# STRESS AMONG OF SOFTWARE PROFESSIONALS IN TAMIL NADU

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## Abstract

Software job is a stressful job. It is difficult to say what factors contribute to this stress, because job stress may be caused by a complex set of reasons. Some of the most visible factors of job stress are Work Stressors, Role Stressors, Personal development stressors, Interpersonal relation Stressors and Organizational climate Stressors. The present study investigates factors that contributed to stress and relations among the stress factors of software professionals. An analysis of 100 professionals serving different software companies was carried out. The gathered data was analyzed using various analyses. The study reveals that the organisational climate with all other stressors and that the software professionals are much concerned of accommodating themselves to different roles in performing the work assigned.

**Key Words:** work stress, software employees, organization, climate, regression analysis.

## Introduction:

The concept of stress was first introduced in the life sciences by Selye Hans in 1936. According to the National Institute for Occupational Safety and Health, Job stress is commonly defined as the harmful physical and emotional responses that occur when the demands of the job exceed the capabilities, needs or resources of the worker. Job stress results from the interaction of the worker and the conditions of the work. Views differ on the importance of worker characteristics versus working conditions as the primary causes of job stress. Software job is stressful job since the software development process is quite complex, from understanding of clients" requirement to the maintenance phases, different sets of knowledge and skills are required. Hence, various personnel are involved in a cycle, like business developers, project managers, system analysts, programmers, coders, and quality assurance people; apart from other consultants who provide the insight into the domain knowledge of the area in which software is developed. The factors leading to stress among individual are called as stressors. Various factors have been identified as stressors among software development personnel. However, we have identified five major stressors through the literature review that are crucial in determining the job related stress among professionals. These factors are work stressors, role stressors, Personal development stressors, interpersonal relationship stressors and organizational climate stressors.

**Review of Literature:**

Fujigaki (1993) and Furuyama (1994) have tried to measure the causes of stress among programmers and the impact of the stress in creating different types of errors in their work. Significantly, they have mentioned that stress is present in almost all phases of software development life cycle. According to Fairbrother and Warn (2003), occupational stress can cause a loss of sense of responsibility, a lack of concern for coworkers, a breakdown in interpersonal relationships with coworkers, low levels of understanding and tolerance, irritability, indecisiveness, poor communication, poor interpersonal skills, feelings of alienation and isolation, a loss of ability to control one's own emotions, a decrease in job satisfaction, poor organizational commitment, issues with staff retention, early retirement, poor interpersonal skills, and premature death. Hoonakker (2005) debated various elements related to turnover and the quality of one's working life. He made the point that when job and family obligations overlap, it might lead to conflicting psychological demands, stress, and despair.

**Objectives of the study:**

The present study carried with the following objectives:
1. To analyse the demographic profile of the sample software employees in Tamilnadu
2. To measure the level of stress among software professionals in Tamilnadu
3. To analyse the relationships among the selected stress factors of software professionals in Tamilnadu

**Methodology**

The sample selected was 100 software professionals from the state of Tamilnadu on the basis of random sampling method. The stress level of software professionals was measured in this study using the instrument created by Telaprolu and George (2005). The total scale's dependability was 0.8386. Each item in the instrument has a logical connection to the study's objectives, supported by the literature review, ensuring its validity. There are two components to the instrument. The first section asks questions on demographic factors including gender, age, job title, pay, and kind of organization, among others. The second section is made up of questions about measuring several stressors that have been recognized as possible sources of stress.

**Analysis and Interpretation:**

The results of the analysis of the collected data are presented below:

**Socio-demographic variables of respondents:** Participants in this study varied in age from 21 to 45, with an average age of 28.8 years and a standard deviation of 4.1 years. With an average of 7.4 years and a standard deviation of 1.6 years, their experience ranged from 1 to 14 years.

The sample that there are 74% more male respondents in the sample than female respondents (25%). The age distribution of the respondents is divided into four groups: 26% are under 25, 44% are between 25 and 30, 21% are between 30 and 35, and 7% are above 35. According to the respondents' marital status, 55% are married and 45% are single. The sample shows 51% are post-graduates.

**Descriptive Analysis:**

The average level of intensity of each subscale along with their standard deviation. On the basis of coefficient of variance, the factors that are contributing more towards jobs stress are "Work Stressors" (mean 3.77), "Role Stressors" (mean 3.39) and "Interpersonal relation Stressors" (mean 3.38). While next two factors of job stress are, "Personal development stressors" (mean 3.34) and „Organizational climate Stressors" (mean 3.14). Hence, major factors contributing towards the job stress are Work stressors and Role stressors.

**Analysis:**

The correlation matrix indicates that the strongest link between "Role stressors" and "Organizational climate stressors," and that there is also a strong correlation between "Work stressors" and "Role stressors." Conversely, "Work Stressors" and "Interpersonal Relation Stressors" show just a little link. "Organizational climate Stressors" is one factor that has a very strong association with practically every other component. Thus, this implies that the other stresses are increasing and are disrupting the organizational climate. An organization's norms, beliefs, expectations, regulations, and procedures are a complex combination that affects employees' commitment, motivation, performance, and ability to carry out various tasks in the workplace.

**R-square of the model and result of ANOVA for overall stress**

| Model | R | R Square | Adjusted R Square | Standard Error of the Estimate | ANOVA F-value | p-value |
|-------|-------|----------|-------------------|-------------------------------|---------------|---------|
| 1 | 0.853 | 0.718 | 0.721 | 0.19 | 49.162 | 0.001 |

In this case, the five stress-causing elements are considered independent variables, while the degree of stress is considered the dependent variable. For each stress element, a separate regression analysis is run. The combined impact of the five factors on job stress is 70.6. %.

Stress levels are significantly impacted by employment, role, personal development, and interpersonal relationship stressors ($p<0.05$) in every instance. Work stressors and role stressors have a greater impact than all other factors, with standard beta > 0.24. These are followed by interpersonal relationship stressors (beta = 0.211), personal development stressors (beta = 0.204), and the other components. The amount of stress is not much impacted by organizational environment stresses.

**Conclusion.**

The findings showed that while most software professionals experienced moderate levels of job stress, some reported high levels of stress. According to the descriptive study, work stressors and role stressors are the main causes of workplace stress. Although "Organizational climate Stressors" has a strong link with nearly every other element, its influence on job stress is rather small. Stressors related to the organizational climate are shown to have a very low coefficient. This is explained by the fact that the organizational climate has a substantial influence on all other stressors in the company, therefore its impact is already quantified using the coefficients of other stressors. The management must address each of the other stressors in order to solve the stress caused by the organizational climate.

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