STATISTICAL ANALYSIS OF JOB STRESS AMONG TEACHING PROFESSIONALS IN KALABURAGI

Dr. C.P.S. Hungund[1], Ashwini S.R[2], Mahantesh Wadeyar [3]

Professor, Department of Statistics, Gulbarga University Kalaburagi-585106, India[1]. Research Scholar, Department of Statistics, Gulbarga University Kalaburagi-585106, India[2]. Students at Gulbarga University, Kalaburagi-585106, India[3,4]

Abstract

This paper is aimed to analyse the job stress of teaching professionals working in different colleges in Kalaburagi city based on certain demographic factors and stress factors. Frequency and percentage distributions of the respondent's various factors of job stress with gender graphs are presented and the most influencing stress factors are identified and analysed through factor analysis by using SPSS package.

Key Words: Menstruation, Knowledge, Hygiene Practices, Chi-square, Respondents.

1. Introduction

According to W.H.O (World Health Organization) occupational stress or work-related stress is "the response people may have when presented with work demands and pressures that are not matched to their knowledge and abilities and which challenges their ability to cope". Now a day's teachers are constantly under stress either at home or at work place. Work place stress is very real occurrence in the modern world, studies reveal that growth in non-standard work and other changing work patterns are contributing to the recent sharp increase in the stress levels in the work place.

Job stress is growing problem in educational institutions day by day and may be a problem of particular magnitude for teachers with respective their working area, work place, work nature, heavy work load, poor salary, time pressure and deadline, repetitive and boring work, unplanned work, lack of power decision making etc. Hence the present study is focused on to identify and measure the job stress of teaching professionals working in various colleges in Kalaburagi.

Naser Hoboubi, et al (March 2016) they have studied the problem of the impact of job stress and job satisfaction on workforce productivity in an Iranian petrochemical industry. This study was carried out to investigate the job stress, job satisfaction, and workforce productivity levels, to examine the effects of job stress and job satisfaction on workforce productivity, and to identify factors associated with productivity decrement among employees of an Iranian petrochemical industry. Job stress and job satisfaction are important factors affecting workforce productivity. Work-related stress is considered to be harmful when physical and emotional responses occur when there is a mismatch between job requirements and the workers capabilities, resources, or needs. These factors are divided into physical and psychosocial hazards. Exposure to physical hazards in the workplace can be associated with anxiety that, in turn, drives experiencing work-related stress. Psychosocial hazards include factors related to work design, organization and management, together with workplace social structure that can have negative effects on individuals. Work-related stress usually influences individual and organizational issues including behavioural, mental, as well as physical outcomes, performance, job satisfaction, and organizational commitment.

Dr. S.S. Manabete, et al (March-2016); discussed the studied the job stress among school administrators and teachers in Nigerian secondary schools and technical colleges". A Teacher or School head goes to work to

perform his primary duties. As he tries to go about it, he finds that he is yawning over and over again. He discovers that he is desperately in need of sleep. But then he remembers that last night he tried to sleep but sleep deserted him. He woke up with his joints and muscles in pain. He has backache as well. He touches his body and has a feeling that his body temperature is rising. He also seems to be experiencing some bowel movement. His heartbeat is faster and he seems not to have taste for anything. He has impaired vision, poor problem solving and reduced work performance. All these conditions point to a disturbing human phenomenon called stress. Finally, it considers wrong ways of dealing with stress and then discusses mechanisms for dealing with stress for optimum performance in the school system.

1.2. Date collection and methodology

For the data collection, the tool used to carry out for the present work is questionnaires. The questionnaire to understand the level of job stress of teaching professionals was developed on socio-demographic factors namely Age, Education, Marital status, Monthly income, Gender, Types of institution, Designation, Family type, Family annual income, Number of dependents and stress factors namely Heavy work load, Poor salary, Time pressure and deadline, Repetitive and boring work, Unplanned work, Lack of power decision making, Unable to satisfy higher authorities, Office politics and conflicts, Excessive interruptions, Lack of work recognition and Force to work overtime. For this project work we have surveyed eight-degree colleges in Kalaburagi city. We have collected data using a structural questionnaire which is crossed sectional survey of 100 teaching staffs of different colleges belongs to Kalaburagi.

A random sample of 100 teaching professionals were surveyed and each person was asked to report the Age, Education, Marital status, Monthly Income, Gender and Designation. The collected data from the respondents is further classified and presented based on demographic factors and gender. The Present study is aimed to identify the factors influencing stress among the teaching faculty and the most influencing stress factors were analysed by using factor analysis through SPSS package. The frequency and percentage distribution of demographic factors against gender were obtained and preliminary statistical analysis was done.

