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EFFECT OF ACADEMIC STRESS AND GENDER ON ACADEMIC ACHIEVEMENT OF SECONDARY SCHOOL STUDENTS: AN EMPIRICAL STUDY

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ABSTRACT :

The goal of the present study is to evaluate the academic achievement among secondary school students in connection to academic stress and gender. In a sample of 305 students, academic achievement was considered the dependent variable, whereas academic stress and gender were considered the independent variables. In this study, the descriptive survey method was employed. Using multistage random sampling techniques, 307 secondary school pupils were selected as a sample. Data was gathered using the Stress Inventory developed by Basant Bahadur Singh and Seema Rani (2011). Academic achievement was measured by the performance of the learner after a course of instructions and it was measured in terms of the marks obtained in examination. The data was analysed using a two-way ANOVA. The assumption of homogeneity of variance for ANOVA was further tested using Levene's test of homogeneity of variance. Main effect of academic stress reported to have a significant effect on academic achievement of secondary school students and gender found no significant effect on academic achievement of secondary school students. The academic achievement of secondary school students was found to be significantly impacted by a double interaction effect between gender and academic stress.

KEYWORDS : *Academic achievement, Stress and Gender*

INTRODUCTION

Academic achievement is a measure of a student's level of success. It can be described as the actions or accomplishments of a pupil at his school. Students from lower classes are frequently promoted to higher classes based on their academic performance. It aids in determining if a student is successful or not, as well as in selecting them for different courses and jobs. It is the degree to which students have learned a certain subject in terms of knowledge, comprehension, application, and skill. Teachers typically assess this level of learning by test results in their yearly assessment. The performance of education is referred to as academic achievement. As a result, it shows how well a person has achieved particular objectives that were the main focus of activities in educational settings. It should be seen as a complex construct that encompasses several learning areas since it incorporates the learners' diverse talents. As a result, one is expected to consider the indication used to quantify academic progress while defining it. General intelligence, achievement drive, recognition, curiosity, academic stress, and other personal characteristics all have an impact on academic accomplishment,

regardless of the indicator used to assess it. Therefore, a person's attitude toward academic success is influenced by a number of variables. Academic stress is one such element. Stress exists wherever we look—at work, in our surroundings, and in the arena of our everyday lives. It is an inevitable part of life. Anxiety resulting from education and schooling is a sort of academic stress. It has an impact on students' thought processes, which causes their learning process to break down. As a result, it is imperative that educational stress be taken seriously. It may have detrimental effects that are severe and persistent. Academic stress impairs exceptional academic performance and increases pupils' capacity for learning. Academic achievement and academic stress were shown to be significantly correlated among secondary school students in the Aligarh District of Uttar Pradesh, India. As a result, families and schools need to help adolescents manage their academic stress by using behavioral, relaxation, and counseling strategies. In order to ascertain the moderating function of achievement motivation between academic stress and academic performance, Balogun, Balogun, and Onyencho (2017) studied 393 students in Nigeria, Africa. The findings indicated that both academic performance and achievement motivation were positively impacted by academic stress.

Variables Used

- Dependent Variable- Academic Achievement
- Independent Variable- Academic Stress and Gender

Objectives of the study

1. To study the main effect of academic stress (A) and gender (B) on academic achievement among secondary school students.
2. To find out the interaction effect of academic stress and gender on academic achievement among secondary school students.

Hypotheses of the study

H_{01} There exists no significant main effect of academic stress (A) on academic achievement among secondary school students.

H_{02} There exists no significant main effect of gender (B) on academic achievement among secondary school students.

H_{03} There exists no significant interaction effect of academic stress and gender on academic achievement among secondary school students.

Design and Methodology

The 2x2 factorial randomized group design was used to analyse the data. All the independent variables – academic stress (high & low) and gender (male & female) were varied at the two levels which have been shown below in the schematic design.

