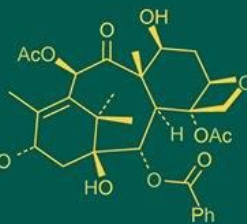


International Journal of Advanced Biochemistry Research



ISSN Print: 2617-4693
ISSN Online: 2617-4707
IJABR 2025; SP-9(3): 348-351
www.biochemjournal.com
Received: 01-01-2025
Accepted: 04-02-2025

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Occupational stress and coping level among computer operators in software industry

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DOI: <https://www.doi.org/10.33545/26174693.2025.v9.i3Se.3979>

Abstract

Stress is a part of modern life, with increasing complexity of life, stress is likely to increase. Stress is built in the concept of role, which is conceived as the position a person occupies in a system. Keeping this in view a study was conducted to know the Occupational stress and coping level among computer operators in software industry of Hubballi and Bangalore city, Karnataka, India. A survey was conducted by pre-structured interview method from 60 computer operators in two cities of Karnataka state and information regarding health effects, occupational stress, and background information of the work area was collected. The results revealed that on the whole about 51 percent of the computer operators were belonged to age group of 25-29 years. About 61 percent of them had completed their degree. More than 60 percent of respondents were doing data analysis and mail. About 36 percent of them had obesity. More than 50 percent of the employees had high level of stress and about 70 percent of them had moderate level of coping mechanism.

Keywords: Stress, occupation, software industry, coping, computer operator, health status

Introduction

The concept of stress was first introduced in the life sciences by (Selye Hans, 1936) [6]. It was derived from the Latin word 'stringer' it means the experience of physical hardship, starvation, torture and pain. According to him stress is the non-specific response of the body to any demand placed upon it (Muntazir, 2016) [4]. The modern era is the era of science and technology where everyone is striving to excel in his/her field whether it is at home or at work place. About 50% of the world's population is currently works in some form of office. In developing countries like India Information Technology sectors are increasing day by day and provide employment to many people in computer sectors. Here people are mostly dependent on the computers and spend 80-90% of their time in the office. Due to this long working hours, shift work, continuous work with computers and multiples roles occupational stress has become inevitable for the computer operators and it affects their mind, body, and behaviour in one or other ways (Vimalanathan and Ramesh Babu 2017) [9].

Occupational stress is defined as the perception of a discrepancy between environmental demands (stressors) and individual capacities to fill these demands (Prasad *et al.*, 2016) [5]. The causes of occupational stress include perceived loss of job and security, sitting for long periods of time or heavy lifting, lack of safety, complexity of repetitiveness and lack of autonomy in the job. In addition, occupational stress is caused by lack of resources and equipment, work schedules such as working for long hours with computers or overtime work and poor working condition, organizational climate etc. are considered as contributors to occupational stress (Christo and Pienaar, 2006) [1]. It is often shows high dissatisfaction among computer operators, which leads to poor work performance and less effective interpersonal relations at work place (Manshor, 2001) [3]. In spite of the occupational stress experienced by computer operators, many of them are unable to cope up effectively to the problems in their working life and experience a variety of psychological as well as psychosomatic problems. Coping is a behaviour by which employees adjust to perceived stress trying to keep it at a level that little affects their work.

Coping is defined as process of managing external and internal demands that are exceeding the resources of the person in order to prevent negative consequences (Lazarus and Folkman,

1984)^[2]. There are different strategies, people use, some are action oriented some provide emotional calm. The effectiveness of strategies largely depends on the situation at hand. Effective coping would lead to reducing the ill effect of stress and improving outcomes. Hence it could be safely concluded that how employees perform is closely linked to their perceived occupational stress and coping behaviour. Hence the present study aims to find out the occupational stress and coping level among computer operators in software industry with the following specific objectives.

1. To assess occupational stress level among computer operators in software industry.
2. To know the coping level of selected computer operators in software industry.

