

# A Study of Demographic Variations of Occupational Stress of Secondary School Teachers of Punjab

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## ABSTRACT

The present study was conducted to investigate occupational stress with respect to demographic variations viz. type of school, gender, age and streams of discipline on the sample of 408 secondary school teachers (204 Government and 204 private), male and female in the age group of less than 40 and equal & above 40 years belonging to different streams of discipline viz. Languages, Science/Math and Social Science. The data was collected through the descriptive survey method and subjected to 2X2X2X3 Analysis of Variance. It was found that a) Private school teachers exhibited a greater amount of occupational stress as compared to Government school teachers; b) Level of Occupational stress is similar among males and females; c) Teachers in the age group less than 40 years showed more occupational stress as compared to teachers equal and above 40 years. Streams of discipline didn't contribute to occupational stress. Interaction between two variables, type of school and age, three variables, type of school, age and streams of discipline, were found to be significant.

**Keywords:** Occupational stress, Demographic variations, Secondary school teachers.

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## INTRODUCTION

Stress is a physiological reaction to a certain threatening environment and is caused by events in the work environment (Selye, 1974). It is an important aspect of human life, which brings significant changes in human behavior. Stress up to a moderate level can help individuals to increase their efficiency level and to achieve objectives in their lives. Once stress reaches the maximum level, it brings negative consequences such as low efficiency levels, anger, frustration, blaming others, arguments, etc. When employees work in an organization, they have to deal with different things such as the behavior of superiors, rules, work schedule, work volume, working conditions, perception of society towards a job, etc. If the said factors work negatively, then it brings stress among employees, which is known as occupational stress. Occupational stress brings a restless situation at the workplace, which affects employees to a great extent (WHO, 2020). The present work environment of any organization is competitive, which stimulates stress to pop up at the workplace.

According to Okebukola and Jedgede (1989), occupational stress is a state of physical and mental exertion brought about as a result of harassing situations or general features of the working environment. McGrath and Beehr (1990) have used the term stress as stress-producing events and conditions that are social and psychological rather than physical in nature and also as a strain variable. Most of the employed persons experience stress as a normal part of their jobs. However, some employees seem to experience stress more severely than others, to the point where they may need time off work. All employment generates stress and strain to some degree (Koeske, Kirk and Koeske, 1993), and it is this latter manifestation of stress that is individually and organizationally destructive (Quick, Murphy and Hurrell, 1993).

Occupational stress is a mental and physical condition that affects an individual's productivity, effectiveness, personal health and quality of work (Cornish & Swindle, 1994). Myers (1999) reported that stress is the body's physical, mental and chemical reaction

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to stressors or circumstances that frighten, excite, and endanger. Stressors from these sources can work independently or collectively. Occupational stress describes physical, mental and emotional wear and tear brought about by incongruence between the requirements of the job and the capabilities, resources and needs of the employee to cope with job demands (Akinboye, Akinboye & Adeyemo, 2002).

Occupational stress or stress at the workplace is a major concern for the employer. According to a survey conducted by the American Psychological Association (2011), it was revealed that 36 % of the respondents felt stressed during working days. The survey also revealed that employees were stressed due to a lack of career opportunities, a heavy workload, too many and unrealistic job targets and long working hours. Later, a survey conducted by Statistics Canada (2018) revealed that one in four Canadians leaves their job due to stress. According to Yagil (1998), inexperienced teachers face an overall high level of stress compared to experienced teachers. Academic staff reported higher levels of stress than general staff (Gillespie, Walsh, Winefield, Dua & Stough, 2001; Pestonjee & Azeem, 2001).

The studies on occupational stress reveal that working conditions and demographic characteristics of working people is responsible for causing stress. According to Eichinger (2000), for female special educators, a balanced social role orientation is associated with higher levels of satisfaction and lower levels of

stress, while an undifferentiated orientation is associated with lower levels of satisfaction and higher levels of stress. Gaur and Dhawan (2000) reported that women in all four professions, viz. teachers, doctors, bank officers, and bureaucrats with the age group of 25 to 55 years. Experienced moderate work-related stress. Nelson, Maculan, Roberts and Ohlund (2002) reported that all working condition variables (principal-teacher relationship, capacity to contribute to decision and working relationships), as well as years of professional experience and ability to work with externalizing children, had a significant effect on occupational stress. Bellman, Forster, Still and Cooper (2003) reported that for both males and females, social support moderated the effects of stressors on energy levels, job satisfaction, organizational security and organizational commitment, although social support interacted with different stressors across genders.