Sample

Using a multi-stage stratified random selection technique, 305 secondary school students were chosen as a sample based on their gender and level of academic stress. The sample distribution is shown below:

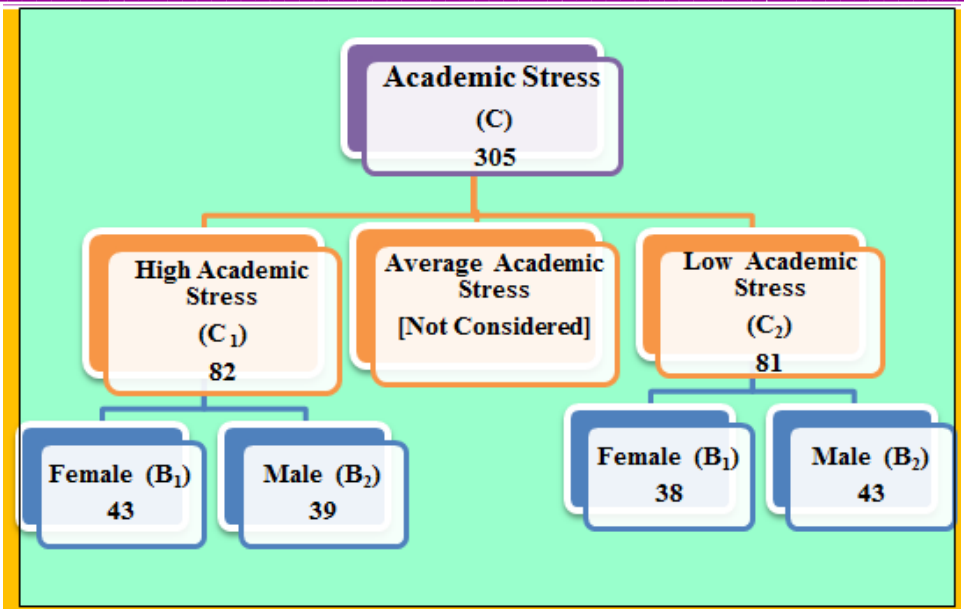

Fig. 1. Schematic layout of 2x2 Factorial Designs for Effect of Academic Stress and Gender on Academic Achievement

Tool Used in the Study:

Academic Stress Inventory by Basant Bahadur Singh & Seema Rani (2011) was used to assess the stress among secondary school students.

DATA ANALYSIS AND DISCUSSION

Data from a (2x2) factorial study using a randomized group design were subjected to analysis of variance (ANOVA) in order to examine the primary and interaction effects of gender and academic stress on secondary school students. Academic stress is an independent variable that is coded as (A) and further classified as High Academic Stress (A1) and Low Academic Stress (A2). Gender is coded as (B) and is further classified as Male (B2) and Female (B1).

Table 1

Mean's and SD_S of sub-samples of 2x2 design for Academic Stress and Gender of Students with respect to Academic Achievement

Academic Stress	Gender (B)	N	Mean	SD
High Academic Stress (A_1)	**Female (B_1)**	**43**	**400.42**	**49.166**
	Male (B_2)	**39**	**396.05**	**57.818**
Low Academic Stress (A_2)	**Female (B_1)**	**38**	**267.89**	**50.643**
	Male (B_2)	**43**	**299.05**	**65.863**

