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## A RELATIONSHIP STUDY OF STRESS AND ACADEMIC ACHIEVEMENT OF SECONDARY STUDENTS

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**Abstract:** Objective of this study is to find out the relationship between stress and academic achievement of secondary students. Sample comprised 450 secondary students from government and private schools of Pauri, Pauri District. Stress was assessed via their scores on a stress scale by Vijay Lakshmi and Shruti Narain. Scores for academic achievement were taken from school records. Statistical methods used were Mean, Standard deviation, Karl-Pearson coefficient correlation and t-test. Findings show that maximum students have moderate level of stress. There is negative and low correlation between stress and academic achievement of Students. There is no significant difference between stress level of girls and boys. There is significant difference in stress level of students of government and private school. There is no significant relationship between stress level academic achievements of students.

**Keywords:** Stress, Academic achievement

### 1. INTRODUCTION

Blonna (2005) defined stress as a holistic transaction between individual and a stressor that results in body's mobilization of a stress response. Stress is also defined as a combination of a stressor and stress reactivity. A stressor has only the potential of electing a stress reaction. Stressor is any physical, psychological or environmental event or condition that initiates the stress response.

Stress can come in different ways in individual's daily life. Stress is viewed as the body's reaction both neurologically and physiologically to adapt to new condition (Franken1994). For a student, stress may be caused by various factors such as failure in academic, increased workload, financial problems, health problems, family problem, failure in adjustment in school, failure in sports etc. Events that bring stress are called stressors. Burnout, Fear, Distress, worry and anxiety are various aspects of stress.

Students get stress because they face a changing education system, life style, new responsibilities, physical and social environment. Phinney and Hass (2003) stressed out sources of stress more specially as a unique set of stressful encounters among students which includes difficult financial challenges, domestic responsibilities, responsibilities related to holding job while in school and heavy academic load. Students undergo stress at assignments, mid-term exams, etc. which is driving many students to frustration. Academic stress has increased more with the increasing awareness of education (Puri and Dubey, 2011). A list of ten sources of stress was identified among the medical students and the stressors include tests and examinations, the big range of content to be learnt, lack of time to do revision, poor marks, having self expectations, insufficient skill, fail to follow the reading schedule, heavy work load, having difficulty in understanding content and fail to provide answers to teacher's question (Yusoff et. al 2010).

Lazarus (1966) defines stress as a condition or feeling experienced when a person perceived that demands exceed the personal and social resources the individual is able to mobilize. The term stress was first used by the endocrinologist Hans Selye to identify physiological response in laboratory animal. Selye1956 defined stress as "the nonspecific response of body to any demand".

#### 1.1 Objective of study

- To study the stress level of students on the basis of gender
- To study the stress level of students on the basis of types of school
- To study the relationship between stress level and academic achievement of students.

#### 1.2 Hypothesis

- There is no significant difference between stress level of girls and boys.
- There is no significant difference between stress level of students of government school and private school.
- There is no significant relationship between stress level and academic achievement of students.

### 2. REVIEW OF RELATED LITERATURE

- Miss Rajni Kumari, Mr. Radhakanta Gartta, Kurukshetra university (2012) studied relationship between stress and academic achievement of senior secondary school students. Objective of study is to study the relationship between stress and academic achievement of students and to compare the stress level of male and female students. 120 senior school students randomly selected from six senior secondary school of north

western Delhi. The instrument included stress inventory by Dr. Suman Nangia (1990). Academic achievement was taken from the students previous examination. Result showed that there was a positive correlation between stress and academic achievement

