0.00%	11.68%	**86.86%**	1.46%	100.00%

Table 4.13 reveals that majority of men (86.21%) and women (88.00%) experience high level of stress. The percentage of women experiencing high level of stress is slightly higher than that of men.

Table 4.14

GENDER & STRESS LEVEL (ANOVA : SINGLE FACTOR)

Null Hypothesis (H_0) : Gender of the respondents and their corresponding level of stress are independent.

Alternative Hypothesis (H_a) : Gender of the respondents and their corresponding level of stress are related.

Factor	$F_{calculated}$	$F_{critical}$	df	P-value	Significance
Gender versus Stress Level	**0.1972**	**5.9874**	**Between Groups : 1 Within Groups: 6**	**0.6726**	**Not Significant**

INFERENCE:

From Table 4.14 it is noticed that:

$F_{calculated}$ (0.1972) < $F_{critical}$ (5.9874) & P-value (0.6726) > 0.05

As such, the null hypothesis (H_0) is not rejected. This means that there appears no significant or relevant relationship between gender of respondents and their level of stress.

Table 4.15

STRESSORS MEAN INDEX (%) OF GENDER

Stressors		Gender	
		Male	Female
		Mean Index (%)	Mean Index (%)
Individual Stressors		64.5517	63.3200
Group Stressors		69.6552	69.1200
ORGANIZATIONAL	Subordinates	69.6935	71.2667
	Environmental	65.0115	66.9600
	Nature of Job	67.9080	69.2800
	Organizational Climate	67.4330	68.9333
	Relation within Organization	70.2988	69.3600
	Role related	68.9655	70.4000
	Career Design	69.6092	71.1200
	IT Specific Stressors	69.6399	70.6400
Extra-Organizational Stressors		69.0115	70.5600

Figure 4.13

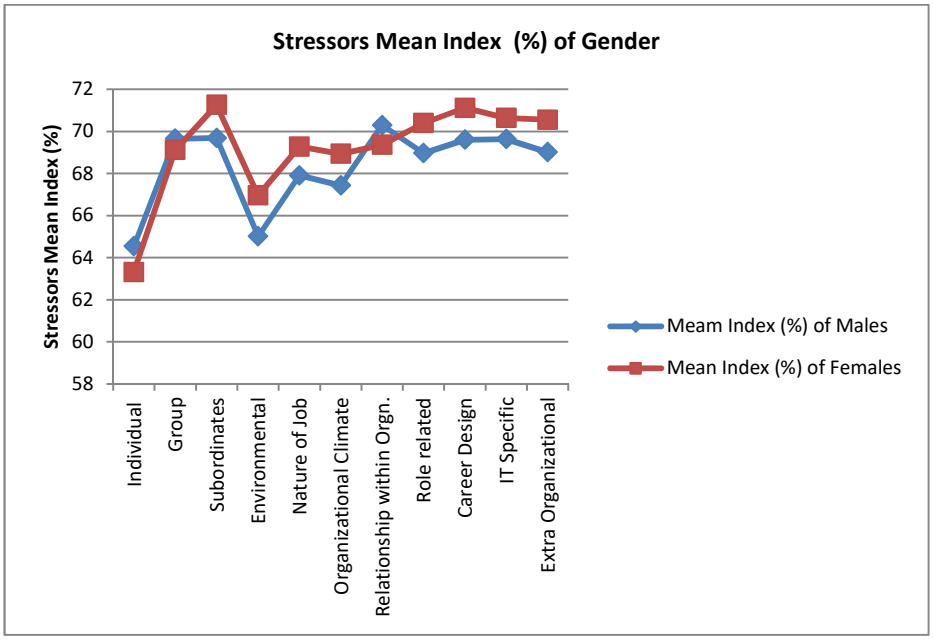


Figure 4.13 indicates that, except for Individual stressors, Group stressors and sub-factor relationship within organization, female respondents experience higher stress as compared to that of male respondents. Female respondents have highest stress due to the sub-factor subordinates and lowest for Individual stressors. It is also noticed that male respondents have highest stress due to sub-factor relationship within organization and minimum for Individual stressors. It is concluded that majority of female respondents experience greatest stress due to problems related to subordinates, whereas majority of male respondents have greatest stress due to problems related to relationship within organization.

4.6.2 Age and Level of Stress

Age is a vital factor that influences person's mind-set, perception and behavior. Age ripens both body and mind. As such, analysis of stress level of respondents of different age-groups has been done.

Table 4.16

DESCRIPTIVE STATISTICS FOR AGE

S. No.	Age (Years)	Frequency	Percent	Mean Score	Range		S.D.
					Min.	Max.	
1	**25-30**	45	32.85	248.93	189	306	26.04
2	**31-40**	81	59.12	261.06	177	300	26.21
3	**41-50**	11	8.03	259.09	229	296	20.53
	Total	137	100.00				

Table 4.16 depicts mean scores for different age-groups. It is noticed that the mean score is lowest (248.93) for the age-group 25-30. Age-group 31-40 has the highest mean score (261.06), whereas the age-group 41-50 has slightly lesser mean score (259.09). However, it is also noted that minimum score is exceptionally high (229), for the age-group 41-50.

Table 4.17

AGE & STRESS LEVEL OF RESPONDENTS (CROSS-TAB)

Age (Years)	Stress level				Total
	Low	Medium	High	Extreme	
25-30	0	8	35	2	45
	0.00%	17.78%	**77.78%**	4.44%	100.00%
31-40	0	8	73	0	81
	0.00%	9.88%	**90.12%**	0.00%	100.00%
41-50	0	0	11	0	11
	0.00%	0.00%	**100.00%**	0.00%	100.00%
Total	0	16	119	2	137
	0.00%	11.68%	**86.86%**	1.46%	100.00%

Table 4.17 clearly indicates that level of stress is high for majority of respondents in all age-groups. Only 4.44% of respondents of age-group 25-30 have extreme level of stress.

Table 4.18

AGE & STRESS LEVEL (ANOVA : SINGLE FACTOR)

Null Hypothesis (H_0) : Age of the respondents and their corresponding level of stress are independent.

Alternative Hypothesis (H_a) : Age of the respondents and their corresponding level of stress are related.

Factor	$F_{calculated}$	$F_{critical}$	df	P-value	Significance
Age versus Stress Level	**0.5954**	**4.2565**	**Between Groups: 2 Within Groups: 9**	**0.5717**	**Not Significant**

INFERENCE:

From Table 4.18 it is noticed that:

$F_{calculated}$ (0.5954) < $F_{critical}$ (4.2565) & P-value (0.5717) > 0.05

As such, the null hypothesis (H_0) is not rejected. This means that there appears no significant or relevant relationship between age of respondents and their level of stress.

Table 4.19

STRESSORS MEAN INDEX (%) OF AGE

Stressors		Age (Years)		
		25-30	31-40	41-50
		Mean Index (%)	Mean Index (%)	Mean Index (%)
Individual Stressors		61.4667	64.8395	69.4545
Group Stressors		63.8222	71.9506	74.1818
ORGANIZATIONAL	Subordinates	66.9630	72.4280	67.8788
	Environmental	64.5333	65.6296	71.2727
	Nature of Job	65.3333	69.7778	70.9091
	Organizational Climate	67.0617	68.8614	65.2525
	Relation within Organization	69.4222	71.1605	63.2727
	Role related	67.1111	71.2099	66.5454
	Career Design	69.1556	71.1111	67.2727
	IT Specific Stressors	68.4148	70.6667	71.6364
Extra-Organizational Stressors		67.1111	70.8642	70.1818

Figure 4.14

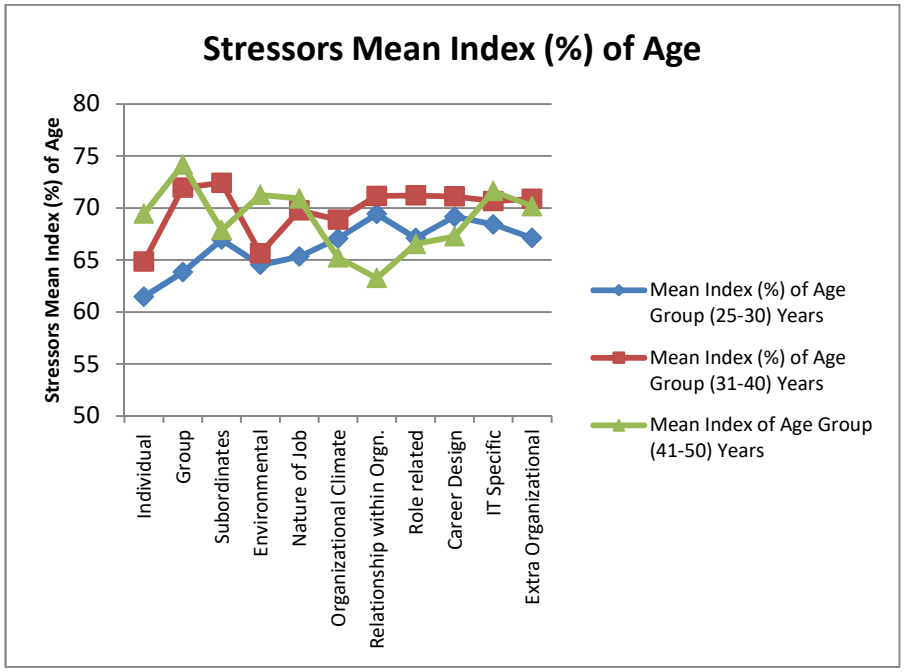


Figure 4.14 clearly indicate that Stressors Mean Index (%) is lowest for the age-group 25-30. For this age-group, it is highest for the sub-factor relationship within organization and lowest for the Individual stressors. For the age-group 31-40, Mean Index (%) is highest for the sub-factor subordinates and lowest for the sub-factor Environmental stressors. For the age-group 41-50, Mean Index (%) is highest for Group stressors and lowest for the sub-factor relationship within organization.

It is concluded that respondents having the age-group 25-30, have greatest stress due to problems related to relationship within organization. Age-group 31-40 experiences greatest stress due to problems related to subordinates, whereas group related problems cause greatest stress to the age-group 41-50.

4.6.3 Experience and Level of Stress

Experience helps in gaining knowledge. It equips a person with special skills which help him to perform his task effectively. So, experience is also an important factor in determining the stress level of a person.

Table 4.20

DESCRIPTIVE STATISTICS FOR EXPERIENCE

S. No.	Experience (Years)	Frequency	Percent	Mean Score	Range		S.D.
					Min.	Max.	
1	**1-5**	42	30.66	248.48	189	306	25.01
2	**6-10**	83	**60.58**	261.18	177	300	26.68
3	**11-15**	12	8.76	257.00	229	296	20.87
	Total	137	100.00				

Table 4.20 explains the level of experience of the respondents. It is noticed that 60.58% of the respondents possess 6-10 years of experience and 30.66% respondents possess 1 to 5 years' experience. Mean score is highest (261.18%) for respondents having experience 6-10 years. Minimum score is exceptionally high (229) for the respondents with experience of 11-15 years.

Table 4.21

EXPERIENCE & STRESS LEVEL OF RESPONDENTS (CROSS-TAB)

Experience (Years)	Stress level				Total
	Low	Medium	High	Extreme	
1-5	0	7	33	2	42
	0.00%	16.67%	**78.57%**	4.76%	100.00%
6-10	0	9	74	0	83
	0.00%	10.84%	**89.16%**	0.00%	100.00%
11-15	0	0	12	0	12
	0.00%	0.00%	**100.00%**	0.00%	100.00%
Total	0	16	119	2	137
	0.00%	11.68%	**86.86%**	1.46%	100.00%

Table 4.21 shows that for all experience levels, majority of respondents experience high stress level.

Table 4.22

EXPERIENCE & STRESS LEVEL (ANOVA : SINGLE FACTOR)

Null Hypothesis (H_0) : Experience of the respondents and their corresponding level of stress are independent.

Alternative Hypothesis (H_a) : Experience of the respondents and their corresponding level of stress are related.

Factor	$F_{calculated}$	$F_{critical}$	df	P-value	Significance
Experience versus Stress Level	0.6155	4.2565	Between Groups: 2 Within Groups: 9	0.5616	Not Significant

INFERENCE:

From Table 4.22 it is noticed that:

$$F_{calculated}\ (0.6155) < F_{critical}\ (4.2565)\ \&\ \text{P-value}\ (0.5616) > 0.05$$

As such, the null hypothesis (H_0) is not rejected. This means that there appears no significant or relevant relationship between experience of respondents and their level of stress.

Table 4.23

STRESSORS MEAN INDEX (%) OF EXPERIENCE

Stressors		Experience (Years)		
		1-5	6-10	11-15
		Mean Index (%)	Mean Index (%)	Mean Index (%)
Individual Stressors		61.0000	64.8434	69.8333
Group Stressors		63.9048	71.6144	74.0000
ORGANIZATIONAL	Subordinates	67.6190	72.2490	65.8333
	Environmental	64.0000	66.0241	69.6667
	Nature of Job	65.1428	69.9277	69.3333
	Organizational Climate	66.7196	69.2637	63.5185
	Relation within Organization	69.2381	71.0843	64.6667
	Role related	66.9524	71.0362	67.6667
	Career Design	68.6667	71.4699	66.3333
	IT Specific Stressors	68.5079	70.6024	71.1111
Extra-Organizational Stressors		67.2381	70.6988	70.0000

Figure 4.15

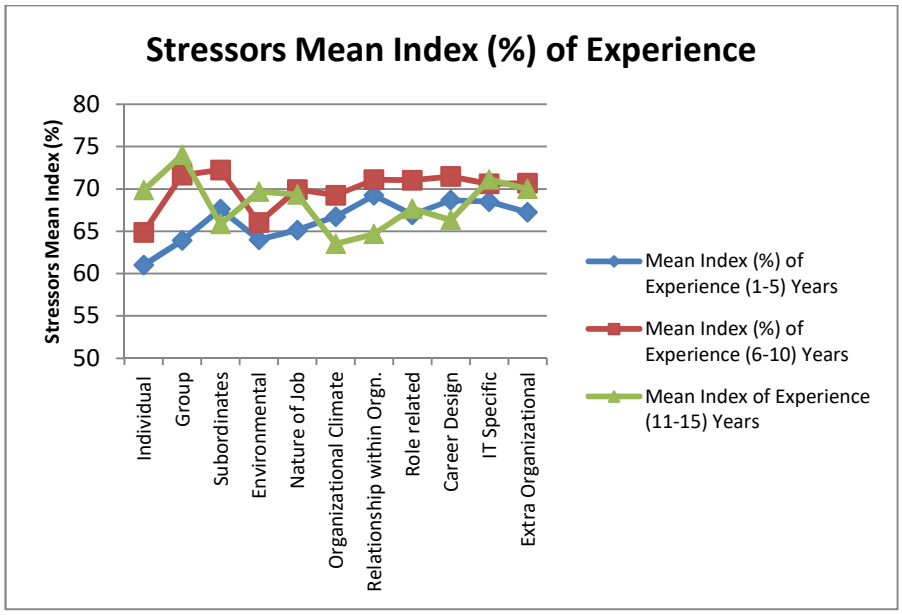


Figure 4.15 illustrates that respondents with experience of 1 to 5 years have lesser level of stress in most of the factors and sub-factors. Their highest Mean Index (%) is for the sub-factor relationship within organization, thus indicating that they are having highest stress due to problems related to relationship within organization. Respondents with experience 6 to 10 years have highest Mean Index (%) for the sub-factor subordinates, thus indicating that problems related to subordinates cause major stress for them. On the same lines, group related problems (Group stressors) cause major stress for the respondents having 11-15 years' experience.

4.6.4 Education and Level of Stress

Education shapes thinking and understanding of a person. It is also a vital factor in determining the stress level of a person. As such, education and the level of stress of the respondents are analyzed here.

Table 4.24

DESCRIPTIVE STATISTICS FOR EDUCATION

S. No.	Education	Frequency	Percent	Mean Score	Range		S.D.
					Min.	Max.	
1	**UG**	45	32.85	253.38	197	306	25.97
2	**PG/PG+**	63	45.98	255.49	177	295	28.52
3	**Professional**	29	21.17	265.52	219	296	19.23
	Total	137	100.00				

Table 4.24 depicts the educational qualifications of the respondents. It indicates that majority of the respondents (45.98%) possess PG or higher educational qualification. 32.85% are degree holders while 21.17% possess professional qualification. Respondents having professional qualifications, have highest Mean score (265.52) and highest minimum score (219).

Table 4.25

EDUCATION & STRESS LEVEL OF RESPONDENTS (CROSS-TAB)

Education	Stress level				Total
	Low	Medium	High	Extreme	
UG	0	7	36	2	45
	0.00%	15.56%	**80.00%**	4.44%	100.00%
PG/PG+	0	8	55	0	63
	0.00%	12.70%	**87.30%**	0.00%	100.00%
Professional	0	1	28	0	29
	0.00%	3.45%	**96.55%**	0.00%	100.00%
Total	0	16	119	2	137
	0.00%	11.68%	**86.86%**	1.46%	100.00%

Table 4.25 illustrates the stress level of respondents having different educational qualifications. It indicates that 80.00% graduates experience high level of stress. The percentage increases as the educational qualification increases. It is 87.30% for PG/PG+ holders and 96.55% for professional qualification holders.

Table 4.26

EDUCATION & STRESS LEVEL (ANOVA : SINGLE FACTOR)

Null Hypothesis (H_0) : Education of the respondents and their corresponding level of stress are independent.

Alternative Hypothesis (H_a) : Education of the respondents and their corresponding level of stress are related.

Factor	$F_{calculated}$	$F_{critical}$	df	P-value	Significance
Education versus Stress Level	**0.1852**	**4.2565**	**Between Groups: 2 Within Groups: 9**	**0.8340**	**Not Significant**

INFERENCE:

From Table 4.26 it is noticed that:

$F_{calculated}$ (0.1852) < $F_{critical}$ (4.2565) & P-value (0.8340) > 0.05

As such, the null hypothesis (H_0) is not rejected. This means that there appears no significant or relevant relationship between education of respondents and their level of stress.

Table 4.27

STRESSORS MEAN INDEX (%) OF EDUCATION

Stressors		Education		
		UG	PG/PG+	Professional
		Mean Index (%)	Mean Index (%)	Mean Index (%)
Individual Stressors		63.7778	71.8182	67.6552
Group Stressors		65.5111	79.7818	75.1724
ORGANIZATIONAL	Subordinates	70.0000	80.0000	71.6092
	Environmental	65.2444	73.1636	70.4828
	Nature of Job	66.2222	77.2364	73.9310
	Organizational Climate	69.0370	76.4444	69.0422
	Relation within Organization	70.2222	78.8364	72.0000
	Role related	68.0889	79.3454	72.1379
	Career Design	67.6444	82.1818	70.6207
	IT Specific Stressors	68.9185	80.6061	70.8966
Extra-Organizational Stressors		68.0000	81.0182	69.5172

Figure 4.16

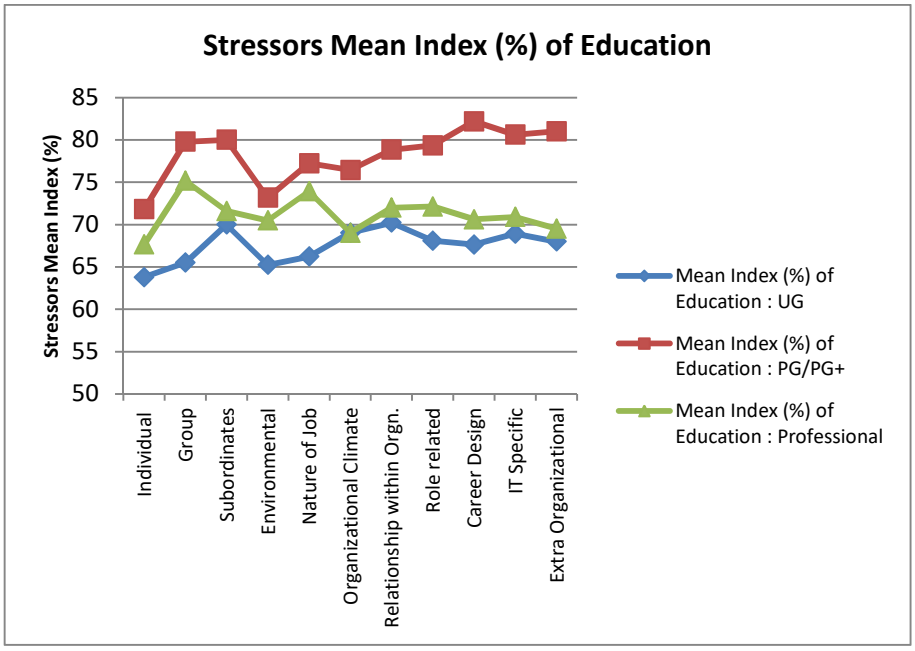


Figure 4.16 indicates that Mean Index (%) is lesser for degree holders for all factors as well as sub-factors. For these respondents, Mean Index (%) is highest for the sub-factor subordinates indicating that subordinates related problems cause them greatest stress. Respondents having PG or higher qualifications show highest Mean Index (%) for all factors as well as sub-factors. For these respondents, Mean Index (%) is highest for the sub-factor career design indicating that career related problems cause them maximum stress. For respondents holding professional qualifications, Mean Index (%) is highest for Group stressors, indicating that group related problems cause them greatest stress.

4.6.5 Salary and Level of Stress

Employees receive salary for doing their job. Salary is very important for an employee because it helps him in fulfilling his personal and family needs. If salary of an employee is not satisfactory, it may cause him a lot of stress. Hence, relationship between salary of an employee and stress has been analyzed.

Table 4.28

DESCRIPTIVE STATISTICS FOR SALARY

S. No.	Salary (Rs.) (p.m.)	Frequency	Percent	Mean Score	Range		S.D.
					Min.	Max.	
1	**<35000**	12	8.76	251.67	227	278	14.46
2	**35001-45000**	43	31.38	256.00	197	306	27.00
3	**45001-55000**	46	33.58	263.07	178	290	22.88
4	**>55000**	36	26.28	251.83	177	300	31.07
	Total	137	100.00				

Table 4.28 shows that about one third of the respondents (33.58%) draw salary between Rs. 45001 and 55000. 31.38% draw between Rs. 35001 and 45000, whereas 26.28% draw more than Rs. 55000. Only 8.76% of the respondents draw less than Rs. 35000. Mean score is maximum (263.07) for the salary range Rs. 45001 – 55000.

Table 4.29

SALARY & STRESS LEVEL OF RESPONDENTS (CROSS-TAB)

Salary (Rs.) (p.m.)	Stress level				Total
	Low	Medium	High	Extreme	
<35000	0	0	12	0	12
	0.00%	0.00%	**100.00%**	0.00%	100.00%
35001-45000	0	7	34	2	43
	0.00%	16.28%	**79.07%**	4.65%	100.00%
45001-55000	0	3	43	0	46
	0.00%	6.52%	**93.48%**	0.00%	100.00%
>55000	0	6	30	0	36
	0.00%	16.67%	**83.33%**	0.00%	100.00%
Total	0	16	119	2	137
	0.00%	11.68%	**86.86%**	1.46%	100.00%

Table 4.29 indicates that majority of respondents in all salary groups are having high level of stress.

Table 4.30

SALARY & STRESS LEVEL (ANOVA : SINGLE FACTOR)

Null Hypothesis (H_0) : Salary of the respondents and their corresponding level of stress are independent.

Alternative Hypothesis (H_a) : Salary of the respondents and their corresponding level of stress are related.

Factor	$F_{calculated}$	$F_{critical}$	df	P-value	Significance
Salary versus Stress Level	0.2550	3.4903	Between Groups: 3 Within Groups: 12	0.8564	Not Significant

INFERENCE:

From Table 4.30 it is noticed that:

$F_{calculated}$ (0.2550) < $F_{critical}$ (3.4903) & P-value (0.8564) > 0.05

As such, the null hypothesis (H_0) is not rejected. This means that there appears no significant or relevant relationship between salary of respondents and their level of stress.

Table 4.31

STRESSORS MEAN INDEX (%) OF SALARY

Stressors		Salary (Rs. p.m.)			
		<35000	35001-45000	45001-55000	>55000
		Mean Index (%)	Mean Index (%)	Mean Index (%)	Mean Index (%)
Individual Stressors		65.1667	62.0000	65.0435	65.0556
Group Stressors		66.0000	68.5581	70.7826	70.0000
ORGANIZATIONAL	Subordinates	67.5000	70.4651	72.8261	67.6852
	Environmental	66.0000	65.1163	66.7826	65.0000
	Nature of Job	65.0000	68.8372	69.5652	67.5556
	Organizational Climate	70.9259	68.0103	69.1787	65.4321
	Relation within Organization	72.6667	69.8605	72.1739	66.3333
	Role related	70.0000	68.7442	72.0000	67.0000
	Career Design	65.6667	71.2558	72.9565	66.7778
	IT Specific Stressors	66.5556	69.9535	71.7681	68.9630
Extra-Organizational Stressors		62.6667	71.0698	70.6956	68.6667

Figure 4.17

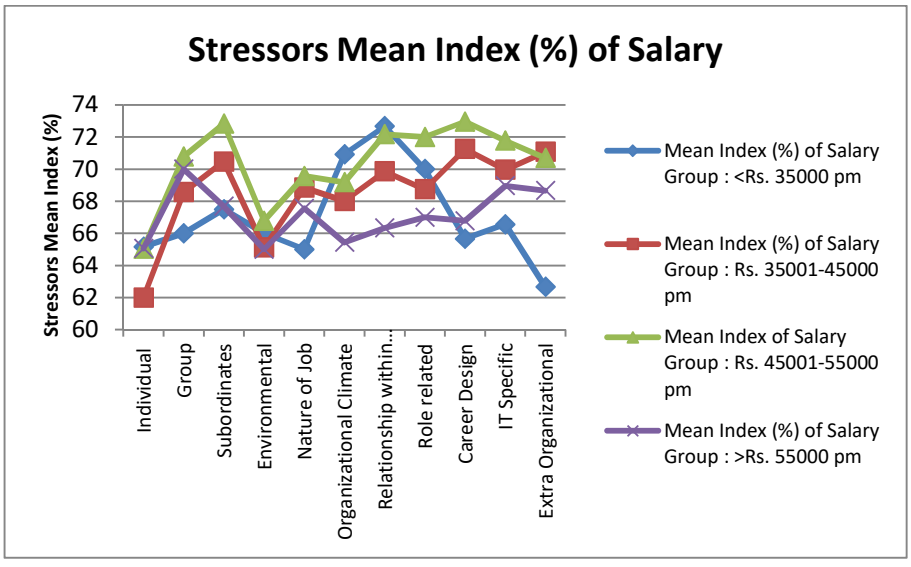


Figure 4.17 show that the respondents drawing salary less than Rs. 35000 have highest Mean Index (%) for the sub-factor relationship within organization. This indicates that problems related to relationship within organization cause them greatest stress. For the respondents drawing salary in the range Rs. 35001 to 45000, the Mean Index (%) is highest for the sub-factor career design. As such, career related problems cause them greatest stress. Respondents drawing salary in the range Rupees 45001 to 55000, have Mean Index (%) very high for the sub-factors career design and subordinates, thus indicating that problems related to these sub-factors cause them greatest stress. Similarly, respondents drawing salary more than Rs. 55000 are experiencing greatest stress due to problems related to Group stressors.

4.6.6 Food Habit and Level of Stress

Many studies have depicted that food habit of a person affects his behavior. Thus, the relationship between food habits and stress levels of the respondents has been analyzed.

Table 4.32

DESCRIPTIVE STATISTICS FOR FOOD HABIT

S. No.	Food Habit	Frequency	Percent	Mean Score	Range		S.D.
					Min.	Max.	
1	Vegetarian	86	62.77	256.50	189	302	21.15
2	Non-Vegetarian	51	37.23	257.63	177	306	33.24
	Total	137	100.00				

Table 4.32 shows that 62.77% of the respondents are vegetarians and rest 37.23% are non-vegetarians. There is not much difference between their mean scores (256.50 and 257.63), as such there appears no relationship between food habits and associated levels of stress of the respondents.

Table 4.33

FOOD HABIT & STRESS LEVEL OF RESPONDENTS (CROSS-TAB)

Food Habit	Stress level				Total
	Low	Medium	High	Extreme	
Vegetarian	0	7	78	1	86
	0.00%	8.14%	**90.70%**	1.16%	100.00%
Non-Vegetarian	0	9	41	1	51
	0.00%	17.65%	**80.39%**	1.96%	100.00%
Total	0	16	119	2	137
	0.00%	11.68%	**86.86%**	1.46%	100.00%

Table 4.33 shows that majority of respondents, whether vegetarians (90.70%) or non-vegetarians (80.39%), are having high level of stress. 8.14% of vegetarians and 17.65% of non-vegetarians, experience medium level of stress. Only 1.16% of vegetarians and 1.96% of non-vegetarians are having extreme level of stress.

Table 4.34

Food Habit & STRESS LEVEL (ANOVA : SINGLE FACTOR)

Null Hypothesis (H_0) : Food habit of the respondents and their corresponding level of stress are independent.

Alternative Hypothesis (H_a) : Food habit of the respondents and their corresponding level of stress are related.

Factor	$F_{calculated}$	$F_{critical}$	df	P-value	Significance
Food Habit versus Stress Level	**0.1702**	**5.9874**	**Between Groups: 1 Within Groups: 6**	**0.6943**	**Not Significant**

INFERENCE:

From Table 4.34 it is noticed that:

$F_{calculated}$ (0.1702) < $F_{critical}$ (5.9874) & P-value (0.6943) > 0.05

As such, the null hypothesis (H_0) is not rejected. This means that there appears no significant or relevant relationship between food habit of respondents and their levels of stress.

Table 4.35

STRESSORS MEAN INDEX (%) OF FOOD HABIT

Stressors		Food Habit	
		Vegetarian	Non-Vegetarian
		Mean Index (%)	Mean Index (%)
Individual Stressors		63.1395	65.7255
Group Stressors		68.9302	70.3530
ORGANIZATIONAL	Subordinates	70.1550	70.4575
	Environmental	66.3721	64.6274
	Nature of Job	68.4186	68.3922
	Organizational Climate	68.3204	67.4074
	Relation within Organization	69.9535	69.9608
	Role related	69.5349	69.4118
	Career Design	69.5814	71.1372
	IT Specific Stressors	70.2326	69.6209
Extra-Organizational Stressors		69.0698	70.4314

Figure 4.18

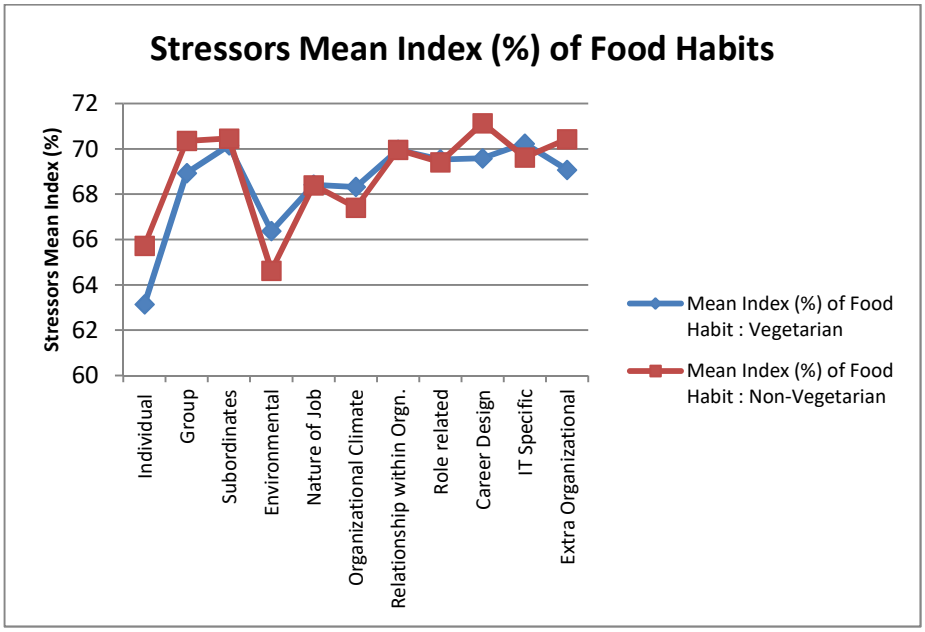


Figure 4.18 shows that Mean Index (%) for vegetarian respondents is very high for sub-factors IT specific and subordinates. As such, these respondents experience greatest stress due to problems related to IT specific and subordinates. For non-vegetarian respondents Mean Index (%) is highest for sub-factor career design. Hence, these respondents are having greatest stress due to the problems related to career design.

4.6.7 Marital Status and Level of Stress

Married persons have to devote extra attention to their family. So, marital status may affect the level of stress of a person. As such, marital status and level of stress relationship has been analyzed.

Table 4.36

DESCRIPTIVE STATISTICS FOR MARITAL STATUS

S. No.	Marital Status	Frequency	Percent	Mean Score	Range		S.D.
					Min.	Max.	
1	**Un-married**	46	33.58	251.57	189	306	25.47
2	**Married**	91	66.42	259.63	177	300	26.27
3	**Others**	0	0.00	-	-	-	-
	Total	137	100.00				

Table 4.36 shows that 66.42% of respondents are married and rest 33.58% are un-married. Mean score for married respondents (259.63) is higher than that for un-married respondents (251.57). It indicates that married respondents are having higher level of stress.

Table 4.37

MARITAL STATUS & STRESS LEVEL OF RESPONDENTS (CROSS-TAB)

Marital Status	Stress level				Total
	Low	Medium	High	Extreme	
Un-married	0	7	37	2	46
	0.00%	15.22%	**80.43%**	4.35%	100.00%
Married	0	9	82	0	91
	0.00%	9.89%	**90.11%**	0.00%	100.00%
Others	0	0	0	0	0
	0.00%	0.00%	0.00%	0.00%	0
Total	0	16	119	2	137
	0.00%	11.68%	**86.86%**	1.46%	100.00%

Table 4.37 shows that majority of un-married respondents (80.43%) and married respondents (90.11%) experience high level of stress. 15.22% of the un-married respondents and 9.89% of the married respondents are having medium level of stress. Only 4.35% of un-married respondents are having extreme level of stress.

Table 4.38

MARITAL STATUS & STRESS LEVEL (ANOVA : SINGLE FACTOR)

Null Hypothesis (H_0) : Marital status of the respondents and their corresponding level of stress are independent.

Alternative Hypothesis (H_a) : Marital status of the respondents and their corresponding level of stress are related.

Factor	$F_{calculated}$	$F_{critical}$	Df	P-value	Significance
Marital Status versus Stress Level	**0.8277**	**4.2565**	**Between Groups: 2 Within Groups: 9**	**0.4678**	**Not Significant**

INFERENCE:

From Table 4.38 it is noticed that:

$F_{calculated}$ (0.8277) < $F_{critical}$ (4.2565) & P-value (0.4678) > 0.05

As such, the null hypothesis (H_0) is not rejected. This means that there appears no significant or relevant relationship between marital status of respondents and their levels of stress.

Table 4.39

STRESSORS MEAN INDEX (%) OF MARITAL STATUS

Stressors		Marital Status		
		Un-married	Married	Others
		Mean Index (%)	Mean Index (%)	Mean Index (%)
Individual Stressors		62.7826	64.7692	-
Group Stressors		64.8696	71.7802	-
ORGANIZATIONAL	Subordinates	68.6232	71.0989	-
	Environmental	64.5217	66.3297	-
	Nature of Job	66.5217	69.3626	-
	Organizational Climate	67.1498	68.4005	-
	Relation within Organization	70.9565	69.4506	-
	Role related	68.1739	70.1538	-
	Career Design	69.3913	70.5494	-
	IT Specific Stressors	68.5507	70.7399	-
Extra-Organizational Stressors		67.3913	70.6813	-

Figure 4.19

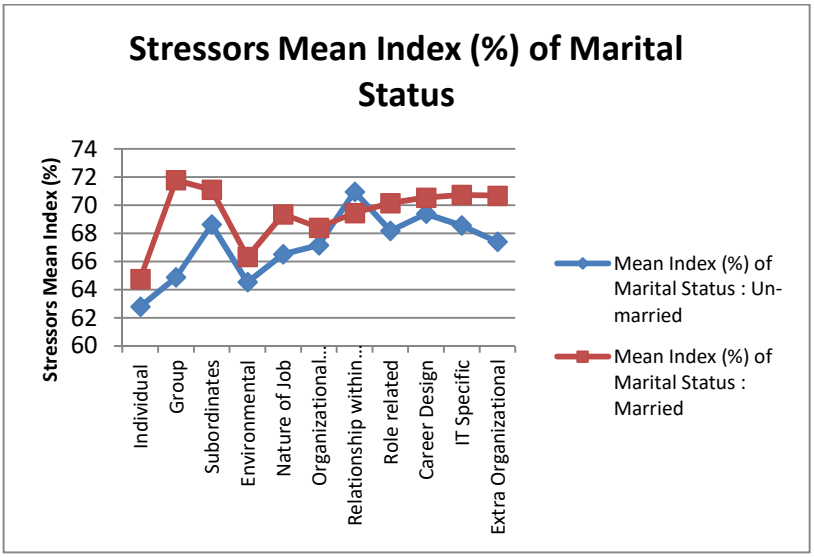


Figure 4.19 shows that except for the sub-factor relationship within organization, married respondents are having higher level of stress in all factors and sub-factors. Married respondents have highest Mean Index (%) for Group stressors, indicating that group related problems cause them greatest stress. Mean Index (%) for un-married respondents is highest for the sub-factor relationship within organization. Hence, problems related to relationship within organization cause greatest stress to un-married respondents.