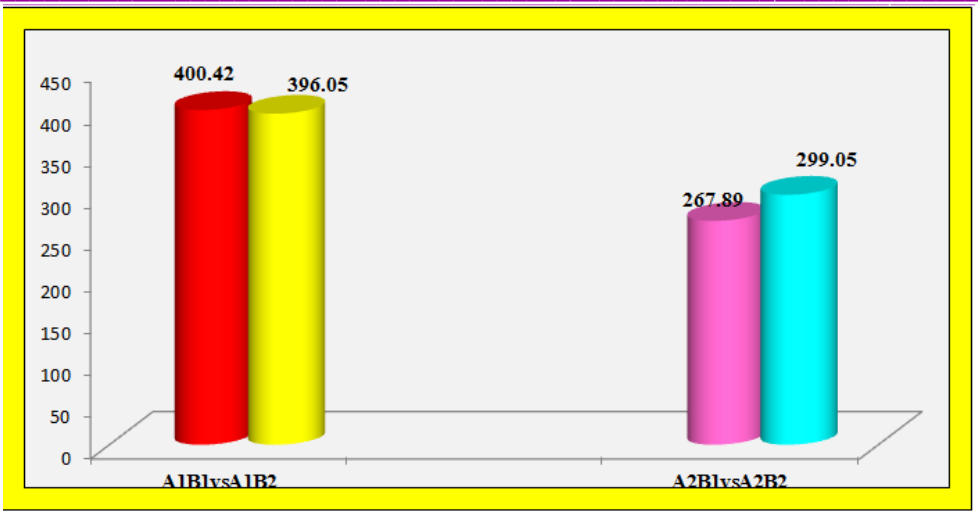

Fig. 2. Mean Scores of Sub Sample of 2x2 Design For Academic Achievement of Secondary School Students with respect to Academic Stress and Gender

Table 2
Summary of Two way ANOVA (2x2 Factorial Design) for Academic Achievement of Secondary School Students with respect to Academic Stress and Gender

Sources of variance	df	Sum of Squares (SS)	Mean sum of squares (MSS)	F-ratios
Main Effect				
A (Academic Stress)	1	535028.220	535028.220	168.241**
B (Gender)	1	7285.653	7285.653	2.291(NS)
Double Interaction Effect				
A x B Interaction	1	12812.290	12812.290	4.029*
Between Cells	3	548691.808	182897.269	.....
With in cells	159	505641.848	3180.137	.....
Total	162	1054333.656	.....	.....

*** Significant at 0.05 level ** Significant at 0.01 level**

- **Main effects of Academic Stress and Gender on Academic Achievement of Secondary School Students**

ACADEMIC STRESS (A)

Table 2 shows that the F-ratio (168.241) for the primary impacts of academic stress on secondary school students' academic achievement is significant at the 0.01 level, indicating that academic stress significantly affects academic achievement. Therefore, the null hypothesis H_{01} , **"There exist no significant effect of academic stress on academic achievement of secondary school students"** is rejected. The current outcome is consistent with findings by Talib & Rahman (2012) and Kumari & Garita (2012), who discovered that academic stress significantly impacted academic achievement.

Table 3
't' – values for the mean score of Academic Achievement of Secondary School Students with respect to Academic Stress

Academic Stress	N	Mean	SD	t-value
High Academic Stress (A_1)	82	398.34	53.165	12.72**
Low Academic Stress (A_2)	81	284.43	60.896	

**** Sigificant at 0.01 level**

According to Table 3, the mean scores of students who experience high levels of academic stress and those who experience low levels of academic stress are significant at the 0.01 level. It is possible to draw the conclusion that secondary school students who felt less stressed about their studies (284.43) perform noticeably less academically than those who do well (398.34). Figure 3 shows the mean scores for the major influence of academic stress on academic achievement.