2. Classification and Presentation of data

In this section collected data from the respondents is further classified and presented basing on demographic factors and gender. The frequency and percentage distribution of demographic factors age, types of institution and designation against the gender were obtained and an attempt is made to analyse the determinants of the demographic factors based on gender of the respondents. In this chapter the female and male teaching professionals of private and government colleges of Kalaburagi were the key respondents of the study.

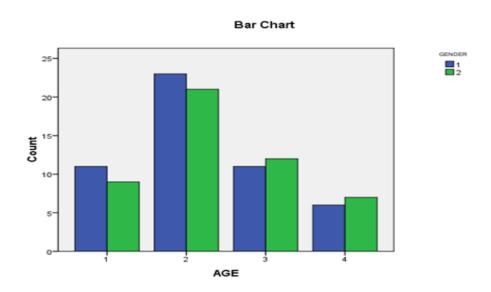## 2.1 Frequency and percentage distribution of the Age and Gender of the respondents.

Table 2.1 Age and Gender

AGE		GENDER		
		Male	Female	Total
25-30	Count	11	9	20

	% within GENDER	21.6%	18.4%	20.0%
30-40	Count	23	21	44
	% within GENDER	45.1%	42.9%	44.0%
40-50	Count	11	12	23
	% within GENDER	21.6%	24.5%	23.0%
50 and above	Count	6	7	13
	% within GENDER	11.8%	14.3%	13.0%
Total	Count	51	49	100
	% within GENDER	100.0%	100.0%	100.0%

Frequency distribution of Age and Gender

Analysis

From the table 2.1 we can see that 20 respondents belong to the age group 25-30, 44 respondents belong to the age group 30-40, 23 respondents belong to the age group 40-50 and 13 respondents belong to the age group 50 and above. With reference to male and female differences, 11 male and 9 female faculties belong to the age group 25-30. 23 male and 21 female faculties belong to the age group 30-40. 11 male and 12 female faculties belong to the age group 40-50 and 6 male and 7 female faculties belong to the age group 50 and above.
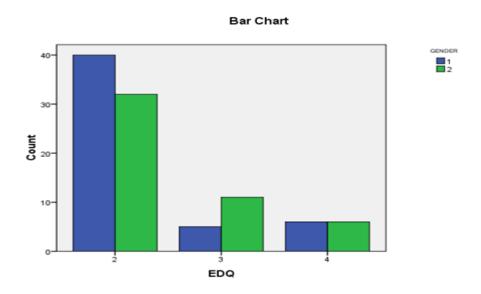
2.2 Frequency and percentage distribution of Educational qualification and Gender of the respondents

Table 2.2 Educational qualification and Gender

Educational qualification		GENDER		
		Male	Female	Total
PG	Count	40	32	72
	% within GENDER	78.4%	65.3%	72.0%
P.hD	Count	5	11	16
	% within GENDER	9.8%	22.4%	16.0%
Others	Count	6	6	12
	% within GENDER	11.8%	12.2%	12.0%
Total	Count	51	49	100
	% within GENDER	100.0%	100.0%	100.0%

Frequency distribution of Educational qualification and Gender

Analysis

From the table 2.2 it could be seen 72 respondent faculties are post graduates, 16 faculty hold Ph.D degree and remaining 12 faculties belong to other degrees. With reference to male and female differences, 40 male and 32 female are post graduates, 5 male and 11 female faculties holds P.hD degree and 6 male and 6 female faculties have studied other degrees.
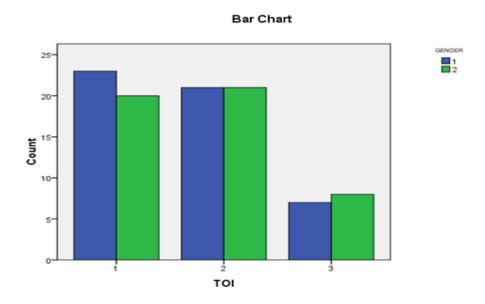
2.3. Frequency and percentage distribution of Types of institution and Gender of the respondents

Table 2.3 Type of institution and Gender

Type of institution		GENDER		
		Male	Female	Total
Government	Count	23	20	43
	% within GENDER	45.1%	40.8%	43.0%
Private	Count	21	21	42
	% within GENDER	41.2%	42.9%	42.0%
Others	Count	7	8	15
	% within GENDER	13.7%	16.3%	15.0%
Total	Count	51	49	100
	% within GENDER	100.0%	100.0%	100.0%