4.6.8 Type of Family and Level of Stress

Type of family determines the extent of family responsibility of a person. Both nuclear type and joint type of families have their own benefits and problems. As such, it is relevant to study the relationship between type of family and level of stress of the respondents.

Table 4.40

DESCRIPTIVE STATISTICS FOR TYPE OF FAMILY

S. No.	Type of family	Frequency	Percent	Mean Score	Range		S.D.
					Min.	Max.	
1	**Joint**	36	26.28	249.33	177	296	28.21
2	**Nuclear**	101	73.72	259.62	178	306	25.03
	Total	137	100.00				

Table 4.41

TYPE OF FAMILY & STRESS LEVEL OF RESPONDENTS (CROSS-TAB)

Type of family	Stress level				Total
	Low	Medium	High	Extreme	
Joint	0	6	30	0	36
	0.00%	16.67%	**83.33%**	0.00%	100.00%
Nuclear	0	10	89	2	101
	0.00%	9.90%	**88.12%**	1.98%	100.00%
Total	0	16	119	2	137
	0.00%	11.68%	**86.86%**	1.46%	100.00%

Table 4.41 shows that majority of respondents of joint family (83.33%) as well as nuclear family (88.12%) experience high level of stress. 16.67% respondents of joint family and 9.90% respondents of nuclear family have medium level of stress. Only 1.98% respondents of nuclear family experience extreme level of stress.

Table 4.42

TYPE OF FAMILY & STRESS LEVEL (ANOVA : SINGLE FACTOR)

Null Hypothesis (H_0) : Family type of the respondents and their corresponding level of stress are independent.

Alternative Hypothesis (H_a) : Family type of the respondents and their corresponding level of stress are related.

Factor	$F_{calculated}$	$F_{critical}$	df	P-value	Significance
Type of family versus Stress Level	0.5206	5.9874	Between Groups: 1 Within Groups: 6	0.4977	Not Significant

INFERENCE:

From Table 4.42 it is noticed that:

$F_{calculated}$ (0.5206) < $F_{critical}$ (5.9874) & P-value (0.4977) > 0.05

As such, the null hypothesis (H_0) is not rejected. This means that there appears no significant or relevant relationship between family type of respondents and their levels of stress.

Table 4.43

STRESSORS MEAN INDEX (%) OF TYPE OF FAMILY

Stressors		Type of Family	
		Joint	Nuclear
		Mean Index (%)	Mean Index (%)
Individual Stressors		60.2778	65.4653
Group Stressors		66.1111	70.6535
ORGANIZATIONAL	Subordinates	66.7593	71.5182
	Environmental	64.4444	66.1782
	Nature of Job	69.0000	68.1980
	Organizational Climate	65.0617	69.0209
	Relation within Organization	67.7778	70.7327
	Role related	67.8889	70.0594
	Career Design	68.4444	70.7723
	IT Specific Stressors	69.0000	70.3630
Extra-Organizational Stressors		68.8889	69.8218

Figure 4.20

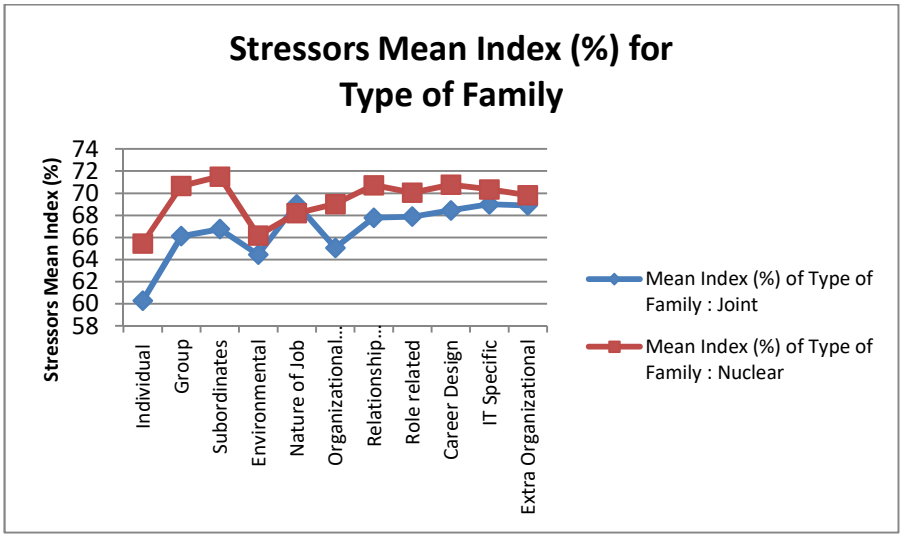


Figure 4.20 shows that except for sub-factor nature of job, respondents with nuclear family, experience higher stress for all factors and sub-factors. Mean Index (%) for these respondents is very high for sub-factor subordinates and Group stressors. As such, these respondents experience greatest stress due to problems related to subordinates and groups. For respondents with joint family, Mean Index (%) is highest for sub-factor nature of job. Hence, these respondents are having greatest stress due to the problems related to nature of job.

4.6.9 Spouse's Employment and Level of Stress

With the spread of women education more and more women are opting for jobs, to share the economic burden and needs of the family. However, it causes stress because both husband and wife have to make several adjustments. So, relationship between spouse's employment and level of stress needs to be analyzed.

Table 4.44

DESCRIPTIVE STATISTICS FOR SPOUSE'S EMPLOYMENT

S. No.	Spouse's Employment	Frequency	Percent	Mean Score	Range		S.D.
					Min.	Max.	
1	**Employed**	65	47.44	261.40	177	300	25.46
2	**Not Employed**	26	18.98	255.19	178	295	28.22
3	**Not Applicable**	46	33.58	251.57	189	306	25.47
	Total	137	100.00				

Table 4.44 depict that 47.44% respondents have employed spouse, whereas 18.98% of the respondents' spouses are not employed. Mean Score for the respondents having employed spouse is highest, indicating that respondents having employed spouses experience highest stress. Respondents having un-employed spouses experience higher stress, compared to the respondents with no spouse.

Table 4.45

SPOUSE'S EMPLOYMENT AND STRESS LEVEL OF RESPONDENTS (CROSS-TAB)

Spouse's Employment	Stress level				Total
	Low	Medium	High	Extreme	
Employed	0	6	59	0	65
	0.00%	9.23%	**90.77%**	0.00%	100.00%
Not Employed	0	3	23	0	26
	0.00%	11.54%	**88.46%**	0.00%	100.00%
Not Applicable	0	7	37	2	46
	0.00%	15.22%	**80.43%**	4.35%	100.00%
Total	0	16	119	2	137
	0.00%	11.68%	**86.86%**	1.46%	100.00%

Table 4.45 depict that majority of respondents with employed spouses (90.77%), with not employed spouses (88.46%) and with no spouse (80.43%), experience high level of stress.

Table 4.46

SPOUSE'S EMPLOYMENT AND STRESS LEVEL (ANOVA : SINGLE FACTOR)

Null Hypothesis (H_0) : Spouse's employment of the respondents and their corresponding level of stress are independent.

Alternative Hypothesis (H_a) : Spouse's employment of the respondents and their corresponding level of stress are related.

Factor	$F_{calculated}$	$F_{critical}$	Df	P-value	Significance
Spouse's Employment versus Stress Level	**0.2299**	**4.2565**	**Between Groups: 2 Within Groups: 9**	**0.7992**	**Not Significant**

INFERENCE:

From Table 4.46 it is noticed that:

$F_{calculated}$ (0.2299) < $F_{critical}$ (4.2565) & P-value (0.7992) > 0.05

As such, the null hypothesis (H_0) is not rejected. This means that there appears no significant or relevant relationship, between employment of spouse and level of stress of the respondents.

Table 4.47

STRESSORS MEAN INDEX (%) OF SPOUSE'S EMPLOYMENT

Stressors		Spouse's Employment		
		Employed	Not Employed	Not Applicable
		Mean Index (%)	Mean Index (%)	Mean Index (%)
Individual Stressors		65.3846	63.2308	62.7826
Group Stressors		72.4923	70.0000	64.8696
ORGANIZATIONAL	Subordinates	71.6923	69.6154	68.6232
	Environmental	67.2615	64.0000	64.5217
	Nature of Job	70.2769	67.0769	66.5217
	Organizational Climate	68.0000	69.4017	67.1498
	Relation within Organization	69.9692	68.1538	70.9565
	Role related	71.2000	67.5385	68.1739
	Career Design	71.2000	68.9231	69.3913
	IT Specific Stressors	70.8103	70.5641	68.5507
Extra-Organizational Stressors		71.5692	68.4615	67.3913

Figure 4.21

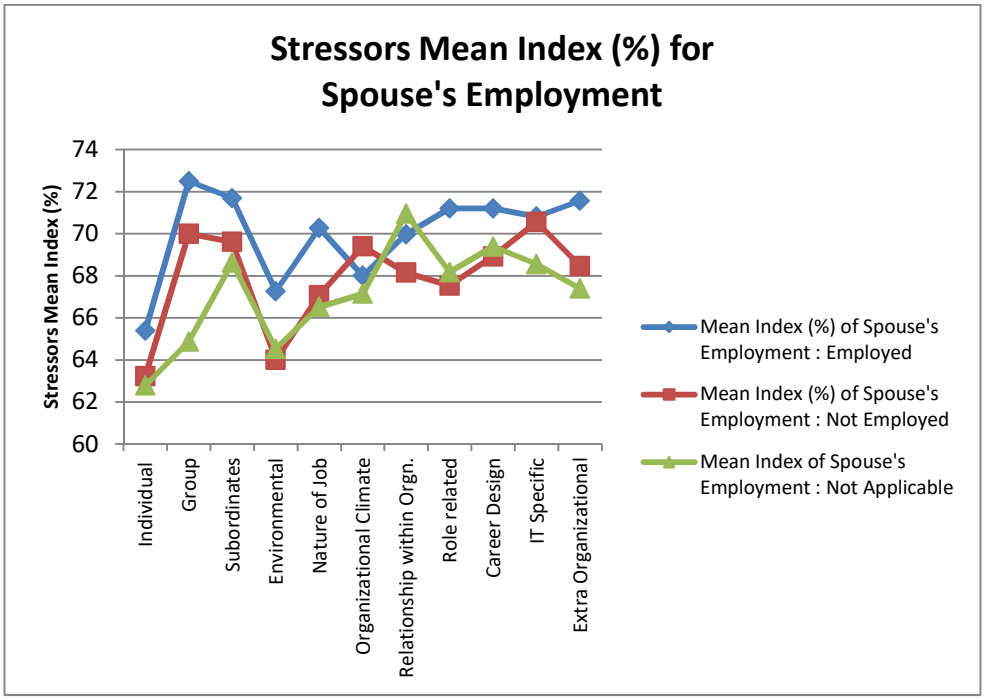


Table 4.21 depicts that except for sub-factors organizational climate and relationship within organization, Mean Index (%) for respondents having employed spouses is the highest for all factors and other sub-factors. This indicates that respondents with employed spouses experience highest stress. For these respondents Mean Index (%) is highest for Group stressors, indicating that they face highest stress due to problems related to their groups. For respondents with spouses not doing any job, Mean Index (%) is very high for the sub-factor IT specific and the factor Group stressors. Hence, these respondents experience greatest stress due to problems related to IT specific and their groups. Mean Index (%) for the respondents with no spouse is highest for the sub-factor relationship within organization. As such, these respondents experience greatest stress due to problems related to relationship within organization.

4.6.10 Staying and Level of Stress

Staying with family and away from family has its own advantages and disadvantages. A person staying away from family has lesser family responsibilities, yet he faces problems of food, washing and other house management. This may affect the associated level of stress. Hence, relationship between staying and level of stress has been analyzed.

Table 4.48

DESCRIPTIVE STATISTICS FOR STAYING

S. No.	Staying	Frequency	Percent	Mean Score	Range		S.D.
					Min.	Max.	
1	**With family**	70	51.09	254.13	177	306	28.65
2	**Away from family**	67	48.91	259.84	178	302	23.21
	Total	137	100.00				

Table 4.48 depicts that 51.09% of the respondents are staying with their families, whereas 48.91% respondents are staying away from their families and Mean score for such respondents is higher.

Table 4.49

STAYING & STRESS LEVEL OF RESPONDENTS (CROSS-TAB)

Staying	Stress level				Total
	Low	Medium	High	Extreme	
With Family	0	11	58	1	70
	0.00%	15.71%	**82.86%**	1.43%	100.00%
Away from Family	0	5	61	1	67
	0.00%	7.46%	**91.05%**	1.49%	100.00%
Total	0	16	119	2	137
	0.00%	11.68%	**86.86%**	1.46%	100.00%

Table 4.49 depicts that 82.86% respondents staying with families and 91.05% respondents staying away from families are having high level of stress. 15.71% respondents, staying with families and 7.46% respondents staying away from families,

experience medium level of stress, whereas only 1.43% respondents, staying with families and 1.49% respondents staying away from families, experience extreme level of stress.

Table 4.50

STAYING & STRESS LEVEL (ANOVA : SINGLE FACTOR)

Null Hypothesis (H_0) : Staying of the respondents and their corresponding level of stress are independent.

Alternative Hypothesis (H_a) : Staying of the respondents and their corresponding level of stress are related.

Factor	$F_{calculated}$	$F_{critical}$	df	P-value	Significance
Staying versus Stress Level	0.0014	5.9874	Between Groups: 1 Within Groups: 6	0.9716	Not Significant

INFERENCE:

From Table 4.50 it is noticed that:

$F_{calculated}$ (0.0014) < $F_{critical}$ (5.9874) & P-value (0.9716) > 0.05

As such, the null hypothesis (H_0) is not rejected. This means that there appears no significant or relevant relationship between staying of respondents and their levels of stress.

Table : 4.51

STRESSORS MEAN INDEX (%) OF STAYING

Stressors		STAYING	
		With family	Away from family
		Mean Index (%)	Mean Index (%)
Individual Stressors		63.4857	64.7463
Group Stressors		67.9428	71.0448
ORGANIZATIONAL	Subordinates	68.6667	71.9403
	Environmental	66.1714	65.2537
	Nature of Job	69.6000	67.1642
	Organizational Climate	66.6349	69.3864
	Relation within Organization	68.9714	70.9851
	Role related	67.2572	71.8209
	Career Design	68.7428	71.6418
	IT Specific Stressors	69.6000	70.4279
Extra-Organizational Stressors		69.7143	69.4328

Figure 4.22

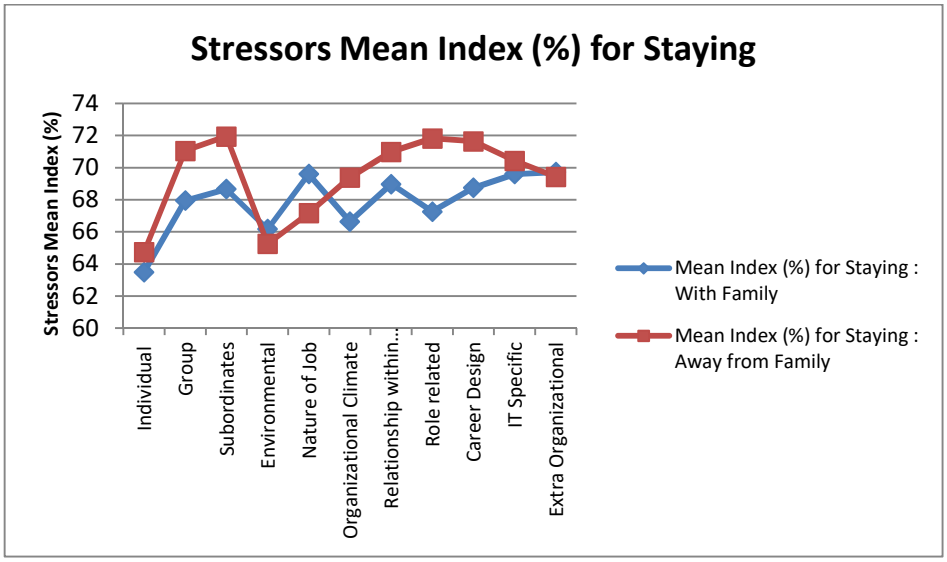


Figure 4.22 shows that except for sub-factors nature of job and environmental, Mean Index (%) for respondents staying away from family is higher for all factors and other sub-factors. This indicates that respondents staying away from their families endure higher level of stress. For these respondents Mean Index (%) is very high for the sub-factors subordinates, role related in organization and career design. Hence, these respondents suffer high stress caused due to problems related to above mentioned sub-factors.

For respondents staying with family, Mean Index (%) is found to be highest for the sub-factor nature of job. As such, these respondents are having greatest stress due to problems related to nature of job.

4.7 IT Specific Stressors

There are 15 statements in the questionnaire which are IT specific. These statements are listed and responses of the respondents are analyzed here.

Table 4.52

IT SPECIFIC STATEMENT

Statement	IT Specific Stressors
q56	Globalization has resulted in stiff market competition, which compels IT employees to work harder to stay competitive.
q57	High demands for innovative and customized products keep the working team under constant stress.
q58	Work intensity, time pressure and constant deadlines cause immense stress.
q59	Many times, unreasonable demands of customers cause a lot of tension.
q60	Many times, due to too much monotonous work, I get bored.
q61	Sometimes I get confused due to contradictory expectations, different people have from me.
q62	I need more training and preparation to be more effective in my work, however in service training facilities are inadequate.
q63	I have to do a lot of travelling for my job, which causes a lot of inconvenience and stress.
q64	I can't enjoy my leisure because the toll my job takes on my energy.
q65	There is obvious discrimination in terms of payment of compensations among the employees working in a specific group.
q66	Frequent Internet or network connectivity failures cause stress.
q67	Recession is affecting employment in IT sector.
q68	Mergers and acquisitions of companies create redundancy.
q69	Outsourcing IT work causes a lot of complications.
q70	Sometimes we have to favour customers out of the way to retain them.

Table 4.53

IT Specific Stressors
(% of Respondents)

Statement	Strongly Agree	Agree	Not Sure	Disagree	Strongly Disagree
q56	2.19	70.80	11.68	13.14	2.19
q57	33.58	29.92	22.63	10.22	3.65
q58	18.98	28.47	21.17	27.00	4.38
q59	11.68	39.41	21.17	21.17	6.57
q60	17.52	31.38	19.71	19.71	11.68
q61	15.33	43.79	16.06	20.44	4.38
q62	19.71	35.03	18.98	16.79	9.49
q63	2.92	64.96	13.14	16.79	2.19
q64	11.68	63.50	12.41	9.49	2.92
q65	37.22	31.39	18.25	8.76	4.38
q66	14.60	39.41	14.60	26.28	5.11
q67	21.17	40.87	22.63	13.14	2.19
q68	20.44	40.14	22.63	10.95	5.84
q69	18.25	31.38	17.52	28.47	4.38
q70	13.14	50.36	16.06	14.60	5.84

The interpretation of the Table 4.53 is discussed below:

q56. Globalization has resulted in stiff market competition, which compels IT employees to work harder to stay competitive.

Majority (70.80%) of the respondents agree that globalization has compelled IT employees to work harder to stay competitive. This results in acute stress.

q57. High demands for innovative and customized products keep the working team under constant stress.

33.58% respondents strongly agree and 29.92% respondents agree that the working IT team is always under constant stress due to high demands for innovative and customized products.

q58. Work intensity, time pressure and constant deadlines cause immense stress.

28.47% responds agree and 18.98% respondents strongly agree that time pressure to complete the work within deadlines is a constant source of stress for them. 21.17% are undecided and the rest disagree with the above statement. Thus total 47.45% respondents identify work intensity, time pressure and deadlines as a visible cause of stress.

q59. Many times, unreasonable demands of customers cause a lot of tension.

39.41% respondents agree and 11.68% respondents strongly agree that many times, unreasonable demands of customers irritate and frustrate them, thus causing a lot of stress for them. 21.17% are undecided and the rest, disagree with the above statement.

q60. Many times, due to too much monotonous work, I get bored.

31.38% respondents agree and 17.52% respondents strongly agree about the quanta of the work and its monotonous nature that makes it very boring. This degrades the quality of work, thus making it very stressful to them. 19.71% respondents remain undecided and the rest disagree with the above statement.

q61. Sometimes I get confused due to contradictory expectations, different people have from me.

43.79% respondents agree and 15.33% strongly agree about the contradictory expectations of different people from them that confuse them. Thus, this is a notable source of stress to them. 16.06% respondents remain undecided and the rest disagree with the above statement.

q62. I need more training and preparation to be more effective in my work, however in service training facilities are inadequate.

Majority (54.74%) of the respondents believe that they need more training and preparation to improve their efficiency. However such facilities are not available to their satisfaction at their work place. As such, it is a potential cause of their stress. 18.98% respondents are undecided about their opinion and the rest disagree with the above statement.

q63. I have to do a lot of travelling for my job, which causes a lot of inconvenience and stress.

Majority (67.88%) of the respondents believe that they are forced to travel frequently for their job and this causes a great deal of inconvenience and stress. 13.14% respondents are undecided about their opinion and the rest disagree with the above statement.

q64. I can't enjoy my leisure because the toll my job takes on my energy.

Majority (75.18%) of the respondents feel that heavy and constant burden of job work drains their energy and they are not able to enjoy their spare time. Thus, it is a big source of stress to them. 12.41% respondents are undecided about their opinion and the rest disagree with the above statement.

q65. There is obvious discrimination in terms of payment of compensations among the employees working in a specific group.

Majority (68.61%) of the respondents report that discrimination is prevailing in the organization, in terms of payment of compensations among the employees working in a specific group. This means that employees doing same job in the same department are not treated equally. Thus, this causes a lot of dissatisfaction and stress among the employees. 18.25% respondents are undecided about their opinion and the rest disagree with the above statement.

q66. Frequent Internet or network connectivity failures cause stress.

Majority (54.01%) of respondents agree with the above statement. They identify that nowadays most of the work of IT companies is done online. As such, frequent internet or network connectivity failure, greatly affect the speed of their work. This causes high level stress in their minds, whereas they want to finish up their work in time. 14.60% respondents are undecided about their opinion and the rest disagree with the above statement.

q67. Recession is affecting employment in IT sector.

Majority (62.04%) of the respondents identify recession as a potential cause that greatly affects the employment in IT sector. They fear that they may lose their jobs and this creates high level stress among them. However, 22.63% respondents are undecided about their opinion and the rest disagree with the above statement.

q68. Mergers and acquisitions of companies create redundancy.

Majority (60.58%) of the respondents believe that mergers and acquisitions of companies make several employees redundant and they are fired. This is an important

source of stress to them. However, 22.63% respondents are undecided about their opinion and the rest disagree with the above statement.

q69. Outsourcing IT work causes a lot of complications.

49.63% of the respondents feel that outsourcing of IT work in companies causes many problems and complications. Thus, this causes a great deal of stress to them. 17.52% respondents are undecided about their opinion and the rest disagree with the above statement.

q70. Sometimes we have to favour customers out of the way to retain them.

Majority (63.50%) of the respondents, report that sometimes they are forced to favour customers out of the way, so that the company may not lose business. This becomes a source of stress to them. However, 16.06% respondents are undecided about their opinion and the rest disagree with the above statement.

4.8 Data Reduction Through Factor Analysis

Factor Analysis is known as a technique for data reduction. This reduces the dimensionality of data. This technique depicts the number of new factors (new variables) formed and the quantum of variance covered by these factors.

In the present study, there are 15 variables in IT specific stressors. Factor analysis is applied to this data set, using principal component analysis extraction method and Varimax with Normalization due to Kaiser, in the software SPSS. In this analysis we have identified six new factors which are shown in the Table 4.54. Thus dimensionality has been reduced from 15 to 6.

Table 4.54

Rotated Component Matrix[a]

	Component					
	1	2	3	4	5	6
q64	.876					
q63	.867					
q65	.621		.457			
q56		.831				
q57		.757				
q69			.772			
q70			.685			-.356
q60				.761		.339
q61				.646		
q67					.683	
q66				.348	.634	
q58			.339	-.516	.549	
q59						.864

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.

Loading of variables on Factor – 1

S. No.	Statement	Loadings
q64	I can't enjoy my leisure because the toll my job takes on my energy.	.876
q63	I have to do a lot of travelling for my job, which causes a lot of inconvenience and stress.	.867
q65	There is obvious discrimination in terms of payment of compensations among the employees working in a specific group.	.621

Loading of variables on Factor – 2

S. No.	Statement	Loadings
q56	Globalization has resulted in stiff market competition, which compels IT employees to work harder to stay competitive.	.831
q57	High demands for innovative and customized products keep the working team under constant stress.	.757

Loading of variables on Factor – 3

S. No.	Statement	Loadings
q69	Outsourcing IT work causes a lot of complications.	.772
q70	Sometimes we have to favour customers out of the way to retain them.	.685

Loading of variables on Factor – 4

S. No.	Statement	Loadings
q60	I can't enjoy my leisure because the toll my job takes on my energy.	.761
q61	I have to do a lot of travelling for my job, which causes a lot of inconvenience and stress.	.646

Loading of variables on Factor – 5

S. No.	Statement	Loadings
q67	Recession is affecting employment in IT sector.	.683
q66	Frequent Internet or network connectivity failures cause stress.	.634
q58	Work intensity, time pressure and constant deadlines cause immense stress.	.549

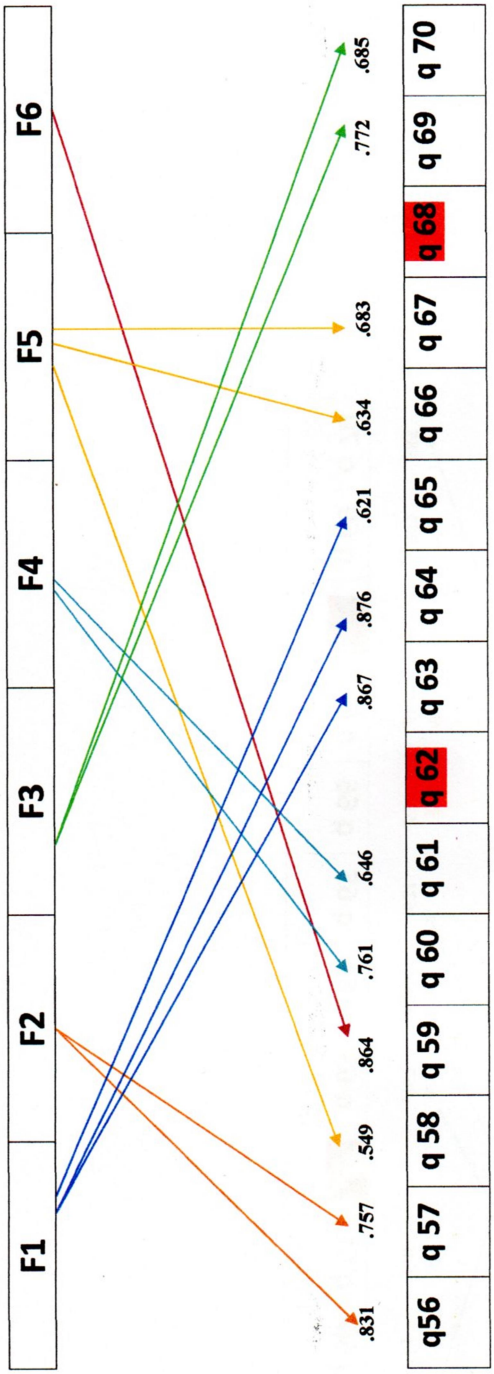
Loading of variables on Factor – 6

S. No.	Statement	Loadings
q59	Many times, unreasonable demands of customers cause a lot of tension.	.864

Loadings of different statements are shown in Figure 4.23

Figure 4.23

Loading of Different Statements



4.9 Relationship among Various Categories of Stressors

In order to find relationship among various categories of stressors, correlation analysis was done by taking two at a time.

Table 4.55

CORRELATIONAL MATRIX

	Individual	*Group*	*Organizational*	*Extra-Organizational*
Individual	1			
Group	0.361085	1		
Organizational	0.283469	0.656283	1	
Extra-Organizational	0.051817	0.225556	0.387583	1

INFERENCE:

The correlation values among the stressors are shown in the above table. It is noticed that stressors are positively correlated with each other. Thus, stress in one factor increases the stress in other factors.

4.10 Statistical Model of Stress

In order to understand the impact of various factors on overall stress, a simple model of stress is used. This model helps in understanding cause versus effect relationship. In the present study, following four component stressors (causes of stress) have already been identified:

1. Individual Stressors
2. Group Stressors
3. Organizational Stressors
4. Extra-Organizational Stressors

These stressors are defined as independent variables (X), whereas overall stress level is considered as dependent variable (Y).

4.10.1 Simple Linear Regression Model

A simple linear regression model is expressed by the relationship:

$$Y = \alpha + \beta X$$

Where α and β are two constants. Here **α** is called the **intercept** and **β** is **slope** of Y versus X Regression line.

The validity of this model is tested by testing the following hypotheses:

H_0 : Each cause of stress is linearly related to the overall stress of the respondents.

Ha : Each cause of stress is not linearly related to the overall stress of the respondents.

Figure 4.24

Simple Linear Regression Model

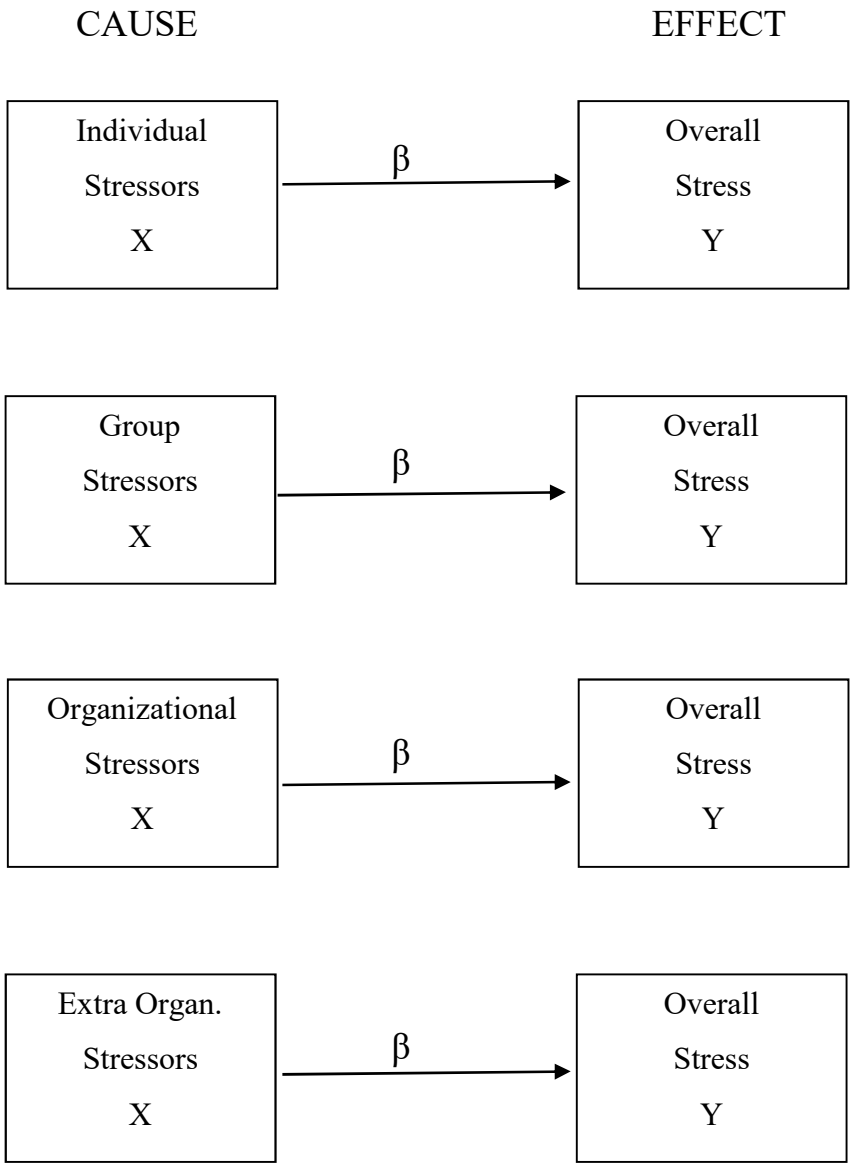


Table 4.56

SIMPLE REGRESSION ANALYSIS

S. No.	Dependent Variable	Independent Variable	Validity of The model	coefficients	Inference
1	Overall Stress Index	Individual Stressors	$R^2 = 0.2142$ P = 0.0000 (ANOVA)	Intercept: 0.7010 β = 0.2990 P = 0.0000	Linear Model is valid. Individual Stressors Contribute to overall Stress
2	Overall Stress Index	Group Stressors	$R^2 = 0.5338$ P = 0.0000 (ANOVA)	Intercept: 0.5612 β = 0.4387 P = 0.0000	Linear Model is valid. Group Stressors Contribute to overall Stress
3	Overall Stress Index	Organizational Stressors	$R^2 = 0.9431$ P = 0.0000 (ANOVA)	Intercept: 0.1028 β = 0.8972 P = 0.0000	Linear Model is valid. Organizational Stressors Contribute to overall Stress
4	Overall Stress Index	Extra-Organizational Stressors	$R^2 = 0.1975$ P = 0.0000 (ANOVA)	Intercept: 0.7089 β = 0.2911 P = 0.0000	Linear Model is valid. Extra-Organ. Stressors Contribute to overall Stress

INFERENCE:

1. R^2 values and P values in the ANOVA table confirm the validity of the simple linear regression model.
2. Table 4.56 shows the contribution of each cause (independent variable) on the overall stress (dependent variable). Contribution of organizational stressors is the highest, whereas contributions of the other three (individual, group, extra-organizational) is moderate.

4.10.2 Multiple Regression Model

In order to study the combined effect of various causes on overall stress level, multiple regression model, is used. This model is defined by the following equation:

$Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4$ [Sailaja et al., 2013]

Where α is a constant and $\beta_1 \ldots \beta_4$ are constant coefficients.

The validity of this model is tested by testing the hypotheses:

H_0 : Multiple regression model is suitable to predict overall stress.

H_a : Multiple regression model is not suitable to predict overall stress.

Figure 4.25

Multiple Regression Model

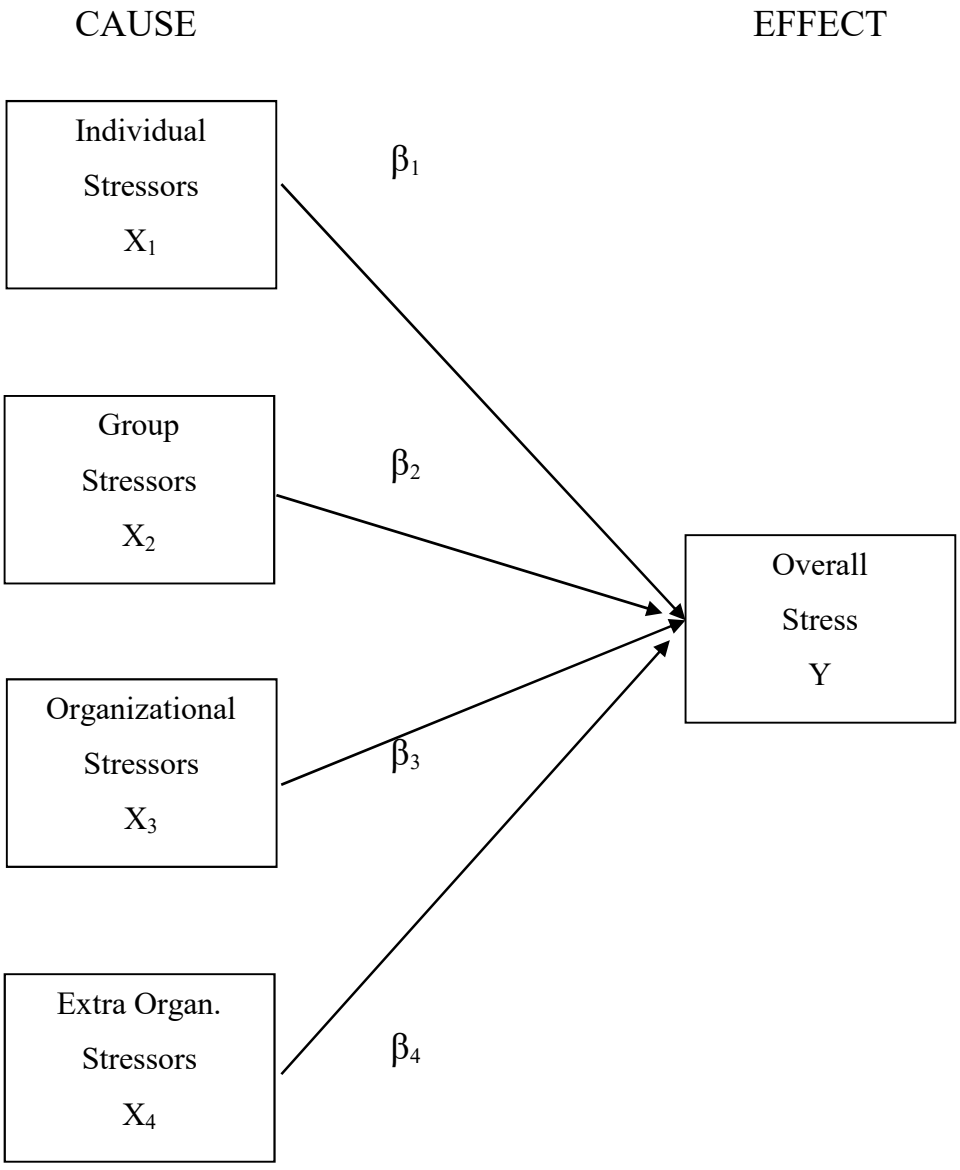


Table 4.57

MULTIPLE REGRESSION ANALYSIS

S. No.	Dependent Variable	Independent Variable	Validity of The model	Coefficients β	Inference
1	Overall Stress Index	Individual Stressors	$R^2 = 1$	P value = 0.0000 $\beta_1 = 0.1248$	Contributing to some extent
		Group Stressors		P value = 0.0000 $\beta_2 = 0.0676$	Contributing a little extent
		Organizational Stressors		P value = 0.0000 $\beta_3 = 0.7400$	Contributing to very high extent
		Extra-Organizational Stressors		P value = 0.0000 $\beta_4 = 0.0677$	Contributing a little extent

Intercept (α) = 1.52656E-16

INFERENCE:

1. Value of $\mathbf{R^2}$ indicates that this model is suitable.
2. All the causes are contributing towards the overall stress. Contribution of Organizational stressors is very high, whereas contributions of the other three are of moderate value.
3. Therefore,

$Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \varepsilon$

i.e. $Y = 1.52656E\text{-}16 + 0.1248 X_1 + 0.0676 X_2 + 0.7400 X_3 + 0.0677 X_4 + \varepsilon$

where,

Y = Overall Stress

X_1 = Individual Stressors

X_2 = Group Stressors

X_3 = Organizational Stressors

X_4 = Extra-Organizational Stressors

ε = Standard Error

4.11 Effects of Stress

There are 20 statements in the questionnaire for evaluating the effects of stress on IT professionals.