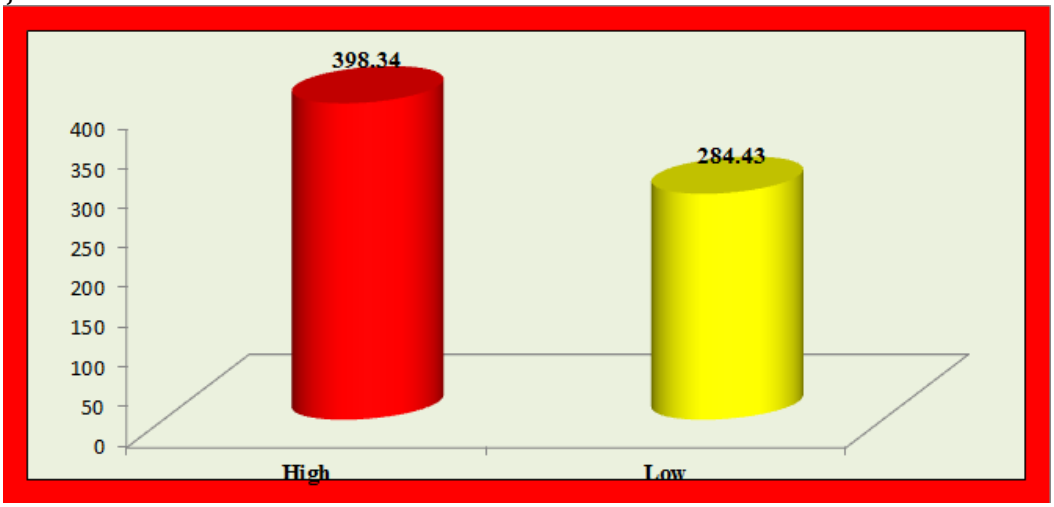

Fig. 3 Mean scores for Main Effect of Academic Stress on Academic Achievement of Secondary School Students

Gender (B)

Table 2 shows that the F-ratio (2.291) for the primary influence of gender on academic achievement is not significant. This indicates that academic achievement is not much impacted by gender on its own. Therefore, the null hypothesis H_{02}, **"There exists no significant effect of gender on academic achievement of secondary school students"** is accepted. The findings of Busari (2012), who concluded that gender has no bearing on academic achievement, corroborate the current study's findings. Singh (2011), on the other hand, discovered that female students experienced higher levels of academic stress than male students.

Double Interaction Effects of Academic Stress and Gender on Academic Achievement of Secondary School Students

Academic Stress x Gender (B)

Table 2 clearly shows that the F-ratio (4.029) for the gender-academic stress interaction is significant.Therefore, null hypothesis $H_{03,}$ **"There exists no significant interaction effect of academic stress and gender on academic achievement of secondary school students"** is rejected**.** The conclusion is that gender and academic stress have a strong interaction effect on academic attainment. To determine whether there was a significant difference in the mean academic accomplishment scores of the various groups for academic stress, the t-test was used for additional investigation. The outcomes are displayed in the table.

Table 4

't'-values for Mean Scores of Academic Achievement of Secondary School Students for Different groups of Academic Stress (A) x Gender(B)

Sr. No.	Groups	N		Mean		SD		't'-value
1	A_1B_1vs.A_1B_2	43	39	400.42	396.05	49.16	57.81	0.36(NS)
2	A_2B_1vs.A_2B_2	38	43	267.89	299.05	50.64	65.80	2.40*
3	A_1B_1vs.A_2B_1	43	38	400.42	267.89	49.16	50.64	11.91**
4	A_1B_1vs.A_2B_2	43	43	400.42	299.05	49.16	65.80	7.98 **
5	A_1B_2vs.A_2B_1	39	38	396.05	267.89	57.81	50.64	10.36**
6	A_1B_2vs.A_2B_2	39	43	396.05	299.05	57.81	65.80	7.10**

**** Significant at 0.01 level** **NS- Not Significant**

C_1:High Academic Stress **B_1: Female**

C_2: Low Academic Stress **B_2: Male**

The mean scores of male students with high academic stress (A1B2) and female students with high academic stress (A1B1) do not differ significantly, according to Table 4. Furthermore, it can be deduced from mean scores that female students who experience significant levels of academic stress have mean scores of 400.42. According to table 4, the t-value (2.40) for male and female students in the low academic stress (A2B1 and A2B2) groups is significant at the 0.05 level, indicating that there is a significant difference between the groups' academic performance. Additionally, based on the mean scores, it can be inferred that female students who experience less academic stress (267.89) also have lower academic accomplishment.

