

# A Quantitative Erudition of Occupational Stress in Information Technology Professionals

B. Prathyusha<sup>1</sup>, Ch. S. Durga Prasad<sup>2</sup> and M. Sudhir Reddy<sup>3</sup>

<sup>1</sup>Department of Humanities and Sciences, VNR Vignana Jyothi Institute of Engineering and Technology  
Hyderabad, Telangana, India

<sup>2</sup>Department of HR & OB, Vignana Jyothi Institute of Management,  
Hyderabad, Telangana, India

<sup>3</sup>NTMIS, Jawaharlal Nehru Technological University,  
Hyderabad, Telangana, India

## Abstract

Occupational Stress is an inevitable consequence in the Information Technology (IT) sector. The IT professionals are characterized with long working hours, tight schedules, high competition, continuous viewing of Visual Display Unit (VDU) and etc., are taking their toll which is leading to Occupational Stress. In this scenario, the current study was undertaken to measure occupational stress among IT Professionals. The sample comprised of 500 IT Professionals working in various IT corporates in Hyderabad, Telangana State. The Occupational Stress Index (OSI) developed by Srivastava A. K. and Singh A. P. (1984) was used for data collection. The data obtained was analysed using descriptive statistics. The results clinched that the IT Professionals are experiencing high levels of stress.

**Keywords:** Occupational stress, Occupational Stress Index, Information Technology (IT) Professional.

## 1. Introduction

The emergence of technological revolution and LPG policies (Liberalization, Privatisation and Globalisation) has drastically changed conventional patterns and led to computerization in all sectors and walks of life. The trend of IT business was so affluent that the demand for good IT professionals has drastically increased. The necessity of intellectual personnel has led severe shortage of quality personnel in IT houses. The unavailability of IT professionals augmented the work on the existing personnel leading to Occupational Stress, Strain and depression.

## 2. Occupational Stress

According to NIOSH (National Institute for Occupational Safety and Health) "Occupational Stress is the harmful physical and emotional responses that occur when the requirements of the job do not match the capabilities, resources, or needs of the worker".

Beehr and Newman defined occupational stress as, 'a condition arising from the interaction of people and their

jobs and characterized by changes within people that force them to deviate from their normal functioning".

Occupational stresses have influential effects on employees' behaviour and on the job. Considering the colossal significance of assessing occupational stress there is a need for systematic study of stress in organizational setting.

## 3. Literature Review

The numerous research studies on occupational stress have provided substantial evidence supporting the notion that exposure to work stressors has a negative impact on a personnel.

Dr.Sumangala and Dr.D.Souza Lancy in their study on 'Martial Status and Stress- A Study on Information Technology employees' stated that there is a significant difference found among married and unmarried I.T. employees on the subscales- unreasonable group and political pressure, responsibility for persons, under participation and powerlessness. However significant difference was not found on other subscales and total occupational stress. It was also observed that married employees had comparatively more stress on the subscales- 'unreasonable group and political pressure' and 'responsibility for persons' and unmarried employees had comparatively more scores on subscales- 'under participation' and 'powerlessness'.

K.S.Rajeswari and R.N.Anantharaman in their study 'Development of an instrument to measure stress among software professionals: factor analytic' found out that sources of negative pressure among software professionals is from the perspective of the software development process. The results indicated that stress is more from factors like fear of obsolescence and individual team interactions.

A study by K.S. Rajeswari, R. N. Anantharaman on “Role of Human-Computer Interaction factors of occupational stress and work exhaustion” found out that IT professionals have long work hours, total teamwork, tight deadlines, which requires interpersonal, technical and organizational skills. These characteristics lead to occupational stress.

Mohsin Aziz in her Study on “Role stress among women in the Indian information technology sector” plugs out that the organisational stress originates in organisational demands that are experienced by the individual. Stress is built up in the concept of role which is conceived as the position a person occupies in a system. Her study investigates the intensity of organisational role stress among women informational technology professionals in the Indian private sector.

Bergkvist U on the study “Health Problems during Work with Visual Display Terminals” reported problems in IT-supported work are well known and well-documented. The main symptoms are visual discomfort, musculoskeletal disorders, repetitive strain injuries (RSI) and stress-related symptoms.

Latha G and Panchanatham N in their study “Job Stress Related Problems and Coping Strategies” found out the job stressors and their implications on the job performance of 40 software professionals. Result showed that work load acts as major stressors for software professionals. Long work hours are indirectly associated with psychological distress.