Table 4.58

Effects of Stress on Employees

Statement	Effects of Stress on Employees
1	I suffer headache / migraine.
2	I suffer High blood pressure.
3	I suffer indigestion / stomach problems.
4	I am unable to concentrate.
5	I am unable to get sound sleep.
6	I suffer muscular tension (neck / back / jaw/ wrist).
7	I suffer loss of appetite.
8	I feel exhausted / fatigued.
9	I suffer palpitation of heart and difficulty in breathing.
10	I get nervousness and anxiety.
11	I get frustrated feelings.
12	I get nightmares and bad memories.
13	I suffer skin rashes.
14	I take leave for personal reasons.
15	I get reduced interest in usual and social activities.
16	I find loss of motivation and commitment.
17	I find reduction in my work output and increase in my error rate.
18	I find deterioration in my planning and control work.
19	My timekeeping becomes erratic and poor.
20	I find increase in my smoking and / or use of alcohol.

The respondents are divided into 4 groups depending upon the total score:

(1) MILD (2) TOLERABLE

(3) DOMINANT (4) HIGHLY DOMINANT

For each group ranks are assigned based on the scores.

Table 4.59

Ranking of Effects of Stress on Respondents' Health

Statement	Mild	Tolerable	Dominant
1	2	1	1
2	13	2	2
3	2	5	10
4	2	6	6
5	1	3	8
6	8	6	17
7	13	15	16
8	8	9	15
9	2	20	10
10	8	10	8
11	2	11	13
12	19	19	20
13	13	17	19
14	2	12	4
15	8	18	3
16	13	12	17
17	19	12	12
18	8	8	13
19	13	16	4
20	13	4	7

INFERENCE:

Only three types of categories are observed:

Mild, Tolerable and Dominant

Effects of stress on these categories are listed in order of their frequent occurrence on the basis of the above table:

Mild Group: Unable to get sound sleep, Suffer headache / migraine, Suffer indigestion / stomach problems, Unable to concentrate, Suffer palpitation of heart and difficulty in breathing, Take leave for personal reason.

Tolerable Group: Suffer headache / migraine, Suffer high blood pressure, Unable to get sound sleep, Find increase in smoking and / or use of alcohol, Suffer indigestion / stomach problems.

Dominant Group: Suffer headache / migraine, Suffer high blood pressure, Get reduced interest in usual and social activities, Take leave for personal reason, Time keeping becomes erratic and poor.

Table 4.60

Summary of Effects of Stress on health with Job-related and Demographic variables

S. No.	Variable	Category	Effects of Stress				Total
			Mild	Tolerable	Dominant	Highly Dominant	
1	Gender	Male	3	38	46	0	87
		Female	1	15	34	0	50
2	Age (Years)	25-30	2	14	29	0	45
		31-40	2	32	47	0	81
		41-50	0	7	4	0	11
3	Experience (Years)	1-5	2	11	29	0	42
		6-10	2	34	47	0	83
		11-15	0	8	4	0	12
4	Education	UG	2	15	28	0	45
		PG/PG+	2	27	34	0	63
		Professional	0	11	18	0	29
5	Salary (Rs. pm)	<35000	0	4	8	0	12
		35001-45000	2	14	27	0	43
		45001-55000	0	17	29	0	46
		>55000	2	18	16	0	36
6	Food Habits	Vegetarian	2	29	55	0	86
		Non-Vegetarian	2	24	25	0	51
7	Marital Status	Un-married	2	16	28	0	46
		Married	2	37	52	0	91
		Others	0	0	0	0	0
8	Type of Family	Joint	2	12	22	0	36
		Nuclear	2	41	58	0	101
9	Spouse's Employment	Employed	1	24	40	0	65
		Not Employed	1	13	12	0	26
		Not Applicable	2	16	28	0	46
10	Presently Staying	With Family	3	24	43	0	70
		Away from Family	1	29	37	0	67

4.12 Positive Stress (Eustress) and its Effect

Selye (1983) introduced the concepts of *'eustress'* and *'distress'* to indicate the two types of responses to stress. He coined the word *'eustress'* using Greek prefix *eu* – (which means 'good') and the word *stress,* thus literally meaning *'good stress'* or *'positive stress'*.

It is a general observation that the stress is beneficial and favourable to performance up-to some optimal level only. After this, performance declines. Thus, performance follows the inverted U-shape diagram.

Positive Stress (Eustress), therefore, is the right amount of stress that improves performance.

Eustress develops, whenever the goal is slightly out of reach. This creates challenge and motivates a person to achieve the goal [Hargrove et al., 2013]. Thus eustress improves one's ability to accomplish a goal. It gives an extra burst of energy, helps in achieving goal or meeting deadlines. It also helps in developing self-esteem, hope, mental alertness and self-satisfaction. In other words, eustress shows a significant and appreciable positive correlation with hope and life satisfaction [O'Sullivan, 2010].

Eustress results in a novel awareness with an exciting novel perspective. This leads to improved performance at work place and promotes professional development and career growth.

Stress Management Methods, which incorporate meditation, exercise, and relaxation techniques, help in enhancing eustress [Fevre et al., 2006].

I.T. Organizations are realizing that in order to sustain competition edge in the global market, it is important to maintain positive stress (eustress) level among their valuable professionals. In this way, positive stress (eustress) will promote I.T. professionals' well-being and will lead to a motivated and satisfied work force.

4.13 COVID-19 Pandemic and its Effects

Corona virus (COVID-19) pandemic outbreak has resulted in an unprecedented death of human beings. The numbers are very alarming and the speed of emerging challenges is intimidating. India being a heavily populated country is fighting hard against this infectious disease [Yadav & Yadav, 2020; Kurian, 2020].

COVID-19 has impacted most business sectors; however I.T. sector has been hit in a big way. While the major impact has been on hardware business, the software and service business are also getting slowed down.

Analysts expect I.T. companies to show 5 to 10 % loss in revenue as the clients cancel or put off their discretionary budgets on I.T. technology in the near future.

In this scenario, I.T. professionals are experiencing new stressors. Jobs at MNCs are becoming most vulnerable and women are more likely than men to lose or quit their jobs. Fear of losing job due to cut down, is a mighty stress builder.

Recent "FEEL-COVID" survey [Varshney et al., 2020] has shown that COVID-19 outbreak is having psychological impact on several people.

Another survey reported by "The Economic Times" believes that COVID-19 outbreak is adversely affecting I.T. professionals' way of working.

Most of the corporate companies have accepted novel ways of working along with the necessity to get connected from wherever they want, whenever they want and whoever they want.

While work from home is not a new concept for Indian corporate, it is certainly a testing time to see the success at this scale. Professionals connecting from different personal networks pose new challenges of protecting the valuable data, from cyber-attacks.

It provides an opportunity to I.T. companies to act as consulting partners to help their valuable clients.

Adoption of AI, Big Data, security solutions and collaborative applications are set to get a big boost in the following days.

I.T. companies can promote the use of next-generation technologies for advanced analytics. They can develop new applications using AI, Big Data, faster processing and higher accuracy for the benefit of society. In brief, focus of I.T. companies should be on building and improving AI and Big Data applications to meet the present and future challenges and use cases.

Thus, COVID-19 effect can be viewed as a mix of challenges and opportunities for I.T. companies and their professionals.

4.14 Stress Management Methods used by IT Employees

There are 20 statements in the questionnaire for evaluating the stress management methods used by IT employees. Responses of the respondents examine the insight of the reaction of these employees to the stressful situation. The responses also reveal the various stress management methods adopted by them

The most popular stress management practices used by IT Employees are identified using weighted average method with subsequent ranking.

Table 4.61

Weighted Average Score and Ranks of Statements related to Stress Management Methods used by IT Employees

Statement	Always	Frequently	Often	Sometimes	Never	Weighted Average	Rank
1	16	66	32	22	1	32.333	1
2	16	34	55	29	3	29.467	7
3	13	52	34	31	7	29.600	5
4	18	38	47	27	7	29.600	5
5	18	36	39	38	6	28.867	12
6	17	39	36	34	11	28.533	14
7	20	37	44	26	10	29.467	7
8	17	38	43	34	5	29.267	9
9	16	38	42	28	13	28.467	15
10	14	32	48	34	9	27.933	18
11	14	38	41	35	9	28.267	17
12	14	41	45	27	10	28.867	12
13	19	35	35	39	9	28.467	15
14	6	63	42	25	1	30.600	2
15	18	50	35	29	5	30.533	3
16	10	45	54	19	9	29.267	9
17	17	29	42	42	7	27.867	19
18	18	40	33	39	7	28.933	11
19	17	49	39	20	12	30.000	4
20	12	32	46	34	13	27.133	20

INFERENCE:

On the basis of above Table 4.61, most prominent stress management practices are:

1. Cultivate a positive attitude. Try to identify the main cause of stress and try to deal with it.
2. Get enough sleep. Whenever stressed, body needs extra sleep.
3. Whenever an unpleasant situation is to be faced, take a deep and extended breath. Count to 10 or 20 before doing or saying anything.
4. Take out-of-work interest and leisure activities. Volunteer or find some other way to keep active in community. This will not only create a support network, but will also give a break from day to day stress.
5. Try to keep organized. Come up with some organized plan to handle the stressful situation.
6. Avoid use of alcohol, hard coffee, black tea or / and drugs for managing the stress.
7. Delegate some of unimportant responsibilities.
8. Set realistic goals. Avoid setting yourself for failure by setting unrealistic goals.
9. Try mindful meditation. This helps in relaxing mind and body, thus focusing the thoughts.
10. Make time for music, art or other hobbies that help relax and distract from stressful thoughts.

4.15 Stress Management Methods used by IT Companies

IT companies have accepted the fact that in the present age of highly dynamic and competitive world, employees often experience, high level of stress. This causes reduced productivity and poor performance. As such they adopt several methods to reduce stress level of their employees [Soegoto & Narimawati, 2017; Satpathy & Mitra, 2015].

There are 20 statements in the questionnaire for evaluating the methods used by IT Companies. The most popular stress management practices used by IT Companies are identified using weighted average method with subsequent ranking.

Table 4.62

Weighted Average Score and Ranks of Statements related to Stress Management Methods used by IT Companies

Statement	Always	Frequently	Often	Sometimes	Never	Weighted Average	Rank
1	22	58	34	23	0	32.667	1
2	19	40	44	26	8	29.800	8
3	17	39	39	35	7	29.000	12
4	10	39	49	32	7	28.267	17
5	20	40	36	36	5	29.667	10
6	17	34	45	29	12	28.400	15
7	14	39	39	37	8	28.333	16
8	25	35	40	28	9	30.000	7
9	10	38	52	35	2	28.667	13
10	14	38	40	34	11	28.067	19
11	18	42	30	35	12	28.667	13
12	29	29	40	26	13	29.733	9
13	8	66	40	21	2	31.200	2
14	19	43	45	23	7	30.333	5
15	8	47	38	37	7	28.200	18
16	20	43	45	20	9	30.400	4
17	14	49	41	29	4	30.067	6
18	16	36	39	34	12	28.067	19
19	21	34	39	36	7	29.133	11
20	21	48	34	26	8	30.600	3

INFERENCE:

On the basis of above Table 4.62, most prominent stress management practices are:

1. Arrange educational and training courses to upgrade the skills and techniques of employees. This will improve their performance and will effectively reduce their work-related stress.
2. Arrange workshops for meditation and yoga to reduce employee stress.
3. Cultivate a friendly climate. As far as harassment is concerned, follow a policy of zero-tolerance.
4. Encourage employees for participation in social activities, where they can actively work for betterment of the society.
5. Subsidize for employee's gym membership under health promotion intervention programme.
6. Arrange celebration of company events to recognize employee and team accomplishments.
7. Provide sufficient holidays to employees doing stressful work. In this way they can spend a quality time along with their friends and the members of family in a good place without worrying about their job related tension.
8. Provide adequate equipment and resources to employees so that they can perform their roles effectively.
9. Provide the facility of relaxation room to reduce work tension.
10. Give clear direction about the job that the employees are supposed to do. This avoids role conflicts to a great extent and reduces stress.
11. Provide services of counselor and therapist to help the employees.
12. Provide a supportive, approachable and appreciative climate. This helps in reducing employee stress.

4.16 Chapter Summary

The present chapter submits the detailed analysis and consequent interpretation of primary data collected using a self-designed questionnaire for the study of stress and its effects on I.T. professionals of multinational companies located at Noida City.

Demographic and job-related profile of the respondents has been explored and discussed in detail. Findings related to the explorative data analysis and descriptive statistics on components of stress based on Likert's 5 point scale have been highlighted. Descriptive statistics of demographic as well as job-related variables has been presented.

IT specific stressors have been assessed in detail and conclusions are drawn. Data reduction technique through factor analysis has been applied to IT specific stressors and new factors have been extracted to reduce dimensionality. Correlation among various categories of stressors has been explored and a linear multiple regression model of stress has been presented.

The effects of stress on the health of IT professionals have been analyzed and the most prevailing effects have been identified and ranked in order of their occurrence. Effects of Positive Stress (Eustress) and COVID-19 have been discussed. Stress Management Methods used by IT employees and IT companies have been explored and most popular stress reducing practices have been identified using weighted average method with subsequent ranking.

Thus, statistical analysis of research data and subsequent inferences and conclusions, have been presented in this chapter.

References:

Ali, Z. & Bhaskar, S. B. (2016). Basic statistical tools in research and data analysis. *Indian Journal of Anaesthesia*, 60 (9), 662-669.

Adams, J., Khan, H. T. A., Raeside, R. & White, D. (2007). *Research Methods for Graduate Business and Social Science Students*. New Delhi: Response Books.

Asadoorian, M. O. & Kantarelis, D. (2005). *Essentials of Inferential Statistics* (4th ed.). Lanham: University Press of America, Inc. (USA).

Bark, K. N. & Carey, P. (2010). *DATA ANALYSIS with Microsoft EXCEL* (3rd ed.). Boston, MA: Brooks/Cole, Cengage Learning.

Fevre, M. L., Kolt, G. S. & Matheny, J. (2006). Eustress, distress and their interpretation in primary and secondary occupational stress management interventions: Which way first? *Journal of Managerial Psychology,* 21(6), 647-565. doi: 10.1108/02683940610684391

Freund, R. J. & Wilson, W. J. (2003). *Statistical Methods* (2nd ed.). Academic Press, Elsevier Science (USA).

Gupta, V. (2002). *Statistical Analysis with Excel*. VJ Books Inc. (Canada).

Hargrove, M. B., Nelson, D. L. & Cooper, C. L. (2013). Generating eustress by challenging employees: Helping people savor their work. *Organizational Dynamics,* 42, 61-69. doi: 10.1016/j.orgdyn.2012.12.008

Kurian, N. K. (2020). Novel Coronavirus (COVID-19) in India. Preprints (www.preprints.org). doi: 10.20944/preprints202003.0436.v1

Landau, S. & Everitt, B. S. (2004). *A Handbook of Statistical Analysis using SPSS*, Chapman & Hall / CRC Press LLC (USA).

O'Sullivan, G. (2010). The Relationship Between Hope, Eustress, Self-Efficacy, and Life Satisfaction Among Undergraduates. *Social Indicators Research,* 101(1), 155-172. doi: 10.1007/s11205-010-9662-z

Sailaja, A., Reddy, T. N. & Kumar, P. (2013). Factors Associated with Job Stress of Software professionals in Bangalore City. *IOSR Journal of Business and Management*, 14(6), 15-20.

Satpathy, I. & Mitra, B. (2015). Stress Management Policies adopted by the IT Companies – An Overview. *Online International Interdisciplinary Research Journal*, V(Special Issue, September 2015), 139-148.

Selye, H. (1983). The Concept of Stress: Past, present and future. In C. L. Cooper (Ed.), *Stress research: Issues for the eighties.* New York: John Wiley.

Soegoto, E. S. & Narimawati, U. (2017). The Contribution of Stress Management and Good Employee Performance Towards the Success of a Company, *The Open Psychological Journal*, 2017(10), 154-160.

Varshney, M., Patel, J. T., Raizada, N. & Sarin, S. K. (2020). Initial psychological impact of COVID-19 and its correlates in Indian community: An online (FEEL-COVID) survey. *PLoS ONE,* 15(5), 1-6. https://doi.org/10.1371/journal.pone.0233874

Yadav, D. & Yadav, R. (2020). Review of Novel Coronavirus Disease (COVID-19) in India on Available Database. *European Journal of Medicine and Investigation (EJMI),* 4(3), 284-288. doi: 10.14744/ejmi.2020.51867

CHAPTER 5

FINDINGS, CONCLUSION AND SUGGESTIONS

CHAPTER 5

FINDINGS, CONCLUSION AND SUGGESTIONS

5.1 INTRODUCTION

Information Technology (I.T.) industry of India has played a pivotal role in the growth of country's economy. It has placed India on global map. I.T. professionals in multinational companies are always under constant tension to deliver target-oriented and cost-effective services. This causes a high level stress among them. This affects their health, performance and efficiency. Examination of published work has revealed that only a few research investigations have so far been made on stress management of I.T. professionals of multinational companies.

Motivated by the above reasons, the present research study was undertaken to examine the stress and its effects on IT professionals of multinational companies located at Noida City. It also included the exploration of the most prevailing stress management methods used by IT employees and their companies. This research study uses a new and innovative approach to analyze various factors causing stress among I.T. professionals. The study also seeks to identify most appropriate stress management methods to handle employee stress.

The primary data of the present research study has been collected using a self-designed questionnaire. A detailed analysis of data and subsequent interpretation has been presented in chapter 4. The present chapter submits the findings and conclusion of this research study along with useful suggestions.

5.2 FINDINGS

Findings of the present research study are presented below:

5.2.1 Profile of the Sample-Respondents

Following is the demographic and job-related profile of the sample-respondents of this research study **(Table 4.1)**:

1. Majority (63.50%) of the respondents are male, while 36.50% are female.
2. Majority (59.12%) of respondents are in the age range 31-40, followed by (32.85%) for 25-30 age-group. Age-group 41-50 respondents constitute only 8.03%.
3. 60.58% of the respondents have 6 to 10 years' experience. 30.66% are having 1 to 5 years' experience, whereas only 8.76% are having 11 to 15 years' experience.
4. 45.98% are post-graduates or possess higher qualification. 32.85% are graduates, whereas 21.17% have professional qualification.
5. 33.57% respondents are drawing salary in the range 45001-55000, followed by 31.39% in the range 35001-45000. 26.28% are drawing salary greater than 55000 whereas only 8.76% draw salary lower than 35000.
6. 62.77% respondents are vegetarians and 37.23% are non-vegetarians.
7. 66.42% respondents are married and 33.58% are un-married.
8. The families of 73.72% respondents are of nuclear type and 26.28% lead a joint family life.
9. 47.44% respondents have employed spouse and 18.98% respondents' spouses are not employed.
10. Majority of respondents (51.09%) are staying with their families, while 48.91% respondents are staying away from their families.

5.2.2 Explorative Data Analysis

1. Majority of respondents (86.86%) are having high stress level whereas 11.68% respondents have medium stress level. Only 1.46% respondents experience extreme level of stress. **(Table 4.2)**.
2. Majority (58.39%) respondents experience dominant level of effect due to stress whereas 38.69% respondents experience tolerable level of effect. Only 2.92% respondents are having mild effect of stress. **(Table 4.3)**.
3. In the medium and high stress categories, majority of respondents (62.50% and 58.82 respectively), are having dominant effect of stress. **(Table 4.4)**.
4. Majority of male (86.21%) and female (88.00%) respondents are experiencing high stress level. **(Table 4.5)**.
5. Majority of male (52.87%) and female (68.00) respondents are experiencing dominant effects of stress. **(Table 4.6)**.

5.2.3 Descriptive Statistics on Components of Stress based on Likert's 5 Point Scale

1. A far as overall stress score is concerned, Mean Index (%), belongs to high stress level. **(Table 4.8)**.
2. Mean Index (%) for Individual, Group, Organizational and Extra-Organizational stressors, belong to high stress level. **(Table 4.9)**.
3. Mean Index (%) for all the 8 sub-factors of Organizational stressor, belong to high stress level. **(Table 4.11)**.

5.2.4 Descriptive Statistics of Demographic and Job-Related Variables

5.2.4.1 Gender and Level of Stress

(a) There is not much difference between mean score of stress for male and female respondents (For male: 255.87 and for female: 258.74). **(Table 4.12)**.

(b) Majority of male (86.21%) and female (88.00) experience high stress level. The percentage of female respondents is slightly higher. **(Table 4.13)**.

(c) There appears no significant or relevant relationship between gender of respondents and their associated level of stress. **(Table 4.14)**.

(d) Majority of female respondents experience greatest stress due to problems related to subordinates, whereas majority of male respondents have greatest stress due to problems related to relationship within organization. **(Table 4.15 & Figure 4.13)**.

5.2.4.2 Age and Level of Stress

(a) Mean score of stress is lowest (248.93) for age-group 25-30. Age-group 31-40 has highest mean score of stress (261.06), whereas age-group 41-50 has slightly lesser mean score (259.09). **(Table 4.16)**.

(b) Level of Stress is high for majority of respondents in all age-groups. **(Table 4.17)**.

(c) There appears no significant or relevant relationship between age of respondents and their associated level of stress. **(Table 4.18)**.

(d) Respondents of age-group 25-30 have lowest Stressors Mean Index (%). These respondents experience greatest stress due to problems related to relationship within organization. Age-group 31-40 experiences greatest stress due to problems related to subordinates, whereas group related problems cause greatest stress to age-group 41-50. **(Table 4.19 & Figure 4.14)**.

5.2.4.3 Experience and Level of Stress

(a) Mean score is highest (261.18) for respondents having experience 6-10 years, followed by 257.00 for 11-15 years' experience and 248.48 for respondents with 1-5 years' experience. **(Table 4.20)**.

(b) For all experience ranges, majority of respondents experience high level of stress. **(Table 4.21)**.

(c) There appears no significant or relevant relationship between experience of respondents and their associated level of stress. **(Table 4.22)**.

(d) Respondents with experience 1 to 5 year have lesser level of stress in most of the factors and sub-factors. They are having greatest stress due to problems related to relationship in organization. For respondents with experience 6 to 10 years, problems related to subordinates cause major stress. On the same line, group related problems (group stressors) cause major stress for respondents having 11-15 years' experience.
(Table 4.23 & Figure 4.15).

5.2.4.4 Education and Level of Stress

(a) Respondents having professional qualifications have highest mean sore (265.52) of stress, followed by 255.49 for PG/PG+ respondents. Undergraduates have lowest mean score (253.38). **(Table 4.24)**.

(b) 80.00% of graduates, 87.30% of PG/PG+ holders and 96.55% of respondents with professional qualifications experience high stress level. **(Table 4.25)**.

(c) There appears no significant or relevant relationship between education of respondents and their associated level of stress. **(Table 4.26)**.

(d) Stressors Mean Index (%) is lowest for graduates in all factors as well as sub-factors. For these respondents, subordinate related problems, cause greatest stress. Respondents having PG or PG+ qualifications, show highest Stressors Mean Index (%), in all factors as well as sub-factors. Career related problems cause them greatest stress. For respondents holding professional qualifications, group related problems (Group Stressors), cause greatest stress. **(Table 4.27 & Figure 4.16)**.

5.2.4.5 Salary and Level of Stress

(a) Stressors Mean Score is highest (263.07) for the salary range Rs. 45001-55000, followed by 256.00 for the range Rs. 35001-45000. Respondents drawing salary greater than Rs. 55000 have mean score 251.83, whereas it is lowest (251.67) for the salary lesser than Rs. 35000. **(Table 4.28)**.

(b) Majority of respondents in all salary ranges are having high stress level. **(Table 4.29)**.

(c) There appears no significant or relevant relationship between salary of respondents and their associated level of stress. **(Table 4.30)**.

(d) For respondents drawing salary less than Rs. 35000, problems related to relationship within organization cause greatest stress, whereas career related problems cause greatest stress to respondents having salary within Rs. 35001-45000. For respondents drawing salary within Rs. 45001-55000, problems related to sub-factors career design and subordinates, cause greatest stress, whereas group related problems cause greatest stress to respondents having salary greater than Rs. 55000. **(Table 4.31 & Figure 4.17)**.

5.2.4.6 Food Habits and Level of Stress

(a) There is not much difference between stressors mean score 256.50 for vegetarian and 257.63 for non-vegetarian respondents. **(Table 4.32)**.

(b) Majority of respondents (Vegetarians: 90.70% and Non-vegetarians: 80.39%) are having high stress level. **(Table 4.33)**.

(c) There appears no significant or relevant relationship between food habits of respondents and their associated level of stress. **(Table 4.34)**.

(d) Vegetarian respondents experience greater stress for sub-factors IT Specific and subordinate, whereas respondents with non-vegetarian food habit, experience greater stress due to problems related to career design. **(Table 4.35 & Figure 4.18)**.

5.2.4.7 Marital Status and Level of Stress

(a) Stressors Mean Score for married respondents is higher (259.63) than that for un-married respondents (251.57). **(Table 4.36)**.

(b) Majority of un-married (80.43%) and married (90.11%) respondents experience high stress level. **(Table 4.37)**.

(c) There appears no significant or relevant relationship between the marital status of respondents and their associated level of stress. **(Table 4.38)**.

(d) Except for the sub-factor - relationship within organization, married respondents are having higher stress level. Group related problems cause them greatest stress. Problems related to relationship within organization cause greatest stress to un-married respondents.
(Table 4.39 & Figure 4.19).

5.2.4.8 Type of Family and Level of Stress

(a) Stressors Mean Score is higher (259.62) for respondents of nuclear family as compared to 249.33 for respondents of joint family. **(Table 4.40)**.

(b) Majority of respondents of joint family (83.33%) as well as of nuclear family (88.12%), experience high stress level. **(Table 4.41)**.

(c) There appears no significant or relevant relationship between the family type of respondents and their associated level of stress. **(Table 4.42)**.

(d) Except for sub-factor nature of job, respondents of nuclear family, experience higher stress in all factors and sub-factors. These respondents experience greatest stress due to problems related to subordinates and groups. Respondents of joint family are having greatest stress due to problems related to nature of job. **(Table 4.43 & Figure 4.20)**.

5.2.4.9 Spouse's Employment and Level of Stress

(a) Stressors Mean Score for the respondents having employed spouses is highest (261.40), this score is lowest (251.57) for respondents having no spouse. This score is 255.19 for respondents having not employed spouses. Thus, respondents having employed spouses experience highest stress. **(Table 4.44)**.

(b) Majority of respondents, (90.77%) with employed spouses, (88.46%) with not-employed spouses and (80.43%) with no spouse, experience high stress level. **(Table 4.45)**.

(c) There appears no significant or relevant relationship between spouse's employment of respondents and their associated level of stress. **(Table 4.46)**.

(d) Except for sub-factors – organizational climate and relationship within organization, Stressors Mean Index (%) for respondents having employed spouses, is the highest in all factors and other sub-factors. This indicates that respondents having employed spouses experience highest stress. These respondents experience highest stress due to problems related to their groups. Respondents with spouses not doing any job, experience greatest stress due to problems related to IT specific and groups. Respondents with no spouse, experience greatest stress due to problems related to relationship within organization. **(Table 4.47 & Figure 4.21)**.

5.2.4.10 Staying and Level of Stress

(a) Respondents staying away from their families have higher stressors mean score (259.84) as compared to the mean score (254.13) for respondents staying with their families. **(Table 4.48)**.

(b) 82.86% respondents staying with their families and 91.05% respondents staying away from respective families, experience high stress level. **(Table 4.49)**.

(c) There appears no significant or relevant relationship between staying of respondents and their associated level of stress. **(Table 4.50)**.

(d) Except for sub-factors – nature of job and environmental, Stressors Mean Index (%) for respondents staying away from families is higher in all factors and other sub-factors. This indicates that respondents staying away from families endure higher level of stress. These respondents suffer greater stress due to problems related to sub-factors – subordinates, role related to organization and career design. Respondents staying with their families are having greater stress due to problems related to nature of job. **(Table 4.51 & Figure 4.22)**.

5.2.5 IT Specific Stressors (Table 4.53)

1. Majority (70.80%) of the respondents agree that globalization has compelled IT employees to work harder to stay competitive. This results in acute stress.
2. 33.58% respondents strongly agree and 29.92% respondents agree that the working IT team is always under constant stress due to high demands for innovative and customized products.
3. 28.47% responds agree and 18.98% respondents strongly agree that time pressure to complete the work within deadlines is a constant source of stress for them. Thus total 47.45% respondents identify work intensity, time pressure and deadlines as a visible cause of stress.
4. 39.41% respondents agree and 11.68% respondents strongly agree that many times, unreasonable demands of customers irritate and frustrate them, thus causing a lot of stress for them.
5. 31.38% respondents agree and 17.52% respondents strongly agree about the quanta of the work and its monotonous nature that makes it very boring. This degrades the quality of work, thus making it very stressful to them.
6. 43.79% respondents agree and 15.33% strongly agree about the contradictory expectations of different people from them that confuse them. Thus, this is a notable source of stress to them.
7. Majority (54.74%) of the respondents believe that they need more training and preparation to improve their efficiency. However such facilities are not available to their satisfaction at their work place. As such, it is a potential cause of their stress.
8. Majority (67.88%) of the respondents believe that they are forced to travel frequently for their job and this causes a great deal of inconvenience and stress.
9. Majority (75.18%) of the respondents feel that heavy and constant burden of job work drains their energy and they are not able to enjoy their spare time. Thus, it is a big source of stress to them.
10. Majority (68.61%) of the respondents report that discrimination is prevailing in the organization, in terms of payment of compensations among the employees

working in a specific group. This means that employees doing same job in the same department are not treated equally. Thus, this causes a lot of dissatisfaction and stress among the employees.

11. Majority (54.01%) of respondents identify that nowadays most of the work of IT companies is done online. As such, frequent internet or network connectivity failure, greatly affect the speed of their work. This causes high level stress in their minds, whereas they want to finish up their work in time.
12. Majority (62.04%) of the respondents identify recession as a potential cause that greatly affects the employment in IT sector. They fear that they may lose their jobs and this creates high level stress among them.
13. Majority (60.58%) of the respondents believe that mergers and acquisitions of companies make several employees redundant and they are fired. This is an important source of stress to them.
14. 49.63% of the respondents feel that outsourcing of IT work in companies causes many problems and complications. Thus, this causes a great deal of stress to them.
15. Majority (63.50%) of the respondents, report that sometimes they are forced to favour customers out of the way, so that the company may not lose business. This becomes a source of stress to them.

5.2.6 Data Reduction Using Factor Analysis

Factor Analysis of IT Specific Stressors has identified six new factors.

(Table 4.54).

Thus, dimensionality has been reduced from 15 to 6. Loadings of different IT specific statements are shown in **Table 4.54 and Figure 4.23**.

5.2.7 Relationship among various categories of stressors

Stressors (Individual, Group, Organizational and Extra-Organizational) are positively correlated with each other. **(Table 4.55)**.

Thus, stress in one factor increases stress in other factors.

5.2.8 Statistical Model of Stress

In order to express the combined effect of various causes on overall stress level, a linear multiple regression model, has been presented. According to this model:

$$Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \varepsilon$$

$$Y = 1.52656E\text{-}16 + 0.1248\ X_1 + 0.0676\ X_2 + 0.7400\ X_3 + 0.0677\ X_4 + \varepsilon$$

where,

Y = Overall Stress

X_1 = Individual Stressors

X_2 = Group Stressors

X_3 = Organizational Stressors

X_4 = Extra-Organizational Stressors

ε = Standard Error

It is noticed that all causes are contributing towards overall stress. Contribution of Organizational stressors is very high, whereas contributions of the other three stressors are of moderate value.

5.2.9 Effects of Stress

The following are the observed effects of stress experienced by various categories of respondents in order of their occurrence: **(Table 4.59)**

Mild Group: Unable to get sound sleep, Suffer headache / migraine, Suffer indigestion / stomach problems, Unable to concentrate, Suffer palpitation of heart and difficulty in breathing, Take leave for personal reason.

Tolerable Group: Suffer headache / migraine, Suffer high blood pressure, Unable to get sound sleep, Find increase in smoking and / or use of alcohol, Suffer indigestion / stomach problems.

Dominant Group: Suffer headache / migraine, Suffer high blood pressure, Get reduced interest in usual and social activities, Take leave for personal reason, Time keeping becomes erratic and poor.

The effects of stress due to various demographic and job-related variables, on health of majority of respondents, are of dominant nature. **(Table 4.60)**.

5.2.10 Effects of Positive Stress (Eustress)

I.T. Organizations are realizing that in order to sustain competition edge in the global market, it is important to maintain positive stress (eustress) level among their valuable professionals. In this way, positive stress (eustress) will promote I.T. professionals' well-being and will lead to a motivated and satisfied work force.

5.2.11 Effects of COVID-19

COVID-19 effect can be viewed as a mix of challenges and opportunities for I.T. companies and their professionals.

5.2.12 Stress Management Methods Used by IT Employees

The most prominent stress management methods used by IT employees (based on their ranks) are: **(Table 4.61)**

1. Cultivate a positive attitude. Try to identify the main cause of stress and try to deal with it.
2. Get enough sleep. Whenever stressed, body needs extra sleep.
3. Whenever an unpleasant situation is to be faced, take a deep and extended breath. Count to 10 or 20 before doing or saying anything.
4. Take out-of-work interest and leisure activities. Volunteer or find some other way to keep active in community. This will not only create a support network, but will also give a break from day to day stress.
5. Try to keep organized. Come up with some organized plan to handle the stressful situation.

6. Avoid use of alcohol, hard coffee, black tea or / and drugs for managing the stress.
7. Delegate some of unimportant responsibilities.
8. Set realistic goals. Avoid setting yourself for failure by setting unrealistic goals.
9. Try mindful meditation. This helps in relaxing mind and body, thus focusing the thoughts.
10. Make time for music, art or other hobbies that help relax and distract from stressful thoughts.

5.2.13 Stress Management Methods Used by IT Companies

The most prominent stress management methods used by IT companies (based on their ranks) are: **(Table 4.62)**

1. Arrange educational and training courses to upgrade the skills and techniques of employees. This will improve their performance and will effectively reduce their work-related stress.
2. Arrange workshops for meditation and yoga to reduce employee stress.
3. Cultivate a friendly climate. As far as harassment is concerned, follow a policy of zero-tolerance.
4. Encourage employees for participation in social activities, where they can actively work for betterment of the society.
5. Subsidize for employees' gym membership under health promotion intervention program.
6. Arrange celebration of company events to recognize employee and team accomplishments.
7. Provide sufficient holidays to employees doing stressful work. In this way they can spend a quality time along with their friends and the members of family in a good place without worrying about their job related tension.
8. Provide adequate equipment and resources to employees so that they can perform their roles effectively.
9. Provide the facility of relaxation room to reduce work tension.
10. Give clear direction about the job that the employees are supposed to do. This avoids role conflicts to a great extent and reduces stress.
11. Provide services of counselor and therapist to help the employees.
12. Provide a supportive, approachable and appreciative climate. This helps in reducing employee stress.

5.3 CONCLUSION

The present research study has investigated the different factors causing stress on IT professionals of multinational companies located at Noida City. Various statistical tools provided by world renowned statistical software packages: SPSS, Real Statistics Using Excel and JASP have been used in the analysis.