- Hibibah Elias, wong siew Ping, Maria Chong Abdullah (2011) studied stress and academic achievement among undergraduate students in university putra Malaysia. The objective of study is to examine the relationship between stress and academic achievement of undergraduate students. Through cluster sampling a total of 376 undergraduate students were selected. There was a significant but weak negative relationship between undergraduate students stress level and their academic achievement.
- Edem Maxwell Azila-Gbettor, Eli Ayawo Atasi, Lydia Sylria Danku, Newell Soglo (2015) studied Stress and Academic achievement : Empirical evidence of business students in a Ghanaian polytechnic. 375 students were selected through multistage sampling procedure. Burge's (2009) modified five point Likert stress scale was used. No significant effects were found between stress and academic performance.
- S. Sharmila , Dr. K. Latha (2015) studied An empirical relationship between stress and its impact on Academic achievement of engineering college students. The purpose of study is to study the relationship between stress and academic achievement. 350 students randomly selected from five engineering collage in Chennai. Stress inventory designed by Dr. Suman Nangia (1990). The study reveals positive effect on stress and its academic achievement.
- Affum Osel Emmanuel, Asante Eric Adom (2014) studied perceived stress and academic performance of senior high school students in western region, Ghana. 120 senior high school students randomly selected from four senior high schools. The instrument used was stress inventory by Gadezella (1991) and mathematics achievement test adopted from the West African examination council. There was no significant correlation between the level of perceived stress and academic performance of the students.

### 3. RESEARCH METHODOLOGY

**3.1 Research method** - Survey research method used in this study.

**3.2 Population of the study** – Population of study comprised class ninth and tenth students of government and private schools of Pauri, Pauri district. Therefore the results of this study were applicable to this population of students.

**3.3 Sample** – sample consist of 450 secondary students. Students are selected by random sampling from schools of Pauri, Pauri district. 224 secondary students are selected from government schools and 226 students are selected from private schools. Sample comprised 203 female students and 247 male students.

**3.4 Tool used in study** -The stress level was assessed via their score on a stress scale by Dr. vijay Lakshmi and Dr. Shruti Narain. Scores for academic achievement were taken from school records.

**3.5 Data collection**- Data was collected from the students of class ninth and tenth of government and private schools of Pauri.

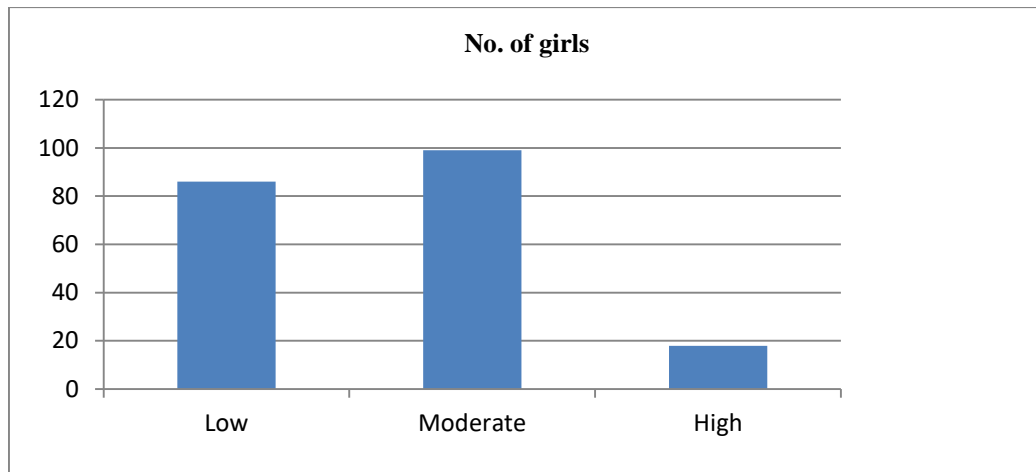
**3.6 Administration of tool**-the students were asked to read each statement carefully and complete the scale by giving response to every item of scale. Scale consist 40 items. Out of two given alternatives, one alternative was to be selected by putting a tick mark. There was no time limit but students took about 30 min. The stress scale was distributed to 450 students.

### 4. ANALYSIS OF DATA

For the analysis of data Mean, S.D., correlation coefficient, t-test were used.

