A COMPARATIVE STUDY OF ANXIETY AMONG SCIENCE TEACHERS AT THE SECONDARY LEVEL IN RAWALPINDI REGION

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Abstract

Teaching profession is one of the most painstaking in the world and is highly susceptible to psychological and physical health issues. Throughout the professional career, teachers suffer anxiety. This study aimed to determine the anxiety level of science teachers at FGEI Cantt. / Garrison institutes. It throws light upon the factors which cause anxiety. To find the level of anxiety a questionnaire was adapted and the data was collected. In this study teacher's anxiety was measured by using the adapted Job Anxiety Scale of Schmalbach et al. The anxiety questionnaire was comprising 15 items. A Sample of 96 teachers from 20 FG Cantt/Garrison schools in Rawalpindi Cantt was selected for the study. For analysis of the data the SPSS tool version 26 was used. Teachers' anxiety level was found moderate. The purpose of this study was to find out the difference of anxiety between male and female teachers and found that there was no significant difference between the anxiety of male and female teachers. In the comparison of anxiety mean for the class. Significant mean

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difference was found regarding anxiety of class 9th and 10th teachers. Moreover, there was no significant difference among the subjects on the anxiety of science teachers. It is recommended to take necessary measures are necessary to reduce the anxiety of science teachers. The findings have significant implications for all stakeholders in education. However, it is anticipated that addressing factors including as workload, student behavior, and working circumstances might help instructors to minimize anxiety.

Key Words*: Anxiety, Workload, Working Circumstances, Stakeholders.*

Introduction

Anxiety is the noticeable, usually and normally occurring emotion that can be detected throughout the human cultures. Anxiety is something that is in accumulation to anger, revulsion, desire, happiness and unhappiness. It is a feeling of worry, nervousness or unease about an event in the daily practice of a teacher. Nayak (2014) expressed anxiety in terms of emotional distress, disappointment, fear and worry in making decisions.

In Federal government educational institutes, now a day's most of the heads of the secondary schools, select/distribute the students at secondary level i.e. students with A+ grades to the super sections and rest of the students in the other sections. Through this strategy the heads of the institutes are interested to raise the "GPA" of teachers in the super sections class and ultimately their super section class teachers fall in the category of best teacher award at regional level and all Pakistan level but rest of the teachers other than super sections deprived in the nomination category of best teachers at regional level at Pakistan level despite of their professional competencies, they offer anxiety and face problem regarding "ACR" and

promotion due to their low "GPA'' less than (03) in their respective section at secondary level. It gives teachers a chance to express their views and feelings about anxiety.

Literature Review

In the socioeconomic development of a nation the role of the teachers is very important, their mental and emotional health requires a lot of consideration. Teaching is known to be one of the most painstaking professions in the world (Lewensohn, 2016). Skaalvik & Skaalvik(2016) interpreted that anxiety is a psychological and physiological state with characteristics of cognitive, somatic, emotional and behavioral issues that create feelings of worry, discomfort, uneasiness and apprehension. Belachew(2019) explored the chemistry-anxiety of in-service teachers and found that relatively high level of anxiety in the handling of chemicals Anxiety followed by chemistry evaluation anxiety and learning chemistry anxiety.

Othman and Sivasubramaniam (2019) determined the prevalence of psychological distress of stress, depression and anxiety among school teachers and inferred that the prevalence of stress, depression and anxiety were high among schools teachers. Aydın(2021) determined that anxiety is a state which affects teaching and learning processes. Level of teaching anxiety can be decreased by content knowledge, teaching experience and instructions. Teaching strategies, teachers' and students' characteristics, management of classroom, school environment, time, planning and the use of technology had significant impact on teaching anxiety. Akinsola and Nwajei (2013) worked on Test Anxiety, Depression and Academic Performance of students. They concluded that anxiety does not exist alone

but rather exist together with different types of mental pain, for example, despondency, and mental intercession. Subjective treatment is required to decrease mental problems and improve their academic performance.