The profile of the sample-respondents as portrayed by their demographic and job-related variables has been analyzed in detail. Explorative study has shown that majority of respondents are having high stress level.

Descriptive Statistics for demographic as well as job-related variables has been presented. ANOVA (Single Factor) analysis has revealed that there appears no significant relationship between demographic and job-related variables and level of stress of the respondents.

For in depth study, four major stressors: Individual, Group, Organizational and Extra-Organizational, have been analyzed on the basis of Stressors Mean Index (%). As far as these four major stressors are concerned, the majority of sample-respondents belong to high stress level.

Because of important role of Organizational stressors in determining the overall stress, they are further probed into 8 sub-factors: Subordinates, Environmental, Nature of Job, Organizational Climate, Relationship within Organization, Role related, Career Design and IT specific stressors. It has been observed that Stressors Mean Index (%) for all the 8 sub-factors of Organizational stressors, belong to high level class.

IT specific stressors (15 in number) have been examined in detail. Factor analysis of IT specific stressors has identified six new factors. This reduces dimensionality from 15 to 6. Loadings of different IT specific statements to the new factors have been evaluated and depicted graphically.

Relationship among various categories of stressors (Individual, Group, Organizational and Extra-Organizational) have been studied using Correlation Analysis. It has been noticed that the stressors are positively correlated with each other. Thus, stress in one factor increases stress in other factors.

In order to express the mixed effect of various causes on overall stress level, a linear multiple regression model of stress, has been presented. According to this model:

$$Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \varepsilon$$

$$Y = 1.52656E\text{-}16 + 0.1248 X_1 + 0.0676 X_2 + 0.7400 X_3 + 0.0677 X_4 + \varepsilon$$

Where,

Y = Overall Stress, X_1 = Individual Stressors

X_2 = Group Stressors, X_3 = Organizational Stressors

X_4 = Extra-Organizational Stressors, ε = Standard Error

It is noticed that all causes are contributing towards overall stress. Contribution of Organizational stressors is very high, whereas contributions of the other three stressors are of moderate value.

Effects of stress on respondents' health have been investigated in detail. It has been observed that majority of respondents experience dominant level of effect. The observed effects of stress experienced by various categories of respondents have been identified and listed in order of their occurrence. Analysis reveals that effects of stress due to various demographic and job-related variables on the health of majority of respondents are of dominant nature. Effects of Positive Stress (Eustress) and COVID-19 have been discussed.

The research study has also examined the various stress management methods adopted by IT employees. Most appropriate stress management practices used by IT employees have been identified using weighted average method with subsequent rankings.

This study has also explored the various stress management methods adopted by IT companies. Most appropriate stress management practices used by IT companies have been identified using weighted average method with subsequent rankings.

It is believed that the findings of this research study will help IT professionals and companies in understanding of stress, its effects and effective stress management methods, in a better way. This will help them in developing strategies for better stress management.

In brief, the results of this investigation would contribute significantly in better understanding of stress and its effects on I.T. professionals of multinational companies along with identification of most appropriate stress management methods to tackle this important problem. The results of this research study would also enrich the present literature on stress management.

5.4 SUGGESTIONS

Based on this research study, discussion with the respondents, opinions of experts and recommendations of earlier studies, following suggestions are made for stress management of I.T. professionals:

5.4.1 SUGGESTIONS FOR INDIVIDUAL I.T. PROFESSIONALS

1. Whenever any stressful situation arises, try to identify the main cause of stress. Come up with some organized plan to handle the stressful situation.
2. Seek guidance of your group leader, manager or a close friend.
3. Follow a balanced time schedule. Do not overcommit yourself. Deal tasks in priority, reduce meeting time (by setting time limits), plan an agenda and try your best sticking to it.
4. Delegate some of the unimportant responsibilities.
5. Say 'NO' politely but emphatically to additional or unimportant requests.
6. Set realistic goals. Avoid setting yourself for failure by setting unrealistic goals.
7. Reserve some time every day for relaxation.
8. Allot some time for music, any art or some other hobbies. This will not only relax you, but will also distract you from stressful thoughts.
9. Do not skip any meals. Eat healthy and well-balanced diet. Follow a healthy life style.
10. Avoid use of alcohol, hard coffee, black tea, excess of smoking or drugs for managing stress.
11. Get enough sleep. In stressful situation body needs extra sleep.
12. Try meditation or practice yoga regularly.

13. Take out of work interest and leisure activities. Keep yourself active in some community work.
14. If health is adversely affected, talk to a physician or a therapist for professional help.

5.4.2 SUGGESTIONS FOR I.T. COMPANIES

1. Develop a positive, virtuous and caring culture at workplace. Promote a friendly, supportive, approachable and appreciative climate.
2. Design jobs that provide meaning and stimulation for employees as well as opportunities to apply their skills.
3. Clearly define employees' roles and responsibilities. This avoids role conflicts and ambiguity.
4. Monitor each employee's workload. Ensure that it is in line with his capability and resources. A job stress audit at periodic basis will ascertain the job stress area which can be suitably mitigated.
5. Provide adequate equipment and resources to employees so that they can perform their roles effectively.
6. Arrange educational and training courses to upgrade the skills and techniques of employees. This will improve their performance and will effectively reduce their work-related stress.
7. Allow freedom to employees to implement their jobs in a more innovative manner to avoid monotonous nature of job.
8. Allow flexible working hours or alternate shifts.
9. Give employees meaningful and timely feedback about their performance.
10. Provide employees opportunities for participation in decisions which affect their jobs. Give opportunity for open dialogue.
11. Watch for any signs of dissatisfaction among employees. Do not allow any discrimination or harassment at workplace.
12. Arrange a proper reward system which would motivate the employees to do their jobs efficiently.

13. Provide opportunities for job enrichment and career development to employees. Reduce uncertainty about their career development as well as future prospects.
14. Provide the facility of relaxation room to reduce work tension.
15. Arrange workshops for meditation and yoga to reduce employee stress.
16. Subsidize for employees' gym membership under health promotion intervention program.
17. Encourage employees for participation in social activities, where they can actively work for the benefit of society.
18. Arrange celebration of company events to recognize employee and team accomplishments. Arrange celebration of festivals.
19. Provide sufficient holidays to employees doing stressful work. In this way they can spend a quality time along with their friends and the members of family in a good place without worrying about their job related tension.
20. Provide services of counselor and therapist to help the employees.

5.4.3 SUGGESTIONS FOR FUTURE RESEARCH WORK

This study indicates further scope of research into stress management of I.T. professionals. Future research could be focused on the following issues:

1. This research study has included only ten demographic and job-related variables. The research study could be further extended if more variables are included in the investigation for wider comprehension.
2. This study could not determine whether any relevant or significant relationship exists between demographic & job-related variables and stress of I.T. professionals in multinational companies located at Noida City. Another sample with respondents selected from various cities could be examined to reveal such relationship, if it exists.
3. A comparative study could be made on the stress management methods of I.T. professionals employed at different cities. This may identify the effect of location on the stress of I.T. professionals.
4. During the study, it was noticed that there exist several designated posts (more than 40) in the I.T. sector. A deeper study could reveal the variation of stress with designation. Suitable coping strategies for stress management of different designated posts could be identified.
5. There are limited studies in the area: "Influence of educational level on the coping methods used for stress management of I.T. professionals". As such, this area could be probed and examined.

It is hoped that research efforts focused on above mentioned issues will reveal results, which would be useful in social context.

SUMMARY

Research on Stress Management in Information Technology Companies

CHAPTER 1
INTRODUCTION

1.1 BACKGROUND

Professionals of Multinational I.T. companies are always under constant stress due to several factors. They must deliver target-oriented and cost-effective services. Strict deadlines, long working hours, job insecurity, work-family imbalance, unachieved ambitions etc. are some of the several acute stress builders, which develop psychological and health related problems among them. This stress causes damped initiative, reduced commitment and motivation, which adversely affect their performance.

I.T. professionals with their high skill and expertise are extremely valuable to I.T. companies. As such they always look for better and innovative approach to attract, motivate and retain them. Stress among I.T. professionals has been a matter of attention and great worry to individuals as well as I.T. organizations.

Literature review has shown that a few detailed research studies have so far been made on stress management among employees of IT Companies.

This motivated the researcher to take up the present study on the topic:

"Research on Stress Management in Information Technology Companies".

1.2 RESEARCH DESIGN

The present research study follows the standard methods of statistical research as discussed by the renowned authors of this field. However, it uses a new and innovative approach to analyze the various factors causing employee stress and its level. Adverse effects of stress on individual employees as well as I.T. companies have been explored. The study focuses on identification of most appropriate stress management methods for handling employee stress. Various statistical tools provided by the world renowned Statistical Software Packages: SPSS, Real Statistics Using Excel and JASP, have been selected for statistical analysis of research data.

1.3 RESEARCH QUESTIONS

This study is aimed to reveal the answers of the undermentioned research questions:

1. What are the causes of stress among professionals of I.T. Companies?
2. What is the level of their stress?
3. What are the effects of stress on their health?
4. What are the coping strategies, adopted by individual employees to handle their stress?
5. What are the stress reducing strategies, adopted by I.T. Companies for their employees?
6. How can their stress be further reduced?

1.4 OBJECTIVES OF THE STUDY

For the employees of I.T. Companies:

1. To identify various sources of stress in employees.
2. To know the stress level in employees.
3. To identify physical, emotional and mental effects of stress.
4. To ascertain the methods adopted by employees to overcome their stress.
5. To ascertain the methods adopted by I.T. companies to overcome employee stress.
6. To identify the steps further required for handling stress of I.T. company employees.

1.5 SIGNIFICANCE OF THE STUDY

A detailed research study on Stress Management in Information Technology Companies is very important, because no such study has so far been conducted with the innovative approach, as followed in this study. The research investigation highlights the various stress related issues and suggests appropriate solutions. This enhances the present learning of this field. The study is in larger interest of the society.

In brief, the results of this research investigation would contribute significantly in better understanding of stress and its effects on professionals of I.T. companies along with identification of most appropriate stress management methods to tackle this important problem. The results of this research study would enrich the present literature on stress management.

1.6 SCOPE OF THE PRESENT STUDY

Scope of the present research study/investigation is limited to employees of Multinational Information Technology Companies located at Noida City. The research study is focused on identification of causes of employee stress and its adverse effects on these employees. The study is aimed to highlight the most suitable stress management methods to handle the problem. This will enable I.T companies to meet effectively the several challenges presently faced by them, due to employee stress.

CHAPTER 2
REVIEW OF LITERATURE

Selye (1956) introduced for the first time the term **"Stress"** into life science. Various terms used synonymously with stress are frustration, anxiety and pressure. Factors which lead to stress are called "**stressors**". **Sauter & Murphy (1995)** defined work stress as "the harmful physical and emotional responses that occur when requirements of the job do not match the capabilities, resources or need of the worker". Thus, high demands of job and little control of the situation leads to stress.

Quick & Quick (1984) suggested four major types of stressors: Physical demands, task demands, role demands and interpersonal demands. **Hendrix (1994)** proposed work overload, control supervision with support, work autonomy, role conflicts and role ambiguity as five major organizational stressors.

Rao et al. (2012) investigated occupational stress, related mental health, subsequent job satisfaction and stress coping among I.T. professionals employed at Hyderabad City. Findings indicated that mental health and subsequent job satisfaction were mutually correlated but not very significantly.

Joshy (2014) analyzed main causes of stress and its consequences on I.T. professionals in Ireland and India. Findings indicated that the main causes of stress were (a) job related factors (b) organizational structure & climate (c) role of professional in organization. It was observed that many of these professionals did not have access to stress management interventions.

Padma et al. (2015) studied the stress and health related issues in business outsourced I.T. professionals. It was observed that such professionals were prone to develop several health related problems due to constant physical and mental work stress. It was suggested that proper diet advice, suitable lifestyle modification and psychological counseling would reduce work stress and health related problems.

Sabbarwal et al. (2017) identified that high workload, long & late working hours and family related problems are major contributors towards occupational stress of I.T. employees. Insecurity of job, family issues, ill health, low monetary

compensations are the other factors causing occupational stress. The study suggested suitable stress management programs for all I.T. employees.

Premkumar et al. (2018) explored the stress level among employees in IT companies located in and around Tamilnadu State. The study observed that stress can make person constructive and productive if it is timely identified and managed properly.

Satyavathi & Angayarkanni (2019) have observed in their investigation that workplace wellness and job satisfaction of IT sector workers are closely associated. They have suggested wellness program as a measure to enhance the job satisfaction and corporate wellness.

From the detailed review of literature following information is obtained:

1. Professionals working in Information Technology Companies experience high level of stress.
2. Stress of IT professionals is a matter of huge concern to IT organizations as well as individual employees because it adversely affects employees' health as well as performance.
3. A few research investigations have been made on employee stress, its effect and coping methods. However, these attempts have been in pieces. A detailed and comprehensive research study with an innovative approach is needed to investigate this problem and find suitable solutions.
4. Broadly, 4 categories of stressors have been observed among IT professionals: Individual Stressors, Group Stressors, and Organizational Stressors along with Extra-Organizational Stressors. Role, effects and Ways of dealing of these stressors should be investigated in detail.
5. Results of this study will be very useful to IT professionals as well as IT companies. Thus, the study will be in larger interest of the society.

CHAPTER 3

RESEARCH METHODOLOGY

The present research study follows the standard methods of research. Extensive review of literature made the researcher to fix four major categories of stressors among I.T. professionals: Individual Stressors, Group Stressors, Organizational Stressors and Extra-Organizational Stressors. Organizational Stressors are the most important category of Stressors and they are further classified among eight sub-categories: Stressors related to – Environment, Nature of Job,

Subordinates, Organizational Climate, Relationship within Organization, Role in Organization, Career Design and I.T. Specific Issues.

Ten demographic and job-related variables have been selected for in depth study: Gender, Age, Experience, Education, Salary, Food Habits, Marital Status, Type of Family, Spouse's Employment and Present Staying.

Census method has been selected for this study. A suitable instrument (Questionnaire) has been developed for primary data collection for measurement of stress among professionals of I.T. Companies of Noida City. The first component of the Questionnaire gathers information regarding gender, age, experience, education, salary, food habits, marital status, type of family, spouse's employment and present staying of the respondents. The second component is related to measurement of various stressors. It has 75 statements grouped into four major categories: Individual Stressors, Group Stressors, Organizational Stressors and Extra-Organizational Stressors. The third component has 20 statements on effects of stress on I.T. professionals. The fourth component of the present questionnaire has twenty statements. They explore the preferential stress management methods used by I.T. professionals. The fifth component of the present questionnaire has twenty statements. They explore the preferential stress management methods used by I.T. companies. A suitable sample of 150 professionals working in different multinational I.T. companies was selected for this study. Out of 150 distributed questionnaires, 137 were received completely filled in. Thus the response rate was 137/150 i.e. 91.33%. The responses of these statements have been recorded using Likert's 5 point scale scoring method. Data of this study has been tabulated using Microsoft Excel 2010 Spreadsheet Package. Data was subjected to Internal Consistency/Reliability test by calculating *'Cronback's Alpha (α)'* using *'Real Statistics Using Excel'* open software package. Since all values of α were above 0.6 and very close to 0.7, Internal Consistency/Reliability test of data was successful.

Analysis of data was done using various statistical tools made available by world renowned Statistical Software Packages: SPSS, Real Statistics Using Excel and JASP.

Measurement of Stress

The responses of the above 75 statements of second component of the questionnaire were recorded using Likert's 5 point scale scoring method. The responses are Strongly Disagree (SD), Disagree (D), Not Sure (NS), Agree (A) and Strongly Agree (SA) having corresponding score values of 1, 2, 3, 4 and 5 respectively.

Classification of Stress Level

For the above set of 75 statements, minimum score is 75 (75x1) and the maximum score is 375 (75x5). Difference of these scores (375 – 75=300) is divided by 4 to define 4 ranges of stress level as shown in Table 1.

Table 1

Classification of Stress Level

Stress Level	Range of scores
Low Stress	75 – 150
Medium Stress	151 – 225
High Stress	226 – 300
Extreme Stress	301 – 375

It is noticed that each dimension of stress in the questionnaire has different number of statements. As such to classify stress for a factor, instead of Mean Value, Mean Value in percentage [Mean Index (%)] is used as measure to quantify stress level for a factor. As such classification of Stress Level for a factor is as shown in Table 2.

Table 2

Classification of Stress Level for a Factor

Mean Index (%)	Classification
Less than 40.00	Low
40.01 to 60.00	Medium
60.01 to 80.00	High
80.01 to 100.00	Extreme

Effects of Stress

There are twenty statements in the third component of the questionnaire. The responses of these twenty statements address the effects of stress on I.T. professionals. The responses are – Always (A), Frequently (F), Often (O), Sometimes (S) and Never (N). The corresponding score values are 5, 4, 3, 2 and 1 respectively.

Classification of Effects of Stress

For the set of 20 statements, minimum score is 20 (20x1) and the maximum score is 100 (20x5). Difference of these scores (100 – 20 = 80) is divided by 4 to define 4 ranges of effects of stress as shown in Table 3.

Table 3

Classification of Effect of Stress

Level of Effect of Stress	Range of scores
Mild	20 – 40
Tolerable	41 – 60
Dominant	61 – 80
Highly Dominant	81 – 100

The overall scores of each effect are subjected to rank correlation. The effects are also ranked.

Stress Management Methods used by I.T. Employees and Companies

The Fourth and fifth components of the questionnaire have twenty statements each. They explore the preferential stress management methods used. The responses are – Always (A), Frequently (F), Often (O), Sometimes (S) and Never (N). The corresponding score values are 5, 4, 3, 2 and 1 respectively.

The most popular stress reducing practices are identified using weighted average method with subsequent ranking.

CHAPTER 4

DATA ANALYSIS AND INTERPRETATION

DEMOGRAPHIC & JOB-RELATED PROFILE OF THE SAMPLE- RESPONDENTS

TABLE 4
PROFILE OF THE SAMPLE-RESPONDENTS

S. No.	Criteria	Description				Total
1	Gender	Male		Female		137
		87 (63.50%)		50 (36.50%)		
2	Age (Years)	25-30	31-40		41-50	137
		45 (32.85%)	81 (59.12%)		11 (8.03%)	
3	Experience (Years)	1-5	6-10		11-15	137
		42 (30.66%)	83 (60.58%)		12 (8.76%)	
4	Education	UG	PG/PG+		Professional	137
		45 (32.85%)	63 (45.98%)		29 (21.17%)	
5	Salary (Rs.) (p.m.)	<35000	35001-45000	45001-55000	>55000	137
		12 (8.76%)	43 (31.39%)	46 (33.57%)	36 (26.28%)	
6	Food Habits	Vegetarian		Non-Vegetarian		137
		86 (62.77%)		51 (37.23%)		
7	Marital Status	Un-married	Married		Others	137
		46 (33.58%)	91 (66.42%)		0 (0.00%)	
8	Type of Family	Joint		Nuclear		137
		36 (26.28%)		101 (73.72%)		
9	Spouse Employment	Employed	Not Employed		Not Applicable	137
		65 (47.44%)	26 (18.98%)		46 (33.58%)	
10	Presently Staying	With Family		Away from Family		137
		70 (51.09%)		67 (48.91%)		

EXPLORATIVE DATA ANALYSIS

Salient features of this research study are elaborated by the following tables:

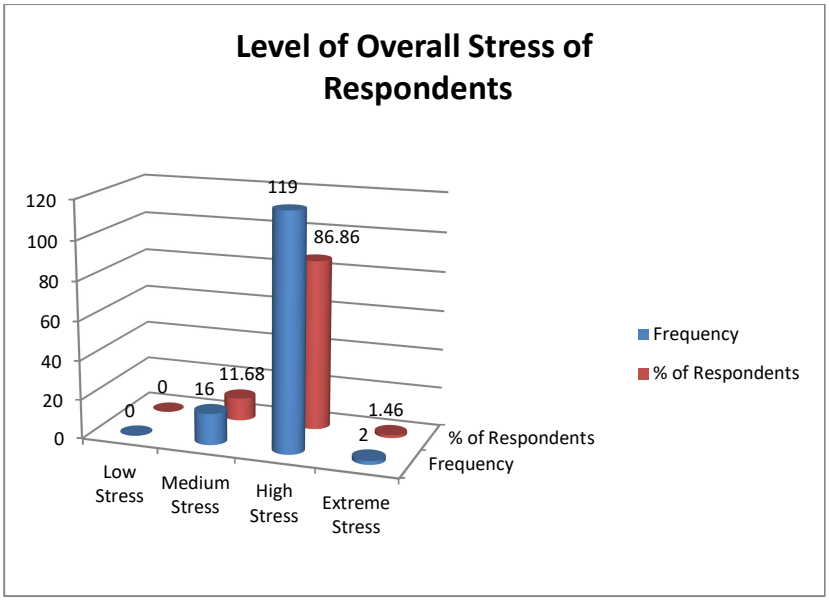
Table 5

S. No.	Stress Level	Frequency	Percent
1	Low	0	0.00
2	Medium	16	11.68
3	High	119	**86.86**
4	Extreme	2	1.46
	Total	**137**	**100.00**

OVERALL STRESS LEVEL OF RESPONDENTS

According to Table 5, **majority of the respondents (86.86%) are experiencing high level stress**. 11.68% respondents experience medium level stress followed by 1.46% having extreme stress. Low level stress is not visible in the respondents. Only medium, high and extreme levels of stress are observed (Figure 1).

Figure 1



ANALYSIS OF OVERALL STRESS (Level I)

Table 6
OVERALL STRESS SCORE

S. No.	Components	No. of Statements	Min. Score	Max. Score	Mean Score	Mean Index (%)	Classification
1.	**Overall Stress Score**	75	75	375	256.92	**68.51**	**High**

Table 6 and Table 5 indicate that high level stress is experienced by majority of respondents.

ANALYSIS OF OVERALL STRESS (Level II)

For in depth study, various factors: Individual Stressors, Group Stressors, Organizational Stressors and Extra-Organizational Stressors are analyzed on the basis of Mean Index(%).

Table 7
VARIOUS FACTORS OF STRESS

S. No.	Component	No. of Questions	Min. Score	Max. Score	Mean Score for the factor	Mean Index (%)	Classification
1	**Individual Stressors**	10	10	50	32.05	64.10	**High**
2	**Group Stressors**	5	5	25	17.36	69.44	**High**
3	**Organizational Stressors**	55	55	275	190.11	69.13	**High**
4	**Extra – Organizational Stressors**	5	5	25	17.39	69.56	**High**

ANALYSIS OF OVERALL STRESS (Level III)

As the Organizational Stressors play an important and vital role in determining the overall stress, they are further probed into 8 sub-factors of Organizational stressors separately.

Table 8
SUB-FACTORS OF ORGANIZATIONAL STRESSORS

Sub – factors of Organizational Stressors						
S. No.	**Component**	**No. of Questions**	**Max. Score**	**Mean Score**	**Mean Index (%)**	**Classification**
1	**Subordinates**	6	30	21.08	70.27	**High**
2	**Environment**	5	25	16.43	65.72	**High**
3	**Nature of Job**	5	25	17.10	68.40	**High**
4	**Organizational Climate**	9	45	30.59	67.98	**High**
5	**Relationship Within Organization**	5	25	17.49	69.96	**High**
6	**Role in Organization**	5	25	17.37	69.48	**High**
7	**Career Design**	5	25	17.54	70.16	**High**
8	**IT Specific**	15	75	52.50	70.00	**High**

Relationship among Various Categories of Stressors

In order to find relationship among various categories of stressors, correlation analysis was done by taking two at a time.

Table 9
CORRELATIONAL MATRIX

	Individual	*Group*	*Organizational*	*Extra-Organizational*
Individual	1			
Group	0.361085	1		
Organizational	0.283469	0.656283	1	
Extra-Organizational	0.051817	0.225556	0.387583	1

INFERENCE:

The correlation values among the stressors are shown in the above table. It is noticed that stressors are positively correlated with each other. Thus, stress in one factor increases the stress in other factors.

Statistical Model of Stress

In order to understand the impact of various factors on overall stress, a simple model of stress is used. This model helps in understanding cause versus effect relationship. In the present study, following four component stressors (causes of stress) have already been identified: (1) Individual Stressors, (2) Group Stressors,

(3) Organizational Stressors & (4) Extra-Organizational Stressors. These stressors are defined as independent variables (X), whereas overall stress level is considered as dependent variable (Y).

Multiple Regression Model

In order to study the combined effect of various causes on overall stress level, multiple regression model, is used. This model is defined by the following equation:

$Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \varepsilon$

Where α is a constant and $\beta_1 \ldots \beta_4$ are constant coefficients.

Table 10
MULTIPLE REGRESSION ANALYSIS

S. No.	Dependent Variable	Independent Variable	Validity of The model	Coefficients β	Inference
1	Overall Stress Index	Individual Stressors	$R^2 = 1$	P value = 0.0000 β_1 = 0.1248	Contributing to some extent
		Group Stressors		P value = 0.0000 β_2 = 0.0676	Contributing a little extent
		Organizational Stressors		P value = 0.0000 β_3 = 0.7400	Contributing to very high extent
		Extra-Organizational Stressors		P value = 0.0000 β_4 = 0.0677	Contributing a little extent

Intercept (α) = 1.52656E-16

INFERENCE:

1. Value of $\mathbf{R^2}$ indicates that this model is suitable.
2. All the causes are contributing towards the overall stress. Contribution of Organizational stressors is very high, whereas contributions of the other three are of moderate value.
3. Therefore,

$$Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \varepsilon$$

i.e. $Y = 1.52656E\text{-}16 + 0.1248 X_1 + 0.0676 X_2 + 0.7400 X_3 + 0.0677 X_4 + \varepsilon$

where,

Y = Overall Stress, X_1 = Individual Stressors, X_2 = Group Stressors,

X_3 = Organizational Stressors X_4 = Extra-Organizational Stressors and

ε = Standard Error

Table 11
EFFECTS OF STRESS ON RESPONDENTS

S. No.	Effects	Frequency	Percent
1	Mild	4	2.92
2	Tolerable	53	38.69
3	Dominant	80	**58.39**
4	Highly Dominant	0	0.00
	Total	**137**	**100.00**

According to Table 11 **majority of the respondents (58.39%) are experiencing dominant level of Stress effect**, 38.69% are experiencing tolerable level of stress effect, while only 2.92% are having mild effect. Highly dominant level of stress effect is not present among the respondents (Figure 2).

Figure 2

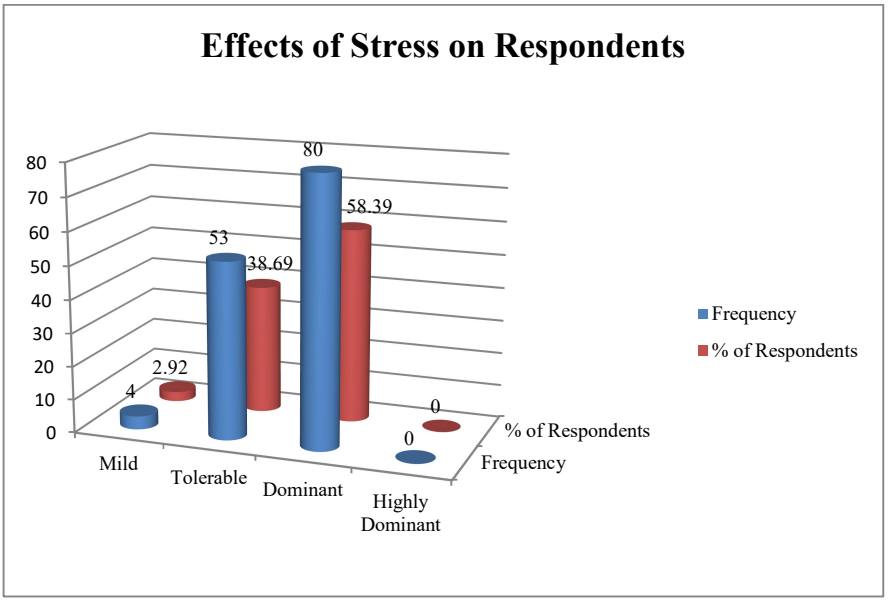


Table 12
STRESS LEVEL AND EFFECTS OF STRESS ON RESPONDENTS

Stress Level	Effect of Stress on health				Total
	Mild	Tolerable	Dominant	Highly Dominant	
Low Stress	0	0	0	0	**0**
	0.00%	0.00%	0.00%	0.00%	**0.00%**
Medium Stress	3	3	10	0	**16**
	18.75%	18.75%	**62.50%**	0.00%	**100.00%**
High Stress	1	48	70	0	**119**
	0.84%	40.34%	**58.82%**	0.00%	**100.00%**
Extreme Stress	0	2	0	0	**2**
	0.00%	100.00%	0.00%	0.00%	**100.00%**
Total	**4**	**53**	**80**	**0**	**137**
	2.92%	**38.69%**	**58.39%**	**0.00%**	**100.00%**

Table 12 depicts relationship between Stress Level and Effects of Stress on health of the respondents. In the Medium and High Stress categories, majority of the respondents are having dominant effects of stress.

Table 13
GENDER & STRESS LEVEL OF RESPONDENTS

Gender	Stress level				Total
	Low	Medium	High	Extreme	
Male	0	12	75	0	87
	0.00%	13.79%	**86.21%**	0.00%	100.00%
Female	0	4	44	2	50
	0.00%	8.00%	**88.00%**	4.00%	100.00%
Total	0	16	119	2	137
	0.00%	11.68%	86.86%	1.46%	!00.00%

Table 13 reveal that majority of male respondents (86.21%) and female (88.00%) are experiencing high stress level. 13.79% of male and 8.00% of female respondents are having medium stress level, whereas 4.00% of female respondents are having extreme stress level.

Table 14
GENDER & EFFECTS OF STRESS ON RESPONDENTS

Gender	Effects of Stress				Total
	Mild	Tolerable	Dominant	Highly Dominant	
Male	3	38	46	0	87
	3.45%	43.68%	**52.87%**	0.00%	100.00%
Female	1	15	34	0	50
	2.00%	30.00%	**68.00%**	0.00%	100.00%
Total	4	53	80	0	137
	2.92%	38.69%	58.39%	0.00%	!00.00%

Table 14 Explains that majority of male (52.87%) and female (68.00%) respondents are experiencing dominant effects of stress. 43.68% of male and 30.00% of female respondents are having tolerable effects of stress, whereas only 3.45% of male and 2.00% of female respondents are having mild effects on their health.

Effects of Stress

There are 20 statements in the questionnaire for evaluating the effects of stress on IT professionals.

Table 15
Effects of Stress on Employees

Statement	Effects of Stress on Employees
1	I suffer headache / migraine.
2	I suffer High blood pressure.
3	I suffer indigestion / stomach problems.
4	I am unable to concentrate.
5	I am unable to get sound sleep.
6	I suffer muscular tension (neck / back / jaw/ wrist).
7	I suffer loss of appetite.
8	I feel exhausted / fatigued.
9	I suffer palpitation of heart and difficulty in breathing.
10	I get nervousness and anxiety.
11	I get frustrated feelings.
12	I get nightmares and bad memories.
13	I suffer skin rashes.
14	I take leave for personal reasons.
15	I get reduced interest in usual and social activities.
16	I find loss of motivation and commitment.
17	I find reduction in my work output and increase in my error rate.
18	I find deterioration in my planning and control work.
19	My timekeeping becomes erratic and poor.
20	I find increase in my smoking and / or use of alcohol.

The respondents are divided into 4 groups depending upon the total score:

(1) MILD (2) TOLERABLE

(3) DOMINANT (4) HIGHLY DOMINANT

For each group ranks are assigned based on the scores.

Table 16
Ranking of Effects of Stress on Respondents' Health

Statement	Mild	Tolerable	Dominant
1	2	1	1
2	13	2	2
3	2	5	10
4	2	6	6
5	1	3	8
6	8	6	17
7	13	15	16
8	8	9	15
9	2	20	10
10	8	10	8
11	2	11	13
12	19	19	20
13	13	17	19
14	2	12	4
15	8	18	3
16	13	12	17
17	19	12	12
18	8	8	13
19	13	16	4
20	13	4	7

INFERENCE:

Only three types of categories are observed:

Mild, Tolerable and Dominant

Effects of stress on these categories are listed in order of their frequent occurrence on the basis of the above table:

Mild Group: Unable to get sound sleep, Suffer headache / migraine, Suffer indigestion / stomach problems, Unable to concentrate, Suffer palpitation of heart and difficulty in breathing, Take leave for personal reason.

Tolerable Group: Suffer headache / migraine, Suffer high blood pressure, Unable to get sound sleep, Find increase in smoking and / or use of alcohol, Suffer indigestion / stomach problems.

Dominant Group: Suffer headache / migraine, Suffer high blood pressure, Get reduced interest in usual and social activities, Take leave for personal reason, Time keeping becomes erratic and poor.

Table 17
Summary of Effects of Stress on health with Job-related and Demographic variables

S. No.	Variable	Category	Effects of Stress				Total
			Mild	Tolerable	Dominant	Highly Dominant	
1	Gender	Male	3	38	46	0	87
		Female	1	15	34	0	50
2	Age (Years)	25-30	2	14	29	0	45
		31-40	2	32	47	0	81
		41-50	0	7	4	0	11
3	Experience (Years)	1-5	2	11	29	0	42
		6-10	2	34	47	0	83
		11-15	0	8	4	0	12
4	Education	UG	2	15	28	0	45
		PG/PG+	2	27	34	0	63
		Professional	0	11	18	0	29
5	Salary (Rs. pm)	<35000	0	4	8	0	12
		35001-45000	2	14	27	0	43
		45001-55000	0	17	29	0	46
		>55000	2	18	16	0	36
6	Food Habits	Vegetarian	2	29	55	0	86
		Non-Vegetarian	2	24	25	0	51
7	Marital Status	Un-married	2	16	28	0	46
		Married	2	37	52	0	91
		Others	0	0	0	0	0
8	Type of Family	Joint	2	12	22	0	36
		Nuclear	2	41	58	0	101
9	Spouse's Employment	Employed	1	24	40	0	65
		Not Employed	1	13	12	0	26
		Not Applicable	2	16	28	0	46
10	Presently Staying	With Family	3	24	43	0	70
		Away from Family	1	29	37	0	67

Stress Management Methods used by IT Employees

There are 20 statements in the questionnaire for evaluating the stress management methods used by IT employees. Responses of the respondents examine the insight of the reaction of these employees to the stressful situation. The responses also reveal the various stress management methods adopted by them

The most popular stress management practices used by IT Employees are identified using weighted average method with subsequent ranking.

Table 18

Weighted Average Score and Ranks of Statements related to Stress Management Methods used by IT Employees

Statement	Always	Frequently	Often	Sometimes	Never	Weighted Average	Rank
1	16	66	32	22	1	32.333	1
2	16	34	55	29	3	29.467	7
3	13	52	34	31	7	29.600	5
4	18	38	47	27	7	29.600	5
5	18	36	39	38	6	28.867	12
6	17	39	36	34	11	28.533	14
7	20	37	44	26	10	29.467	7
8	17	38	43	34	5	29.267	9
9	16	38	42	28	13	28.467	15
10	14	32	48	34	9	27.933	18
11	14	38	41	35	9	28.267	17
12	14	41	45	27	10	28.867	12
13	19	35	35	39	9	28.467	15
14	6	63	42	25	1	30.600	2
15	18	50	35	29	5	30.533	3
16	10	45	54	19	9	29.267	9
17	17	29	42	42	7	27.867	19
18	18	40	33	39	7	28.933	11
19	17	49	39	20	12	30.000	4
20	12	32	46	34	13	27.133	20

INFERENCE:

On the basis of above Table 18, most prominent stress management practices are:

1. Cultivate a positive attitude. Try to identify the main cause of stress and try to deal with it.
2. Get enough sleep. Whenever stressed, body needs extra sleep.
3. Whenever an unpleasant situation is to be faced, take a deep and extended breath. Count to 10 or 20 before doing or saying anything.
4. Take out-of-work interest and leisure activities. Volunteer or find some other way to keep active in community. This will not only create a support network, but will also give a break from day to day stress.
5. Try to keep organized. Come up with some organized plan to handle the stressful situation.

6. Avoid use of alcohol, hard coffee, black tea or / and drugs for managing the stress.
7. Delegate some of unimportant responsibilities.
8. Set realistic goals. Avoid setting yourself for failure by setting unrealistic goals.
9. Try mindful meditation. This helps in relaxing mind and body, thus focusing the thoughts.
10. Make time for music, art or other hobbies that help relax and distract from stressful thoughts.

Stress Management Methods used by IT Companies

IT companies have accepted the fact that in the present age of highly dynamic and competitive world, employees often experience, high level of stress. This causes reduced productivity and poor performance. As such they adopt several methods to reduce stress level of their employees.

There are 20 statements in the questionnaire for evaluating the methods used by IT Companies. The most popular stress management practices used by IT Companies are identified using weighted average method with subsequent ranking.