De Nobile and McCormick (2005) reported that four stress domains, viz. information domain, personal domain, student domain and school domain, were predictors of job satisfaction. Antoniou, Polychroni and Vlachakis (2006) referred to problems in interaction with students, lack of interest, low attainment and handling students with "difficult" behavior as the most highly rated causes of stress. According to Ravichandran and Rajendran (2007), personal variables, gender, age, educational levels, years of teaching experience and types of a school play a significant role in the perception of various sources of stress related to the teaching profession, whereas Ghani, Ahmad and Ibrahim (2014) found no significant difference of work stress among the respondents on the basis of gender, marriage status and highest academic qualification. Shukla (2008) reported that there was no significant difference in the relationship between perceived burnout and teaching effectiveness as perceived by teachers on the basis of subjects taught (Language, Social Science, Science). Chaplain (2008) identified three factors: behavior management, workload, and lack of support causing stress and organizational stressors contributed significantly to ill health and low organizational commitment (Viljoen & Rothmann, 2009). Teachers are found to be more stressed when the principal's leadership style is autocratic, while under a democratic leadership style, teachers have lower stress (Tahseen, 2010). Sabherwal, Ahuja, George and Handa (2015) reported varied determinants of stress among the administrators, viz. compilation of results, time pressures, lack of infrastructure, student's indiscipline and poor pay prospects as very high-ranked stressors.

Muthuvelayutham and Mohanasundaram (2012) reported that considerable level of impact of stress on job satisfaction and job involvement among teachers. Teachers of primary education experience higher levels of stress compared to teachers of secondary education (Antoniou, Ploumpi & Ntalla, 2013; Jani, 2017). Moreover, private primary school teachers have also been found to be highly stressed in comparison to their government primary school teacher counterparts (Jani, 2017), whereas according to Kavita and Hassan (2018) secondary school teachers perceived more stress in all stress-causing factors viz. rapport with parents, rapport with co-workers, workload, time constraints, student attitude, recognition, support and lack of resources than primary school teachers. Bottiani, Duran, Pas and Bradshaw (2019) reported that female teachers in low-income schools reported higher stress and burnout, and teachers with more self-efficacy, affiliation with colleagues, and student emphasis on their academics reported lower stress and burnout. Ramberg, Broolin Laftman, Akerstedt and Modin (2020) reported a negative association between school-level teacher stress, fatigue, depressed mood and student's school satisfaction and perceived teacher caring even when controlling

for student and school-level socio-demographic characteristics. So, the present study is an attempt to investigate occupational stress among secondary school teachers with respect to the four demographic variations, viz., type of school (Government and private), gender, age (<40 and >= 40 years) and streams of discipline (Math/science, languages, social science).

The following set of null hypotheses was tested through this analysis:

Ho1: There exists no significant difference in mean scores of Occupational Stress of secondary school teachers

Ho1a: with respect to the type of school viz. Government and private

Ho1b: with respect to gender, viz. male and female

Ho1c: with respect to age viz. <40 and >40

Ho1d: with respect to streams of discipline viz. language, science/math and social science.

Ho2: With respect to occupational stress, no *significant interaction* exists between

Ho2a: Type of school and Gender

Ho2b: Type of school and Age

Ho2c: Type of school and Streams of discipline

Ho2d: Gender and Age

Ho2e: Gender and streams of discipline

Ho2f: Age and streams of discipline

Ho3: With respect to occupational stress, no *significant interaction* exists among

Ho3a: Type of School, Gender and Age

Ho3b: Type of School, Gender and streams of discipline

Ho3c: Type of School, Age and Streams of discipline

Ho3d: Gender, Age and Streams of discipline

Ho3e: Type of School, Gender, Age and Streams of discipline

## Delimitation of the Study

The study was delimited to 408 male and female secondary school teachers of government and private schools of Jalandhar, Kapurthala, Faridkot, Fazilka and Ludhiana districts of Punjab only. Streams of discipline were delimited to languages, Math/Science, and Social science.