Shillingford-Butler, Patel, and Ngazimbi (2012) found that teachers face a legion of challenges for instance; educational rules and laws, policies, relations of teachers and parents, and unsmooth relations with teachers etc. are the prominent symptoms of anxiety. Chishti & Rana (2021) quoted the kinds of anxiety interpreted by Huberty (2009) as:

"There are many kinds of anxieties; minor anxiety that occurred in a specific event but goes away in a short period, the other is more penetrating anxiety can last approximately for six months and can get worse if it is not properly treated" (p.184).

There are three categories of anxieties specific to the role of the teacher: the fear of incompetence, the fear of loss of control and transference (Emmer & Sabornie, 2015). There are two major types of anxiety that are relevant to understand the structure of anxiety. It means Trait anxiety is chronic and persistent anxiety over the situation and based on certain events. Anxiety for the multiplicity of sources of anxiety disorders, including generalized anxiety and fear from the community. State anxiety "thatoccurs in certain situations and generally has an obvious trigger point. All who have a high state of anxiety will not necessarily feel high trait anxiety, if trait anxiety is high, state anxiety also will be high" (Huberty, 2009).

Desouky and Allam (2017) concluded that teachers having age more than 40 years, primary school teachers, female teachers, low paid teachers,

those with higher qualifications, high teaching experience and heavy workload possess significant occupational stress, anxiety and depression scores. Experience of teachers can also play a role of anxiety factor among the teachers. Mostly the new entrants face this problem, and this anxiety creates hurdles for them and it becomes stressful for them to control the class or manage it properly. Agustiana (2014) interpreted that lack of practice, short teaching experience, and deficiency in the mastery of subject material are the major causes of anxiety during teaching. For good teaching activity it was recommended to understand the material first. By this practice teacher may avoid mistakes and enhance confidence.

Durdukoca and Atalay (2019) determined the relationship between self-efficacy and occupational anxiety of teachers and concluded low anxiety and high occupational self-efficacy, and found a moderate negative relationship between them. Skaalvik and Skaalvik (2016) concluded that the demanding workloads, lack of support from administration and coworkers and poor decision making skills all lead to depression, anxiety and other physiological outcomes.

Chishti and Rana (2021) interpreted that performance will be decreased when test anxiety increased. Ramberg, Laftman, Akerstedt, & Modin(2020) investigated the state of teacher reported tiredness, stress and sad mood in the school are linked with care perceived by teacher and students' ratings of their school satisfaction. Finally concluded that teacher stress has negative effect for students. Hagenauer, Hascher, & Volet (2015) explored teacher emotions on the basis of the student teacher relationship and interpreted that interpersonal teacher-student relationship plays a vital role in the emotional experiences of teachers in the class.

Frenzel, et al. (2016) determined the three important emotions in the context of teaching: enjoyment, anger, and anxiety and research on teacher emotions found a consistent relationship along with student ratings of teaching behaviors. Megreya, Szucs, & Moustafa(2021) developed "the abbreviated science anxiety scale'' explored psychometric traits, gender variations and associations with general anxiety, test anxiety and science achievement. Finally concluded that females had higher science anxiety than males when test anxiety and general anxiety were focused in models. Garrick, et al.(2014) concluded that teachers having high stress experience bad effects on the students' academic performance. In this regard, teachers having high rate of anxiety, stress and depression have been highlighted to have students with adverse educational results. Howard (2020) highlighted the fear by Oberle and Schonert-Reichl (2016) that the same stress and burnout of the teacher can have the same effect on the learners.

Objective of the study

To determine the anxiety of science teachers.

For this purpose following questions were addressed.

Research Questions

1. What is the anxiety level of science teachers in FGEI (C/G) institutes?
2. Is there any difference between the anxiety of male and female science teachers?

Hypotheses

H_{01}: There is no significant difference between the anxiety of male and female science teachers.

H$_{02}$: There is no significant mean difference between the anxiety of class 9th and 10th teachers.

H$_{03}$: There is no significant difference among the subjects on the anxiety of science teachers.

Methodology

Research Design

The study was descriptive in nature. Survey method was used for this study. Quantitative research method was applied in this study. The study was delimited to the following:

o Secondary School teachers for the session 2020-2021 at Federal Government Public Secondary Schools of Rawalpindi region at Rawalpindi Cantt.

o Selected academic session.

