



Stress of Mathematics Teachers: A Study

D.Prabhakar, Research Scholar and Lecturer in Education, Prabhas College of Education, Vijayawada, Krishna District, Andhra Pradesh

Dr. Jampa Venkata Rama Chandra Rao, Lecturer in Education, Vikas College of Education, Vissanna Peta, Krishna District, Andhra Pradesh

Abstract

This study was aimed to find out the stress of mathematics Teachers. the sample included 200 (100 Male and 100 Female) mathematics teachers dealing the subject of high school mathematics in and around rural and urban Vijayawada high schools of Andhra Pradesh. The tool used was developed by the investigator to estimate the level of teacher's stress and to measure the influence of some variables sex, medium of instruction, type of management of school, area of the school, age of teacher, teaching experience and nature of job and qualification of the teacher. this study revealed significant differences between sex, age, management, area, teaching experience, nature of job and not significant in medium of instruction and qualifications of science teachers at secondary level.

Key words: Stress, Secondary school, mathematics teacher.

Introduction

Teachers have very important roles and responsibilities in teaching and learning processes and in achieving the overall goals of education. Amongst the numerous factors having direct and serious implications for teachers success in achieving the goals of education, the overall school milieu emerges as one of the key facilitating or hindering factors. Even the best teacher fails to do well under inconvenient and unsupportive conditions. However, the teacher has numerous responsibilities including, but not confined to, continuously upgrading their professional knowledge, motivating students, planning class activities, providing knowledge and skills to students, maintaining discipline in the class and keeping parents informed on their children's progress. The multiplicity of roles confronts teachers with numerous challenges including insufficient resources, overcrowded classes, lack of professional development

opportunities, lack of parents cooperation, and low financial packages and professional status, to name a few. Therefore, the issue of teacher stress in the schools was selected as it has serious implications for teachers' professional well-being as well as for students' academic achievements. Furthermore, teachers' stress has implications for the district management and the other schools operating systems as in case of too much stress, teachers' morale and motivation decline and the education system as a whole fails to deliver.

Review of related literature

The study focuses on the factors causing stress among teachers. At one point or other everybody suffers from stress, relationship demands, physical and mental problems, pressure at workplace, traffic, meeting deadlines, growing-up tension-all of these conditions and situations are valid cause of stress.

Stress therefore is not only the subject of psychology, management studies,



HRM, and organizational behavioral studies. Medical field also study the dynamics of stress. Research on work-related stress was conducted by the European agency for safety and Health at Work OSHA in the year 2000. The study in detail discusses on the experience of stress at work which has undesirable consequences for the health and safety of individuals and health of their organization.

The study of OSHA is more general compared to study of Friedman and Rosenman 2000 who tried and discovered link between stress and coronary heart disease. The sample was small yet it was a representative one and further the study proves that middle aged men who show symptoms of stress are more likely to develop depression.

Kiecolt and Glaser et al's 2002 study of stress and the immune system categorically states that stress causes a reduction in the effectiveness of immune system.

Frankenhauser's study (1991) is different from the above two. It does not deal with physical little illness but lack of control and stress. It was found that workers with little control over work have higher stress level- high BP, higher rate of stomach disorders and headaches. Because their work was monotonous and repetitive they had little control over it and greater stress.

The objective of gallery and Whitley's study 1990 of occupational stress and depression among emergency physicians is to find their level of stress and study the variables.

Occupational stress of teachers by John Mc Cormick in the Journal of educational administration, Mar 1997 Vol 35 Issue, Page 18-38 report poor job description and specifications for stress. They stress

the importance of differentiating between executive and classroom teachers, primary and infant teachers.

Sargio Guglienin and Kristin Tatron's (1995) occupational stress and health in teachers shows a methodological analysis about teachers burnout. The teachers are not properly rewarded, difficult working conditions, heightened job pressure and reduced professional satisfaction are said to cause stress. The potential negative repercussions of these occupational hazards have caused stress irritable Empirical investigations have identified the threats on the teacher's health.

Teachers Stress: The high levels of stress are associated with a range of caused factors, those intrinsic to teachings, system influences stress creates an impact on teacher retention. The number of factors in teachers stress involves a transaction between the individual and environment. A critical review of recent findings and suggestions for further research directions by are some of the important points given by Matt Jarvis in the study.

Class room discipline is a significant source of stress evaluation apprehension in a stressor. Different studies have identified the causes. Classroom management, better working conditions were suggested by Travers and Cooper 1997.

Teachers stress is a real phenomenon and associated with number of variables. There are important gaps in understanding of teacher stress. The current research base is to allow effective programmers to reduce stress. The study reports that stress among female government service workers is caused by physical conditions in work and work at home.



A woman in the government dual role causes stress by Khwaja and Shauta Kohli Chandra. Vol 46. No.2 May 1999 Social Welfare (Journal).

1. Objectives

The study was aimed at studying the impact of stress on variables like sex, medium of instruction, age, management, area of the school, teaching experience, nature of job and qualification of the mathematics teacher.

2. Hypotheses:

The following hypotheses were formulated for the investigation.