## Tool used

Occupational stress Index by (Srivastava & Singh, 2019). The scale consisted of 46 items assessing dimensions: Role overload, role ambiguity, role conflict, group pressure, personal responsibility, underparticipation, powerlessness, poor peer relations, intrinsic impoverishment, status, strenuous working conditions, and unprofitability.

## Sample

Multi-stage random sampling technique was employed to select the sample. Data was collected from the Doaba and Malwa regions of Punjab. District Jalandhar and Kapurthala from the Doaba region and Ludhiana, Faridkot and Fazilka from the Malwa region were randomly selected. Three blocks named Jalandhar East, Jalandhar West and Bhogpur, having maximum co-ed govt and private secondary schools, were selected from Jalandhar district, as this district has the highest share in the population (56 govt and private secondary schools out of 136 schools) Phagwara block from Kapurthala district and Kotkapura from Faridkot district and Abohar from Fazilka district.

Out of these two regions (Doaba and Malwa) 5 districts viz. (Jalandhar, Kapurthala, Ludhiana, Faridkot and Fazilka) 15 blocks, 136 secondary schools (68 Government and 68 Private) were randomly selected. Out of these 136 schools, a representative sample of 408



**Table 1:** Means, SDs of occupational test scores with respect to type of school, gender, age and streams of discipline

Occupational stress		N	Mean	Median	SD
Type of school	Govt.	204	148.81	145.00	14.30
	Private	204	157.11	148.00	20.03
Gender	Male	204	152.75	147.00	17.48
	Female	204	153.17	147.00	18.29
Age	<40	204	155.00	147.00	18.71
	>40	204	150.92	145.00	16.78
Streams of discipline	Language	136	151.04	147.00	16.48
	Science/Math	136	154.60	148.00	18.19
	Social Science	136	153.23	145.00	18.81

**Table 2:** Summary of 2X2X2X3 ANOVA for mean scores on occupational stress

Source of variation	Sum of squares	df	Mean square	F-value	p-value
A	7025.120	1	7025.120	24.223	.0001**
B	18.551	1	18.551	0.064	.800
C	1692.551	1	1692.551	5.836	.016*
D	876.064	2	438.032	1.510	.222
A * B	29.120	1	29.120	0.100	.752
A * C	1404.532	1	1404.532	4.843	.028*
A * D	837.593	2	418.797	1.444	.237
B * C	14.532	1	14.532	0.050	.823
B * D	1072.191	2	536.096	1.849	.159
C * D	1.338	2	0.669	0.002	.998
A * B * C	680.708	1	680.708	2.347	.126
A * B * D	628.446	2	314.223	1.083	.339
A * C * D	2444.475	2	1222.238	4.214	.015*
B * C * D	1325.858	2	662.929	2.286	.103
A * B * C * D	533.681	2	266.841	0.920	.399
Error	111365.529	385	290.014		
Total	129950.292	408			

\*significant at 0.05 level of confidence \*\*significant at 0.01 level of confidence

secondary school teachers (204 Government and 204 Private) was selected through a Stratified random sampling technique on the basis of their Type of School (Government School and Private School), gender (male and female), age (more than 40 years and less than 40 years) and Streams of discipline (Languages, Science/Maths and Social Science.). From each school, 3 teachers were taken, i.e., Languages, Science/Maths and Social Science. In this way, a sample of 408 teachers, both male and female, from government and private schools located in both urban and rural areas of districts Jalandhar, Kapurthala, Fazilka, Faridkot and Ludhiana were taken to investigate the predictors of Organizational Citizenship Behaviour.

The means and standard deviations for various sub-groups of the sample is given in Table 1.