Table 19

Weighted Average Score and Ranks of Statements related to Stress Management Methods used by IT Companies

Statement	Always	Frequently	Often	Sometimes	Never	Weighted Average	Rank
1	22	58	34	23	0	32.667	1
2	19	40	44	26	8	29.800	8
3	17	39	39	35	7	29.000	12
4	10	39	49	32	7	28.267	17
5	20	40	36	36	5	29.667	10
6	17	34	45	29	12	28.400	15
7	14	39	39	37	8	28.333	16
8	25	35	40	28	9	30.000	7
9	10	38	52	35	2	28.667	13
10	14	38	40	34	11	28.067	19
11	18	42	30	35	12	28.667	13
12	29	29	40	26	13	29.733	9
13	8	66	40	21	2	31.200	2
14	19	43	45	23	7	30.333	5
15	8	47	38	37	7	28.200	18

16	**20**	**43**	**45**	**20**	**9**	**30.400**	**4**
17	**14**	**49**	**41**	**29**	**4**	**30.067**	**6**
18	**16**	**36**	**39**	**34**	**12**	**28.067**	**19**
19	**21**	**34**	**39**	**36**	**7**	**29.133**	**11**
20	**21**	**48**	**34**	**26**	**8**	**30.600**	**3**

INFERENCE:

On the basis of above Table 19, most prominent stress management practices are:

1. Arrange educational and training courses to upgrade the skills and techniques of employees. This will improve their performance and will effectively reduce their work-related stress.
2. Arrange workshops for meditation and yoga to reduce employee stress.
3. Cultivate a friendly climate. As far as harassment is concerned, follow a policy of zero-tolerance.
4. Encourage employees for participation in social activities, where they can actively work for betterment of the society.
5. Subsidize for employee's gym membership under health promotion intervention programme.
6. Arrange celebration of company events to recognize employee and team accomplishments.
7. Provide sufficient holidays to employees doing stressful work. In this way they can spend a quality time along with their friends and the members of family in a good place without worrying about their job related tension.
8. Provide adequate equipment and resources to employees so that they can perform their roles effectively.
9. Provide the facility of relaxation room to reduce work tension.
10. Give clear direction about the job that the employees are supposed to do. This avoids role conflicts to a great extent and reduces stress.
11. Provide services of counselor and therapist to help the employees.
12. Provide a supportive, approachable and appreciative climate. This helps in reducing employee stress.

CHAPTER 5

FINDINGS, CONCLUSION AND SUGGESTIONS

1. FINDINGS

Demographic & Job-Related Profile

1. Majority of respondents (63.50%) are male.
2. Majority of respondents (59.12%) of respondents are in the age range 31-40.
3. Majority of respondents (60.58%) have 6 to 10 years' experience.
4. 45.98% are post-graduates or possess higher qualification. 32.85% are graduates, whereas 21.17% have professional qualification.
5. 33.57% respondents are drawing salary in the range 45001-55000, followed by 31.39% in the range 35001-45000. 26.28% are drawing salary greater than 55000 whereas only 8.76% draw salary lower than 35000.
6. Majority of respondents (62.77%) are vegetarians.
7. Majority of respondents (66.42%) are married.
8. The families of majority of respondents (73.72%) are of nuclear type.
9. Majority of respondents (47.44%) have employed spouse.
10. Majority of respondents (51.09%) are staying with their families.

Explorative Data Analysis

1. Majority of respondents (86.86%) are having high stress level whereas 11.68% respondents have medium stress level. Only 1.46% respondents experience extreme level of stress.
2. Majority (58.39%) respondents experience dominant level of effect due to stress whereas 38.69% respondents experience tolerable level of effect. Only 2.92% respondents are having mild effect of stress.
3. In the medium and high stress categories, majority of respondents (62.50% and 58.82 respectively), are having dominant effect of stress.
4. Majority of male (86.21%) and female (88.00%) respondents are experiencing high stress level.
5. Majority of male (52.87%) and female (68.00) respondents are experiencing dominant effects of stress.

Relationship among various categories of stressors

Stressors (Individual, Group, Organizational and Extra-Organizational) are positively correlated with each other. Thus, stress in one factor increases stress in other factors.

Statistical Model of Stress

In order to express the combined effect of various causes on overall stress level, a linear multiple regression model, has been presented. According to this model:

$$Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \varepsilon$$

$$Y = 1.52656E\text{-}16 + 0.1248\, X_1 + 0.0676\, X_2 + 0.7400\, X_3 + 0.0677\, X_4 + \varepsilon$$

where, Y = Overall Stress, X_1 = Individual Stressors, X_2 = Group Stressors, X_3 = Organizational Stressors, X_4 = Extra-Organizational Stressors and ε = Standard Error

It is noticed that all causes are contributing towards overall stress. Contribution of Organizational stressors is very high, whereas contributions of the other three stressors are of moderate value.

Effects of Stress

The following are the observed efects of stress experienced by various categories of respondents in order of their occurrence:

Mild Group: Unable to get sound sleep, Suffer headache / migraine, Suffer indigestion / stomach problems, Unable to concentrate, Suffer palpitation of heart and difficulty in breathing, Take leave for personal reason.

Tolerable Group: Suffer headache / migraine, Suffer high blood pressure, Unable to get sound sleep, Find increase in smoking and / or use of alcohol, Suffer indigestion / stomach problems.

Dominant Group: Suffer headache / migraine, Suffer high blood pressure, Get reduced interest in usual and social activities, Take leave for personal reason, Time keeping becomes erratic and poor.

The effects of stress due to various demographic and job-related variables, on health of majority of respondents, are of dominant nature.

Effects of Positive Stress (Eustress)

I.T. Organizations are realizing that in order to sustain competition edge in the global market, it is important to maintain positive stress (eustress) level among

their valuable professionals. In this way, positive stress (eustress) will promote I.T. professionals' well-being and will lead to a motivated and satisfied work force.

Effects of COVID-19

COVID-19 effect can be viewed as a mix of challenges and opportunities for I.T. companies and their professionals.

Stress Management Methods Used by IT Employees

The most prominent stress management methods used by IT employees (based on their ranks) have been listed.

Stress Management Methods Used by IT Companies

The most prominent stress management methods used by IT companies (based on their ranks) have been listed.

2. CONCLUSION

The present research study has investigated the different factors causing stress on IT professionals of multinational companies located at Noida City. Various statistical tools provided by world renowned statistical software packages: SPSS, Real Statistics Using Excel and JASP have been used in the analysis.

The profile of the sample-respondents as portrayed by their demographic and job-related variables has been analyzed in detail. Explorative study has shown that majority of respondents are having high stress level.

For in depth study, four major stressors: Individual, Group, Organizational and Extra-Organizational, have been analyzed on the basis of Stressors Mean Index (%). As far as these four major stressors are concerned, the majority of sample-respondents belong to high stress level.

Because of important role of Organizational stressors in determining the overall stress, they are further probed into 8 sub-factors: Subordinates, Environmental, Nature of Job, Organizational Climate, Relationship within Organization, Role related, Career Design and IT specific stressors. It has been

observed that Stressors Mean Index (%) for all the 8 sub-factors of Organizational stressors, belong to high level class.

Relationship among various categories of stressors (Individual, Group, Organizational and Extra-Organizational) have been studied using Correlation Analysis. It has been noticed that the stressors are positively correlated with each other. Thus, stress in one factor increases stress in other factors.

In order to express the mixed effect of various causes on overall stress level, a linear multiple regression model of stress, has been presented.

It is noticed that all causes are contributing towards overall stress. Contribution of Organizational stressors is very high, whereas contributions of the other three stressors are of moderate value.

Effects of stress on respondents' health have been investigated in detail. It has been observed that majority of respondents experience dominant level of effect. The observed effects of stress experienced by various categories of respondents have been identified and listed in order of their occurrence. Analysis reveals that effects of stress due to various demographic and job-related variables on the health of majority of respondents are of dominant nature. Effects of Positive Stress (Eustress) and COVID-19 have been discussed.

The research study has also examined the various stress management methods adopted by IT employees. Most appropriate stress management practices used by IT employees have been identified using weighted average method with subsequent rankings.

This study has also explored the various stress management methods adopted by IT companies. Most appropriate stress management practices used by IT companies have been identified using weighted average method with subsequent rankings.

It is believed that the findings of this research study will help IT professionals and companies in understanding of stress, its effects and effective stress management methods, in a better way. This will help them in developing strategies for better stress management.

In brief, the results of this investigation would contribute significantly in better understanding of stress and its effects on I.T. professionals of multinational companies along with identification of most appropriate stress management methods

to tackle this important problem. The results of this research study would also enrich the present literature on stress management.

3. SUGGESTIONS

Based on this research study, discussion with the respondents, opinion of experts and recommendations of earlier studies, following suggestions are made for stress management of I.T. professionals:

SUGGESTIONS FOR INDIVIDUAL I.T. PROFESSIONALS

1. Whenever any stressful situation arises, try to identify the main cause of stress. Come up with some organized plan to handle the stressful situation.
2. Seek guidance of your group leader, manager or a close friend.
3. Follow a balanced time schedule. Do not overcommit yourself. Deal tasks in priority, reduce meeting time (by setting time limits), plan an agenda and try your best sticking to it.
4. Delegate some of the unimportant responsibilities.
5. Say 'NO' politely but emphatically to additional or unimportant requests.
6. Set realistic goals. Avoid setting yourself for failure by setting unrealistic goals.
7. Reserve some time every day for relaxation.
8. Allot some time for music, any art or some other hobbies. This will not only relax you, but will also distract you from stressful thoughts.
9. Do not skip any meals. Eat healthy and well-balanced diet. Follow a healthy life style.
10. Avoid use of alcohol, hard coffee, black tea, excess of smoking or drugs for managing stress.
11. Get enough sleep. In stressful situation body needs extra sleep.
12. Try meditation or practice yoga regularly.
13. Take out of work interest and leisure activities. Keep yourself active in some community work.
14. If health is adversely affected, talk to a physician or a therapist for professional help.

SUGGESTIONS FOR I.T. COMPANIES

1. Develop a positive, virtuous and caring culture at workplace. Promote a friendly, supportive, approachable and appreciative climate.
2. Design jobs that provide meaning and stimulation for employees as well as opportunities to apply their skills.
3. Clearly define employees' roles and responsibilities. This avoids role conflicts and ambiguity.
4. Monitor each employee's workload. Ensure that it is in line with his capability and resources. A job stress audit at periodic basis will ascertain the job stress area which can be suitably mitigated.
5. Provide adequate equipment and resources to employees so that they can perform their roles effectively.
6. Arrange educational and training courses to upgrade the skills and techniques of employees. This will improve their performance and will effectively reduce their work-related stress.
7. Allow freedom to employees to implement their jobs in a more innovative manner to avoid monotonous nature of job.
8. Allow flexible working hours or alternate shifts.
9. Give employees meaningful and timely feedback about their performance.
10. Provide employees opportunities for participation in decisions which affect their jobs. Give opportunity for open dialogue.
11. Watch for any signs of dissatisfaction among employees. Do not allow any discrimination or harassment at workplace.
12. Arrange a proper reward system which would motivate the employees to do their jobs efficiently.
13. Provide opportunities for job enrichment and career development to employees. Reduce uncertainty about their career development as well as future prospects.
14. Provide the facility of relaxation room to reduce work tension.
15. Arrange workshops for meditation and yoga to reduce employee stress.
16. Subsidize for employees' gym membership under health promotion intervention program.

17. Encourage employees for participation in social activities, where they can actively work for the benefit of society.

18. Arrange celebration of company events to recognize employee and team accomplishments. Arrange celebration of festivals.

19. Provide sufficient holidays to employees doing stressful work. In this way they can spend a quality time along with their friends and the members of family in a good place without worrying about their job related tension.

20. Provide services of counselor and therapist to help the employees.

SUGGESTIONS FOR FUTURE RESEARCH WORK

This study indicates further scope of research into stress management of I.T. professionals. Future research could be focused on the following issues:

1. This research study has included only ten demographic and job-related variables. The research study could be further extended if more variables are included in the investigation for wider comprehension.
2. This study could not determine whether any relevant or significant relationship exists between demographic & job-related variables and stress of I.T. professionals in multinational companies located at Noida City. Another sample with respondents selected from various cities could be examined to reveal such relationship, if it exists.
3. A comparative study could be made on the stress management methods of I.T. professionals employed at different cities. This may identify the effect of location on the stress of I.T. professionals.
4. During the study, it was noticed that there exist several designated posts (more than 40) in the I.T. sector. A deeper study could reveal the variation of stress with designation. Suitable coping strategies for stress management of different designated posts could be identified.
5. There are limited studies in the area: “Influence of educational level on the coping methods used for stress management of I.T. professionals”. As such, this area could be probed and examined.

It is hoped that research efforts focused on above mentioned issues will reveal results, which would be useful in social context.

BIBLIOGRAPHY

BIBLIOGRAPHY

Acton, T. and Golden, W. (2002). Training: The Way to Retain Valuable IT Employees? *Informing Science*, 2(June 2002), 1-12. https://doi.org/10.28945/2434

Adams, J., Khan, H. T. A., Raeside, R. & White, D. (2007). *Research Methods for Graduate Business and Social Science Students*. New Delhi: Response Books.

Adetoro, N. (2014). Information Technology Availability, Use and Job Satisfaction of Academic Staff at Tai Solarin University of Education, Nigeria: A Correlative Study. *Journal of Balkan Libraries Union*, 2(1), 5-10. Retrieved July 5, 2018, from http://static.dergipark.org.tr/article-download/imported/5000034054/5000033905.pdf?

Afzal, M. (2019). HR Analytics: Challenges and Prospects of Indian IT Sector. *International Journal of Management, IT & Engineering*, 9(7), 404-415. Retrieved November 10, 2019, from http://ijmra.us/project%20doc/2019/IJMIE_JULY2019/IJMRA-15913.pdf

Agrawal, R. K. & Chahar, S. S. (2007). Examining role stress among technical students in India. *Social Psychology of Education,* 10(1), 77-91. https://doi.org/10.1007/s11218-006-9010-y

Ahuja, M. K. (2002). Women in the information technology profession: a literature review, synthesis and research agenda. *European Journal of Information Systems*, 11(1), 20-34. doi: 10.1057/palgrave/ejis/3000417

Akanji, B. (2015). Organizational Stress: Theoretical Reflections and Proposed Directions for Management Research and Practice. *Economic Insights – Trends and Challenges*, IV (LXVII)(4), 27-36. Retrieved February 10, 2018, from http://upg-bulletin-se.ro/archive/2015-4/3.Babatunde.pdf

Ali, J. M. & Thahira, N. (2017). A Study on Job Stress Among Private Hospitals Employees in Theni District. *International Journal of Research-Granthaalayah*, 5 (7SE), 48-55. doi: 10.5281/zenodo.840407

Ali, Z. & Bhaskar, S. B. (2016). Basic statistical tools in research and data analysis. *Indian Journal of Anesthesia*, 60 (9), 662-669.

Amith, D., Vinay, K. B. & Gowramma, Y. P. (2019). Effective Strategies for Stress Management in Work Life Balance among Women Teaching Profession (With special reference to Technical Teachers). *International Journal of Recent Technology and Engineering (IJRTE)*, 8(1S2), 177-182. Retrieved June 21, 2019, from http://ijrte.org/wp-content/uploads/papers/v8i1S2/A00390581S219.pdf

Anantharaman, R. N., Rajeswari, K. S., Ajitha, A. & Jayanty, K. (2018). Occupational Stress and Demographic Characteristics among Information Technology Professionals. *International Journal of Business and Management*, 13(12), 140-150. doi: 10.5539/ijbm.v13n12p140

Arasu, S. K., Dhivakar, R., Chakravarthi, J. C., Kaushik, M. & Kumar, M. A. (2019). Evaluation of professional stress in IT professionals. *International Journal of Community Medicine and Public Health*, 6(3), 1079-1082. http://dx.doi.org/10.18203/2394-6040.ijcmph20190589

Asadoorian, M. O. & Kantarelis, D. (2005). *Essentials of Inferential Statistics* (4th ed.). Lanham: University Press of America, Inc. (USA).

Attar, G. A. & Sweis, R. J. (2010). The Relationship between Information Technology Adoption and Job Satisfaction in Contracting Companies in Jordon. *Journal of Information Technology in Construction*, 15(2010), 44-63. Retrieved August 16, 2018, from http://www.itcon.org/papers/2010_3.content.07170.pdf

Aziz, M. (2003). Organizational role stress among Indian information technology professionals. *Asian-Pacific Newsletter on Occupational Health and Safety*, 2003, 10 (2), 31-39.

Aziz, M. (2004). Role Stress among women in the Indian information technology sector. *Women in Management Review*, 19(7), 356-363. https://doi.org/10.1108/09649420410563412

Aziz, M. (2007). Organizational Role Stress: An Investigation of Gender Differences. *Studia Psychologica*, 49(1), 53-61. Retrieved July 5, 2018, from http://studiapsychologica.com/uploads/AZIZ_01_vol.49_2007_pp.53-61.pdf

Aziz, M. (2013). Factors Causing Stress: A Study of Indian Call Centres. *Academic Journal of Interdisciplinary Studies*, 2(8), 247-252. doi: 10.5901/ajis.2013.v2n8p247

Babu, G. R., Mahapatra, T. & Detels, R. (2013). Job stress and hypertension in younger software professionals in India. *Indian Journal of Occupational & Environmental Medicine*, 17(3), 101-107. doi: 10.4103/0019-5278.130848

Babu, P. V. S. & Balkrishna, S. (2017). Impact of Stress on IT Professionals in Information Technology Industry – A Select Study. *International Journal of Human Resource & Industrial Research*, 4(2), 32-41. doi: 10.5281/zenodo.802742

Bajpai, R. & Srivastava, S. (2019). Achieving Business Symbiosis Using Stress Management Techniques. *International Journal of Management, IT & Engineering*, 9(6), 379-387. Retrieved August 20, 2019, from http://www.ijmra.us/project%20doc/2019/IJMIE_JUNE2019/IJMRA-15758.pdf

Balasubramanian, V. & Chokalingam, M. (2009). A study on stress and depression experienced by women IT professionals in Chennai, India. *Psychology Research and Behavior Management*, 2, 81-91. doi: 10.2147/prbm.s6049

Bandla, P. (2019). Occupational Stress among Information Technology Professionals in India: A Systematic Review of Literature. *International Journal of Scientific Research in Computer Science Applications & Management Studies*, 8(1), 43: 1-7. Retrieved February 9, 2019, from https://www.researchgate.net/publication/335619506

Banu, C. V., Santhosh, N. & Venkatakrishnan, Y. B. (2010). A Study on Stress Management with Special Reference to a Private Sector Unit. *International Journal of Management*, 1(1), 1-16. Retrieved January 2, 2018, from http://www.iaeme.com/MasterAdmin/Journal_uploads/IJM/VOLUME_1_ISSUE_1/IJM_01_01_001.pdf

Bark, K. N. & Carey, P. (2010). *DATA ANALYSIS with Microsoft EXCEL* (3rd ed.). Boston, MA: Brooks/Cole, Cengage Learning.

Bennet, R. (1994). *Organisational Behavior* (2nd ed.). London: Pitman Publishing.

Bhargava, D. & Trivedi, H. (2018). A Study of Causes of Stress and Stress Management among Youth. *IRA-International Journal of Management & Social Sciences*, 11(3), 108-117. http://dx.doi.org/10.21013/jmss.v11.n3.p1

Bhatt, S. & Pathak, P. (2010). Occupational Stress among IT/ITES Professionals in leading Metros in India: A Case Study. *Asia-Pacific Journal of Management Research and Innovation*, 6(3), 165-177. https://doi.org/10.1177/097324701000600315

Bhattacharya, A. & Ghosh, B. N. (2012). Women in Indian Information Technology (IT) Sector: a Sociological Analysis. *IOSR Journal of Humanities and Social Science (JHSS)*, 3(6), 45-52. Retrieved January 5, 2019, from http://iosrjournals.org/iosr-jhss/papers/Vol3-issue6/F0364552.pdf

Bhattacharya, S. & Basu, J. (2007). Distress, Wellness and Organizational Role Stress among IT Professionals: Role of Life Events and Coping Resources. *Journal of the Indian Academy of Applied Psychology*, 33(2), 169-178. Retrieved March 20, 2018, from http://medind.nic.in/jak/t07/i2/jakt07i2p169.pdf

Bhui, K., Dinos, S., Galant–Miecznikowska, M., Jongh, B. & Stansfeld, S. (2016). Perceptions of Work stress causes and effective interventions in employees working in public, private and non-governmental organisations: a qualitative study. *BJPsych Bulletin*, 40, 318-325. doi: 10.1192/pb.bp.115.050823

Bolhari, A., Rezaeian, A., Bolhari, J. & Bairamzadeh, S. (2012). Occupational Stress Level among Information Technology Professionals in Iran. *International Journal of Information and Electronics Engineering*, 2(5), 682-685. Retrieved June 16, 2018, from http://ijiee.org/papers/187-X128.pdf

Calisir, F., Gumussoy, C. A. & Iskin, I. (2011). Factors affecting intention to quit among IT Professionals in Turkey. *Personnel Review*, 40(4), 514-533. https://doi.org/10.1108/00483481111133363

Cannon, W. (1932). *Wisdom of the body*. New York, NY: Norton and Company.

Chakrabarti, S. & Guha, S. (2016). Differentials in Information Technology Professional Category and Turnover Propensity: A Study. *Global Business Review*, 17(3_Suppl), 90S-106S. https://doi.org/10.1177/0972150916631086

Chandra, M. S. Y. & Rashmi, M. J. (2019). Stress Management – An Overview. *International Journal of Management and Social Sciences (IJMSS)*, 8(2.5), 100-103. Retrieved December 20, 2019, from https://journals.foundationspeak.com/index.php/ijmss/article/view/846

Chandra, P. & Krishnan, V. R. (2009). Organizational Commitment of Information Technology Professionals: Role of Transformational Leadership and Work-Related Beliefs. *Tecnia Journal of Management Studies*, 4(1), 1-13. Retrieved January 20, 2019, from https://www.researchgate.net/publication/237481935

Chatterjee, D. (2016). *The Effect of Time Pressure on Creative Performance: Role of Intellect & Affect* (Master's Thesis). Michigan State University (USA).

Chiesa, A. & Serretti, A. (2009). Mindfulness-Based Stress Reduction for Stress Management in Healthy People: A Review and Meta-Analysis. *The Journal of Alternative and Complementary Medicine,* 15(5), 593-600. doi: 10.1089/acm.2008.0495

Chordia, K. (2015). Stress Management with Special Reference to IT Sector. *MIT-SOM PGRC KJIMP 1st International Conference (Special Issue), 2015* (pp. 167-171). Retrieved January 21, 2019, from http://khoj.mitsom.edu.in/index.php/KHOJ/article/viewFile/107670/75818

Cook, S. (2015). Job Burnout of Information Technology Workers. *International Journal of Business, Humanities and Technology*, 5(3), 1-12. Retrieved November 10, 2018, from http://pdfs.semanticscholar.org/0500/d3c6ea9f3a61203b5ae8499405f5698aa0c8.pdf

Cooper, C. L. & Marshal, J. (1976). Occupational Sources of Stress: A review of the literature relating to coronary heart disease and mental ill hearth. *Journal of Occupational Psychology*, 49, 11-28.

Cox, T. (1993). *Stress Research and Stress Management: Putting Theory To Work*, (HSE Contract Research Report No. 61/1993). Retrieved April 10, 2018, from http://www.hse.gov.uk/research/crr_pdf/1993/crr93061.pdf

Danziger, J. & Dunkle, D. (2005). *Information Technology and Worker Satisfaction*, (Irvine CA 92697-4650). Center for Research on Information Technology and Organizations, School of Social Sciences, University, of California. Retrieved March 10, 2018, from https://escholarship.org/uc/item/731586mv

Darshan M. S., Raman, R., Rao, T. S. S., Ram, D. & Annigeri, B. (2013). A study on professional stress, depression and alcohol use among Indian IT professionals. *Indian Journal of Psychiatry*, 55(1), 63-69. doi: 10.4103/0019-5545.105512

Day, A., Paquet, S., Scott, N. & Hambley, L. (2012). Perceived Information and Communication Technology (ICT) Demands on Employee Outcomes: The Moderating Effect of Organizational ICT Support. *Journal of Occupational Health Psychology,* 17(4), 473-491. doi: 10.1037/a0029837

Deivasigamani, J. & Shankar (2017). A Study on Problems Related to Work Life Balance among Women Employees in Information Technology Sector, Chennai. *Asian Journal of Applied Sciences*, 5(2), 308-314. doi: 10.24203/ajas.v5i2.4602

Deshpande, R. C. (2012). A healthy way to handle work place stress through Yoga, Meditation and Soothing Humor. *International Journal of Environmental Sciences*, 2(4), 2143-2154. doi: 10.6088/ijes.00202030097

Dixit, N. (2017). Impact of Occupational Stress on Women in Telecom Industry. *International Journal of Environmental Science Development & Monitoring*, 7(1), 1-6. Retrieved December 12, 2019, from http://www.ripublication.com/ijesdm17/ijesdmv7n1_01.pdf

Dwamena, M. A. (2012). *Stress and Its Effects on Employees Productivity – A Case Study Of Ghana Ports and Harbours Authority, Takoradi* (MBA thesis). Institute of Distance Learning, Kwame Nkrumah University of Science and Technology, Ghana. Retrieved February 8, 2018, from

http://ir.knust.edu.gh/xmlui/bitstream/handle/123456789/4835/Mark%20A.%20Dwamena.pdf?sequence=1

Edward, S. (2019). Employee Morale in Selected IT Companies in Chennai City. *International Journal of Recent Technology and Engineering (IJRTE)*, 8(4S3), 274-277. doi: 10.35940/ijrte.D1055.1284S319

Ehsan, M. & Ali, K. (2019). The Impact of Work Stress on Employee Productivity: Based in the Banking Sector of Faisalabad, Pakistan. *International Journal of Innovation and Economic Development*, 4(6), 32-50. doi: 10.18775/ijied.1849-7551-7020.2015.46.2003

Ekienabor, E. E. (2016). Impact of Job Stress on Employees' Productivity and Commitment. *International Journal for Research in Business, Management and Accounting*, 2(5), 124-133. Retrieved January 10, 2018, from https://gnpublication.org/index.php/bma/article/view/571/563

Ferine, K. F. & Nanda (2019). An Effect of Job Promotion on Employee Performance with Competence as an Intervening Variable in Electronic Facility & Division IT at K. Airport. *International Journal in Management and Social Sciences*, 7(7), 39-46. Retrieved October 15, 2019, from http://ijmr.net.in/pastijmss.php?p=VOLUME%207,ISSUE%207,JULY,2019

Fevre, M. L., Kolt, G. S. & Matheny, J. (2006). Eustress, distress and their interpretation in primary and secondary occupational stress management interventions: Which way first? *Journal of Managerial Psychology,* 21(6), 647-565. doi: 10.1108/02683940610684391

Freund, R. J. & Wilson, W. J. (2003). *Statistical Methods* (2nd ed.). Academic Press, Elsevier Science (USA).

Fujigaki, Y. & Mori, K. (1997). Longitudinal Study of Work Stress among Information System Professionals. *International Journal of Human-Computer Interaction,* 9(4), 369-381. https://doi.org/10.1207/s15327590ijhc0904_3

Gallivan, M. J. (2004). Examining IT adaptation to technological change: the influence of gender and personal attributes. *SIGMIS Newsletter*, 35(3), 28-49. https://doi.org/10.1145/1017114.1017119

George, C. M. (2014). *Job Stress among Bank Managers in Trichy, Tamilnadu* (Doctoral thesis). Bharathidasan University, Trichy, India. Retrieved January 6, 2019, from https://shodhganga.inflibnet.ac.in/handle/10603/207676

George, L. M. & Jayamohan, M. S. (2018). A Study on Factors Influencing Stress Among IT Professionals. *International Journal of Advance Engineering and Research*, 5(6), 397-402. Retrieved January 6, 2019, from http:// http://ijaerd.com/papers/finished_papers/A_Study_on_Factors_Influencing_Stress_Among_IT_Professionals-IJAERDV05I0637473.pdf

Gopika, G. (2014). A Quantitative Analysis on the Correlation between Industrial Experience and Stress Level Changes in Banking Industry. *International Journal of Advance Research in Science and Engineering (IJARSE)*, 3(12), 25-32. Retrieved February 10, 2018, from http://ijarse.com/images/fullpdf/1418639419_4_Research_paper.pdf

Govindaraju, N. (2018). Commuting Stress Impact on Employees turnover of Information Technology Small and medium sized enterprises, Chennai. *International Journal of Arts, Humanities and Management Studies*, 4(7), 69-76. Retrieved January12, 2019, from http://academia.edu/37964177

Guerrero, H. (2010). *Excel Data Analysis: Modeling and Simulation*. Berlin Heidelberg: Springer-Verlag.

Gunashree, B. & Manjunatha, V. (2019). Talent Management in Indian Software Companies – A Descriptive Study. *International Journal of Management and Social Sciences (IJMSS)*, 8(2.1), 136-140. Retrieved December 10, 2019, from https://journals.foundationspeak.com/index.php/ijmss/article/view/731

Gupta, V. (2002). *Statistical Analysis with Excel*. VJ Books Inc. (Canada).

Habibi, Z., Tourani, S., Sadeghi, H. & Abolghasemi, A. (2013). Effectiveness of Stress Management Skill Training on the Depression, Anxiety and Stress Levels in

Drug Addicts after Drug Withdrawal. *International Journal of High Risk Behaviors and Addiction*, 2(2), 82-86. doi: 10.5812/ijhrba.10695

Hargrove, M. B., Nelson, D. L. & Cooper, C. L. (2013). Generating eustress by challenging employees: Helping people savor their work. *Organizational Dynamics,* 42, 61-69. doi: 10.1016/j.orgdyn.2012.12.008

Haus, M., Adler, C., Hagl, M., Maragkos, M. & Duschek, S. (2016). Stress and stress management in European crisis managers, *International Journal of Emergency Services,* 5(1), 66-81. doi: 10.1108/IJES-12-2015-0026

Hendrix, W. et al. (1994). Organizational and Extra Organizational Factors Affecting Stress, Employee Well-being, and Absenteeism for Males and Females. *Journal of Business & Psychology*, 9(2), 103-128.

Hoboubi, N., Choobineh, A., Ghanvati, F. K., Keshavarzi, S. & Hosseini, A. A. (2016). The Impact of Job Stress and Job Satisfaction on Workforce Productivity in an Iranian Petrochemical Industry. *Safety and Health at Work*, 8, 67-71. https://doi.org/10.1016/j.shaw.2016.07.002

Hu, N., Poon, S., Zhong, J. & Wan, Y. (2004). Job Satisfaction of Information Technology Professionals. In *Proceedings of the Tenth Americas Conference on Information Systems (AMCIS 2004)*, New York. Retrieved January 10, 2019, from https://www.researchgate.net/publication/220591626

Huarng, A. S. (2001). Burnout Syndrome among Information System Professionals. *Information Systems Management*, 18(2), 15-20. https://doi.org/10.1201/1078/43195.18.2.20010301/31272.3

Imtiaz, S. & Ahmed, S. (2009). Impact of Stress on Employee Productivity, Performance and Turnover: An Important Managerial Issue. *International Review of Business Research Papers*, 5(4), 468-477. Retrieved January 2, 2018, from https://www.researchgate.net/publication/254406148

Indumathi, G. S. & Selven, R. T. (2014). Quality of Work-Life of the Employees in Selected Information Technology Companies with reference to Chennai. *International Journal of Scientific & Engineering Research,* 5(4), 1680-1693.

Retrieved November 16, 2018, from http://ijser.org/onlineResearchPaperViewer.aspx?QUALITY-OF-WORK-LIFE-OF-THE-EMPLOYEES-IN-SELECTED-INFORMATION.pdf

Jan, N. A., Raj, A. N. and Subramani, A. K. (2016). Employee's Job Satisfaction in Information Technology Organization in Chennai City – An Empirical Study. *Asian Journal of Research in Social Sciences and Humanities*, 6(4), 602-614. doi: 10.5958/2249-7315.2016.00082.4

Janani, T. S. (2016). A Study on Stress Management among Women Employees in the Information Technology Sector, Coimbatore City, Tamilnadu. *Namex International Journal of Management Research*, 6(1), 52-56.

Jani, J. M. (2016). Stress Management Practices in Indian Industry. *Journal of Research in Humanities and Social Science*, 4(11), 141-144. Retrieved March 2, 2018, from http://www.questjournals.org/jrhss/papers/vol4-issue11/T411141144.pdf

JASP Team (2019). JASP (version 0.9.2.0) [Computer Software]. Retrieved March 20, 2019, from https://jasp-stats.org

Jeevitha, M., Nandhinee, E. V. S., Sathish, R., Madhavan, R. & Mathukumar, S. (2017). A Questionnaire Based Survey Study on Stress Management among Top Level Professionals in Chennai City. *International Journal of Advanced Research in Biological Sciences*, 4(5), 58-65. http://dx.doi.org/10.22192/ijarbs.2017.04.05.006

Jelen, B. (2013). *Excel 2013 Charts and Graphs*. Indianapolis, Indiana: Que Publishing.

Jeyaseelan, S. & Bridget, C. (2015). A Study on Job satisfaction of IT Sector Employees in Chennai. *International Journal of Advance Research in Computer Science and Management Studies*, 3(6), 331-337. Retrieved April 6, 2018, from http://www.ijarcsms.com/docs/paper/volume3/issue6/V316-0095.pdf

Jomoah, I.M. (2014). Work-Related Health Disorders among Saudi Computer Users. *The Scientific World Journal*, 2014, 1-27. https://doi.org/10.1155/2014/723280

Joseph, D., Ng, K., Koh, C. & Ang, S. (2007). Turnover of Information Technology Professionals: A Narrative Review, Meta-Analytic Structural Equation Modeling, and Model Development. *MIS Quarterly*, 31(3), 547-577. doi: 10.2307/25148807

Joshy, C. O. (2014). *Analysis Of Stress And Stress Management Interventions Among Employees In The Information Technology (IT) Sector In India And Ireland* (MBA dissertation), I.T. Department, Dublin Business School, Ireland. Retrieved December 20, 2018, from http://esource.dbs.ie/bitstream/handle/10788/2065/mba_joshy_c_2014.pdf?sequence=4&isAllowed=y

Kala, K., Jan, N. A., Subramani, A. K. & Banureka, R. (2017). Upshot of Occupational Stress on Work Life Balance of Employees Working in Information Technology Organizations in Chennai. *Prabandhan: Indian Journal of Management*, 10(7), 50-59. doi: 10.17010/pijom/2017/v10i7/116494

Kanwar, Y. P. S., Singh, A. K. & Kodwani, A. D. (2009). Work-Life Balance and Burnout as Predictors of Job Satisfaction in the IT-ITES Industry. *Vision: The Journal of Business Perspective*, 13(2), 1-12. https://doi.org/10.1177/097226290901300201

Keeley, K. & Harcourt, M. (2001). Occupational Stress: A Study of the New Zealand and Reserve Bank. *Research and Practice in Human Resource Management*, 9(2), 109-118.

Khattak, M. A., Quarat-ul-ain & Iqbal, N. ((2013). Impact of Role Ambiguity on Job Satisfaction, Mediating Role of Job Stress. *International Journal of Academic Research in Accounting, Finance and Management Sciences,* 3(3), 28-39. doi: 10.6007/IJARAFMS/v3-i3/33

Korunka, C. & Vitouch, O. (2010). Effects of the implementation of information technology on employees' strain and job satisfaction: A context-dependent approach. *Work & Stress,* 34(4), 341-363. doi: 10.1080/02678379950019798

Kothari, C. R. (2004). *Research Methodology: Methods & Techniques* (2nd ed.). New Delhi: New Age International (P) Limited Publishers.

Kotteeswari, M. & Sharief, S. T. (2014). Job Stress and Its Impact on Employees' Performance: A Study With Reference To Employees Working In BPOS. *International Journal of Business and Administration Research Review*, 2(4), 18-25. Retrieved February 10, 2018, from http://ijbarr.com/downloads/2014/vol2-issue4/3.pdf

Kowal, J. & Roztocki, N. (2015). Job satisfaction of IT professionals in Poland: does business competence matter? *Journal of Business Economics and Management*, 16(5), 995-1012. https://doi.org/10.3846/16111699.2014.924988

Krishnamurthy, K. & Prabhakaran, S. (2015). Work Stress Among The Employees In Information Technology (IT) Sector In Chennai City. *Asia Pacific Journal of Research*, I(XXVII), 32-43. Retrieved December 15, 2018, from http://www.apjor.com/downloads/310720158.pdf

Krithika, A. & Rajam, K. (2018). Occupational Stress of Working Women – Review and Concepts (With Special Reference to Collegiate Teachers in Tiruchirappalli District, Tamilnadu, India). *International Journal of Research and Analytical Reviews (IJRAR)*, 5(4), 398-408. Retrieved January 20, 2019, from http://ijrar.com/upload_issue/ijrar_issue_20542210.pdf

Kumar, D. H. & Ponram (2019). A Study on Relationship between Employee Stress and Technology Advancement in Workplace with Special Reference to KLN Motors Agency, Chennai. *International Journal in Management and Social Sciences*, 7(7), 132-138. Retrieved November 11, 2019, from http://ijmr.net.in/pastijmss.php?p=VOLUME%207,ISSUE%207,JULY,2019

Kumar, M. S. & Siddique, A. M. (2011). A Study on Occupational Stress among IT Professionals Chennai. *International Journal of Enterprise Innovation Management Studies (IJEIMS)*, 2(2), 119-124. Retrieved December 20, 2018, from http://ijcns.com/pdf/2006.pdf

Kumar, R. (2011). *Research Methodology: a step-by-step guide for beginners* (3rd ed.). London: SAGE Publications Ltd.