1. There is no significant difference in the stress of male and female mathematics teachers.
2. There is no significant difference in the stress of the mathematics teachers of both English and Telugu media
3. There is no significant difference in the stress among the mathematics Teachers of different age groups.
4. There is no significant difference in the stress among the mathematics teacher under different school managements.
5. There is no significant difference in the Stress among the mathematics teachers of different areas.
6. There is no significant difference in the stress among the mathematics Teachers with their teaching experience.

7. There is no significant difference in the stress between permanent and temporary mathematics teachers.

8. There is no significant difference in the stress between mathematics teachers with additional qualification and required qualification.

3. Limitations

1. The present study based on the data collected from Secondary schools of Vijayawada city only
2. In this present study only those teachers were considered, who were presently working in Government and Private Secondary schools only
3. In this study mathematics teachers were considered only.

4. Method:

The sample consists of 200 mathematics Teachers working in and around Vijayawada high schools. The method adopted in selection of the sample was purposive sampling technique. The tool used in the study was developed by the investigator. The scores pertaining to stress of secondary school science teachers have been subjected to statistical analysis. For statistical analysis central tendency (mean), measures of variability (S.D), and t-test were applied.

5. Results and discussions

Objective1. To compare secondary school mathematics teachers stress with respect to their Gender.

Table 1

S. No.	Gender	N	Mean	S.D	t-test	level of significance
1	Female	100	101.5	11.7	2.33	Significant
2	Male	100	100.4	12.9		



From the observation of the above table, the variable Sex, female teachers are feeling more stress (Mean 101.5) than male teachers (Mean 100.4) because they have to play many roles.

Objective 2. To compare secondary school mathematics teachers stress with respect to their Medium of instruction

Table 2

S. No.	Medium of Instruction	N	Mean	S.D	t-test	level of significance
1	English	76	100.2	13.8	0.75	Not Significant
2	Telugu	124	99.1	11.9		

Usually it is felt that teaching in mother tongue as the medium of instruction is easier than English. But there is no significant difference in English and Telugu as medium of Instruction it may be because of the fact that in

mathematics subject there is no difference between these two media.

Objective 3. To compare secondary school mathematics teachers stress with respect to their Age.

Table 3

S. No.	Age	N	Mean	S.D	t-test	level of significance
1	Age<25 y	72	93.9	9.93	2.03	Significant
2	Age>25 y	128	97.7	13.3		

It was found that the teachers having 25 years and above are feeling more stress (Mean 97.7) than below 25 years (Mean 93.9) , the reasons might be lack of training followed by

exposure to new teaching techniques and methods.

Objective 4. To compare secondary school mathematics teachers stress with respect to their Gender

Table 4

S. No.	School Management	N	Mean	S.D	t-test	level of significance
1	Private	72	101.9	12.64	3.39	Significant
2	Government	128	97.5	12.35		

Results are like previous researches in the case of management. Teachers working in private management feel more stress (Mean 101.9) where as teachers of government (Mean 97.5) feel less stress. Though benefits and other facilities provided by the private colleges are more than government colleges

workload and timings are also more than government colleges. Moreover private managements question the nature of work of the teachers. This may be the reason for their stress.

Objective 5. To compare secondary school mathematics teachers stress with respect to their Area.



Table 5

S. No.	Area	N	Mean	S.D	t-test	level of significance
1	Urban	74	97.98	12.5	2.41	Significant
2	Rural	128	101.13	12.7		

Rural teachers have more stress (Mean 101.13) than teachers from urban (Mean 97.98) areas. This might be due to lack of facilities in rural areas and low literacy level of students as well as parents.

Table 6

Objective 6. To compare secondary school mathematics teachers stress with respect to their Teaching experience.

S. No.	Teaching Experience	N	Mean	S.D	t-test	level of significance
1	Above 10 Y	94	102.6	11.97	6.36	Significant
2	Below 10 Y	106	92.8	10.87		

When the teaching experience was taken into account, teachers having above 10 years' experience have more stress (Mean 102.6) when compared below 10 years (Mean 92.8) teaching experience. This may be due to the gap between their education or their age.

Table 7

Objective 7. To compare secondary school mathematics teachers stress with respect to their Nature of job.

S. No.	Nature of job	N	Mean	S.D	t-test	level of significance
1	Permanent	115	99.4	13.4	2.86	Significant
2	Temporary	85	103.5	10.8		

In the results of Nature of Job, Temporary teachers are found feeling more stress (Mean 103.5) as compared to permanent teachers (Mean 99.4) because of insecurity associated with the demands of the job.

Objective 8. To compare secondary school mathematics teachers stress with respect to their Qualification.

Table 8

S. No.	Qualification	N	Mean	S.D	t-test	level of significance
1	Additional	82	98.8	12.2	1.33	Not Significant
2	Required	118	100.6	13.2		

The more the qualifications, the more the knowledge. But in this study, it is interesting to note that there is no significant difference among the teachers having additional qualifications and required qualification.



Conclusion:

From the results it could be concluded that the variables, sex, age, management of school, locality, teaching experience, nature of job had significant impact and medium of instruction and qualification had no significant impact on stress of the mathematics teachers.

Teachers must be provided with proper training programme/ orientation programs with up to date knowledge in methods and techniques and also suggested to follow some relaxation techniques like meditation, yoga, jpmr etc. to overcome physical and mental strain.

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