Weiss M in the study “Effects of work stress and social support on information systems managers” a considerable amount of research pertaining to the antecedents and consequences of work-related stress, burnout and the exhaustion among IS professionals can be found in the normative literature.

Lim VKG and Teo TSH in “Gender differences in occupational stress and coping strategies among IT personnel” examined stress and coping strategies among IT personnel in Singapore. Their research found that women more likely to seek social support than their male counterparts when dealing with stress. Male IT personnel, on the other hand, were likely to engage in ‘logic’ i.e., suppress their emotions and deal with stress in an objective and unemotional manner.

From the above stated studies it can be concluded that individuals are affected by Occupational Stressors. Studies on Occupational Stress are conducted in various parts of India like Mumbai, Chennai, Delhi, Pune and Gurgaon but very little or no emphasis is been given to the study of occupational stress and stressors of IT Professionals in Hyderabad.

#### **4. Highlights of Telangana’s IT Policy 2016: A Role Model for Smart Governance :( declared on April 4<sup>th</sup>, 2016)**

- Hyderabad, the capital of Telangana, is now recognized as one of the leading Information Technology hubs globally. It houses over 1200 IT companies, both large and small which together employ close to 4 Lakhs professionals, besides supporting an indirect employment to over 6.5 Lakhs people. The Government also plans to double the current employment of 4 Lakhs in 5 years.
- Telangana IT sector has logged exports of Rs.68,000 crores in the year 2014-15 and given current rate of growth, it is expected to touch Rs.1,00,000 crores within 24 months.
- Telangana seeks to attract \$3 billion investments and create about 1.6 lakh job.
- Telangana’s IT growth rate is 15% as against the country’s rate of 13%.
- Telangana State Government wants to expand the IT business even to Tier-II and Tier-III cities and small towns.

#### **5. Need for the Study**

With this new (IT Policy 2016) and old (IT Policy 2015) initiatives taken by the Government of Telangana, there is a huge need of quality IT personnel. This requirement has led to wide gap between the number required and the number available leading to augmented level of occupational stress on existing employees. In this backdrop, there is a need for the study of occupational stress among software professionals in Hyderabad, Telangana State. The report generated by this study will help the IT companies, personnel and IT sector.

#### **6. Objectives**

The present research is envisioned to measure the level of stress among IT professionals on the 12 dimensions of Role Overload, Role Ambiguity, Role Conflict, Unreasonable Group and Political Pressure, Responsibility for persons, Under Participation, Powerlessness, Poor Peer Relations, Intrinsic Impoverishment, Low Status, Strenuous Working Conditions and Unprofitability.

#### **7. Hypothesis**

There is no insignia of presence of Occupational Stress among Information Technology Professionals on the varied dimensions of Occupational Stress Index (OSI).

## 8. Method

### 8.1 Research Design

The research design used for the tenacity of conducting the present research is a quantitative research design. According to Burns and Grove, “Quantitative research is a formal, objective, systematic process in which numerical data is used to obtain information about the world. It is used to describe variables, to examine the relations between them and to determine cause and effect interactions between the variables”.

### 8.2 Sample

Using Snowball Sampling which is a type of non-probability sampling technique, a total of 500 IT professionals were selected for the present study from various IT companies in Hyderabad.

### 8.3 Tools used

For measuring Occupational Stress in IT professionals, Occupational Stress Index (OSI) developed by Srivastava A. K. and Singh A. P. (1984) was used. The questionnaire purports to measure the magnitude of stress which personnel perceives from various elements/factors of their job.

The scale consists of 46 items, each to be rated on five point scale. Out of 46 items, 28 are true-keyed items and 18 are false keyed items.

The following two different patterns of scoring were espoused depending on the ‘true-keyed’ or ‘false-keyed’ nature of the items:

Table 1 : Scores of different responses for true and false –keyed items

| Type of response  | Scores     |             |
|-------------------|------------|-------------|
|                   | True-Keyed | False-Keyed |
| Strongly Agree    | 5          | 1           |
| Agree             | 4          | 2           |
| Neutral           | 3          | 3           |
| Disagree          | 2          | 4           |
| Strongly Disagree | 1          | 5           |

The reliability of the index as a whole ascertained by Split Half (Odd Even) method and Cronbach’s alpha-coefficient for the scale were found to be .935 and .90 respectively.