**Table 1: Stress level of girls**

Scores	Level of stress	No. of girls
0 to 13	Low	86 (42.36%)
14 to 24	Moderate	99 (48.77%)
25 and above	High	18 (8.87%)
Total girls		203

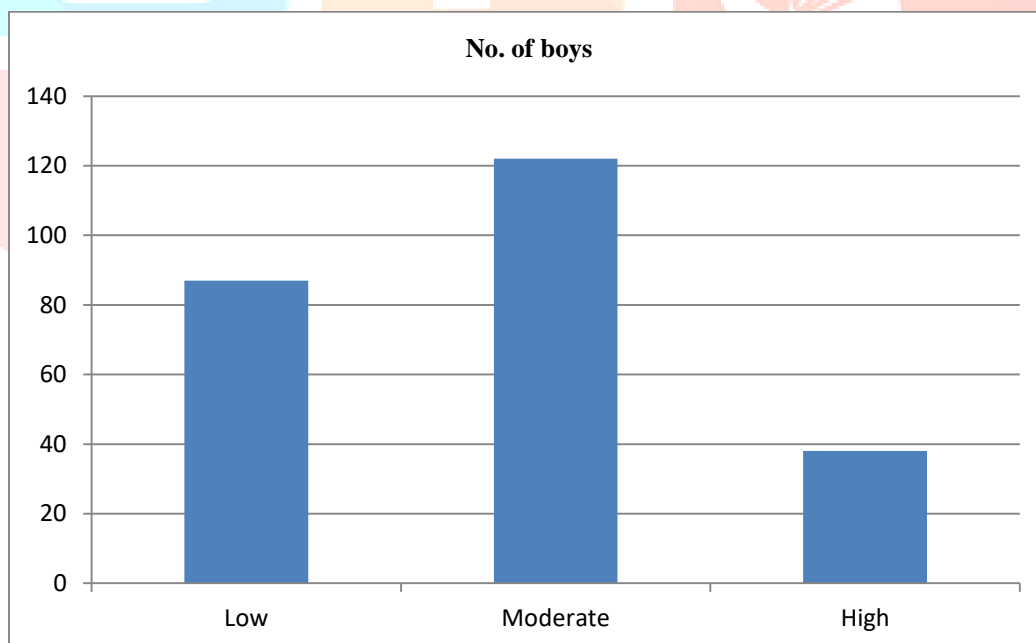


**Figure 1: Graphical representation of stress level of girls**

Table 1 shows that out of 203 girls, 86 girls have low stress level, 99 girls have moderate level of stress and 18 girls have high level of stress. It means maximum girls have moderate level of stress.

**Table 2: Stress level of boys**

Scores	Level of stress	No. of boys
0 to 11	Low	87 (35.22%)
12 to 21	Moderate	122 (49.39%)
22 and above	High	38 (15.39%)
Total boys		247



**Figure 2: Graphical representation of stress level of boys**

Table 2 shows that out of 247 boys, 87 boys have low stress level, 122 boys have moderate level of stress and 38 boys have high level of stress. It means maximum boys have moderate level of stress.

**Table 3: Stress level of students of government school**

Level of stress	No. of students
Low	127 (56.70%)
Moderate	87 (38.84%)
High	10 (4.46%)
Total students	224