Population

The population of the study was FGEI's science school teachers in the Cantonment area of Rawalpindi. The population of science teachers i.e. 123 comprising 31 male teachers for class IX, 30 male teachers for class X, 31 female teachers for class IX and 31female teachers for class X.

Sample

The convenient sampling technique was employed. From the sample of 96 science teachers comprising 24 teachers for physics, chemistry, bio and mathematics at equal proportion.

Research Instrument

In this study teacher's anxiety was measured by using the adapted Job Anxiety Scale of Schmalbach et al. (2020). Questionnaire was comprising 15 items.

Data Collection

Respondents of the study was 96 science teachers (Physics, Chemistry, Bio, Math) working in secondary schools of boys and girls in the Cantonment area of RWP region during the academic session 2020-2021. The data was collected from the concerned subject teachers through a questionnaire by selecting a suitable response that suits them the most. The data was collected by the researcher in 2020-2021 session.

Data Analysis

The researchers collected the data and then it was analyzed, using the SPSS version 26 for analysis. The internal reliability of the questionnaire items was determined 0.86 by using Cronbach's alpha. For interpretation of data researcher used an interpretation criteria to interpret results obtained through this study. Teachers' anxiety and job satisfaction were categorized into three different levels according to their mean score of response. As in questionnaire there are different number of items for teachers' anxiety and job satisfaction, therefore range for mean score of response is different for each. By keeping in view the range of mean score of response for teachers' anxiety and job satisfaction, the interpretation criteria is shown in table 1

Table 1 *Interpretation Criteria for Teachers' Anxiety level and Job Satisfaction level*

Aspects of Study	Mean Score of Response	Interpretation
	15-35	Anxiety level was low
Anxiety	36-55	Anxiety level was moderate
	56-75	Anxiety level was high

Table 1 reflected the anxiety mean score response 15-35 for low level of anxiety, 36-55 for moderate level and 56-75 for high level of anxiety.

In order to analyze and draw the conclusions concerning the groups' replies and how they were divided in the questionnaire, descriptive statistics i.e. frequencies, percentages, and means were utilized. The data was examined by using descriptive and inferential statistics.

Research Sample

The population of the study was 123 FGEI's science school teachers in the Cantonment area of Rawalpindi. Through the convenient sampling technique, the sample of 96 science teachers comprising 24 teachers for physics, chemistry, bio and mathematics at equal proportion responded the questionnaire.

Table 2 *Gender wise Distribution of Class Teachers*

Category of Class			Gender		Total
			Male	Female	
	9th	Count	24	24	48
Class		% of Total	25	25	50
	10th	Count	24	24	48
		% of Total	25	25	50

Table 2 showed the gender wise distribution of class teachers i.e., 24 male and 24 female class 9th teachers, total 48 in number (50% of class 9th teachers) and 24 male and 24 female class 10th teachers total 48 in number (50% of class 10th teachers).

Table 3 *Overall Score of Anxiety of Science Teachers*

Variable	N	Minimum	Maximum	Mean	Std. Deviation
Anxiety	96	22	70	48.85	16.07

Table 3 highlighted the minimum and maximum rated value of anxiety respondents. Also, it presented the anxiety mean and standard deviation (M=48.85, SD=16.07) of their anxiety. Mean score 48.85of response for anxiety lies in the range of 35- 55 which means that that

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teachers anxiety level was found moderate. The value of SD showed that on

average the points were 16.07 above or below the mean value.

Table 4 *Overall Comparison of the Anxiety Mean for Gender*

Variable	Gender	N	Mean	Std.Dev.	t-value	p-value
Anxiety	Male	48	47.38	15.75		
Mean					-.90	.37
	Female	48	50.33	16.42		

Table 4 indicated that the t value (-.90) was not significant at the

level of p ≤ .05. So null hypothesis H_{01} was accepted and concluded that

"There was no significant mean difference between the anxiety of male and

female teachers."

Table 5 *Overall Comparison of the Anxiety Mean for Class*

Variable	Class	N	Mean	S.Dev.	t-value	p-value
	9th	48	45.23	16.11		
Anxiety Mean					-2.257	.026
	10th	48	52.48	15.36		

Table 5 indicated that the t value (-2.257) was significant at the

level of p ≤ 0.05. So null hypothesis H_{02} was rejected and alternate

hypothesis H_{A2} was accepted and concluded that "There was significant mean difference between the anxiety of class 9th and 10th teachers."