Kumar, V. & Purushothama, M. K. (2018). A Study on Stress among Working Women in Service Sector with Special Reference to Ramanagara District, Bangolore. *Elk Asia Pacific Journal of Finance and Risk Management*, 9(3), 1-11. doi: 10.16962/EAPJFRM/issn. 2349-2325/2015

Kumari, G. & Pandey, K. M. (2011). Studies on Stress Management: A Case Study of Avatar Steel Industries, Chennai, India. *International Journal of Innovation Management and Technology*, 2(5), 360-367. doi: 10.7763/IJIMT.2011.V2.159

Kurian, N. K. (2020). Novel Coronavirus (COVID-19) in India. Preprints (www.preprints.org). doi: 10.20944/preprints202003.0436.v1

Lacity, M. C., Iyer, V. V. & Rudramuniyaiah, P. S. (2009). Turnover Intentions of Indian IS Professionals. In: Hirschheim, R., Heinzl, A. & Dibbern, J. (Eds.) *Information Systems Outsourcing* (pp. 393-421). Berlin, Heidelberg: Springer. https://doi.org/10.1007/978-3-540-88851-2_18

Landau, S. & Everitt, B. S. (2004). *A Handbook of Statistical Analysis using SPSS*, Chapman & Hall / CRC Press LLC (USA).

Lim, S. (2008). Job Satisfaction of Information Technology Workers in Academic Libraries. *Library & Information Science Research*, 30(2), 115-121. doi: 10.1016/j.lisr.2007.10.002

Majidi, T., Jafari, P. & Hosseini, M. A. (2012). The effect of stress management technique training on the ports and shipping organization employees' happiness. *Procedia – Social and Behavioral Sciences*, 47, 2162-2168. doi: 10.1016/j.sbspro.2012.06.966

Malarvizhi, V. R. and Jeyarathnam, M. (2016). Stress and Coping Techniques among Employees of Sugar Mills in Tamilnadu. *Amity Journal of Training and development,* 1(1), 58-76. Retrieved January 10, 2019, from http://amity.edu/UserFiles/admaa/246Paper%205.pdf

ManojKrishnan, C. G. (2011). *A Study On Stress & Stress Management Among The Executives In Kerala Based Organisations With Special Reference To IT Industry In Kerala (Technopark Campus)* (Doctoral thesis). Department of Management

Studies, Sri Chandrasekharendra Saraswathy Viswa Mahavidyalaya, Enathur, Kanchipuram, (India). Retrieved January 25, 2019, from https://shodhganga.inflibnet.ac.in/handle/10603/49321

Massoni, T., Ginani, N., Silva, W., Barros, Z. and Moura, G. (2019). Relating Voluntary Turnover with Job Characteristics, Satisfaction and Work Exhaustion – An Initial Study with Brazilian Developers. *IEEE/ACM 12th International Workshop on Cooperative and Human Aspects of Software Engineering (CHASE)* (pp. 85-88), Montreal, QC (Canada). doi: 10.1109/CHASE.2019.00028

Marczyk, G., DeMatteo, D., & Festinger, D. (2005). *Essentials of Research Design and Methodology*. New Jersey, NJ: John Wiley & Sons, Inc.

Mathur, D. & Bisawa, T. (2017). Organizational Behavior Approaches to Cope with Stress Management in Workplace. In *Proceedings of the 12th Biyani International Conference (BICON-17)* (pp. 131-136). Jaipur, India: Biyani Group of Colleges.

McMurtrey, M. E., Grover, V., Teng, J. C. T. and Lightner, N. J. (2002). Job Satisfaction of Information Technology Workers: The Impact of Career Orientation and Task Automation in a CASE Environment. *Journal of Management Information Systems,* 19(2), 273-302. https://doi.org/10.1080/0742/222.2002.11045719

Miller, W. G. (2019). OpenStat [Computer Software]. Retrieved March 20, 2019, from http://openstat.en.softonic.com

Misra, A. (2015). Globalization and Stress among Computer Professionals. *International Journal of Multidisciplinary Research and Development*, 2(2), 288-291. Retrieved January 15, 2019, from http://allsubjectjournal.com/vol2/issue2/PartF/pdf/48.1.pdf

Mohan, A. C. Balaji, K. D. & Kumar, T. K. (2013). An Empirical Study On Stress Levels Among Software Professionals In The City Of Chennai, India. *ABHINAV National Monthly Refereed Journal of Research in Commerce & Management*, 2(5), 33-40. Retrieved January 7, 2018, from https://www.researchgate.net/publication/305323686

Muthumani, S. & Saranya, R. (2014). Perceived Work Environment Of Women Employees In Information Technology Industry With Reference To Chennai City. *International Journal of Business and Administration Research Review*, I(3), 184-189. Retrieved December 15, 2018, from http://ijbarr.com/downloads/2014/vol1-issue3/28.pdf

Nagaraj, K. & Mahadevan, A. (2015). A Review on the Factors Leading to Employee Burnout in IT Sector. *International Journal of Accounting & Business Management*, 3(1), 334-343. doi: 10.24924/ijabm/2015.04/v3.iss1/334.343

Nair, V. R. (2016). A Study on Stress Management in I.T. Sector (With Special Reference to Infosys). *IJARIIE*, 1(4), 296-299. Retrieved January 5, 2019, from http:// http://ijariie.com/AdminUploadPdf/A_STUDY_ON_STRESS_MANAGEMENT_IN_I_T_SECTOR__WITH_SPECIAL_REFFERENCE_TO_INFOSYS__1361.pdf

Nakka, A. & Naidu, N. V. (2016). Stress Management among women employees in IT sector industry: A study in Visakhapatnam. *International Journal of Applied Research*, 2(1), 686-689. Retrieved January 5, 2019, from http://www.allresearchjournal.com/archives/2016/vol2issue1/PartK/2-1-32.pdf

Nanjamari, K. (2013). Job Satisfaction amongst Information Technology (IT), Employees in Bangalore City–A Sociological Approach. *IOSR. Journal of Humanities and Social Science (IOSR-JHSS)*, 6(6), 35-40. Retrieved January 6, 2019, from http://iosrjournals.org/iosr-jhss/papers/Vol6-issue6/G0663540.pdf?id=5952

Narayan, V. V. & Srivastav, A. K. (2019). Influence on Empowerment and Job Satisfaction on Employee's Affective Commitment to the Organization. *International Journal in Commerce, IT and Social Sciences*, 6(4), 24-32. Retrieved October 10, 2019, from http://ijmr.net.in/pastijciss.php?p=VOLUME%206,ISSUE%204,April,2019

Narban, J. S., Narban, B. P. S. & Singh, J. (2016). A Conceptual Study on Occupational Stress (Job Stress/Work Stress) and its Impacts. *International Journal*

of Advance Research and Innovative Ideas in Education (IJARIIE), 2(1), 47-56. DUI: 16.0415/IJARIIE-1544

Narendra, P., Sharma, S. & Fernandes, L. (2018). Work Life Balance of IT Professional. *International Journal of Latest Engineering and Management Research (IJLEMR)*, 3(3), 7-17. Retrieved January 12, 2019, from http://www.ijlemr.com/papers/volume3-issue3/14-IJLEMR-33099.pdf

Nayak, R. D. (2014). Anxiety and Mental Health of Software Professionals and Mechanical Professionals. *International Journal of Humanities and Social Science Invention*, 3(2), 52-56. Retrieved December 12, 2018, from http://ijhssi.org/papers/v3(2)/Version-2/G0322052056.pdf

Neal & Susan van Eck (2014). MicrOSiris [Computer Software]. Retrieved March 20, 2019, from https://www.microsiris.com

Nirmala, R. (2015). A Study on Stress Management Among The Employees Of Banks. *International Journal of Science, Technology & Management*, 4(1), 11-14. Retrieved February 10, 2018, from http://ijstm.com/images/short_pdf/162a.pdf

Nivethitha, P. & Rita, S. (2016). A Study on Stress Management among Student Community. *International Journal of Engineering Sciences & Research Technology*, 5 (11), 480-483. doi: 10.5281/zenodo.168432

Okeke, M. N., Ojan, E. & Oboreh, J. C. (2016). Effects of Stress On Employee Productivity. *International Journal of Accounting Research (IJAR)*, 2(11), 38-49. Retrieved February 11, 2018, from https://www.arabianjbmr.com/pdfs/AC_VOL_2_11/2.pdf

O'Sullivan, G. (2010). The Relationship Between Hope, Eustress, Self-Efficacy, and Life Satisfaction Among Undergraduates. *Social Indicators Research,* 101(1), 155-172. doi: 10.1007/s11205-010-9662-z

Padma, V., Anand, N. N., Gurukul, S. M., Javid, S. M., Prasad, A. & Arun, S. (2015). Health problems and stress in Information Technology and Business Process Outsourcing employees. *Journal of Pharmacy & BioAllied Sciences*, 7 (Suppl 1), S9-S13. doi: 10.4103/0975-7406.155764

Pal, K., Gairola, P., Tyagi, A & Srivastava, R. (2018). Level of stress and work adjustment among medical professionals. *Santosh University Journal of Health Sciences*, 4(2), 100-104. doi: 10.18231/2455-1732.2018.0023

Patel, R. & Parmentier, M. J. C. (2005). The Persistence of Traditional Gender Roles in the Information Technology Sector: A Study of Female Engineers in India. *Information Technologies and International Development,* 2(3), 29-46. Retrieved January 10, 2019, from http://itidjournal.org/index.php/itid/article/view/203/73

Paul, A., Krishnan, T. N. & Scullion, H. (2018). *Career Progression of Women in the Indian IT Sector: Matching Talent Management Practices and Employee Perspectives*. Kozhikode, Kerala, India: Indian Institute of Management. Retrieved January 10, 2019, from http://iimk.ac.in/websiteadmin/FacultyPublications/Working%20Papers/2809274%20May.pdf?t=09

Piyasena, C. C. & Kottawatta, H. (2016). Effect of Organizational Role Stress on Job Satisfaction of Commercial Banking Executives in Sri Lanka. *Imperial Journal of Interdisciplinary Research (IJIR).* 2(12), 905-913. Retrieved January 12, 2019, from http://dr.lib.sjp.ac.lk/handle/123456789/5531

Piyasena, C. C. & Kottawatta, H. (2018). Organizational Role Stress on Job Satisfaction of Non-Executives in Commercial Banks, Sri Lanka. *Human Resource Management Journal,* 6(1), 47-59. doi: 10.31357/hrmj.v6i1.3584.g2840

Powell, C. & Chang, A. M. (2016). *Women in Tech as a Driver for Growth in Emerging Economics* (Discussion Paper, July 2016). New York, NY 10065: The Council on Foreign Relations. Retrieved February 20, 2019, from http://cdn.cfr.org/sites/default/files/pdf/2016/06/Discussion_Paper_Powell_Chang_Women_ICT_OR.pdf

Pradeep, M. P., & Ramnatha, H. R. (2019). A Study on Stress Causing Factors among Information Technology Employees Affecting Organization Productivity. *International Journal of Management and Social Sciences (IJMSS)*, 8(2.5), 69-72. Retrieved November 17, 2019, from https://journals.foundationspeak.com/index.php/ijmss/article/view/841

Prasad, K. D. V., Vaidya, R. and Kumar, V. A. (2016). Study On The Causes Of Stress Among The Employees In IT Sector And Its Effect On The Employee Performance At The Workplace With Special Reference To International Agricultural Research Institute, Hyderabad: A Comparative Analysis. *International Journal of Management (IJM)*, 7(4), 76-98. Retrieved January 15, 2019, from https://www.researchgate.net/publication/308886650

Premkumar, K., Ganapathi, P. & Sumathipremkumar (2018). A Study on Stress Management and Coping Strategies With Reference To IT Companies in Tamilnadu. *International Journal of Current Engineering and Scientific Research (IJCESR)*, 5(1), 61-69. Retrieved January 15, 2019, from http://troindia.in/journal/ijcesr/vol5iss1part5/61-69.pdf

Quick, J. C. & Quick, J. D. (1984). *Organizational stress and preventive management*. New York, NY: McGraw-Hill.

Raghavan, V. V., Sakaguchi, T. & Mahaney, R. C. (2008). An Empirical Investigation of Stress Factors in Information Technology Professionals. *Information Resources Management Journal*, 21(2), 38-62. doi: 10.4018/irmj.2008040103

Rajeswari, K. S. (2003). Development of an Instrument to Measure Stress Among Software Professionals: Factor Analytic Study. In *SIGMIS-CPR'03: Proceedings of the 2003 SIGMIS Conference on Computer Personnel Research: Freedom in Philadelphia - Leveraging Differences and Diversity in the IT Workforce* (pp. 34-43). Philadelphia, Pennsylvania, USA: ACM. https://doi.org/10.1145/761849.761855

Rajeswari, K. S. & Anantharaman, R. N. (2005). Role of Human-Computer Interaction factors as moderators of Occupational Stress and Work Exhaustion. *International Journal of Human-Computer Interaction,* 19(1), 137-154. https://doi.org/10.1207/s15327590ijhc1901_9

Rao, J. V. & Chandraiah, K. (2012). Occupational stress, mental health and coping among information technology professionals. *Indian Journal of Occupational & Environmental Medicine*, 16(1), 22-26. doi: 10.4103/0019-5278.99686

Rao, T. V. A. & Pradhan, N. (2007). Perceived Work Deadlines: The Influence of Personality among Software Personnel. *Journal of the Indian Academy of Applied Psychology*, 33(2), 183-188. Retrieved March 20, 2018, from http://medind.nic.in/jak/t07/i2/jakt07i2p183.pdf

Rashidi, Z. & Jalbani, A. A. (2009). Job Stress among Software Professionals in Pakistan: A Factor Analytic Study. *Journal of Independent Studies and Research (MSSE)*, 7(1), 1-17. Retrieved January 20, 2019, from https://www.researchgate.net/publication/330350055

Rathore, S. & Ahuja, V. (2015). A Study of Role Stress among the IT Professionals in India: Examining the Impact of Demographic Factors. *Internationals Journal of Human Capital and Information Technology Professionals*, 6(2), 1-13. doi: 10.4018/IJHCITP.2015040101

Ravikumar, T. & Sriram, M. (2019). Role of Knowledge Management Strategies on Employees Performance in Selected Information Technology Companies in Bangalore. *International Journal of Management and Social Sciences (IJMSS)*, 8(2.1), 59-62. Retrieved December 10, 2019, from https://journals.foundationspeak.com/index.php/ijmss/article/view/714

Rawal, A. & Mhatre, S. (2018). A Study on Work Stress and Its Impacts on Employee's Productivity With Respect To Teacher's (Self Financing). *IOSR Journal of Business and Management (IOSR-JBM)*, 15-23. Retrieved January 20, 2019, from http://www.iosrjournals.org/iosr-jbm/papers/Conf.ADMIFMS1808-2018/Volume-1/3.%2015-23.pdf

Robbins, S. P. (2003). *Organizational Behavior* (10th ed.). Delhi: Pearson Education.

Roepke, R., Agarwal, R. & Ferrat, T. W. (2000). Aligning the IT Human Resource with Business Vision: The Leading Initiative at 3M. *MIS Quarterly,* 24(2), 327-353. Retrieved October 15, 2018, from http://misq.org/aligning-the-it-human-resource-with-business-vision-the-leadership-initiative-at-3m.html

Sabbarwal, S., Singh, M. M. & Amiri, M. (2017). Occupational Stress on Employees In Information Technology Organizations. *Asian Journal of Social*

Sciences & Humanities, 6 (3), 103-109. Retrieved January 10, 2019, from https://www.researchgate.net/publication/320126367

Sagunthala, C. & Karthikeyan, R. (2016). A Study on Occupational Stress Level of Employees in Textile Shops with Special Reference to Coimbatore District. *International Journal of Advance Research in Computer Science and Management Studies*, 4(2), 67-73. Retrieved March 2, 2018, from http://www.ijarcsms.com/docs/paper/volume4/issue2/V4I2-0018.pdf

Sahoo, S. R. (2016). Management of Stress at Workplace. *Global Journal of Management and Business Research: Administration and Management,* 16(6), 1-2. Retrieved January 15, 2019, from http://scholar.google.co.in/scholar?start=10&q=management+of+stress+at+workplace&hl=en&as_sdt=0,5&as_vis=1

Sahukar, M., Pailoor, S. & Pradhan, B. (2014). Job satisfaction, job stress and psychosomatic health problems in software professionals in India. *Indian Journal of Occupational & Environmental Medicine*, 18(3), 153-161. doi: 10.4103/0019-5278.146917

Sailaja, A., Reddy, T. N. & Kumar, D. P. (2013). Factors Associated with Job Stress of Software Professionals in Banglore City. *IOSR Journal of Business and Management (IOSR-JBM)*, 14(6), 15-20. Retrieved January 7, 2018, from http://iosrjournals.org/iosr-jbm/papers/Vol14-issue6/C01461520.pdf?id=7380

Salain, S. L. F. (2017). *Stress Management Training, Gender, Level of Stress and Coping in Police Officers* (Doctoral dissertation). Retrieved January 20, 2019, from http://scholarworks.waldenu.edu/cgi/viewcontent.cgi?article=4936&context=dissertations

Saleem, M., Priya, S., Govindrajan, R., Balaji, E., Diwahar, A. J., ShylendraBabu, P. G. & Dhivypriya, S. (2015). A cross sectional study on work related musculoskeletal disorders among software professionals. *International Journal of Community Medicine and Public Health*, 2(4), 367-372. http://dx.doi.org/10.18203/2394-6040.ijcmph20150941

Salloom, A. M. (2019). Business Organizations and Challenges of the Age. *International Journal of Research in Social Sciences and Humanities (IJRSSH)*, 9(2), 418-435. Retrieved from http://ijrssh.com/images/short_pdf/1562587632_51_Dr_Ali_Mohammed_Salloom.pdf

Sathyavathi, V. & Angayarkanni, R. (2019). Impact of Workplace Wellness in Influencing Job Satisfaction of IT Employees in Chennai. *International Journal of Recent Technology and Engineering (IJRTE)*, 8(4S3), 53-56. doi: 10.35940/ijrte.D1043.1284S319

Satpathy, I. & Mitra, B. (2015). Stress Management Policies adopted by the IT companies – An Overview. *International Interdisciplinary Research Journal*, V(Special Issue), 139-148. Retrieved November 11, 2018, from https://www.researchgate.net/publication/282331582

Sauter, S. L. & Murphy, L. R. (1995). *Organizational risk factors for job stress*. Washington, DC: American Psychological Association.

Selye, H. (1956). *The Stress of Life*. London: Longmans, Green and Co.

Selye, H. (1983). The Concept of Stress: Past, present and future. In C. L. Cooper (Ed.), *Stress research: Issues for the eighties.* New York: John Wiley.

Sethi, V., King, R. C. & Quick, J. C. (2004). What Causes Stress In Information System Professionals? *Communication of the ACM*, 47(3), 99-102. doi: 10.1145/971617.971623

Setor, T., Joseph, D. & Srivastava, S. C. (2015). Professional Obsolescence in IT: The Relationships between the Threat of Professional Obsolescence, Coping and Psychological Strain. In *SIGMIS-CPR'15: Proceedings of the 2015 ACM SIGMIS Conference on Computers and People Research* (pp. 117-122). Newport Beach, New York, NY, USA: ACM. https://doi.org/10.1145/2751957.2751962

Shalini, S. & Brindha, C. (2018). A study on job stress of IT women employees in selected IT Companies: With special reference to Coimbatore City. *International Journal of Applied Research*, 4(1), 342-348. Retrieved January 10, 2019, from

http://www.allresearchjournal.com/archives/2018/vol4issue1/PartF/3-12-102-239.pdf

Sharan, D., Parijat, P., Sasidharan, A. P., Ranganathan, R., Mohandoss, M. & Jose, J. (2011). Workstyle risk factors for work related musculoskeletal symptoms among computer professionals in India. *Journal of Occupational Rehabilitation*, 21(4), 520-525. doi: 10.1007/s10926-011-9294-4

Sharma, A. K., Khera, S. & Khandekar, J. (2006). Computer related health problems among information technology professionals in Delhi. *Indian Journal of Community Medicine*, 31(1), 36-38. doi: 10.4103/0970-0218.54936

Sharma, M. & Rush, S. E. (2014). Mindfulness-Based Stress Reduction as a Stress Management Intervention for Healthy Individuals: A Systematic Review. *Journal of Evidence-Based Complementary and Alternative Medicine,* 19(4), 271-286. doi: 10.1177/2156587214543143

Sherin, J., Shalini, S. & Archana, M. (2019). Importance of Stress Management. *International Journal of Management and Social Sciences (IJMSS)*, 8(2.3), 23-25. Retrieved December 11, 2019, from https://journals.foundationspeak.com/index.php/ijmss/article/view/805

Shih, S., Jiang, J. J., Klein, G. & Wang, E. (2013). Job burnout of the information technology worker: Work exhaustion, depersonalization, and personal accomplishment. *Information & Management*, 50(7), 582-589. https://doi.org/10.1016/j.im.2013.08.003

Shinde, S. R. (Ed.) (2015). *The Peer Reviewed Proceedings of UGC Sponsored One Day Interdisciplinary National Conference on Research Methodology*, 28 November 2015. Nanded, Maharashtra: Shivani Publication.

Shobha, K. & Kalpana, R. P. (2016). A Study on Determinants that Cause the Occupational Stress among the Information Technology Employees in Chennai City. *Sumedha Journal of Management*, 5(2), 147-156. Retrieved December 8, 2018, from http://www.cmrcetmba.in/SUMEDHA_ADMIN/journal_attachment/1548170233_550397821.pdf

Shrivastava, S. R. & Bobhate, P. S. (2012). Computer related health problems among software professionals in Mumbai: A cross-sectional study. *International Journal of Heath & Allied Sciences*, 1(2), 74-78. doi: 10.4103/2278-344X.101684

Shuster, K. S. (2014). *A Couple's Perspective on Policing: Sources of Stress & Strategies for Stress Management* (Master's thesis), University of Manitoba. Retrieved March 10, 2019, from http://mspace.lib.umanitoba.ca/bitsream/handle/1993/23910/Shuster_Kayla.pdf?sequence=1

Singh, Y. K. (2006). *Fundamental of Research Methodology and Statistics*. New Delhi: New Age International (P) Limited Publishers.

Soegoto, E. S. & Narimawati, U. (2017). The Contribution of Stress Management and Good Employee Performance Towards the Success of a Company. *The Open Psychology Journal*, 10, 154-160. doi: 10.2174/1874350101710010154

Srinivas, P. S., Kumari, S., Akhilesh, K. B. & Nagendra, H. R. (2015). Is job anxiety and perceived stress modifiable in Indian IT Professionals? An experimental study using Yoga-based intervention. *Journal of Health Research and Reviews*, 2(3), 81-85. doi: 10.4103/2394-2010.168370

Stranks, J. (2005). *Stress at Work: Management and Prevention*. Burlington: Elsevier Butterworth Heinemann.

Subikshaa, P. & Jasmin, K. S. S. (2018). Stress Faced by Employees in Information Technology Sector in India. *International Journal of Pure and Applied Mathematics*, 119(17), 201-206. Retrieved January 15, 2019, from http://acadpubl.eu/hub/2018-119-17/1/19.pdf

Subramanian, S. & Vinothkumar, M. (2009). Hardiness Personality, Self-Esteem and Occupational Stress among IT Professionals. *Journal of the Indian Academy of Applied Psychology*, 35(Special Issue), 48-56. Retrieved March 20, 2018, from http://medind.nic.in/jak/t09/s1/jakt09s1p48.pdf

Sudarshini, S., Anantha Raman, V. V. & Mathew, A. M. (2018). Computer Professionals and their Health issues and Managements. *International Journal of Public health Research*, 5(3), 117-122. doi: 10.17511/ijphr.2018.i3.03

Sujatha, N. & Raju, D. V. (2013). Stress Management of Employees Working in MNC's of Chennai City. *International Journal of Exclusive Management Research (IJEMR)*, 3(3), 1-5. Retrieved February 8, 2018, from http://ijemr.in/wp-content/uploads/2018/01/Stress-Management-of-Employees-Workingin-MNCs-of-Chennai-city.pdf

Sumangala, C. (2009). *A Study of Stress And Its Management In Information Technology Industry* (Doctoral thesis). Department of Studies in Commerce, Manasagangotri, University of Mysore, Mysore-570006, India. Retrieved January 10, 2019, from https://shodhganga.inflibnet.ac.in/handle/10603/73582

Talwar, R., Kapoor, R., Puri, K., Bansal, K. & Singh, S. (2009). A Study of Visual and Musculoskeletal Health Disorders among Computer Professionals in NCR Delhi. *Indian Journal of Community Medicine*, 34(4), 326-328. doi: 10.4103/0970-0218.58392

Tsai, H., Compeau, D. & Haggerty, N. (2007). Of races to run and battles to be won: Technical skill updating, stress, and coping of IT professionals. *Human Resource Management*, 46(3), 395-409. https://doi.org/10.1002/hrm.20170

Tharini, R. S., Ramnathan, M. & Ganesh, R. (2014). Research Reviews on Stress among working women in IT field. *International Journal of Scientific and Research Publications*, 4(9), 1-3. Retrieved December 15, 2018, from http://ijsrp.org/research-paper-0914/ijsrp-p3303.pdf

Thirumaleswari, T. (2013). A Study on Job Stress among Employees of Software Industries In Chennai. *International Research Journal of Business and Management (IRJBM)*, III, 1-6. Retrieved January 10, 2018, from http://irjbm.org/irjbm2013/Sep/Papernew1.pdf

Thong, J. Y. L. and Yap, C. (2000). Information systems and occupational stress: a theoretical framework. *Omega, The International Journal of Management Science*, 28, 681-692. https://doi.org/10.1016/S0305-0483(00)00020-7

Uma Devi, T. (2011). A Study on Stress Management and Coping Strategies With Reference to IT Companies. *Journal of Information Technology and Economic Development*, 2(2), 30-48. Retrieved January 15, 2019, from http://search.proquest.com/openview/c0e37e549aaedf5d98e81611eb95e76d/1?pq-origsite=gscholar&cbl=2032033

Varshney, M., Patel, J. T., Raizada, N. & Sarin, S. K. (2020). Initial psychological impact of COVID-19 and its correlates in Indian community: An online (FEEL-COVID) survey. *PLoS ONE,* 15(5), 1-6. https://doi.org/10.1371/journal.pone.0233874

Vidhya, C. S. (2019). An Evaluation of Stress among Nurses in Kanyakumari District, Tamilnadu, India. *International Journal of Management, IT and Engineering*, 9(7), 142-156. Retrieved December 11, 2019, from http://ijmra.us/project%20doc/2019/IJMIE_JULY2019/IJMRA-15807.pdf

Vidhyakala, K., Jennet, R. & Sheela, J. (2019). Women Leadership in IT Sector with Special Reference to Coimbatore City. *International Journal of Management, IT and Engineering*, 9(1), 244-251. Retrieved July 15, 2019, from http://ijmra.us/project%20doc/2019/IJMIE_JANUARY2019/IJMRA-15020.pdf

Vijayan, M. (2017). Impact of Job Stress on Employees' Job Performance in Aavin, Coimbatore. *Journal of Organisation & Human Behaviour*, 6(3), 21-29. Retrieved January 10, 2019, from https://www.researchgate.net/publication/325734383

Walkenbach, J. (2003). *Excel Charts*. Indianapolis, Indiana: Wiley Publication, Inc.

Wallgren, L. G. (2011). *Motivation requested – Work motivation and the work environment of IT consultants* (Doctoral dissertation). Department of Psychology, University of Gothenburg, Sweden. Retrieved January 20, 2019, from https://www.researchgate.net/publication/277242041

Woszczynski, A. B., Dembla, P. & Zafar, H. (2016). Gender-based differences in culture in the Indian IT Workplace. *International Journal of Information Management: The Journal for Information Professionals,* 36(4), 507-519. Retrieved January 10, 2019, from http://sciencedirect.com/journal/international-journal-of-information-management/vol/36/issue/4

Wynekoop, J. & Walz, D. (2000). Investigating traits of top performing software developers. *Information Technology & People,* 13(3), 186-195. https://doi.org/10.1108/09593840010377626

Yadav, D. & Yadav, R. (2020). Review of Novel Coronavirus Disease (COVID-19) in India on Available Database. *European Journal of Medicine and Investigation (EJMI),* 4(3), 284-288. doi: 10.14744/ejmi.2020.51867

Zaiotz, C. (2019). Real Statistics Using Excel [Computer Software]. Retrieved March 13, 2019, from http://www.real-statistics.com

PUBLISHED PAPERS

An Empirical Analysis of Factors associated with Stress among Professionals of Multinational I.T. Companies of Noida City

Ms. Richa Sharma

Abstract

Financial practices play a vital role in successful management of every organisation no matter whether it's a corporate or non- corporate sector. Marriage along with social partnership is also the symbol of economic partnership which also binds a couple financially. This particular study deals with all those features which facilitate smooth functioning of domestic economy of a couple through their financial management. A sample of 238 married respondents was taken consisting of both males & females counterparts. The results of the study showed that males still play an important & dominant role in financial decisions of their home. Suggestions were given to improve the participation level of female spouse in family financial decision so that it could improve the quality of their marital life.

Keywords: Financial practices, Household financial management ,marriage, domestic economy, marital life .

Research Scholar
Department of Commerce & Management,
University of Kota, Kota

Abstract: Professionals of Multinational I.T. companies are always under constant stress due to several factors, which develop psychological and health related problems among them. This stress causes damped initiative, reduced commitment and motivation, which adversely affect their performance. This research study uses a new and innovative approach to investigate the various factors that contribute to stress among professionals of Multinational companies of Noida City. The study measures the levels of stress and correlation among various stressors. A linear multiple regression model, has been presented to express the combined effect of various stressors on overall stress level. The results of investigation would contribute significantly in better understanding of stress among these professionals. It would also enrich the present literature on stress related problems.

Index Terms: Stress, Stress among I.T. professionals, Correlation among stressors, Multiple Regression Model of Stress

1. INTODUCTION

Professionals of Multinational I.T. companies are always under constant stress due to several factors. They must deliver target-oriented and cost-effective services. Strict deadlines, long working hours, job insecurity, work-family imbalance, unachieved ambitions etc. are some of the several acute stress builders, which develop psychological and health related problems among them. This stress causes damped initiative, reduced commitment and motivation, which adversely affect their performance.

I.T. professionals with their high skill and expertise are extremely valuable to I.T. companies. As such they always look for better and innovative approach to attract, motivate and retain them. Stress among I.T. professionals has been a matter of attention and great worry to individuals as well as I.T. organizations.

This research study uses a new and innovative approach to investigate the various factors that contribute to stress among professionals of Multinational companies of Noida City. The study measures the levels of stress and correlation among various stressors. A linear multiple regression model, has been presented to express the combined effect of various stressors on overall stress level. The results of investigation would contribute significantly in better understanding of stress among these professionals. It would also enrich the present literature on stress related problems.

2. REVIEW OF LITERATURE

Hans Selye [1] introduced for the first time the term "Stress" into life science. It was derived from a Latin word "Stringere" meaning: 'to be drawn tight'. Various terms used synonymously with stress are frustration, anxiety and pressure. Factors which lead to stress are called "stressors".

According to Robbins, S. P. [2] - "Stress is a dynamic condition in which an individual is confronted with an opportunity, constraint, or demand related to what he or she desires and for which the outcome is perceived to be both uncertain and important". Bennet [3] defined stress "as a wide collection of physical and psychological symptoms that result from difficulties experienced by an individual while attempting to adapt to an environment".

Stress at workplace emerged as a big problem for organizations. National Institute fo Occupational Safety and Health found that about 80% of workers are affected by job stress. Keeley and Harcourt [4] showed that "Stress is caused by heavy work demands in the job itself". Sauter and Murphy [5] defined work stress as "the harmful physical and emotional responses that occur when requirements of the job do not match the capabilities, resources or need of the worker". Generally, high demands of job and little control of the situation leads to stress.

The work stress is found in all professional jobs [6]. However, IT jobs are known for their very high stress level. These jobs are mostly contractual, highly target driven and result oriented. Globalization, cut throat competition, long working hours, fear of obsolescence, threat to job security are some of the major reasons of high stress in IT professionals.

Several investigations have shown that job stress (occupation stress) leads to many negative consequences. This may adversely affect employee health and cause anxiety, tension, absenteeism, reduce motivation and productivity, and desire to leave the job. All these reasons adversely affect overall performance and productivity of the organization. As such, it is essential for an organization to follow such policies and programs which effectively manage job stress at workplace.

Kumar, M. Siva et al. (2011) [7] conducted a research study to measure occupational stress experienced by IT professionals in various companies located at Chennai, India. The results found that professionals of middle ranks experienced more stress than professionals of lower and higher ranks. The study suggested certain interventions for improvement of organizational resources in IT professionals.

Manojkrishnan, C. G. (2011) [8] conducted an empirical study of stress and stress management for executives employed in Kerala based IT industries located at Technopark. The study found that many executives experienced stress of moderate level. For senior executives, long working hours, work related travelling, lack of clarity, lack of proper communication, excessive work, low pay, tough competition, feeling of stagnation and job insecurity were the major stressors. For executives of middle level, non-transparency of performance evaluation, excessive workload, cultural maladjustment, lot of travelling and office politics were major stressors. For executives of junior level, night shifts, boring job routines, excessive workload, irate customers and office politics were the main factors causing stress. Findings suggest that effective stress management can produce improvement in wellbeing of these professionals, which in turn will improve their productivity.

Bolhari, A. et al. (2012) [9] conducted a study to measure occupational stress level and its relationship with gender, age, work experience as well as stress management programs among IT professionals in Iran. Results show high occupational stress levels in these IT professionals. As such, the study pointed out the necessity of suitable stress management strategies and programs for such professionals.

Babu, G. R. et al. (2013) [10] investigated job stress and associated hypertension in younger IT professionals of India. Findings showed that dimensions of work place autonomy and work place environment are associated with hypertension.

Joshy, C. O. et al. (2014) [11] conducted an investigation to analyze main causes of stress and its consequences on IT professionals in Ireland and India. The investigation also examined the coping strategies followed by these professionals. Findings indicated that the main causes of stress were (a) job related factors (b) organizational structure & climate (c) role of professional in organization. It was observed that many of these professionals did not have access to stress management interventions.

Nagaraj, K. et al. (2015) [12] presented a review of factors leading to employee burnout in IT industry. The study identified work overload, zig-zag work allotment, age, role ambiguity as well as role conflict as the major factors leading to burnout of these professionals.

Janani, T. S. (2016) [13] explored the stress level and its influence on women workers in IT companies located at Coimbatore City. The study observed that with the increase of stress level, impact level also increases. However, employees' productivity level is not affected. Physical and psychological consequences like anxiety, depression, low self-esteem related problems affect married women more than unmarried women employees. The study suggested coping strategies such as positive attitude, medications, proper time management, sound sleep and healthy food intake for married women. Unmarried women employees are advised to follow basic relaxing techniques and should avoid known stressors.

Kala, K. et al. (2017) [14] showed after their research analysis that occupational stress greatly

affects work-life balance of IT professionals. They concluded that minimization of occupational stress is essential for improving IT employees' work-life balance.

Premkumar, K. et al. (2018) [15] explored the stress level among employees in IT companies located in and around Tamilnadu State. The study observed that stress can make person constructive and productive if it is timely identified and managed properly. The study advises stressed employee to keep himself busy and harness his anger & energy for some positive achievement. Some of the suitable coping strategies suggested include stress management programs, life style modifications, planned physical activities in job design, identifying triggers and stressors, spiritual programs, supportive organization culture, and stress counseling programs.

Bandla, P. (2019) [16] submitted a comprehensive review of literature on occupational stress among IT professionals in India. The analysis revealed that IT professionals are characterized by long working hours, tight schedules, high competition, continuous viewing of Visual Display Units etc., that increase occupational stress and put their health in danger. The review informs about the factors causing stressful situations at work place. It highlights the health related problems along with coping strategies followed by IT professionals.

From the detailed review of literature following information is obtained:

1. Professionals working in Information Technology Companies experience high level of stress.
2. Stress of IT professionals is a matter of huge concern to IT organizations as well as individual employees because it adversely affects employees' health as well as performance.
3. A few research investigations have been made on employee stress, its effect and coping methods. However, these attempts have been in pieces. A detailed and comprehensive research study with an innovative approach is needed to investigate this problem and find suitable solutions.
4. Broadly, four categories of stressors have been identified among IT professionals: Individual Stressors, Group Stressors, Organizational Stressors and Extra-Organizational Stressors. Role, effects and Ways of dealing of these stressors should be investigated in detail.
5. Results of this study will be very useful to IT professionals as well as IT companies. Thus, the study will be in larger interest of the society.

3. OBJECTIVES OF STUDY

For the professionals of Multinational I.T. Companies of Noida City:

1. To understand the demographic and job-related profile.
2. To identify various sources of stress in professionals.
3. To measure the level of stress in professionals.
4. To know the correlation among various stressors.
5. To present a linear multiple regression model to express the combined

effect of various stressors, on overall stress level.