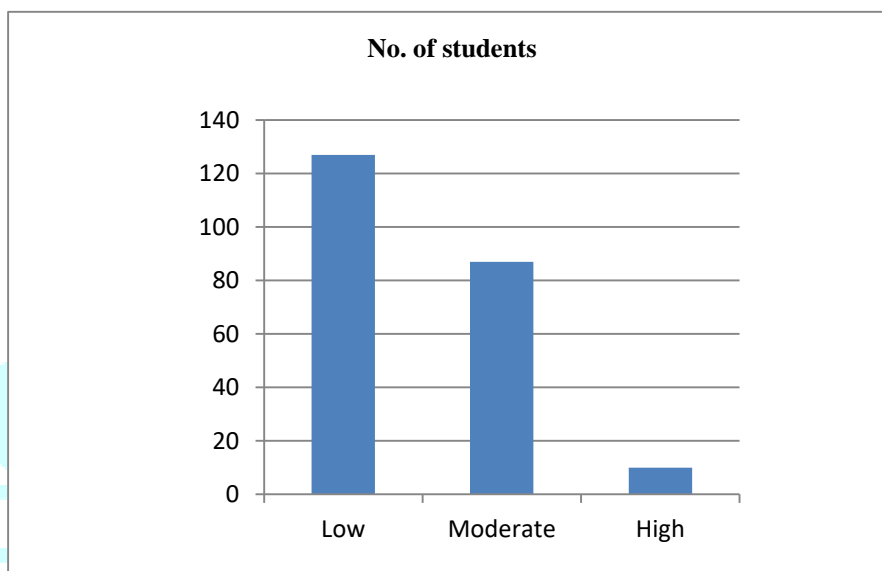
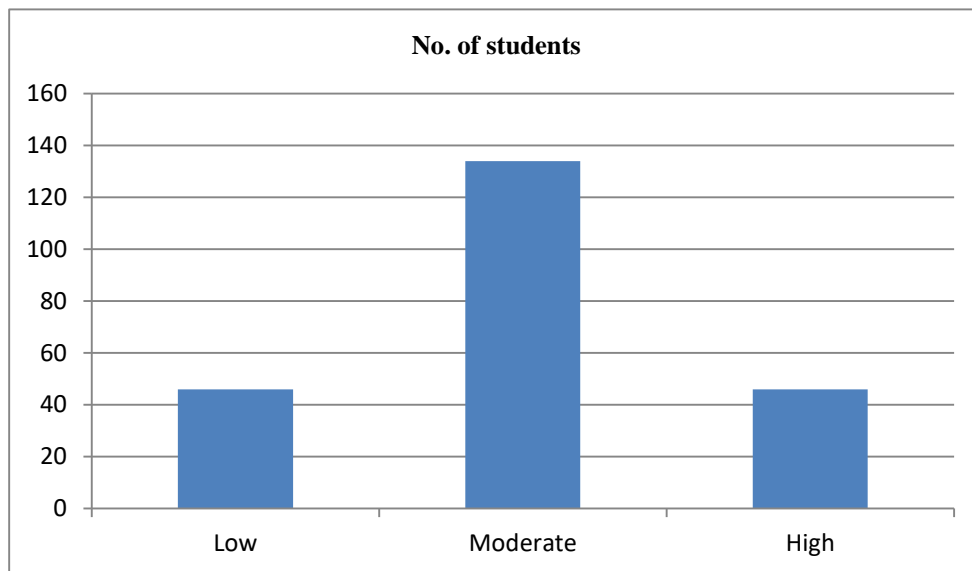
**Figure 3: Graphical representation of stress level of students of government school**

Table 3 shows that out of 224 government school students, 127 students have low level of stress, 87 students have moderate level of stress and 10 students have high level of stress. It means maximum government school students have low level of stress.

**Table 4: Stress level of students of private school**

Level of stress	No. of students
Low	46 (20.35%)
Moderate	134 (59.30%)
High	46 (20.35)
Total students	226