Table 2: Estimation of level of Occupational Stress

| Score     | Level of Occupational Stress |
|-----------|------------------------------|
| Below 115 | Low                          |
| 116-161   | Moderate                     |
| Above 161 | High                         |

### 8.4 Results and Discussions

The Demographics of the sample are shown in Table 3.

Table 3: Demographic characteristics of the sample

| Parameters      | Sample      | Frequency | (%) |
|-----------------|-------------|-----------|-----|
| Gender          | Male        | 400       | 80  |
|                 | Female      | 100       | 20  |
| Age             | 21-25       | 110       | 22  |
|                 | 26-30       | 106       | 21  |
|                 | 31-35       | 123       | 25  |
|                 | 36-40       | 98        | 20  |
|                 | Above 40    | 63        | 12  |
| Position/ level | Operational | 340       | 68  |
|                 | Middle      | 120       | 24  |
|                 | Higher      | 40        | 8   |

The overall level of Occupational Stress among IT Professionals is shown in Table 4.

Table 4: Level of Occupational Stress

|                     | Mean   | S.D.  |
|---------------------|--------|-------|
| Occupational Stress | 276.49 | 9.473 |

From the above table, it is evident that there is a significant stress among the IT Professionals which can be concluded from the mean scores on the 12 dimensions of OSI i.e., greater the mean scores greater the stress level of the professionals. Hence the null hypotheses that there is no insignia of presence of Occupational Stress among Information Technology Professionals on the varied dimensions of Occupational Stress Index is rejected and alternative hypothesis is established that there is insignia of presence of occupational stress among IT Professionals on the various dimensions of OSI.

To gain a better intuition into impost of the level of Occupational Stress with respect to 12 dimensions of Occupational Stress Index individually, mean scores and Standard Deviation are observed and interpreted in Table 5.

Table 5: Descriptive Statistics

| Sl.no | Dimensions                                | Mean  | S.D. |
|-------|---|-------|------|
| 1     | Role Overload                             | 3.650 | .645 |
| 2     | Role Ambiguity                            | 3.212 | .610 |
| 3     | Role Conflict                             | 3.164 | .618 |
| 4     | Unreasonable Group and Political Pressure | 2.989 | .656 |
| 5     | Responsibility for persons                | 2.723 | .713 |
| 6     | Under-participation                       | 2.812 | .659 |
| 7     | Powerlessness                             | 2.982 | .787 |
| 8     | Poor-Peer Relation                        | 2.751 | .619 |
| 9     | Intrinsic Impoverishment                  | 2.900 | .712 |
| 10    | Low Status                                | 2.801 | .714 |
| 11    | Strenuous Working Conditions              | 2.951 | .685 |
| 12    | Unprofitability                           | 2.991 | .861 |

It can be interpreted from the above table 5 that Role Overload, Role ambiguity and Role Conflict have high mean scores when compared to other dimensions, which means that IT professionals are highly stressed on these three dimensions.

### Conclusions

From the above discussions it can be concluded that Occupational Stress exists in IT Professionals. To overcome the problem of occupational stress the organizations must educate their employees about stress and train them through various stress management programmes. Not only at organizational level but also but also at individual level professionals need to follow stress management strategies like Yoga, meditation, Biofeedback etc.

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Ms. B.Prathyusha is a Research Scholar and working as Assistant Professor in VNR Vignana Jyothi Institute of Engineering and Technology, Hyderabad, Telangana, India. She has presented papers in National and International Conferences and published papers in international journals on Stress Management topics. Her current interested research areas are Stress Management, WLB and Performance Management.

**Dr. Ch.S. Durga Prasad**, is a Dean-Administration & Finance and Professor in HR & OB, in Vignana Jyothi Institute of Management, Hyderabad, Telangana, India. He has presented papers in various international and national conferences and has multiple international and national journals publications to his credit. His current areas of research interest Stress Management, Training and Development, WLB and Performance Management.

**Dr. M. Sudhir Reddy** is a Project officer, NTMIS, Jawaharlal Nehru Technological University, Hyderabad, Telangana, India. He has been guiding various doctoral research scholars on various topics and has several paper publications in national and international journals. His current research interest areas are Work Life Balance, Stress Management, Consumer Behavior, etc.