Analysis of Anxiety and Job Satisfaction w.r.t Subjects

Table 6 *Descriptive analysis of Sample*

	Subject	*N*	*Mean*	*Std. Deviation*
Anxiety Total	Physics	24	46.5833	15.87702
	Chemistry	24	51.4583	15.43564
	Biology	24	45.4167	17.70757
	Math	24	51.9583	15.11544
	Total	96	48.8542	16.07416

Table 6 highlighted the anxiety mean, job satisfaction mean, their means and standard deviations for subjects of physics, chemistry, biology and math respectively. The means of anxiety were 46.5833 for physics, 51.4583 for chemistry, 45.4167 for biology and 51.9583 for math teachers.

Table 7 *Comparison of anxiety and job satisfaction with the interpretation of Subjects*

Variables		*Sum of Squares*	*Df*	*Mean Square*	*F*	*p-value*
Anxiety Total	Between Groups	801.37	3	267.125	1.035	.38
	Within Groups	23744.583	92	258.093		

	Total	24545.9 58	95			
Job Sat. Total	Between Groups	1399.53 1	3	466.510	.919	.435
	Within Groups	46720.4 58	92	507.831		
	Total	12.410	95			

Table 7 reflected that there was no significant difference among the subjects on the anxiety of science teachers because their p value was not less than .05. So null hypothesis H_{03} was accepted and concluded that "There was no significant difference among the subjects on the anxiety of science teachers."

Discussion

This study adds to the existing body of knowledge about teachers' anxiety in FGEI (C/G) schools. Somehow coherent with present study, Aftab and Khatoon (2015) concluded that majority of the schools at secondary level face not much stress. Most of the teachers have been found moderately satisfied with their job. The findings have significant implications for all stakeholders in education. This study is somehow coherent with Desouky and Allam (2017) interpreted that teachers having age more than 40 years, primary school teachers, female teachers, low paid teachers, those with higher qualifications, high teaching experience and heavy workload possess significant occupational stress, anxiety and depression scores. However, it is believed that addressing factors including as workload, student behavior, and working circumstances might help the instructors to minimize stress and, as a result, melancholy and anxiety.

Annual confidential report as is the practice in schools creates anxiety that deteriorates the performance of the teachers. The ACRs must not be focused on the result produced but on general behavior of the teachers, nor should there be the results oriented practice in schools rather it must be ,quality achievement based, because just to produce best results at all costs breeds corruption and in case of failure causes anxiety that dampens the efficiency of the teachers. Incentives in place of punishment is the key motivation for good performance. The management and administration must avoid punishment like transfer, no grant of annual increment or adverse remarks in ACR or assessment report.

Conclusions

The results of this study revealed that anxiety exists among science teachers. Teachers' anxiety level was found moderate. There was no significant mean difference between the anxiety of male and female teachers. Class 10th teachers were suffering more anxiety as compared to class 9th teachers. There was no significant difference among the subjects on the anxiety of science teachers. This study will help the institutional administrators to develop strategies and techniques to minimize the anxiety of science teachers and produce the professional competency and their positive effect on the academic achievement of secondary level. The findings of this study will contribute to a better understanding of the anxiety of science teachers. Finally, it is expected that the findings will contribute useful information and serve as a platform for further research into different groups of Pakistani teachers.

Recommendations

In the light of this research, following recommendations are made;

1.   The study can be strengthened by increasing the sample size, as the data analysis results and findings can differ significantly depending on the sample size. Mass of the study must be expanded on FGEI (C/G) teachers in rest of regions.

2.   In future, the anxiety of non-teaching personnel in FGEI (C/G) Pakistan can be studied.

3.   Researchers and policymakers pay attention towards the career of teachers for the growth of quality in higher education. There must be workshops and training sessions for them on anxiety control. It is also recommended that further studies should be conducted on a larger scale to explore different work place stressors and to compare coping strategies against demographic variables.

4.   The administration should devise strategies to reduce the anxiety of science teachers especially by placing them near to their home cities.

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