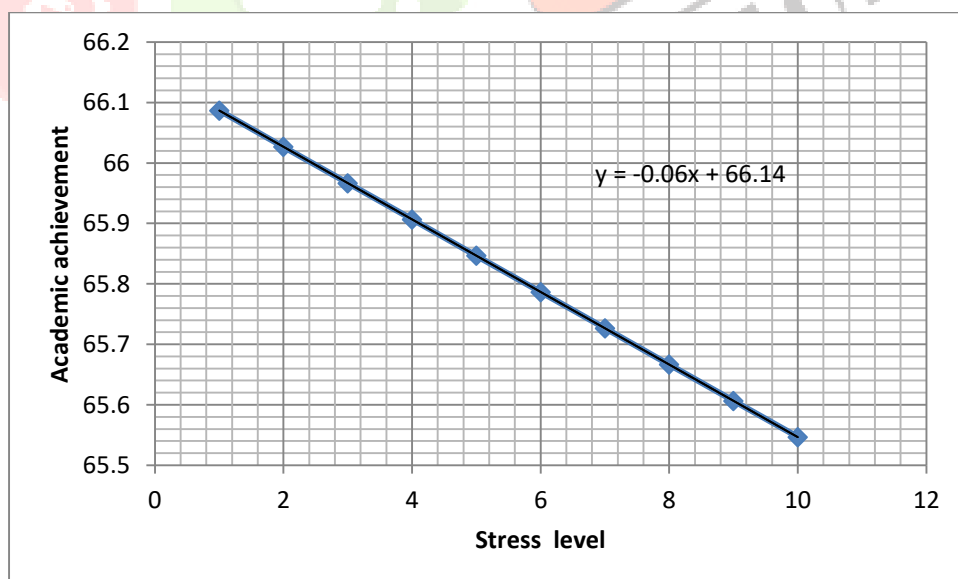


**Figure 4: Graphical representation of Stress level of students of private school**

Table 4 shows that the out of 226 private school students, 46 students have low level of stress, 134 students have moderate level of stress, 46 students high level of stress. It means maximum private school students have moderate level of stress.

**Table 5: Relationship between stress level and academic achievement of students**

Variable	No. of student	Mean	S.D	Correlation Coefficient
Stress level	450	37.77	15.44	-0.082
Academic achievement	450	63.88	11.30	



**Figure 5: Graphical representation of relationship between stress level and academic achievement of students**

Table 5 shows that the mean scores of stress level is 37.77 and S.D. is 15.44, mean scores of academic achievement is 63.88 and S.D. is 11.30. The value of the correlation coefficient is -0.082. It can be interpreted that there is negative and low correlation between stress level and academic achievement of students.

**Hypothesis -1**

In order to test the hypothesis 1.0 that 'there is no significant difference between stress level of girls and boys', mean, S.D. and t-ratio were calculated and obtained results are given in table:

**Table 6**

Students	No. of Students	Mean	S.D	Df	t-value	Level of sign.	Result
Girls	203	38.41	16.38	448	0.75	0.05	Not Significant
Boys	247	37.25	16.34				

Calculated t-value =0.75

t- value at 0.05 level of significance = 1.96

t-value at 0.05 level of significance is greater than calculated t-value. Therefore there is no significant difference between stress level of girls and boys . Null hypothesis is accepted.

**Hypothesis -2**

In order to test the hypothesis 2.0 that 'there is no significant difference between stress level of students of government and private schools' mean, S.D. and t-ratio were calculated and obtained results are given in table:

**Table 7**

Students	No. of students	Mean	S.D.	Df	t-value	Level of sign.	Result
Govt.	224	32.32	14.56	448	7.45	0.05	Significant
Private	226	43.17	16.26				

Calculated t-value = 7.45

t-value at 0.05 level of significance =1.96

Calculated t-value is greater than t-value at 0.05 level of significance. Therefore there is significant difference between stress level of students of government and private schools. Null hypothesis is rejected.

**Hypothesis-3**

In order to test the hypothesis 3.0 that 'there is no significant relationship between stress level and academic achievement of students' mean, S.D. and t-ratio were calculated and obtained results are given in table:

**Table 8**

No. of students	Correlation coefficient	t- value	Df	Level of significance	Result
450	-0.082	-1.76	448	0.05	Not Significant

Calculated t-value = -0.082

t- value at 0.05 level of significance = 1.96

Calculated t-value is less than t-value at 0.05 level of significance. Therefore there is no significant relationship between stress level and academic achievement of students. Null hypothesis is accepted.