Frequency distribution of Type of institution and Gender

Bar Chart

Analysis

From the table2.3 we can see that 43-respondent faculty are working in government colleges, 42 respondent faculties are working in private colleges and 15 faculties are working in other institutions. With reference to male and female differences, 23 male and 20 female teaching professionals are working in government colleges. 21 male and female teaching professionals are working in private colleges and 7 male and 8 female teaching professionals are working in other institutions.
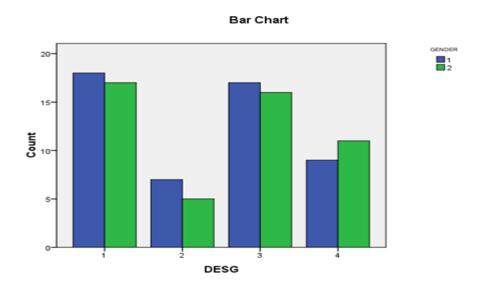
2.4 Frequency and percentage distribution of Designation and Gender of the respondents

Table 2.4 Designation and Gender

Designation		GENDER		
		Male	Female	Total
Assistant professor	Count	18	17	35
	% within GENDER	35.3%	34.7%	35.0%
Associate professor	Count	7	5	12
	% within GENDER	13.7%	10.2%	12.0%
Professor	Count	17	16	33
	% within GENDER	33.3%	32.7%	33.0%
Others	Count	9	11	20
	% within GENDER	17.6%	22.4%	20.0%
Total	Count	51	49	100
	% within GENDER	100.0%	100.0%	100.0%

Frequency distribution of Designation and Gender

Analysis

From the table 2.4 we can see that 35 teaching professionals are assistant professors, 12 teaching professionals are associate professors, 33 teaching professionals are professors and 20 teaching professionals are other than above designation. With reference to male and female differences, 18 male and 17 female teaching professionals are working as assistant professor. 7 male and 5 female teaching professionals are working as associate professor, 17 male and 16 female teaching professionals are working as professor and 9 male and 11 female teaching professionals have designation other than above designations.

3. A factor approach of analyzing the job stress among faculties of higher educational institutions of Kalaburagi

In this section the study is mainly devoted to identify and analyse the most influencing stress factors of the respondents. We have considered twelve stress factors to study the level of job stress of the respondents and the most decisive stress factors were identified through factor analysis. To know the data adequacy and eligibility for the factor analysis we perform KMO and Bartlett's tests and the tests indicates that the data is sufficient and there is multi normality among the variables.

3.1 Total variance explained

Examining the amount of variance explained by each successive factor shown in the table 3.1 The factor with eigen value greater than one is considered as most influencing factors. This is determined by examining the total variance explained. The eigen value table is divided into three sub sections, i.e. Initial eigen values, Extraction sums of squared loadings and Rotation sums of squared loadings.

Table 3.1 Total variance explained

Component	Initial Eigen values			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	1.661	13.844	13.844	1.661	13.844	13.844	1.521	12.671	12.671
2	1.509	12.578	26.421	1.509	12.578	26.421	1.490	12.415	25.086
3	1.321	11.011	37.432	1.321	11.011	37.432	1.243	10.357	35.444
4	1.214	10.121	47.553	1.214	10.121	47.553	1.232	10.267	45.711
5	1.079	8.991	56.544	1.079	8.991	56.544	1.196	9.970	55.681
6	1.029	8.575	65.120	1.029	8.575	65.120	1.133	9.439	65.120
7	.928	7.730	72.850						
8	.841	7.012	79.862						
9	.757	6.308	86.170						
10	.606	5.049	91.218						
11	.540	4.502	95.720						
12	.514	4.280	100.000						

Extraction Method: Principal Component Analysis.

There are as many components extracted during a principle component analysis as there are variables that are put into it. In our study, we used 12 stress variables and six stress variables are extracted.

3.2 Rotated component matrix

The idea of rotation is to reduce the number of factors on which the variables under investigation have high loadings. Rotation makes interpretation of the analysis easier.

Table 3.2 Rotated component matrix

	Component			
	1	**2**	**3**	**4**
Heavy work load	-.073	.035	-.051	.118
Excessive interruptions	-.011	-.085	-.059	**0.869**
Lack of opportunities for career development	-.295	-.180	**0.749**	-.006
Time pressure	**0.583**	.023	.055	.265
Repetitive and boring work	-.253	-.646	.216	.294
Lack of work recognition	-.494	-.007	-.481	-.111
Office politics and conflicts	.108	-.060	.061	.013
Unable to satisfy higher authorities	**0.792**	.009	-.064	-.120
Lack of power decision making	-.145	**0.712**	.119	-.151
Unplanned work	.063	**0.625**	-.022	.220
Force to work overtime	.310	-.341	-.011	-.322
Poor salary	.136	.119	**0.601**	-.073

The above rotated component matrix displays the factor loading for each item on each rotated component, which helps in better interpretation of factors. Looking at the above table, we can see that the factor excessive interruptions are heavily loaded on the component four. The factors unable to satisfy higher authorities and time pressure are heavily loaded on the component one, the factors lack of opportunities for career development and poor salary are heavily loaded on the component three and the factors lack of power decision making and unplanned work are heavily loaded on the component two. The heavily loaded factor value in each column of component matrix is considered and tabulated in the table 3.3 for factor loading values.