Materials and Methods

The present study was undertaken in two cities of Karnataka, namely Hubballi and Bangalore during the year 2023-2024 under the course "Occupational Bio-mechanics. One software industry from each city was selected and from each software industry 30 computer operators were randomly selected for the study. A self-structured pretested

interview schedule was administered on 60 computer operators among which 30 were men and 30 were women computer operators. All the selected employees of software industry were doing computer based activity. Personal interview technique was used to gather the general and specific information, highlighting the types of activity performed health status. For occupational stress ISMA (International Stress Management Association.) stress scale was used. It contains 25 items, with scoring as yes (1) and no (0). The score ranges between 0-25, based on total score it is categorized as low (0-8) average (9-17) and high (18-24) level of stress. For coping mechanism Coping scale Sowmiya, 2012 was used to assess the level of coping mechanism among employees. It contains 20 items, each item had two response 'Yes' or 'No' and the score was interpreted as 1 and 0 respectively. The score ranges between 0-7 is low level of coping, score of 8-13 is moderate level of coping and score 14-20 is high level of coping. The data was further tabulated and analysed by calculating frequency, percentage, mean and correlation.

Results and Discussion

Table 1: Demographic profile of computer operators in Hubballi and Bangalore city

n=60					
Demographic Profile	Hubballi (n=30)		Bangalore (n=30)		Total
Age (Years)	Frequency	Percentage	Frequency	Percentage	
<25	3	10.0	4	13.3	7(11.6)
25-29	17	56.7	14	46.6	31(51.6)
>29	10	33.3	12	40	22(36.6)
Education					
Degree	26	86.7	11	36.6	37(61.6)
PG	4	13.3	19	63.3	23(38.3)
Type of family					
Nuclear	28	93.3	30	100	58(96.6)
Joint	2	6.7	-	-	2(3.3)
Religion					
Hindu	26	86.7	30	100	56(93.3)
Muslim	4	13.3	-	-	4(6.6)
Income (Rs)					
<2,40,000	5	16.6667	4	13.3	9(15.0)
2,40,000-3,85,000	12	40	10	33.3	22(36.6)
>3,85,000	13	43.3333	16	66.6	29(48.3)
Distance (Km)					
<4	6	20	5	16.7	11(18.3)
4-7	18	60	4	13.3	22(36.6)
>7	6	20	21	70	27(45.0)
Experience(Years)					
<2	7	23.3	3	10	10(16.6)
2-4	16	53.3	16	53.3	32(53.3)
>4	7	23.3	11	36.7	18(30.0)

From the table 1 it is evident that age of the employees in software industry ranged from 22 to 58 years. Majority (51.6%) of the respondents belonged to the age group of 25 to 29 years in both Hubballi and Bangalore city followed by more than 29 years (36.6%) and less than 25 years.

With respect to the education of the employees more than fifty percent had completed their degree (61.6%) followed by post-graduation (38.3) in respective subjects. About 96.6 percent of the respondents having nuclear family and they are belonged to Hindu religion followed by joint family (3.3%) and they are belonged to Muslim religion. About 48 percent of the respondents had their annual family income

more than Rs 3, 85, 000 followed by Rs 2,40,000 to 3,85,000 (36.6%) and less than Rs 2,40,000 (15.0%).

With respect to the distance travelled by the respondents, more than 40 percent were travelled more than 7 Km per day from home to office followed by 4 to 7 km (36.6%) and less than 4 km (18.3 %). The results are in line with findings of Vidhya and Vijayalakshmi (2018)^[8] reported that, many workers (36.7%) travelled a distance of more than 10km every day to reach their workplace.

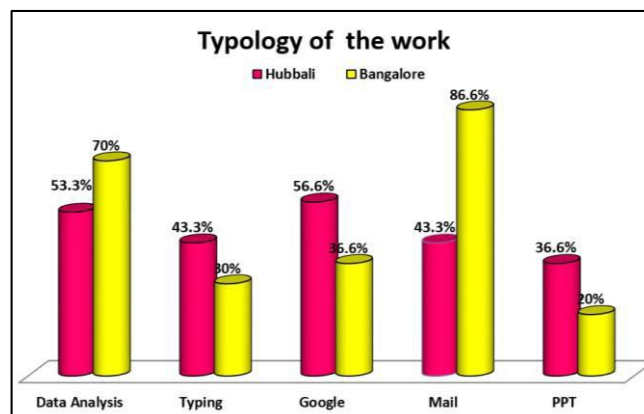
With respect to work experience more than 50 percent of the respondents had 2-4 years of work experience followed by 30 percent of them had more than 4 years of work experience

Table 2: Background information of selected software industry

Background information	Hubballi	Bangalore
Office Timings	9 Am-5 Pm	9 Am-6 Pm
Official Working Hours	8 hrs	9 hrs
Monday-Friday (Hours)	8 hrs	9 hrs
Saturday (Hours)	8 hrs	Holiday
Number of rest during working hours	1 time	3 times
Duration of resting period	1 hr	30 min
Number of holidays per week	1 day	2 days

Background information of selected software industry of Bangalore and Hubballi cities are presented in table 2. In Hubballi software industry 70 employees were working from 9 am to 5 pm. Cent percent of the employees were officially work for 8 hours (Monday to Saturday) and in between had one break with duration of one hours.