**5. FINDINGS**

- Table- 1 shows that out of 203 girls, 86 girls have low stress level, 99 girls have moderate level of stress and 18 girls have high level of stress. It means maximum girls have moderate level of stress.
- Table -2 shows that out of 247 boys, 87 boys have low stress level, 122 boys have moderate level of stress and 38 boys have high level of stress. It means maximum boys have moderate level of stress.
- Table -3 shows that out of 224 government school students, 127 students have low level of stress, 87 students have moderate level of stress and 10 students have high level of stress. It means maximum government school students have low level of stress.
- Table -4 shows that the out of 226 private school students, 46 students have low level of stress, 134 students have moderate level of stress, 46 students high level of stress. It means maximum private school students

have moderate level of stress. It can be predicted that maximum students have moderate level of stress. This findings is in agreement with the finding of F. Asrul (2011), E.A. Osel et al. (2014), H. Elias et al. (2011).

- Table -5 shows that the mean scores of stress level is 37.77 and S.D. is 15.44, mean scores of academic achievement is 63.88 and S.D. is 11.30. The value of the correlation coefficient is -0.082. It can be interpreted that there is negative and low correlation between stress level and academic achievement of students. Negative correlation found between stress and academic achievement in study of Elias Hibibah et. al (2011), N. Sohail (2013), M.Jabeen Khan et. al.(2013).
- Entry in table 6 shows that t-ratio is calculated to determine the significance difference in stress level of girls and boys. Difference in stress level of girls and boys is insignificant at 0.05 level of significance. It can be interpreted that stress is gender free construct. Several studies support this conclusion. ( M.J khan, S.A. Altafand, H. Kaushar (2013), M. Saquib, K. Rahman (2018) S.Sharmila and K. Latha (2015). Mussarat Jabeen Khan et.al. (2013) found no significant difference in stress level of male and female students. In contradiction Rajni kumari and R. Gartta (2012) found significant difference in stress level of male and female students.
- Entry in table 7 shows that t-ratio is calculated to determine the significant difference in stress level of students of government school and private school. Difference in stress level of students of government school and private school is significant at 0.05 level of significance. It can be interpreted that stress level of students of private school is higher than of government school.
- Entry in table 8 shows that t-ratio is calculated to determine the significant relationship between stress level and academic achievement of students. Relationship between stress level and academic achievement is insignificant at 0.05 level of significance. This finding is in agreement with the finding of Affum Osel Emmanuel, Asante Eric Adem, F. K. Solomon (2014),

Hibibah Elias et. al. (2011) found weak negative relationship between students stress level and their academic performance. M. Jabeen Khan et. al. (2013) found negative effect of academic stress on students performance. A.O. Emmanuel et.al. (2014) found insignificant correlation level of perceived stress and academic performance of students. Nadeem Talib (2012) found test anxiety is significantly but negatively correlated with student's academic performance. N. Sohail (2013) found moderate negative and significant correlation between academic performance and level of stress. It can be interpreted that there exist negative correlation between stress and academic achievement. In contradiction Jimoh Wale, Owoyele (2009) found strong positive relationship between stress management skills and academic achievement. F. Asrul (2011) found positive correlation between stress and academic achievement of students. Rajni kumari and Radhakanta Gartta (2012) found significant and positive correlation between stress and academic achievement of students. S. Sharmila and K. Latha (2015) found social, economical and political stress is positively and significantly related to academic achievement of students. Edem Maxwell et. al. (2015) found no significant effect between stress and academic performance.

### 5.1 Conclusion

- In this study maximum students have moderate level of stress.
- Not significant difference found between stress level of girls and boys.
- Significant difference found between stress level of students of government and private school.
- Negative and not significant correlation found between stress level and academic achievement of students.

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