The factors with highly loaded factor values is considered first and the next for the next highest and similarly for all the factors. The heavily loaded value in each column is considered and tabulated in the following table

3.3 Factors loading values

Table 3.3: Factors loading values

Components	Factors name	Factors loading value	Factors name
1	Unable to satisfy higher authorities	0.792	Work satisfaction
	Time pressure and deadline	0.583	
2	Lack of power in decision making	0.712	Lack of power in planning the work
	Unplanned work	0.625	
3	Lack of opportunities for career development	0.749	Lack of opportunities and monetary benefits
	Poor salary	0.601	
4	Excessive interruptions	0.869	Excessive interruption

The rotated component matrix shows that our first component is heavily loaded by following factors and is measured by

- Unable to satisfy higher authorities, with value 0.792

- Time pressure and deadline, with value 0.583

These variables all related to the respondent's job stress due to the factors unable to satisfy higher authorities and time pressure and deadline. Therefore, we interpret component 1 as "Work satisfaction"

Second component is heavily loaded and is measured by

- Lack of power in decision making, with value 0.712

- Unplanned work, with value 0.625

These variables all relate to the respondent's job stress due to lack of power in decision making and unplanned work. Therefore, we interpret component 2 as "Lack of power in planning the work".

Third component is heavily loaded and is measured by

- Lack of opportunities for career development, with value 0.749

- Poor salary, with value 0.601

These variables all relate to the respondent's job stress due to lack of opportunities for career development and poor salary. Therefore, we interpret component 3 as "Lack of opportunities and monetary benefits".

Fourth component is heavily loaded and is measured by

- Excessive interruptions, with value 0.869

The variable relates to the respondent's job stress due to excessive interruptions. Therefore, we interpret component 4 as "Excessive interruptions".

The results of factor analysis reveals that the factors Work satisfaction, Lack of power in planning the work, Lack of opportunities and monetary benefits, Excessive interruption are the most influencing job stress factors.

3.4 Conclusion

The main objective of the study was to identify the most influencing stress factors among the teaching professionals of government and private colleges of Kalaburagi. The most influencing stress factors identified through factor analysis are Work satisfaction, Lack of power in planning the work, Lack of opportunities and monetary benefits. Which were the dominant stress factors facing by the faculties of the higher educational institutions in the Kalaburagi.

We have observed that at the time of survey respondents also expressed that they are unable to satisfy the higher authorities because of the time pressure, poor salary, and excessive interruptions of higher authorities, lack of power in decision making, they could not make proper plan of work which leads to stress to the teaching faculties of the higher educational institutions of Kalaburagi.

References

1. Avinash Rana and Vishal Soodan (2019): Effect of Occupational and Personal Stress on Job Satisfaction, Burnout, and Health: A Cross-Sectional Analysis of College Teachers in Punjab, India. Indian journal of occupational and environmental medicine .Volume 23(3), Page No.133-140

2. Kamaldeep Bhui, et al (2016): Perceptions of work stress causes and effective interventions in employees working in public, private and non-govt. organizations of quality study. US national library of medicine national institutes of health. Volume 40(6), Page No.318-325.

3. Naser Hobubi, et al (2016): The impact of job stress and job satisfaction on work force productivity in an Iranian Petrochemical Industry. Safety and health at work. Volume 8, Issue -1, Page No. 67-71.

4. Ruth Harmsen (2018): The relationship between beginning teachers' stress causes, stress responses, teaching behavior and attrition. Journal teachers and teaching theory and practice. Volume 24, Issue 6, Page No. 626-643.

5. Dr. SS Manabete, et al (2016): Job Stress among school administration and Teachers in Nigerian Secondary Schools and Technical colleges. International Journal of Education, Learning and Development. Volume 4, Page No. 1-9.

6. Surinder Kaur, et al (2011): Comparative study of occupational stress among Teachers of Private and Govt. Schools in relation to their age, gender and teaching experience. International Journal of Educational Planning & Administration. Vol.1 No.2, 151-160.