4. METHODOLOGY

The present research study follows the standard methods of research as discussed by the renowned authors of this field [17-22]. It uses a new and innovative approach to analyze the

various factors causing stress among professionals of Multinational I.T. Companies. Extensive review of literature made the researcher to fix four major categories of stressors among I.T. professionals: Individual Stressors, Group Stressors, Organizational Stressors and Extra-Organizational Stressors. Organizational Stressors are the most important category of Stressors and they are further classified among eight sub-categories: Stressors related to – Environment, Nature of Job, Subordinates, Organizational Climate, Relationship within Organization, Role in Organization, Career Design and I.T. Specific Issues.

Ten demographic and job-related variables have been selected for in depth study: Gender, Age, Experience, Education, Salary, Food Habits, Marital Status, Type of Family, Spouse's Employment and Present Staying.

Census method has been selected for this study. A suitable instrument (Questionnaire) has been developed for primary data collection for measurement of stress among professionals of I.T. Companies of Noida City. The first component of the Questionnaire gathers information regarding gender, age, experience, education, salary, food habits, marital status, type of family, spouse's employment and present staying of the respondents. The second component is related to measurement of various stressors. It has 75 statements grouped into four major categories: Individual Stressors, Group Stressors, Organizational Stressors and Extra-Organizational Stressors. A suitable sample of 150 professionals working in different multinational I.T. companies was selected for this study. Out of 150 distributed questionnaires, 137 were received completely filled in. Thus the response rate was 137/150 i.e. 91.33%. The responses of these 75 statements have been recorded using Likert's 5 point scale scoring method. Data of this study has been tabulated using Microsoft Excel 2010 Spreadsheet Package. Data was subjected to Internal Consistency/Reliability test by calculating 'Cronback's Alpha (α)' using 'Real Statistics Using Excel' open software package. Since all values of α were above 0.6 and very close to 0.7, Internal Consistency/Reliability test of data was successful.

Statistical Analysis of data was done using various statistical tools made available by world renowned Statistical Software Packages: SPSS [23], Real Statistics Using Excel [24] and JASP [25].

Based on the total score of responses of the respondents, Stress Levels were classified as shown in Table 1.

Table 1
Classification of Stress Level

Stress Level	Range of scores
Low Stress	75 – 150
Medium Stress	151 – 225
High Stress	226 – 300
Extreme Stress	301 – 375

It is noticed that each dimension of stress in the questionnaire has different number of statements. As such to classify stress for a factor, instead of Mean Value, Mean Value in percentage [Mean Index (%)] is used as measure to quantify stress level for a factor.

Mean Score for a factor = (Total Score for a factor) / (Number of respondents)

Mean Value of in percentage = Mean Index (%)

= [(Mean Score for a factor)/(Max. Score for the factor)] X 100

As such classification of Stress Level for a factor is as shown in **Table 2.**

It is noticed that each dimension of stress in the questionnaire has different number of statements. As such to classify stress for a factor, instead of Mean Value, Mean Value in percentage [Mean Index (%)] is used as measure to quantify stress level for a factor.

Mean Score for a factor = (Total Score for a factor) / (Number of respondents)

Mean Value of in percentage = Mean Index (%) = [(Mean Score for a factor)/(Max. Score for the factor)] X 100

As such classification of Stress Level for a factor is as shown in Table 2.

Table 2

Classification of Stress Level for a Factor

Mean Index (%)	Classication
Less than 40.00	Low
40.01 to 60.00	Medium
60.01 to 80.00	High
80.01 to 100.00	Extreme

5. ANALYSIS AND INTERPRETATION OF DATA

The results of statistical analysis of data are presented below:

5.1 DEMOGRAPHIC & JOB-RELATED PROFILE OF THE SAMPLE-RESPONDENTS

TABLE 3

PROFILE OF THE SAMPLE-RESPONDENTS

S. No.	Criteria	Description				Total
1	Gender	Male	Female			137
		87 (63.50%)	50 (36.50%)			
2	Age (Years)	25-30	31-40	41-50		137
		45 (32.85%)	81 (59.12%)	11 (8.03%)		
3	Experience (Years)	1-5	6-10	11-15		137
		42 (30.66%)	83 (60.58%)	12 (8.76%)		
4	Education	UG	PG/PG+	Professional		137
		45 (32.85%)	63 (45.98%)	29 (21.17%)		
5	Salary (Rs.) (p.m.)	<35000	35001-45000	45001-55000	>55000	137
		12 (8.76%)	43 (31.39%)	46 (33.57%)	36 (26.28%)	
6	Food Habits	Vegetarian	Non-Vegetarian			137
		86 (62.77%)	51 (37.23%)			
7	Marital Status	Un-married	Married	Others		137
		46 (33.58%)	91 (66.42%)	0 (0.00%)		
8	Type of Family	Joint	Nuclear			137
		36 (26.28%)	101 (73.72%)			
9	Spouse Employment	Employed	Not Employed	Not Applicable		137
		65 (47.44%)	26 (18.98%)	46 (33.58%)		
10	Presently Staying	With Family	Away from Family			137
		70 (51.09%)	67 (48.91%)			

5.2 EXPLORATIVE DATA ANALYSIS

Salient features of this research study are elaborated by the following tables:

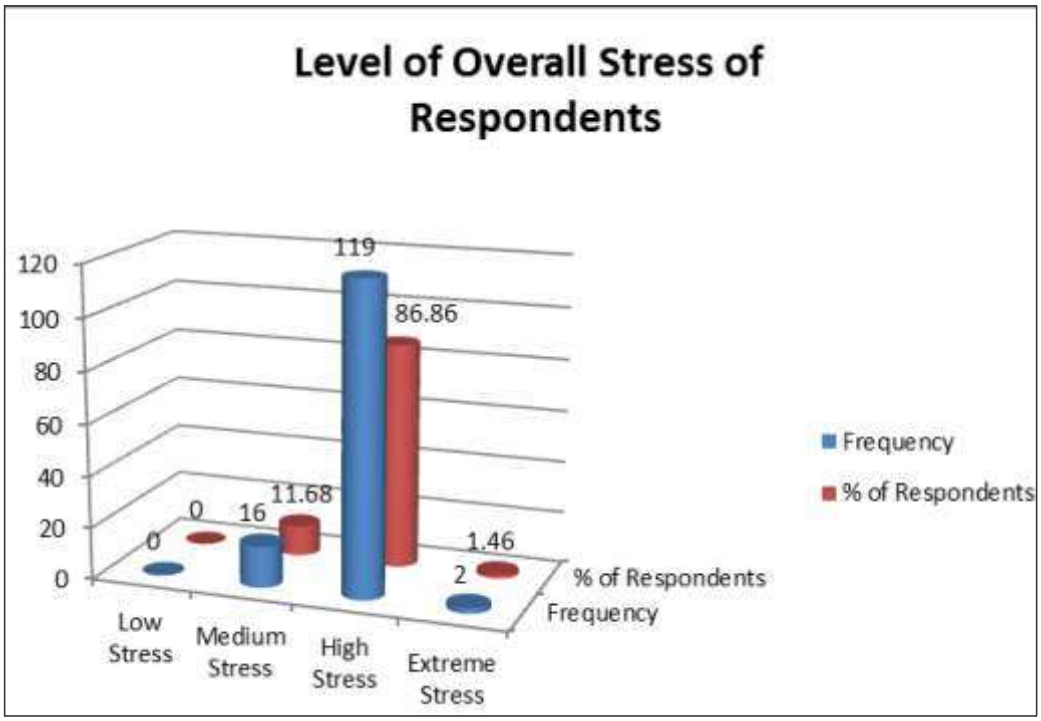
Table 4

OVERALL STRESS LEVEL OF RESPONDENTS

S. No.	Stress Level	Frequency	Percent
1	Low	0	0.00
2	Medium	16	11.68
3	High	119	**86.86**
4	Extreme	2	1.46
	Total	**137**	**100.00**

According to Table 4, majority of the respondents (86.86%) are experiencing high level stress. 11.68% respondents experience medium level stress followed by 1.46% having extreme stress. Low level stress is not visible in the respondents. Only medium, high and extreme levels of stress are observed (Figure 1).

Figure 1



ANALYSIS OF OVERALL STRESS (Level I)

Table 5

OVERALL STRESS SCORE

S. No.	Components	No. of Statements	Min. Score	Max. Score	Mean Score	Mean Index (%)	Classification
1.	**Overall Stress Score**	75	75	375	256.92	**68.51**	**High**

Table 5 and Table 2 indicate that high level stress is experienced by majority of respondents.

ANALYSIS OF OVERALL STRESS (Level II)

For in depth study, various factors: Individual Stressors, Group Stressors, Organizational Stressors and Extra-Organizational Stressors are analyzed on the basis of Mean Index(%).

Table 6

VARIOUS FACTORS OF STRESS

S. No.	Component	No. of Questions	Min. Score	Max. Score	Mean Score for the factor	Mean Index (%)	Classification
1	**Individual Stressors**	10	10	50	32.05	64.10	**High**
2	**Group Stressors**	5	5	25	17.36	69.44	**High**
3	**Organizational Stressors**	55	55	275	190.11	69.13	**High**
4	**Extra – Organizational Stressors**	5	5	25	17.39	69.56	**High**

Table 7

VARIOUS FACTORS OF STRESS DISTRIBUTION

Factors of Stress	Level	Frequency	Percent
Individual Stressors	Low	2	1.46%
	Medium	48	35.04%
	High	84	**61.31%**
	Extreme	3	2.19%
	Total	137	100.00%
Group Stressors	Low	3	2.19%
	Medium	29	21.17%
	High	94	**68.61%**
	Extreme	11	8.03%
	Total	137	100.00%
Organizational Stressors	Low	0	0.00%
	Medium	15	10.95%
	High	118	**86.13%**
	Extreme	4	2.92%
	Total	137	100.00%
Extra – Organizational Stressors	Low	2	1.46%
	Medium	18	13.14%
	High	106	**77.37%**
	Extreme	11	8.03%
	Total	137	100.00%

Table 7 displays the distribution of respondents according to various dimensions of stress. As far as, Individual, Group, Organizational and Extra-Organizational stressors are concerned, the majority of respondents (61.31%, 68.61%, 86.13% and 77.37% respectively) belong to high level stress.

ANALYSIS OF OVERALL STRESS (Level III)

As the Organizational Stressors play an important and vital role in determining the overall stress, they are further probed into 8 sub-factors of Organizational stressors separately.

Table 8

SUB-FACTORS OF ORGANIZATIONAL STRESSORS

Sub – factors of Organizational Stressors						
S. No.	**Component**	**No. of Questions**	**Max. Score**	**Mean Score**	**Mean Index (%)**	**Classification**
1	**Subordinates**	6	30	21.08	70.27	**High**
2	**Environment**	5	25	16.43	65.72	**High**
3	**Nature of Job**	5	25	17.10	68.40	**High**
4	**Organizational Climate**	9	45	30.59	67.98	**High**
5	**Relationship Within Organization**	5	25	17.49	69.96	**High**
6	**Role in Organization**	5	25	17.37	69.48	**High**
7	**Career Design**	5	25	17.54	70.16	**High**
8	**IT Specific**	15	75	52.50	70.00	**High**

6. Relationship among Various Categories of Stressors

In order to find relationship among various categories of stressors, correlation analysis was done by taking two at a time.

Table 9

CORRELATIONAL MATRIX

	Individual	**Group**	**Organizational**	**Extra-Organizational**
Individual	1			
Group	0.361085	1		
Organizational	0.283469	0.656283	1	
Extra-Organizational	0.051817	0.225556	0.387583	1

INFERENCE:

The correlation values among the stressors are shown in the above table. It is noticed that stressors are positively correlated with each other. Thus, stress in one factor increases the stress in other factors.

7. Statistical Model of Stress

In order to understand the impact of various factors on overall stress, a simple model of stress is used. This model helps in understanding cause versus effect relationship. In the present study, following four component stressors (causes of stress) have already been identified: (1) Individual Stressors, (2) Group Stressors, (3) Organizational Stressors & (4) Extra-Organizational Stressors. These stressors are defined as independent variables (X), whereas overall stress level is considered as dependent variable (Y).

Multiple Regression Model

In order to study the combined effect of various causes on overall stress level, multiple regression model, is used. This model is defined by the following equation:

$$Y = \alpha + \beta 1\ X1 + \beta 2\ X2 + \beta 3\ X3 + \beta 4\ X4$$

Where α is a constant and $\beta 1 \ldots \beta 4$ are constant coefficients.

Table 8
SUB-FACTORS OF ORGANIZATIONAL STRESSORS

S. No.	Dependent Variable	Independent Variable	Validity of The model	Coefficients β	Inference
1	Overall Stress Index	Individual Stressors	$R^2 = 1$	P value = 0.0000 $\beta_1 = 0.1248$	Contributing to some extent
		Group Stressors		P value = 0.0000 $\beta_2 = 0.0676$	Contributing a little extent
		Organizational Stressors		P value = 0.0000 $\beta_3 = 0.7400$	Contributing to very high extent
		Extra-Organizational Stressors		P value = 0.0000 $\beta_4 = 0.0677$	Contributing a little extent

Intercept (α) = 1.52656E-16

INFERENCE:

1. Value of R2 indicates that this model is suitable.

2. All the causes are contributing towards the overall stress. Contribution of Organizational stressors is very high, whereas contributions of the other three are of moderate value.

3. Therefore,

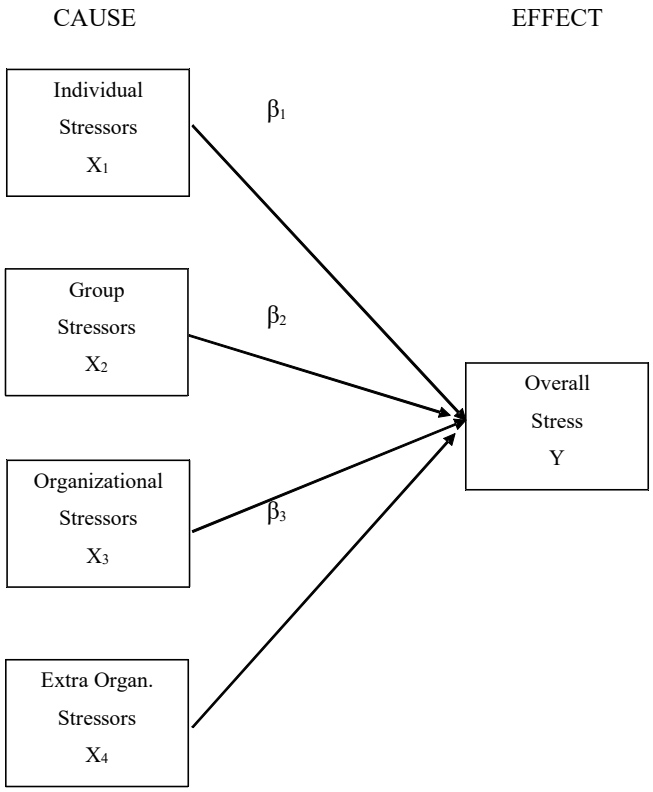
$$Y = \alpha + \beta 1\ X1 + \beta 2\ X2 + \beta 3\ X3 + \beta 4\ X4 + \varepsilon$$

i.e. $Y = 1.52656E\text{-}16 + 0.1248\ X1 + 0.0676\ X2 + 0.7400\ X3 + 0.0677\ X4 + \varepsilon$

where, Y = Overall Stress, X1 = Individual Stressors, X2 = Group Stressors, X3 = Organizational Stressors

X4 = Extra-Organizational Stressors and ε = Standard Error

Figure 2
Multiple Regression Model



8. FINDINGS

Findings of the present research study are presented below:

8.1 Profile of the Sample-Respondents

Following is the demographic and job-related profile of the sample-respondents of this research study (Table 3):

1. Majority (63.50%) of the respondents are male, while 36.50% are female.
2. Majority (59.12%) of respondents are in the age range 31-40, followed by (32.85%) for 25-30 age-group. Age-group 41-50 respondents constitute only 8.03%.
3. 60.58% of the respondents have 6 to 10 years' experience. 30.66% are having 1 to 5 years' experience, whereas only 8.76% are having 11 to 15 years' experience.
4. 45.98% are post-graduates or possess higher qualification. 32.85% are graduates, whereas 21.17% have professional qualification.
5. 33.57% respondents are drawing salary in the range 45001-55000, followed by 31.39% in the range 35001-45000. 26.28% are drawing salary greater than 55000 whereas only 8.76% draw salary lower than 35000.
6. 62.77% respondents are vegetarians and 37.23% are non-vegetarians.
7. 66.42% respondents are married and 33.58% are un-married.
8. The families of 73.72% respondents are of nuclear type and 26.28% lead a joint family life.
9. 47.44% respondents have employed spouse and 18.98% respondents' spouses are not employed.
10. Majority of respondents (51.09%) are staying with their families, while 48.91% respondents are staying away from their families.

8.2 Explorative Data Analysis

Majority of respondents (86.86%) are having high stress level whereas 11.68% respondents have medium stress level. Only 1.46% respondents experience extreme level of stress. (Table 4).

8.3 Descriptive Statistics on Components of Stress based on Likert's 5 Point Scale

1. A far as overall stress score is concerned, Mean Index (%), belongs to high stress level. (Table 5).
2. Mean Index (%) for Individual, Group, Organizational and Extra-Organizational stressors, belong to high stress level. (Table 6).
3. Mean Index (%) for all the 8 sub-factors of Organizational stressor, belong to high stress level. (Table 8).

8.4 Relationship among various categories of stressors

Stressors (Individual, Group, Organizational and Extra-Organizational) are positively correlated with each other. (Table 9). Thus, stress in one factor increases stress in other factors.

8.5 Statistical Model of Stress

In order to express the combined effect of various causes on overall stress level, a linear multiple regression model, has been presented. According to this model:

$$Y = \alpha + \beta 1\ X1 + \beta 2\ X2 + \beta 3\ X3 + \beta 4\ X4 + \varepsilon$$

$$Y = 1.52656E\text{-}16 + 0.1248\ X1 + 0.0676\ X2 + 0.7400\ X3 + 0.0677\ X4 + \varepsilon$$

where, Y = Overall Stress, X1 = Individual Stressors, X2 = Group Stressors, X3 =

Organizational Stressors

X4 = Extra-Organizational Stressors and ε = Standard Error

It is noticed that all causes are contributing towards overall stress. Contribution of Organizational stressors is very high, whereas contributions of the other three stressors are of moderate value.

9. CONCLUSION

The present research study has investigated the different factors causing stress on IT professionals of multinational companies located at Noida City. Various statistical tools provided by world renowned statistical software packages: SPSS, Real Statistics Using Excel and JASP have been used in the analysis.

The profile of the sample-respondents as portrayed by their demographic and job-related variables has been analyzed in detail. Explorative study has shown that majority of respondents are having high stress level.

For in depth study, four major stressors: Individual, Group, Organizational and Extra-Organizational, have been analyzed on the basis of Stressors Mean Index (%). As far as these four major stressors are concerned, the majority of sample-respondents belong to high stress level.

Because of important role of Organizational stressors in determining the overall stress, they are further probed into 8 sub-factors: Subordinates, Environmental, Nature of Job, Organizational Climate, Relationship within Organization, Role related, Career Design and IT specific stressors. It has been observed that Stressors Mean Index (%) for all the 8 sub-factors of Organizational stressors, belong to high level class.

Relationship among various categories of stressors (Individual, Group, Organizational and Extra-Organizational) have been studied using Correlation Analysis. It has been noticed that the stressors are positively correlated with each other. Thus, stress in one factor increases stress in other factors.

In order to express the mixed effect of various causes on overall stress level, a linear multiple regression model of stress, has been presented. It is noticed that all causes are contributing towards overall stress. Contribution of Organizational stressors is very high, whereas contributions of the other three stressors are of moderate value.

It is believed that the findings of this research study will help IT professionals and companies in understanding of stress. This will help them in developing strategies for better stress management.

In brief, the results of this investigation would contribute significantly in better understanding of stress in I.T. professionals of multinational companies. The results of this research study would also enrich the present literature on stress related issues.

REFERENCES

1. Selye, Hans (1956), 'The Stress of Life', Longmans, Green and Co., London (Great Bretain).
2. Robbins, S.P. (2003). 'Organizational Behavior', Pearson Education (Singapore) Pte Ltd., India Branch, Delhi.
3. Bennet, R. (1994). 'Organisational Behavior', 2nd Ed., Pitman Publishing, London.
4. Keeley, K. and Harcourt, M. (2001). 'Occupational Stress: A Study of the New Zealand and Reserve Bank', Research and

Practice in Human Resource Management, 9(2), pp. 109-118.

5. Sauter, S.L. and Murphy, L.R. (1995). 'Organizational risk factors for job stress', American Psychological Association, Washington, D.C.
6. Premkumar, K., Ganpathi, P. and Sumathipremkumar (2018). 'A Study of Stress Management and Coping Strategies with Reference to IT Companies in Tamilnadu', International Journal of Current Engineering and Scientific Research (IJCESR), Volume-5, Issue-1, 2018, p. 61.
7. Kumar, M.Siva and Siddique, A.M. (2011), 'A Study On Occupational Stress Among IT Professionals Chennai', International Journal of Enterprise Innovation Management Studies (IJEIMS), Vol. 2, No. 2, July-Dec. 2011, pp. 119-124.
8. ManojKrishnan, C.G. (2011), 'A Study On Stress & Stress Management Among The Executives In Kerala Based Organisations With Special Reference To IT Industry In Kerala (Technopark Campus)', Ph.D. Thesis, Department of Management Studies, Sri Chandrasekharendra Saraswathy Viswa Mahavidyalaya, Enathur, Kanchipuram.
9. Bolhari, A., Rezaeian, A., Bolhari, J. and Bairamzadeh, S. (2012), 'Occupational Stress Level among Information Technology Professionals in Iran', International Journal of Information and Electronics Engineering, Vol. 2, No. 5, September 2012.
10. Babu, G.R., Mahapatra, T. and Detels, R. (2013), 'Job stress and hypertension in younger software professionals in India', Indian Journal of Occupational & Environmental Medicine, 17(3), Sept-Dec. 2013, pp. 101-107.
11. Joshy, C.O. (2014), 'Analysis Of Stress And Stress Management Interventions Among Employees In The Information Technology (IT) Sector In India And Ireland', MBA Dissertation, I.T. Department, Dublin Business School, Ireland.
12. Nagaraj, K. and Mahadevan, A. (2015), 'A Review on the Factors Leading to Employee Burnout in IT Sector', International Journal of Accounting & Business Management, Vol. 3, No. 1, April 2015, pp. 334-343.
13. Janani, T.S. (2016), 'A Study On Stress Management Among Women Employees In The Information Technology Sector, Coimbatore City, Tamilnadu', Namex International Journal of Management Research, Vol. 6, Issue 1, Jan-June 2016, pp. 52-56.
14. Kala, K., Jan, N.A., Subramani, A. K. and Banureka, R. (2017), 'Upshot of Occupational Stress on Work Life Balance of Employees Working in Information Technology Organizations in Chennai', Prabandhan: Indian Journal of Management, Vol. 10, Issue 7, July 2017, pp. 50-59.
15. Premkumar, K., Ganapathi, P. and Sumathipremkumar (2018), 'A Study On Stress Management And Coping Strategies With Reference To IT Companies In Tamilnadu', International Journal of Current Engineering and Scientific Research (IJCESR), Vol. 5, Issue 1, 2018, pp. 61-69.
16. Bandla, P. (2019), 'Occupational Stress among Information Technology Professionals in India: A Systematic Review of Literature', International Journal of Scientific Research & Management Studies, January 2019.
17. Marczyk, G., DeMatteo, D. and Festinger, D.,

2005, 'Essentials of Research Design and Methodology', John Wiley & Sons, Inc., New Jersey (USA).

18. Kothari, C.R., 2004, 'Research Methodology : Methods & Techniques', New Age International (P) Limited Publishers, New Delhi.
19. Adams, J., Khan, Hafiz T.A., Raeside, R. and White, D., 2007, 'Research Methods for Graduate Business and Social Science Students', Response Books, Business Books from SAGE, New Delhi.
20. Kumar, Ranjit, 2011, 'Research Methodology : a step-by-step guide for beginners', SAGE Publications Ltd., London.
21. Singh, Yogesh Kumar, 2006, 'Fundamental of Research Methodology and Statistics', New Age International (P) Limited Publishers, New Delhi.
22. Shinde, Sarjerao R. (Editor in Chief), 2015, 'The Peer Reviewed Proceedings of UGC Sponsored One Day Interdisciplinary National Conference on Research Methodology', Bhai Kishanrao Deshmukh Mahavidyalaya, Chakur, Dist. Latur (Maharastra State).
23. SPSS (Statistical Package for Social Sciences', Distributors: SPSS Inc., Chicago (USA).
24. Real Statistics Using Excel, Developed by: Charles Zaiotz. (http://www.real-statistics.com)
25. JASP (Jeffereys's Amazing Statistic Program), University of Amsterdam, The Netherlands. (https://jasp-stats.org)

INSPIRA

Reg. No. SH-481 R- 9-V P-76/2014
www.inspirajournals.com

Dated : 30–06–2020

Certificate of Publication

This certifies that research paper / article titled

Paper titled : **INVESTIGATION OF EFFECT OF STRESS ON PROFESSIONALS OF MULTINATIONAL I.T. COMPANIES OF NOIDA CITY**

authored by : ***Richa Sharma***

Research Scholar, Department of Commerce & Management, University of Kota, Kota, Rajasthan, India

has been published in **Volume 03 No. 02** Issue **April - June, 2020** of INTERNATIONAL JOURNAL OF ADVANCED RESEARCH IN COMMERCE, MANAGEMENT & SOCIAL SCIENCE (IJARCMSS), ISSN : 2581-7930, COSMOS Impact Factor 5.260.

Indexing Status: IJARCMSS is Indexed and Included in:
COSMOS Foundation & Electronic Journal Library EZB, Germany
International Institute of Organized Research (I2OR) || General Impact Factor (GIF)
Directory of Research Journals Indexing(DRJI) || International Scientific Indexing (ISI)

(An International Quarterly Peer Reviewed Refereed Journal of IRA)

Prof. (Dr.) S.S. Modi
Chief Editor

ISSN: 2581-7930
COSMOS Impact Factor 5.260

INTERNATIONAL JOURNAL OF ADVANCED RESEARCH IN COMMERCE MANAGEMENT & SOCIAL SCIENCE (IJARCMSS)

An International Quarterly Peer Reviewed Refereed Journal
Vol. 03 | No. 02 | April - June, 2020

Indexing Status: IJARCMSS is Indexed and Included in:
COSMOS Foundation & Electronic Journal Library EZB, Germany
International Institute of Organized Research (I2OR) || General Impact Factor (GIF)
Directory of Research Journals Indexing(DRJI) || International Scientific Indexing (ISI)

INSPIRA
JAIPUR - INDIA

INTERNATIONAL JOURNAL OF ADVANCED RESEARCH IN COMMERCE, MANAGEMENT & SOCIAL SCIENCE (IJARCMSS)

Prof. (Dr.) S.S. Modi

Chief Editor

International Journal of Advanced Research in Commerce, Management & Social Science (IJARCMSS)

25, Modi Sadan, Sudama Nagar

Street Near Gangaur Sweets, Opp. Glass Factory

Tonk Road, Jaipur-302018, Rajasthan, India.

Email: editor@inspirajournals.com /profdrssmodi@gmail.com

Mobile : 09829321067 / 09828571010

INSPIRA™

Reg. No. SH-481 R- 9-V P-76/2014

Published by **Prof. (Dr.) S. S. Modi**, Proprietor, INSPIRA, Jaipur, Rajasthan

Website : www.inspirajournals.com

International Journal of Advanced Research in Commerce, Management & Social Science (IJARCMSS)
ISSN : 2581-7930, Impact Factor : 5.260 , Volume 03, No. 02, April - June, 2020, pp 85-95

INVESTIGATION OF EFFECT OF STRESS ON PROFESSIONALS OF MULTINATIONAL I.T. COMPANIES OF NOIDA CITY

Richa Sharma*

ABSTRACT

Stress is unavoidable factor in the life of a professional of Multinational I.T. Company. An individual I.T. professional, when stressed, can experience sickness, anxiety, depression, poor performance and reduced productivity. Stress has implications for both the individual and I.T. companies. The present research study follows standard methods of statistical research using a new and innovative approach to analyze the effects of stress on professionals of Multinational I.T. Companies. These professionals are classified into four groups depending upon the effects of stress on them as: Mild, Tolerable, Dominant and Highly Dominant. Observed effects of stress on these groups are listed in order of their frequent occurrence. The findings of this study will be in larger interest of individual professionals, I.T. Companies and our present society.

Keywords: *Stress, I.T. Professionals, Multinational I.T. Company, Group Stressors.*

Introduction

Stress is unavoidable factor in the life of a professional of Multinational I.T. Company. An individual IT professional, when stressed, can experience sickness, anxiety, depression, poor performance and reduced productivity. Stress may cause poor health, excess use of alcohol, smoking or drugs. This may lead to high rate of absenteeism, work burn out and a desire to change career. His well-being and family life may also be adversely affected.

From IT Company's perspectives, employee stress may affect the company in several ways at a substantial cost. Employees' poor performance and reduced productivity may adversely affect company's overall performance, progress and growth. Company may face problem of absenteeism and subsequent loss of numerous working hours. Some stressed employees may quit the job. Thus, money and time invested in their training are lost. Moreover, company may fail to deliver high quality of customer service, thus affecting its reputation. Company may lose valuable clients and may lag in the present competitive global market. This in turn will fail to attract talented youth to take up company's challenging jobs.

When several IT Companies are adversely affected by employee stress, their contribution to IT sector and national economy is greatly reduced. Thus, the problem of employee stress in IT companies is a matter of great concern. As such, a detailed research study to identify the various factors leading to stress among IT professionals is urgently needed. It is also required to evaluate the level of their stress and to reveal the effects of stress on these professionals.

The present research study follows standard methods of statistical research using a new and innovative approach to analyze the effects of stress on professionals of Multinational I.T. Companies. These professionals are classified into four groups depending upon the effects of stress on them as: Mild, Tolerable, Dominant and Highly Dominant. Observed effects of stress on these groups are listed in order of their frequent occurrence. Findings of this study will be in larger interest of individual professionals, I.T. Companies and our present society.

* Research Scholar, Department of Commerce & Management, University of Kota, Kota, Rajasthan, India.

Review of Literature

The earliest research related to Stress is traced to **Walter Canon [1]** in the 1930s, who conceptualized the "*fight or flight*" theory to highlight how living organisms respond to harmful environment. **Hans Selye [2]** introduced for the first time the term **"Stress"** into life science. It was derived from a Latin word "Stringere" meaning: '*to be drawn tight*'. Various terms synonymously used with stress are frustration, anxiety and pressure.

Bennet [3] has defined stress "as a wide collection of physical and psychological symptoms that result from difficulties experienced by an individual while attempting to adapt to an environment". **Robbins, S. P. [4]** found that "Stress is a dynamic condition in which an individual is confronted with an opportunity, constraint, or demand related to what he or she desires and for which the outcome is perceived to be both uncertain and important".

Stress at workplace has been a big problem for organizations. National Institute for Occupational Safety and Health observed that stress affects about 80% of workers. **Keeley and Harcourt [5]** were of the opinion that "Stress is caused by heavy work demands in the job itself". According to **Sauter and Murphy [6]** work stress can be defined as "the harmful physical and emotional responses that occur when requirements of the job do not match the capabilities, resources or need of the worker". Mostly, high demands of job and little control of the situation leads to stress.

Quick and Quick [7] suggested four major types of stressors: Physical demands, task demands, role demands and interpersonal demands. **Hendrix [8]** proposed work overload, control supervision with support, work autonomy, role conflicts and role ambiguity as five major organizational stressors. **Cooper and Marshal [9]** identified "intrinsic nature of work demands, employee intrinsic role participation, interpersonal workplace conflicts, slow career progression and fragmented organizational structure & climate" as the five broad factors causing workplace stress.

The work stress is found in all professional jobs. However, IT jobs are known for their very high stress level. These jobs are mostly contractual, highly target driven and result oriented. Globalization, cut throat competition, long working hours, fear of obsolescence, threat to job security are some of the major reasons of high stress in IT professionals.

Several investigations have shown that job stress (occupation stress) leads to many negative consequences. This may adversely affect employee health and cause anxiety, tension, absenteeism, reduce motivation and productivity, and desire to leave the job. All these reasons adversely affect overall performance and productivity of the organization. As such, it is essential for an organization to follow such policies and programs which effectively manage job stress at workplace.

Aziz, M. (2003) [10] conducted a study to examine the prevailing organizational role stress affecting Indian IT professionals. His findings show that Resource inadequacy is the most potential stressor. This study also reported that men experienced more stress than women.

Talwar, R. et al. (2009) [11] investigated health related disorders and their associated dependence on working environment in computer professionals employed in Delhi NCR. The study concluded that a large number of these computer professionals are having health related problems due to their working environment and this should be properly addressed.

Rao, Jakkula V. (2012) [12] investigated occupational stress, related mental health, subsequent job satisfaction and stress coping among IT professionals employed at Hyderabad City. Findings indicated that mental health and subsequent job satisfaction were mutually correlated but not very significantly. Moreover, job satisfaction was significantly as well as positively correlated with stress coping pattern. Mental health was found to be significantly and negatively correlated with corresponding occupational stress. The study inferred that increase in job satisfaction and mental health increase coping behavior. However, increase in stress causes decrease in mental health.

Shrivastava, S. R. et al. (2012) [13] investigated computer-related health issues among software professionals employed in Mumbai. This research found that musculo-skeletal disorders as well as ocular discomfort along with psycho-social problems are the key health issues faced by these software professionals. The study brought into focus various factors that contribute towards the occurrence of these problems.

Darshan, M. S. et al. (2013) [14] conducted a study of professional stress and depression along with use of alcohol among IT professionals of India. Findings revealed that 51.2% of respondents were professionally stressed, whereas 43.4% of them were at the risk of depression development. Results also revealed that professionally stressed employees were at ten time's higher risk of depression

development. Moreover, professionally stressed employees showed 5-9 times' higher harmful alcohol use. Higher professional stress causes risk for depression development and harmful use of alcohol among software professionals. It could also diminish the advancement of IT development and significantly increase the incidence of psychiatric disorders.

Dwamena, M. A. (2012) [15] investigated the factors causing work stress and their influence on employees' productivity. It was noticed that negative factors which stressed employees, had a negative impact on productivity. Thus, it was proved that stress had a negative impact on employees' productivity.

Nayak, R. D. (2014) [16] investigated the comparative level of anxiety along with mental health of mechanical and software professionals. Findings showed that anxiety level of software professionals differed widely from that of mechanical professionals. Significant positive relationship was observed in psychological related dimension of their mental health.

Jomoah, I. M. (2014) [17] conducted an investigation on work-related effects of health disorder in computer users of Saudi Arabia. The study observed high level of instances of vision-related and musculoskeletal-related complaints. The quantum of complaints was found to increase when - (a) work station ergonomic score decreases (b) duration and age progresses (c) smoking increases (d) computer use increases (e) there is lack of work related satisfaction and (f) operators have history of previous ailments. The study recommended enhancement of work station ergonomics, setting up of proper training programs and conducting periodical examinations of these employees.

Saleem, M. et al. (2015) [18] carried out a study to determine the pattern related to Musculo-Skeletal Disorders and its prevalence among Indian software professionals. The investigation concluded that Musculo-Skeletal Disorder is widely reported among Indian software professionals employed in IT field. As such, an appropriate preventive strategy is urgently needed, so that these professionals can work comfortably.

Padma, V. et al. (2015) [19] studied the stress and health related issues in business outsourced IT professionals. It was observed that such professionals were prone to develop several health related problems due to constant physical and mental work stress. It was suggested that proper diet advice, suitable lifestyle modification and psychological counseling would reduce work stress and health related problems in IT professionals, thus improving quality of this work force.

Ekienabor, E. E. (2016) [20] conducted a study to examine the influence of employee job stress on productivity and commitment of academic staff employed at Nigerian Universities. The study observed that job stress affected both productivity and commitment of these professionals. High job stress with no control lowers employee performance which in turn lowers organizational reputation and this causes loss of skilled talent. The study suggests introduction of suitable stress interventions to reduce job stress, thus enhancing employee satisfaction.

Okeke, M. N. et al. (2016) [21] examined the impact of employee stress over employee productivity at Nigerian banking industry. The study found that pressure of workload caused stress, and greatly affected employee performance and productivity. The study observed the necessity of suitable remedial measures for reduction in employee stress.

Sabbarwal, S. et al. (2017) [22] identified the prevailing stressors among IT employees. The study noticed that high workload, long & late working hours and family related problems are major contributors towards occupational stress of these employees. Insecurity of job, family issues, ill health, low monetary compensations are the other factors causing occupational stress. These stressors cause physical & mental problems such as high B. P., body and back pain, exhaustion, depression and sleep disorders in IT employees. The study suggested suitable stress management programs for all IT employees.

Shalini, S. et al. (2018) [23] explored the job stress among women employees in IT companies of Coimbatore City. The study indicated that majority of these employees are experiencing high stress which causes back pain and other health related problems. The study emphasized the necessity of proper stress management programs for them. It was also suggested that excellent work done by women IT employees should be acknowledged by suitable rewards and awards. This will make IT industry an attractive and preferred career destination for women employees.