Whereas in Bangalore software industry 150 employees were working from 9 am to 6 pm. Cent percent of the employees officially work for 9 hours from Monday to Friday and in between had three break with duration of 30 minutes.



Type of activity performed by computer operators in both software industries are presented in fig.1 In Hubballi software industry more than 50 percent of the employees (56.6%) were working with Google followed by data analysis, typing, mail and power point presentation. In Bangalore software industry about 70 percent of the employees were doing data analysis followed by working with mail, Google, typing and PowerPoint presentation.

Table 3: Prevalence of health problems of selected computer operators

Health Problem	Hubballi (n=30)		Bangalore (n=30)		Total
	Frequency	Percentage	Frequency	Percentage	
Diabetes	1	3.3	3	10.0	4(6.6)
Hypertension	3	10.0	4	13.3	7(11.6)
Obesity	12	40	10	33.3	22(36.6)

Table 3 Depicts prevalence of health problems of selected computer operators. In Hubballi software industry about 40 percent of the respondents had obesity followed by hypertension (10.0%) and very few percent (3.3%) them had diabetes. In Bangalore software industry about 33 percent of the respondents had obesity followed by hypertension (13.3%) and very few percent (6.6%) had diabetes On the whole about 36.6 percent of the respondents were suffering from obesity followed by hypertension (11.6 %) and very few percent (6.6%) had diabetes.

Table 4: Occupational stress experienced by the selected computer operators in software industry

Categories	Score range	Hubballi	Bangalore	Total
+Low	0-8	7(23.3)	3(10.0)	10(16.6)
Average	9-17	8(26.6)	6(20.0)	14(23.3)
High	18-24	13(43.3)	21(70.0)	34(56.6)

Occupational stress experienced by the selected computer operators in software industry is presented in table 4. In Hubballi software industry about 43 percent of the respondents had high level stress followed by 26 percent of them had experienced average level of stress and few percent (23.3%) of them low level of stress. In Bangalore software industry about 70 percent of the respondents had high level of stress followed by 20 percent of them had average level of stress and only 10 percent them had low level of stress. On the whole 34 percent of the respondents were having high risk with stress score of 18-24 followed by equal percent of the respondents (10.0%) were come under low to average categories with score of 0-8 and 9-17 respectively. The results are in par with the results of Taban

et al. 2014 [7]. His study shows that about 68.09 percent of the computer users had mild to moderate stress, 24.47 percent had moderate to high level stress, Bangalore software industry provides more facility for its employees as compared to Hubballi software industry but people still had experienced high level of stress in Bangalore software industry due to long travelling distance, heavy traffic, night shifts and away from the family. Employees in Hubballi software industry had less travelling distance so they can use that time to some other activity and also they were with their family hence they had experienced less stress.

Table 5: Level of coping with work among computer operators

Level of coping	Hubballi	Bangalore	Total
Low level of coping	4(13.3)	9(30.0)	13(21.6)
Moderate level of coping	24(80.0)	19(63.3)	43(71.6)
High level of coping	2(6.6)	2(6.6)	4(6.6)

Level of coping with work among computer operators is depicted in table 5. In Hubballi software industry about 80 percent of the employees had moderate level of coping followed by low level of coping (13.3%) and high level (6.6%) of coping. Where in Bangalore software industry about 70 percent of the respondents had moderate level of coping followed by low level of coping (21.6%) and high level (6.6%) of coping mechanism.

Conclusion

From the above study we could conclude that most of the computer operators in both software industries of Hubballi and Dharwad city were experiencing occupational stress and

they had moderate level of coping mechanism. Hence this study suggested that managers or board of the company to should reduce occupational stress among employees using different strategies like providing entertainment, exercise and yoga facilities once in a week, removing forced and extra working hours, modifying the job descriptions, reducing work pressure, creating job enlargement, implementing job rotation and providing appropriate mental and physical environment to prevent mental and physical effects of stress among employees. Often it leads to increase the companies productivity and quality of services and also improve the occupational health of computer operators.

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