Table 4 shows that, in relation to their academic achievement, the t-value (11.91) for female students who were under high academic stress (A1B1) and those who were under low academic stress (A2B1) was significant at the 0.01 level. Additionally, it can be inferred from the mean scores that female students with low academic stress (267.89) achieve less academically than those with high academic stress. Table 4 makes clear that the t-value (7.98) for male students with low academic stress (A2B2) and female students with high academic stress (A1B1) is significant at the 0.01 level, indicating that there is a significant difference between the students in these groups with regard to academic achievement. Additionally, it can be inferred from the mean scores that male students with low academic stress (299.05) achieve less academically than female students with high academic stress.

Male students with severe academic stress (A1B2) and female students with low academic stress (A2B1) had significantly different mean scores, as Table 4 makes clear. Furthermore, it can be deduced from mean scores that female students with low academic stress had lower mean scores (267.89) than male students with severe academic stress. The mean scores for male students with high academic stress (A1B2) and those with low academic stress (A2B2) differ significantly, as shown in Table 4. Furthermore, it can be deduced from mean scores that male students experiencing low academic stress had mean scores that were lower than those of male students experiencing high academic stress (299.05).

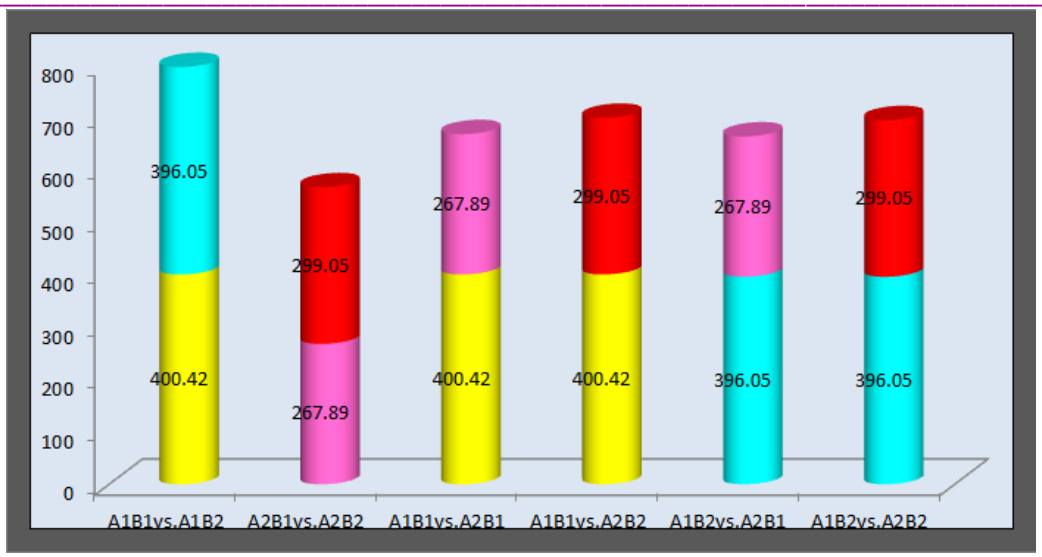

Fig 4 Mean Scores for interaction Effect of Academic Stress and Gender on Academic Achievement of secondary school students

FINDINGS OF THE STUDY

- Academic Stress was reported to have a significant effect on academic achievement of secondary school students.
- Gender was reported to have no significant effect on academic achievement of secondary school students.
- Double interaction effect of academic stress and gender was found on the academic achievement of secondary school students.

CONCLUSION

An essential component of academic success is academic stress. When it comes to academic success, kids who experience high levels of academic stress put up more effort and are more motivated. Additionally, the study shows a favorable correlation between academic accomplishment and academic stress. In summary, academic stress consistently has a positive effect on students' academic performance. The results of this pilot study raise awareness of the growing need for students' mental health support and well-being among students, parents, academicians, administrators, and policy makers in the field of education. It focuses on giving students the tools they need to adjust to and cope with changes in their personal and academic lives through interactive seminars, leisure activities, and awareness and life skills programs.

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