## Design of the study

Four demographic variables, i.e., *type of school (Government and Private), Gender (Female and Male), Age (<40 and >40) and Streams of discipline (Language, Science/Math and Social Science)* were considered to study their impact on occupational stress and their dimensions, i.e., role overload, role ambiguity, role conflict, group pressure, persons responsibility, under participation, powerlessness, poor peer relations, intrinsic impoverishment, status, strenuous working condition, unprofitability. The descriptive survey method was used to collect data from the sample of 408 male and female secondary school teachers (government and private) belonging to Language, Science/Math and Social Science streams falling in the age group less than 40 years and equal and greater than 40 years. A 2x2x2x3 ANOVA was employed to analyze the data. The main effect and interaction effects due to the type of school (Government and Private), gender (Male and Female), age (<40 and >40) and streams of discipline (Language, Science/Math and Social Science) of secondary school teachers were computed on overall occupational stress.

## Main effects

### Type of School (A)

Table 2 reveals that the F ratio for the difference in mean scores of Government and Private secondary school teachers is 24.223, which in comparison to the table value, was found to be significant at 0.01 level of confidence. An examination of means further revealed that teachers of private schools exhibited higher occupational stress than teachers of government schools. Hence,  $H_{01a}$  is rejected.

### Gender (B)

F ratio for the difference between mean scores of males and females is .064, which, in comparison to the table value, was found to be not significant even at a 0.05 level of confidence. Male and female secondary school teachers exhibited comparable amounts of occupational stress. Hence,  $H_{01b}$  is retained.

### Age (C)

The table indicates that the F ratio for the difference between mean scores of age <40 and >=40 is 5.386, which in comparison to the table value, was found to be significant at 0.05 level of confidence. The mean values indicated teachers < 40 years were on the higher side of occupational stress as compared to teachers >=40. Hence,  $H_{01c}$  is rejected.

### Streams of Discipline (D)

Table 2 reveals that the (F= 1.510) for the difference in means between Language, Science/Math and Social Science Streams of Discipline was found to be not significant even at 0.05 level of confidence. Occupational stress among secondary school teachers is independent of the subjects taught. Hence,  $H_{01d}$  is retained.

## Interaction effects

Two factors or variables are said to interact when the effect of one variable on some of behavior on either the presence or amount of a second variable or the joint effect of two or more factors on the dependent variable.

### Double interaction

The interaction between type of school and gender (F = 0.100); between type of school and streams of discipline (F = 1.444), between gender and age (F = 0.50), between gender and streams



of discipline ( $F = 1.849$ ); between age and streams of discipline ( $F = 0.002$ ), in all cases, was found to not significant even at 0.05 level of confidence. Therefore, Ho2a, Ho2c, Ho2e, Ho2f, Ho2d were retained.

Whereas the F-ratio for the interaction between Type of school and Age ( $F = 4.843$ ), was found to be significant at 0.05 level of confidence. Therefore, Ho2b is rejected. It is evident from Figure 1.

T-test was further employed to find the difference in the level of occupational stress among various combinations as a result of significant double interaction. The main findings were:

- No difference in the amount of occupational stress was found ( $t = 0.181$ ) among Government secondary school teachers belonging to age  $<40$  and  $\geq 40$ . Among private secondary school teachers, those who were of age  $< 40$  years not only experienced more occupational stress ( $t = 4.829^*$ ) than their Government counterparts of age  $<40$  years but also exhibited higher occupational stress ( $t = 2.823^*$ ) than those of age  $\geq 40$  years in private schools. Government and private teachers of age  $\geq 40$  years displayed similar levels ( $t = 1,966$ ) of occupational stress.

**Triple interaction**

The interaction among the type of school, gender, and age of teachers ( $F = 2.347$ ); among the type of school, gender and streams of discipline ( $F = 1.083$ ); among gender, age and streams of discipline ( $F = 0.103$ ), were all found to be not significant at 0.05 level of confidence. Therefore, Ho3a, Ho3b, Ho3d were retained. The interaction among type of school, age and streams of discipline ( $F = 4.214$ ) was found to be significant at a 0.05 level of confidence. Hence, Ho3c is rejected.

t-ratios were calculated among different groups for further analysis. The major findings were:

- Government school teachers in the age group  $<40$  years belonging to Math/Science ( $t = 2.275^*$ ) stream exhibited higher occupational stress than social science teachers, whereas no significant difference was found between language and Math/Science ( $t = 0.671$ ) teachers; language and social science teachers ( $t = 1.668$ ). Whereas in Private schools, no significant difference was found in the level of occupational stress with respect to streams of discipline among teachers in the age group  $< 40$  years. It was also found that teachers in the age group  $\geq 40$  years belonging to languages, Math/Science and social science streams in both government and private schools exhibited similar levels of occupational stress.