Sudarshini, S. et al. (2018) [24] explored the health related problems in computer professionals due to exposure of computer work. The study found that more than three-fourth of such employees suffered from one or more health related problems. The study suggested that an appropriate ergonomic should be applied to enhance the quality of work and reduce their health related problems.

Srinivas, P. S. et al. (2019) [25] explored the effect of yoga-based intervention on job anxiety and perceived stress of Indian IT professionals. Findings showed that after a period of eight week intervention, job anxiety was reduced by 19.51% and perceived stress was reduced by 34.77%. The study proves that yoga based practices help to greatly reduce Job Anxiety and Perceived Stress among Indian IT professionals. The study also highlights the need to explore the role of yoga based practices in IT professionals' work life to a larger extent.

From the detailed literature review following observations are made:

- Professionals working in Information Technology Companies experience high level of stress.
- Stress of IT professionals is a matter of huge concern to IT organizations as well as individual employees because it adversely affects employees' health as well as performance.
- A few research investigations have been made on employee stress, its effect and coping methods. However, these attempts have been in pieces. A detailed and comprehensive research study with an innovative approach is needed to investigate this problem and find suitable solutions.
- Results of this study will be very useful to IT professionals as well as IT companies. Thus, the study will be in larger interest of the society.

Objectives of Study

For the professionals of Multinational I.T. Companies of Noida City:

- To understand the demographic and job-related profile.
- To identify various sources of stress in professionals.
- To measure the level of stress in professionals.
- To measure the effects of stress on professionals.

Methodology

The present research study has followed the standard methods of research as suggested and discussed by the renowned authors of this field [26-29]. However, it uses a new and innovative approach in the investigation of the various factors causing stress among professionals of Multinational I.T. Companies and their subsequent effects on these professionals. Extensive review of literature made the researcher to fix four major categories of stressors among I.T. professionals: Individual Stressors, Group Stressors, Organizational Stressors and Extra-Organizational Stressors. Organizational Stressors are the most important category of Stressors and they are further classified among eight sub-categories: Stressors related to – Environment, Nature of Job, Subordinates, Organizational Climate, Relationship within Organization, Role in Organization, Career Design and I.T. Specific Issues.

Ten demographic and job-related variables have been selected for in depth study: Gender, Age, Experience, Education, Salary, Food Habits, Marital Status, Type of Family, Spouse's Employment and Present Staying.

Census survey method has been selected for this study. A suitable instrument (Questionnaire) has been developed for primary data collection for measurement of stress among professionals of I.T. Companies of Noida City. The first component of the Questionnaire gathers information regarding gender, age, experience, education, salary, food habits, marital status, type of family, spouse's employment and present staying of the respondents. The second component is related to measurement of various stressors. It has 75 statements grouped into four major categories: Individual Stressors, Group Stressors, Organizational Stressors and Extra-Organizational Stressors. The third component has 20 statements on effects of stress on I.T. professionals. A suitable sample of 150 professionals working in different multinational I.T. companies was selected for this study. Out of 150 distributed questionnaires, 137 were received completely filled in. Thus the response rate was 137/150 i.e. 91.33%. The responses of these 75 statements have been recorded using Likert's 5 point scale scoring method. Data of this study has been tabulated using Microsoft Excel 2010 Spreadsheet Package. Data was subjected to Internal Consistency/Reliability test by calculating *'Cronback's Alpha (α)'* using *'Real Statistics Using Excel'* open software package. Since all values of α were above 0.6 and very close to 0.7, Internal Consistency/Reliability test of data was successful.

Statistical Analysis of data was done using various statistical tools made available by world renowned Statistical Software Packages: SPSS [30], JASP [31] and Real Statistics Using Excel [32].

Measurement of Stress

The responses of the above 75 statements were recorded using Likert's 5 point scale scoring method. The responses are Strongly Disagree (SD), Disagree (D), Not Sure (NS), Agree (A) and Strongly Agree (SA) having corresponding score values of 1, 2, 3, 4 and 5 respectively.

Classification of Stress Level

For the above set of 75 statements, minimum score is 75 (75x1) and the maximum score is 375 (75x5). Difference of these scores (375 – 75=300) is divided by 4 to define 4 ranges of stress level as shown in Table 1.

Table 1: Classification of Stress Level

Stress Level	Range of Scores
Low Stress	75 – 150
Medium Stress	151 – 225
High Stress	226 – 300
Extreme Stress	301 – 375

Effects of Stress

There are twenty statements in the third component of the questionnaire. The responses of these twenty statements address the effects of stress on I.T. professionals. The responses are – Always (A), Frequently (F), Often (O), Sometimes (S) and Never (N). The corresponding score values are 5, 4, 3, 2 and 1 respectively.

Classification of Effects of Stress

For the above set of 20 statements, minimum score is 20 (20x1) and the maximum score is 100 (20x5). Difference of these scores (100 – 20 = 80) is divided by 4 to define 4 ranges of effects of stress as shown in Table 2.

Table 2: Classification of Effect of Stress

Level of Effect of Stress	Range of Scores
Mild	20 – 40
Tolerable	41 – 60
Dominant	61 – 80
Highly Dominant	81 – 100

The overall scores of each effect are subjected to rank correlation. The effects are also ranked.

Analysis and Interpretation of Data

After statistical analysis of data the results are presented below:

- **Demographic & Job-Related Profile**
  - 36.50% of the respondents are female and 63.50% are male.
  - 59.12% of respondents are in the age range 31-40, followed by 32.85% for 25-30age-group. Age-group 41-50 respondents constitute only 8.03%.
  - 60.58% of the respondents have 6 to 10 years' experience. 30.66% are having 1 to 5 years' experience, whereas only 8.76% are having 11 to 15 years' experience.
  - 45.98% are post-graduates or possess higher qualification. 32.85% are graduates, whereas 21.17% have professional qualification.
  - 33.57% respondents are drawing salary in the range 45001-55000, followed by 31.39% in the range 35001-45000. 26.28% are drawing salary greater than 55000 whereas only 8.76% draw salary lower than 35000.
  - 37.23% are non-vegetarians, while 62.77% are vegetarians.
  - 33.58% respondents are un-married, while 66.42% are married.
  - 26.28% lead a joint family life and the families of 73.72% respondents are of nuclear type.
  - 18.98% respondents' spouses are not employed and 47.44% respondents have employed spouse.
  - 48.91% respondents are staying away from their families and 51.09% of respondents are staying with their families.

- **Explorative Data Analysis**

Salient features of Explorative Data Analysis are elaborated by the following tables:

Table 3: Overall Stress Level of Respondents

S. No.	Stress Level	Frequency	Percent
1	Low	0	0.00
2	Medium	16	11.68
3	High	119	**86.86**
4	Extreme	2	1.46
	Total	**137**	**100.00**

According to Table 3, **majority of the respondents (86.86%) are experiencing high level stress**. 11.68% respondents experience medium level stress followed by 1.46% having extreme stress. Low level stress is not visible in the respondents. Only medium, high and extreme levels of stress are observed.

Table 4: Effects of Stress on Respondents

S. No.	Effects	Frequency	Percent
1	Mild	4	2.92
2	Tolerable	53	38.69
3	Dominant	80	**58.39**
4	Highly Dominant	0	0.00
	Total	**137**	**100.00**

According to Table 4 **majority of the respondents (58.39%) are experiencing dominant level of Stress effect**, 38.69% are experiencing tolerable level of stress effect, while only 2.92% are having mild effect. Highly dominant level of stress effect is not present among the respondents (Figure 1).

Figure 1

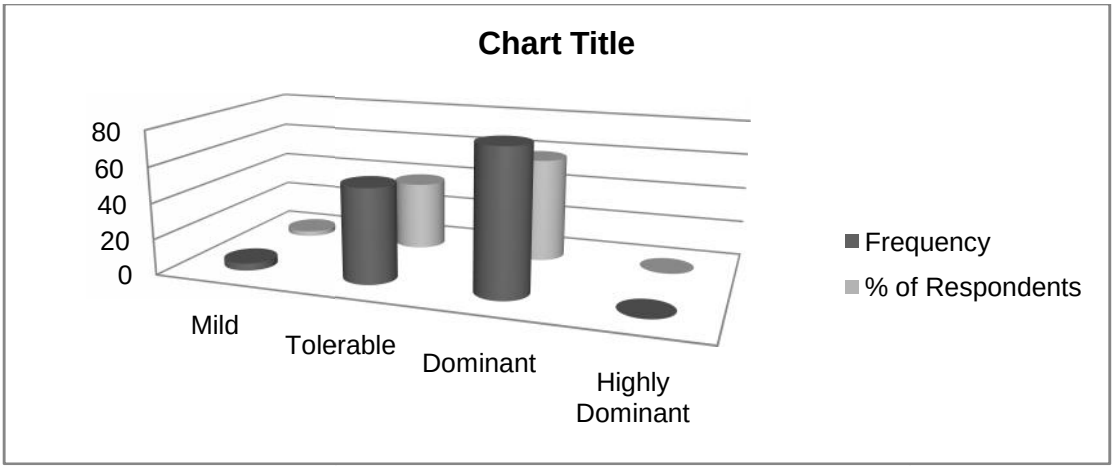


Table 5: Stress Level and Effects of Stress on Respondents

Stress Level	Effect of Stress on Health				Total
	Mild	Tolerable	Dominant	Highly Dominant	
Low Stress	0	0	0	0	**0**
	0.00%	0.00%	0.00%	0.00%	**0.00%**
Medium Stress	3	3	10	0	**16**
	18.75%	18.75%	**62.50%**	0.00%	**100.00%**
High Stress	1	48	70	0	**119**
	0.84%	40.34%	**58.82%**	0.00%	**100.00%**
Extreme Stress	0	2	0	0	**2**
	0.00%	100.00%	0.00%	0.00%	**100.00%**
Total	**4**	**53**	**80**	**0**	**137**
	2.92%	**38.69%**	**58.39%**	**0.00%**	**100.00%**

Table 5 depicts relationship between Stress Level and Effects of Stress on health of the respondents. In the Medium and High Stress categories, majority of the respondents are having dominant effects of stress.

Table 6: Gender & Stress Level of Respondents

Gender	Stress Level				Total
	Low	Medium	High	Extreme	
Male	0	12	75	0	87
	0.00%	13.79%	**86.21%**	0.00%	100.00%
Female	0	4	44	2	50
	0.00%	8.00%	**88.00%**	4.00%	100.00%
Total	0	16	119	2	137
	0.00%	11.68%	86.86%	1.46%	!00.00%

Table 6 reveal that majority of male respondents (86.21%) and female (88.00%) are experiencing high stress level. 13.79% of male and 8.00% of female respondents are having medium stress level, whereas 4.00% of female respondents are having extreme stress level.

Table 7: Gender & Effects of Stress on Respondents

Gender	Effects of Stress				Total
	Mild	Tolerable	Dominant	Highly Dominant	
Male	3	38	46	0	87
	3.45%	43.68%	**52.87%**	0.00%	100.00%
Female	1	15	34	0	50
	2.00%	30.00%	**68.00%**	0.00%	100.00%
Total	4	53	80	0	137
	2.92%	38.69%	58.39%	0.00%	!00.00%

Table 7 Explains that majority of male (52.87%) and female (68.00%) respondents are experiencing dominant effects of stress. 43.68% of male and 30.00% of female respondents are having tolerable effects of stress, whereas only 3.45% of male and 2.00% of female respondents are having mild effects on their health.

- **Effects of Stress**

There are 20 statements in the questionnaire for evaluating the effects of stress on IT professionals.

Table 8: Effects of Stress on Employees

Statement	Effects of Stress on Employees
1	I suffer headache / migraine.
2	I suffer High blood pressure.
3	I suffer indigestion / stomach problems.
4	I am unable to concentrate.
5	I am unable to get sound sleep.
6	I suffer muscular tension (neck / back / jaw/ wrist).
7	I suffer loss of appetite.
8	I feel exhausted / fatigued.
9	I suffer palpitation of heart and difficulty in breathing.
10	I get nervousness and anxiety.
11	I get frustrated feelings.
12	I get nightmares and bad memories.
13	I suffer skin rashes.
14	I take leave for personal reasons.
15	I get reduced interest in usual and social activities.
16	I find loss of motivation and commitment.
17	I find reduction in my work output and increase in my error rate.
18	I find deterioration in my planning and control work.
19	My timekeeping becomes erratic and poor.
20	I find increase in my smoking and / or use of alcohol.

The respondents are divided into 4 groups depending upon the total score:

- MILD
- TOLERABLE
- DOMINANT
- HIGHLY DOMINANT

For each group ranks are assigned based on the scores.

Table 9: Ranking of Effects of Stress on Respondents' Health

Statement	Mild	Tolerable	Dominant
1	2	1	1
2	13	2	2
3	2	5	10
4	2	6	6
5	1	3	8
6	8	6	17
7	13	15	16
8	8	9	15
9	2	20	10
10	8	10	8
11	2	11	13
12	19	19	20
13	13	17	19
14	2	12	4
15	8	18	3
16	13	12	17
17	19	12	12
18	8	8	13
19	13	16	4
20	13	4	7

Inference

Only three types of categories are observed:

Mild, Tolerable and Dominant

Effects of stress on these categories are listed in order of their frequent occurrence on the basis of the above table:

- **Mild Group:** Unable to get sound sleep, Suffer headache / migraine, Suffer indigestion / stomach problems, Unable to concentrate, Suffer palpitation of heart and difficulty in breathing, Take leave for personal reason.
- **Tolerable Group:** Suffer headache / migraine, Suffer high blood pressure, Unable to get sound sleep, Find increase in smoking and / or use of alcohol, Suffer indigestion / stomach problems.
- **Dominant Group:** Suffer headache / migraine, Suffer high blood pressure, Get reduced interest in usual and social activities, Take leave for personal reason, Time keeping becomes erratic and poor.

Table 10: Summary of Effects of Stress on Health with Job-related and Demographic Variables

S. No.	Variable	Category	Effects of Stress				Total
			Mild	Tolerable	Dominant	Highly Dominant	
1	Gender	Male	3	38	46	0	87
		Female	1	15	34	0	50
2	Age (Years)	25-30	2	14	29	0	45
		31-40	2	32	47	0	81
		41-50	0	7	4	0	11
3	Experience (Years)	1-5	2	11	29	0	42
		6-10	2	34	47	0	83
		11-15	0	8	4	0	12
4	Education	UG	2	15	28	0	45
		PG/PG+	2	27	34	0	63
		Professional	0	11	18	0	29

5	Salary (Rs. pm)	<35000	0	4	8	0	12
		35001-45000	2	14	27	0	43
		45001-55000	0	17	29	0	46
		>55000	2	18	16	0	36
6	Food Habits	Vegetarian	2	29	55	0	86
		Non-Vegetarian	2	24	25	0	51
7	Marital Status	Un-married	2	16	28	0	46
		Married	2	37	52	0	91
		Others	0	0	0	0	0
8	Type of Family	Joint	2	12	22	0	36
		Nuclear	2	41	58	0	101
9	Spouse's Employment	Employed	1	24	40	0	65
		Not Employed	1	13	12	0	26
		Not Applicable	2	16	28	0	46
10	Presently Staying	With Family	3	24	43	0	70
		Away from Family	1	29	37	0	67

Findings

- **Demographic & Job-Related Profile**
  - Majority of respondents (63.50%) are male.
  - Majority of respondents (59.12%) of respondents are in the age range 31-40.
  - Majority of respondents (60.58%) have 6 to 10 years' experience.
  - 45.98% are post-graduates or possess higher qualification. 32.85% are graduates, whereas 21.17% have professional qualification.
  - 33.57% respondents are drawing salary in the range 45001-55000, followed by 31.39% in the range 35001-45000. 26.28% are drawing salary greater than 55000 whereas only 8.76% draw salary lower than 35000.
  - Majority of respondents (62.77%) are vegetarians.
  - Majority of respondents (66.42%) are married.
  - The families of majority of respondents (73.72%) are of nuclear type.
  - Majority of respondents (47.44%) have employed spouse.
  - Majority of respondents (51.09%) are staying with their families.
- **Explorative Data Analysis**
  - Majority of respondents (86.86%) are having high stress level whereas 11.68% respondents have medium stress level. Only 1.46% respondents experience extreme level of stress. **(Table 3)**.
  - Majority (58.39%) respondents experience dominant level of effect due to stress whereas 38.69% respondents experience tolerable level of effect. Only 2.92% respondents are having mild effect of stress. **(Table 4)**.
  - In the medium and high stress categories, majority of respondents (62.50% and 58.82 respectively), are having dominant effect of stress. **(Table 5)**.
  - Majority of male (86.21%) and female (88.00%) respondents are experiencing high stress level. **(Table 6)**.
  - Majority of male (52.87%) and female (68.00) respondents are experiencing dominant effects of stress. **(Table 7)**.
- **Effects of Stress**

The following are the observed effects of stress experienced by various categories of respondents in order of their occurrence: **(Table 9)**

- **Mild Group:** Unable to get sound sleep, Suffer headache / migraine, Suffer indigestion / stomach problems, Unable to concentrate, Suffer palpitation of heart and difficulty in breathing, Take leave for personal reason.
- **Tolerable Group:** Suffer headache / migraine, Suffer high blood pressure, Unable to get sound sleep, Find increase in smoking and / or use of alcohol, Suffer indigestion / stomach problems.

- **Dominant Group:** Suffer headache / migraine, Suffer high blood pressure, Get reduced interest in usual and social activities, Take leave for personal reason, Time keeping becomes erratic and poor.

The effects of stress due to various demographic and job-related variables, on health of majority of respondents, are of dominant nature. **(Table 10)**

Conclusion

The present research study has investigated the effects on IT professionals of multinational companies located at Noida City. Various statistical tools provided by world renowned statistical software packages: SPSS, JASP and Real Statistics Using Excel have been used in the analysis. The profile of the sample-respondents as portrayed by their demographic and job-related variables has been analyzed in detail. Explorative study has shown that majority of respondents are having high stress level. Effects of stress on respondents' health have been investigated in detail. It has been observed that majority of respondents experience dominant level of effect. The observed effects of stress experienced by various categories of respondents have been identified and listed in order of their occurrence. Analysis reveals that effects of stress due to various demographic and job-related variables on the health of majority of respondents are of dominant nature.

It is believed that the findings of this research study will help IT professionals and companies in understanding of stress and its effects in a better way. This will help them in developing strategies for better stress management. In brief, the results of this investigation would contribute significantly in better understanding of stress and its effects on I.T. professionals of multinational companies and will be helpful in managing this important problem. The results of this research study would certainly enrich the present literature on stress management.

References

1. Cannon, W. (1932), 'Wisdom of the body', Norton and Company (USA).
2. Selye, Hans (1956), 'The Stress of Life', Longmans, Green and Co., London (Great Bretain).
3. Bennet, R. (1994). 'Organisational Behavior', 2nd Ed., Pitman Publishing, London.
4. Robbins, S.P. (2003). 'Organizational Behavior', Pearson Education (Singapore) Pte Ltd., India Branch, Delhi.
5. Keeley, K. and Harcourt, M. (2001). 'Occupational Stress: A Study of the New Zealand and Reserve Bank', Research and Practice in Human Resource Management, 9(2), pp. 109-118.
6. Sauter, S.L. and Murphy, L.R. (1995). 'Organizational risk factors for job stress', American Psychological Association, Washington, D.C.
7. Quick, J.C. and Quick, J.D. (1984), 'Organizational stress and preventive management', McGraw-Hill, New York.
8. Hendrix, W. et al. (1994). 'Organizational and Extra Organizational Factors Affecting Stress, Employee Well-being, and Absenteeism for Males and Females', Journal of Business & Psychology, 9, 2, pp. 103-128.
9. Cooper, C.L. and Marshal, J. (1976). 'Occupational Sources of Stress: A review of the literature relating to coronary heart disease and mental ill hearth, Journal of Occupational Psychology', 49, pp. 11-28.
10. Aziz, M. (2003), 'Organizational role stress among Indian information technology professionals', Asian Pacific Newsletter on Occupational Health and Safety, 2003, 10 (2), pp. 31-33.
11. Talwar, R., Kapoor, R. Puri, K. Bansal, K. and Singh, S. (2009), 'A Study of Visual and Musculoskeletal Health Disorders among Computer Professionals in NCR Delhi', Indian Journal of Community Medicine, 34(4), October 2009, pp. 326-328.
12. Rao, Jakkula V. and Chandraiah, K. (2012), 'Occupational stress, mental health and coping among information technology professionals', Indian Journal of Occupational & Environmental Medicine, 16(1), Jan-April 2012, pp. 22-26.
13. Shrivastava, S.R. and Bobhate, P.S. (2012), 'Computer related health problems among software professionals in Mumbai: A cross-sectional study', International Journal of Heath & Allied Sciences, Vol. 1, Issue 2, 2012, pp. 74-78.
14. Darshan M.S., Raman, R., Rao, T.S.S., Ram, D. and Annigeri, B. (2013), 'A study on professional stress, depression and alcohol use among Indian IT professionals', Indian Journal of Psychiatry, 55(1), Jan-March 2013, pp. 63-69.

15. Dwamena , M.A. (2012), 'Stress And Its Effects On Employees Productivity – A Case Study Of Ghana Ports and Harbours Authority, Takoradi', MBA Thesis, Institute of Distance Learning Kwame Nkrumah University of Science and Technology.
16. Nayak, R.D. (2014), 'Anxiety and Mental Health of Software Professionals and Mechanical Professionals', International Journal of Humanities and Social Science Invention, Vol. 3, Issue 2, February 2014, pp. 52-56.
17. Jomoah, I.M. (2014), 'Work-Related Health Disorders among Saudi Computer Users', Hindawi Publishing Corporation, The Scientific World Journal, Vol. 2014, Article ID 723280, 27 pages.
18. Saleem, M., Priya, S., Govindrajan, R., Balaji, E. Diwahar, A.J., Shylendra Babu, P.G. and Dhivypriya, S. (2015), 'A cross sectional study on work related musculoskeletal disorders among software professionals', International Journal of Community Medicine and Public Health, 2(4), November 2015, pp. 367-372.
19. Padma, V., Anand, N.N., Gurukul, M.G.S., Syed, S.M.A., Javid, M., Prasad, A. and Arun, S. (2015), 'Health problems and stress in Information Technology and Business Process Outsourcing employees', Journal of Pharmacy & BioAllied Sciences, April 2015, 7 (Suppl 1), S9-S13.
20. Ekienabor, E.E. (2016), 'Impact Of Job Stress On Employees' Productivity And Commitment', International Journal for Research in Business, Management and Accounting, Vol. 2, Issue 5, May 2016, pp. 124-133.
21. Okeke, M.N., Ojan, E. and Oboreh, J.C. (2016), 'Effects Of Stress On Employee Productivity', International Journal of Accounting Research (IJAR), Vol. 2, No. 11, 2016, pp. 38-49.
22. Sabbarwal, S., Singh, M.M. and Amiri, M. (2017), 'Occupational Stress On Employees In Information Technology Organization', Asian Journal of Social Sciences & Humanities, Vol. 6 (3), August 2017, pp. 103-109.
23. Shalini, S. and Brindha, C. (2018), 'A study on job stress of IT women employees in selected IT Companies: With special reference to Coimbatore City', International Journal of Applied Research, 4(1), 2018, pp. 342-348.
24. Sudarshini, S., Anantha Raman, V.V. and Mathew, A.M. (2018), 'Computer Professionals and their Health issues and Managements', International Journal of Public health Research, Vol. 5, Issue 3, July-September 2018, pp. 117-122.
25. Srinivas, P.S., Kumari, S., Akhilesh, K.B. and Nagendra, H.R. (2015), 'Is job anxiety and perceived stress modifiable in Indian IT Professionals? An experimental study using Yoga-based intervention', Journal of Health Research and Reviews, Vol. 2, Issue 3, September – December 2015, pp. 81-85. (Downloaded free from http://www.jhrr.org on Monday, March 18, 2019)
26. Marczyk, G., DeMatteo, D. and Festinger, D., 2005, 'Essentials of Research Design and Methodology', John Wiley & Sons, Inc., New Jersey (USA).
27. Adams, J., Khan, Hafiz T.A., Raeside, R. and White, D., 2007, 'Research Methods for Graduate Business and Social Science Students', Response Books, Business Books from SAGE, New Delhi.
28. Kothari, C.R., 2004, 'Research Methodology : Methods & Techniques', New Age International (P) Limited Publishers, New Delhi.
29. Kumar, Ranjit, 2011, 'Research Methodology : a step-by-step guide for beginners', SAGE Publications Ltd., London.
30. SPSS (Statistical Package for Social Sciences', Distributors: SPSS Inc., Chicago (USA).
31. JASP (Jeffereys's Amazing Statistic Program), University of Amsterdam, The Netherlands. (https://jasp-stats.org)
32. Real Statistics Using Excel, Developed by: Charles Zaiotz. (http://www.real-statistics.com).

APPENDIX

Questionnaire

RESEARCH ON STRESS MANAGEMENT IN INFORMATION TECHNOLOGY COMPANIES

Questionnaire

*

PERSONAL PROFILE

1. Designation :_____
2. Sex : Male [ ] Female [ ]
3. Age (Years) : 25-30 [ ] 31-40 [ ] 41-50 [ ] 51-60 [ ]
4. Experience in Years : 1-5 [ ] 06-10 [ ] 11-15 [ ] 16-20 [ ] >21 [ ]
5. Education : UG [ ] PG & above [ ] Professional [ ]
6. Salary (p.m.) : < 35,000 [ ] 35,001-45,000 [ ] 45,001-55,000 [ ] > 55,000 [ ]
7. Food Habits : Vegetarian [ ] Non-Vegetarian [ ]
8. Marital Status : Un-Married [ ] Married [ ] Others [ ]
9. Type of Family : Joint [ ] Nuclear [ ]
10. Spouse is employed : Yes [ ] No [ ] Not Applicable [ ]
11. Presently Staying : With family [ ] Away from family [ ]

Questionnaire

Note: Each statement has five choices :

SD: Strongly Disagree D: Disagree NS: Not Sure A: Agree SA: Strongly Agree

S.No.	[A] Individual Stressors	SD	D	NS	A	SA
1.	People frequently hurt my feelings.					
2.	Illness / poor health of my kid/relative worries me.					
3.	I am worried about the studies / future career of my children.					
4.	Due to criminal offences in society, I am worried about the safety of my family.					
5.	My residence is not satisfactory. It causes frequent problems.					
6.	My neighbours are a constant source of worries for me.					
7.	Financial problems / debts etc. are worrying me.					
8.	Some dispute in my family is causing worry.					
9.	Some pending legal case is a constant source of worry.					
10.	I am finding it difficult to make proper time management.					
	[B] Environmental (Working Conditions) Stressors	**SD**	**D**	**NS**	**A**	**SA**
11.	My office is located at an inconvenient place.					
12.	My office is overcrowded which causes discomfort and uneasiness.					
13.	Working conditions in my office (orientation / illumination / humidity /noise level / drinking water / toilets etc.) are not satisfactory.					
14.	Constant exposure to radiations (Due to computers, printers, counting machines, air conditioners, nearby mobile tower etc.) cause health hazards .					
15.	Surveillance system in the office causes discomfort.					
	[C] Stressors related to Nature of Job	**SD**	**D**	**NS**	**A**	**SA**
16.	I have heavy work load in this job. This affects the quality the company expects from me.					
17.	Rest breaks are not adequate.					
18.	Many times I have to work beyond the specified time to attend meetings, project discussions, presentations etc.					
19.	My job interferes with my family/social obligations.					
20.	Many times I have to face unexpected difficulties in day today work.					

S.No.	[D] Group Stressors	SD	D	NS	A	SA
21.	We are short of working staff.					
22.	There is lack of sufficient mutual cooperation and team spirit among the group members.					
23.	Distribution of work among the group members is not proper. Many times I have to do such work as ought to be done by others.					
24.	Some of my colleagues are unfriendly. They try to defame me or try to malign my image.					
25.	I have a feeling of being undervalued when my colleagues do not show much response to my suggestions.					
	[E] Stressors related to Subordinates	**SD**	**D**	**NS**	**A**	**SA**
26.	Subordinate staff is inadequately trained, which causes problems.					
27.	Subordinate staff is not cooperative.					
28.	Subordinate staff is not motivated to perform better.					
29.	Subordinate staff is in not productive.					
30.	I have responsibility for too many people.					
31.	I cannot delegate my responsibility easily.					
	[F] Stressors related to Organizational Climate	**SD**	**D**	**NS**	**A**	**SA**
32.	The people in my office do not work well together.					
33.	Organization does not give clear instructions and goals.					
34.	There is conflict among various groups of organization.					
35.	Working procedures of the office are very rigid.					
36.	My superiors do not give me adequate feedback about my performance.					
37.	Bullying and harassment is prevailing in the organization.					
38.	Roles and responsibilities are not clearly communicated to employees.					
39.	Planning mismanagement consequences.					
40.	There is lack of transparency in organization.					
	[G] Stressors related to Relationship within Organization	**SD**	**D**	**NS**	**A**	**SA**
41.	There is lack of proper communication with the management. I cannot speak freely to my closest supervisor about difficulties.					
42.	There is lack of warmth and support from the management.					
43.	Prevailing favouritism / bias causes high level of stress.					
44.	There is insufficient praise or confidence building efforts by the management.					

S.No.	[G] Stressors related to Relationship within Organization	SD	D	NS	A	SA
45.	There is unfair treatment with the employees.					
	[H] Stressors related to Role in the Organization	**SD**	**D**	**NS**	**A**	**SA**
46.	My authority does not match my responsibility. I lack sufficient power and influence.					
47.	I am unable to perform my duties smoothly owing to interference in my working method or my jurisdiction.					
48.	My opinions are not sought in decision making or in framing important policies of the department / organization.					
49.	My contributions are not valued in the organization.					
50.	I am being asked to do more than my ability permits.					
	[I] Stressors related to Career Design	**SD**	**D**	**NS**	**A**	**SA**
51.	The organization does not offer competitive salary and other monetary benefits.					
52.	I do not get promotion / increment adequately equal to my ability.					
53.	My skills are not being utilized to my satisfaction.					
54.	There is no security of job which creates huge amount of stress.					
55.	There is little prospect of personal or professional growth in this job.					
	[J] IT Specific Stressors	**SD**	**D**	**NS**	**A**	**SA**
56.	Globalization has resulted in stiff market competition, which compels IT employees to work harder to stay competitive.					
57.	High demands for innovative and customized products keep the working team under constant stress.					
58.	Work intensity, time pressure and constant deadlines cause immense stress.					
59.	Many times, unreasonable demands of customers cause a lot of tension.					
60.	Many times, due to too much monotonous work, I get bored.					
61.	Sometimes I get confused due to contradictory expectations, different people have from me.					
62.	I need more training and preparation to be more effective in my work, however in service training facilities are inadequate.					
63.	I have to do a lot of travelling for my job, which causes a lot of inconvenience and stress.					

S.No.	[J] IT Specific Stressors	SD	D	NS	A	SA
64.	I can't enjoy my leisure because the toll my job takes on my energy.					
65.	There is obvious discrimination in terms of payment of compensations among the employees working in a specific group.					
66.	Frequent Internet or network connectivity failures cause stress.					
67.	Recession is affecting employment in IT sector.					
68.	Mergers and acquisitions of companies create redundancy.					
69.	Outsourcing IT work causes a lot of complications.					
70.	Sometimes we have to favour customers out of the way to retain them.					
	[K] Extra Organizational Stressors	**SD**	**D**	**NS**	**A**	**SA**
71.	Prices are sky-rocketing.					
72.	Frequent power cut causes discomfort.					
73.	Environment pollution specially air pollution causes a lot of discomfort.					
74.	Unsafe roads and frequent traffic jams cause a lot of stress.					
75.	Unexpected life events (such as demise of a member of the family) cause acute stress.					

Effects of Stress on Employees

Note : Each statement has five choices :

A : Always F : Frequently O : Often S : Sometimes N : Never

S.No.	[L] Effects of Stress on employees	A	F	O	S	N
1.	I suffer headache / migraine.					
2.	I suffer High blood pressure.					
3.	I suffer indigestion / stomach problems.					
4.	I am unable to concentrate.					
5.	I am unable to get sound sleep.					
6.	I suffer muscular tension (neck / back / jaw/ wrist).					
7.	I suffer loss of appetite.					
8.	I feel exhausted / fatigued.					
9.	I suffer palpitation of heart and difficulty in breathing.					
10.	I get nervousness and anxiety.					
11.	I get frustrated feelings.					
12.	I get nightmares and bad memories.					
13.	I suffer skin rashes.					
14.	I take leave for personal reasons.					
15.	I get reduced interest in usual and social activities.					
16.	I find loss of motivation and commitment.					
17.	I find reduction in my work output and increase in my error rate.					
18.	I find deterioration in my planning and control work.					
19.	My timekeeping becomes erratic and poor.					
20.	I find increase in my smoking and / or use of alcohol.					

Stress Management Methods used by IT Employees

Note : Each statement has five choices :

A : Always F : Frequently O : Often S : Sometimes N : Never

S.No.	[M] Stress Management Methods used by IT Employees	A	F	O	S	N
1.	I maintain a positive attitude. I try to identify the root cause of stress and try to deal with it.					
2.	I talk and share my problems with someone I trust. I seek his help in solving the problem if possible. I also seek guidance of my immediate supervisor. This also helps in distracting myself from stressful thoughts, thus releasing some of my built-up tension.					
3.	I try to keep myself organized. I come up with an organized plan for handling the stressful situation.					
4.	I avoid using caffeine, alcohol, nicotine, junk food, binge eating and drugs as means of coping with stress.					
5.	I do not skip any meals. I eat healthy and well-balanced diet.					
6.	I manage my time well. I keep a balanced schedule, not over committing myself, planning regular breaks, dealing tasks in priority, reducing meeting time (by setting time limits), planning an agenda and sticking to it.					
7.	I delegate some of my unimportant responsibilities.					
8.	I set realistic goals for myself. I avoid setting myself for failure by setting unrealistic goals.					
9.	I set aside some time everyday for relaxation. I identify things that are working well and I celebrate my successes.					
10.	I say "NO" politely but emphatically to additional or unimportant requests. This helps in reducing unnecessary stress.					
11.	I try to follow a healthy life style by following regular physical exercise routine. Even a twenty minutes walk, run, swim or dance session in the midst of a stressful time gives an immediate benefit.					
12.	I take a day off from work and just spend the day doing what I want to do. A short spell of rest enables my body to recover faster. This recharges me.					
13.	I book a massage or a spa treatment. In this way I indulge my senses to better manage my stress.					
14.	I get enough sleep. When stressed, my body needs additional sleep .					

S.No.	[M] Stress Management Methods used by IT Employees	A	F	O	S	N
15.	Whenever I face an unpleasant situation, I take a deep breath and count to ten or twenty before saying or doing anything. Taking a deliberate pause has a calming effect and allows me extra time to reassess the situation before taking possibly regrettable actions on impulse,					
16.	I try mindfulness meditation. This helps in relaxing my mind and body, thus focusing my thoughts.					
17.	I practice Yoga. This is good for body as well as mind.					
18.	I make time for music, art or other hobbies that help relax and distract myself from stressful thoughts.					
19.	I take out-of-work interest and leisure activities. I volunteer or find another way to be active in my community, which creates a support network and gives me a break from everyday stress.					
20.	I talk to a physician or a therapist for professional help.					

Stress Management Methods used by IT Companies

Note : Each statement has five choices :

A : Always F : Frequently O : Often S : Sometimes N : Never

S.No.	[N] Stress Management Methods used by IT Companies	A	F	O	S	N
1.	Organization arranges educational and training courses to upgrade the skills and techniques of employees so that they can perform better. This effectively reduces their work-related stress.					
2.	Organization provides adequate equipment and resources to employees so that they can perform their roles effectively.					
3.	Organization provides a supportive, approachable and appreciative climate. This helps in reducing employee stress.					
4.	Organization provides an interacting and communicative environment through blog and internal email service. It motivates the employees and promotes open discussion and helps them solving job related stressful problems.					
5.	Organization gives clear direction about the job that the employees are supposed to do. This avoids role conflicts to a great extent and reduces stress.					
6.	Organization gives freedom to employees to do their job in a more innovative manner to avoid monotonous nature of the job.					
7.	Organization consults and gives employees opportunity to participate in decisions that affect their jobs.					
8.	Organization provides sufficient holidays to employees doing stressful work so that they can spend a quality time along with the friends and family members in a good place without worrying about their job related tension.					
9.	Organization arranges stress control workshops and burnout seminars for the benefit of employees.					
10.	Organization permits flexibility in working hours and well planned shifts.					
11.	Organization does not allow any discrimination in terms of payment of compensations among employees working in a group.					
12.	Organization provides the facility of relaxation room to reduce work tension.					
13.	Organization arranges workshops for yoga and meditation to reduce employee stress.					

S.No.	[N] Stress Management Methods used by IT Companies	A	F	O	S	N
14.	Organization subsidizes for employee's gym membership under health promotion intervention programme.					
15.	Organization encourages employees to exercise and have head massage during working days to reduce their stress.					
16.	Organization encourages employees to participate in social activities, where they can actively work for betterment of the society.					
17.	Organization arranges celebration of company events to recognize employee and team accomplishments.					
18.	Organization arranges celebration of festivals.					
19.	Organization provides services of counselor and therapist for the benefit of employees.					
20.	Organization cultivates a friendly climate and establishes a zero-tolerance policy for harassment					