Figure 1: Interaction between Type of School and Age with respect to Occupational Stress

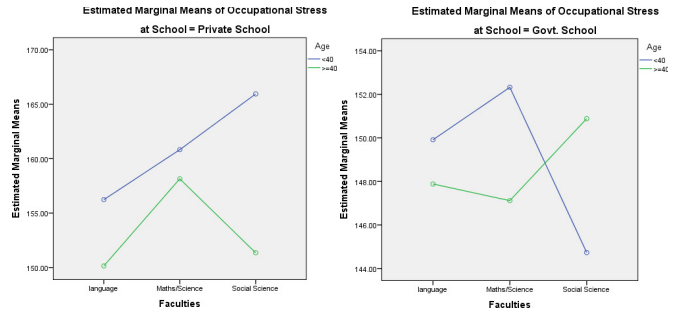


Figure 2: Interaction among type of school (government and private), age and streams of discipline with respect to occupational stress

- Teachers belonging to Math/Science stream of discipline in private schools exhibited higher occupational stress in the age group  $<40$  years ( $t = 1.951^*$ ) as well as  $\geq 40$  years ( $t = 2.642^{**}$ ) as compared to counterparts in government schools. In the case of the social science stream, occupational stress was found to be more among the teachers in private schools than in Government schools ( $t = 5.036^{**}$ ) in the age group  $< 40$  years, whereas teachers in the age group of  $\geq 40$  years displayed similar levels of stress.

The interaction among all four variables *type of school, gender, age and streams of discipline* was also found to be not significant led to rejection of Ho3e.

The graphical representation of interaction among type of school (government and private), age and streams of discipline with respect to occupational stress is shown in Figure 2.

**DISCUSSION OF RESULTS**

Private secondary school teachers exhibited higher occupational stress as compared to government school teachers. Teachers in the age group  $<40$  displayed higher occupational stress as compared to the teachers belonging to age  $>40$ . Gender and streams of discipline did not contribute to occupational stress. The results were supported by Ravichandran & Rajendran (2007), Shukla (2008), Jani (2017), and Kobayashi & Kondo (2019).

In double interaction, only type of school and age interacted with each other. Teachers working in private schools and are less than 40 years of age experienced a greater amount of stress than teachers of the same age working in Government schools. They even showed greater stress than their colleagues whose age was greater than 40 years. Teachers in the age group greater than 40 years exhibited similar levels of stress irrespective of whether they were working in government or private schools. This may be as age advances, people become mature and they get more experienced and there is no role confusion, and peer relations improve, which results in more productivity.

In the case of triple interaction, only the combination of type of school, age, and streams of discipline was found to be significant. The government school teachers who are less than 40 years and are teaching Maths and Science exhibited higher levels of occupational stress than the teachers of the same age who are teaching social science. Science and Maths teachers working in private schools, irrespective of their age, displayed higher stress than the Science and Maths teachers working in Government schools. Among private schools, teachers who are above 40 years old have no difference in the level of occupational stress across streams of discipline. It can be seen that much more emphasis is given to science and mathematics in schools and Science and Maths as a subject demands more effort



in terms of time, teaching, resources and planning instruction that, increasing the role overload of the teachers, this may be the cause of higher occupational stress among young teachers.

### Educational Implications

- The teachers need to work on their management skills in terms of time management and relationship management with their colleagues to overcome role confusion and group pressure. They also should keep on updating new technological skills and refreshing knowledge in their subject. For this, teachers may take short-term courses of one or two months to enrich their knowledge.
- Equal distribution of work among teachers in schools and assignment of roles to everyone lessens under-participation, encourages role clarity and strengthens peer relations that result in greater productivity.
- Practicing innovative techniques like Team teaching ensures enriching collaboration among teachers of different age groups of the same subjects in designing lessons, worksheets and teaching. The senior teachers can act as mentors to young teachers for appropriate guidance in overcoming personal and professional issues.

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