Academic Stress and Academic Performance among Higher Secondary Students: A Gender Analysis

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Abstract: The present study was conducted to explore difference in academic stress and academic performance among the higher secondary students with respect to their gender and to estimate the relation between academic stress and academic performance of the students of class XI of Bengali medium higher secondary schools affiliated to the West Bengal Council of Higer Secondary Education in Malda District, West Bengal. The researchers adopted the Academic Stress Scale consisted of forty items developed by Kim (1970) and adopted by Rajendran and Kaliappan (1990) and Rao (2012) and the scores obtained by the students in Madhyamik Examination were taken for the study. The researchers applied the Pearson Product Moment Method to find out the said relation and t-tests to find out the difference among the sub-samples. The present study found that there is a significant difference in academic stress and also revealed that there is a significant difference in academic performance due to the gender of the students of class XI. The present study explored negative correlation between the academic stress and academic performance of the students.

Index Terms - **Academic Stress; Academic Performance; Higher Secondary Students and Gender.**

I. INTRODUCTION

The present age is considered as the age of stress. In every moment and in every sphere of life human being are feeling multidimensional stress. Though stress is considered as an essential condition as it helps in achieving success but sometime it also causes threats. Stress is a necessary and unavoidable concomitant of daily living--necessary because without some stress we would be listless and apathetic creatures, and unavoidable because it relates to any external event, be it pleasurable or anxiety producing. A person's response towards stress depends on whether an event is appraised as a challenge or a threat (Lazarus & Folkman, 1984). Challenging stimulus can lead to positive outcomes such as motivation and improved task performance while threatening ones or distress can result in anxiety, depression, social dysfunction and even suicidal intention. Along with the improvements during the scientific era and the rapid development of information, competitiveness among people has become increasingly intense, as a consequence, people have become busier and, therefore, stress is a natural consequence. Even though appropriate stress is a juncture for self-growth, it is also a motivation for people to progress actively. It not only affects thoughts and feelings but also affects academic performance.

II. ACADEMIC STRESS AND ACADEMIC PERFORMANCE

The concept of stress was first introduced in the life sciences by Hans Selye in 1936. The term stress is derived from the Latin word 'Stringere' which means to be drawn tight. Stress is a complex, dynamic process of interaction between a person and his or her life. The word 'stress' is defined in the Oxford Dictionary as 'a state of affair involving demand on physical or mental energy'.

Stress related to academic is known as academic stress. Academic stress refers to the unpleasant psychological situations that occur due to the academic expectations from parents, teachers, peers and family members. Academic stress is a mental distress with respect to some anticipated frustration associated with academic failure or even an awareness of possibility of such failure (Gupta and Khan, 1987). Academic Stress among students have long been researched on, and researchers have identified stressors as too many assignments, competitions with other students, failures and poor relationships with other students or lecturers. Academic problems have been reported to be most common source of stress for students. Stress in family like divorce, intrapersonal conflicts and maternal depression leads to stress in the adolescents who deteriorates functioning (Rex Forehand et al, 1991). Schafer (1996) observed that the most irritating daily hassles were usually school-related stressors such as constant pressure of studying, too little time, writing term papers, taking tests, future plans and boring instructor. Students' experienced academic stress arising from both their own expectations to excel as well as expectations arising from their parents and teachers (Ang and Huan, 2006). Supe et.al. (2002) found that the female students have more academic stress as compare to male students. Singh and Upadhyay (2008) explored that female students perceived more academic stress in comparison of their male counterpart. Mathew and Jayan (2006) revealed that both the boys and girls

experienced same kind of academic stress but there was no significant difference between them. Agarwal (2011) found in his study that no significant difference between academic stress of male and female adolescents. Prabu (2015) explored that male and female students do not differ significantly in their academic stress.

Academic performance is the level of learning in a particular area of subject in terms of knowledge, understanding, skill and application usually evaluated by teachers in the form of test scores in their annual examination. Academic stress is the product of a combination of academic related demands that exceed the adaptive resources available to an individual (Wilks, 2008). Kaplan et al., (2005) supported the hypothesis that early adolescent school-related stress both independently and in interaction with high academic expectations negatively affected academic performance. Malik and Balda (2006) explored that the academic achievement or performance was to be negatively and significantly correlated with all types of stress except existential stress. Sohail (2013) conducted a study to determine the relationship of stress and academic performance in first year medical students and the results show that higher level of stress is associated with poor academic performance. Bharti (2013) concluded in his study that higher level of institutional stress is associated with poor academic performance.

There were several research studies on the selected problem, but the researchers did not find any study in the perspective of West Bengal and specifically, on the students of Malda District. Therefore, they selected the problem to conduct the present study.

III. OBJECTIVES OF THE STUDY

In conducting the present study, the researchers formulated the following objectives of the study:

- To compare academic stress of higher secondary school students with regards to their gender.
- To compare academic performance of higher secondary school students with regards to their gender.
- To study the relation between academic stress and academic performance of higher secondary school students with regards to their gender.

IV. NULL-HYPOTHESES

On the basis of the above objectives, the null-hypotheses were formulated as follows:

$H_{0.1}$: There is no significant relationship between academic stress and academic performance of higher secondary school students.

$H_{0.2}$: There is no significant difference between academic stress of higher secondary school students with regards to their gender.

$H_{0.3}$: There is no significant difference between academic performances of higher secondary school students with regards to their gender.

V. METHODOLOGY OF THE STUDY

The present study is a normative survey of descriptive research in nature. This study was undertaken to study academic stress of boys and girls of higher secondary school students.

VI. POPULATION AND SAMPLE

All the students of class XI of Bengali medium higher secondary school in Malda District, West Bengal, under the West Bengal Council of Higher Secondary Education were treated as the population of the present study. From this population, 300 (150 boys and 150 girls) students of class XI were randomly selected as the sample of the study from six Govt aided higher secondary schools.

VII. VARIABLES IN THE STUDY

The variables included in the study were as follows:

- Independent Variable - Academic stress.
- Dependent variable - Academic Performance.
- Demographic Variable - Gender of the students.

VIII. TOOLS USED FOR THE STUDY

The Academic Stress Scale consisted of forty items developed by Kim (1970) and adopted by Rajendran and Kaliappan (1990) and Rao (2012) for Indian culture was adopted in this research. The scale was translated into Bengali and was applied on 100 students to re-standardize it. The test retest reliability of the test was found 0.799. The academic performance was not measured by a standardised test, but the scores obtained by the students in Madhyamik Examination was taken for the study.

IX. STATISTICAL TECHNIQUES USED

Mean, SD, Q-Q Plot, t-test and Pearson Product Moment Correlation (r) were used as statistical techniques for analyzing the collected data.

X. ANALYSIS AND INTERPRETATIONS

Mean, SD, Q-Q Plot, t-test and Pearson Product Moment Correlation (r) were used as statistical techniques for analyzing the collected data.

Table 1 Descriptive statistics of academic stress and academic performance of total sample.

Descriptives		**Academic Stress**	**Academic Performance**
Mean		84.21	62.15
	Std. Error	.770	.787
Median		85.00	61.00
Variance		177.690	185.733
SD		13.330	13.628
Skewness		-.206	.563
	Std. Error	.141	.141
Kurtosis		.025	-.214
	Std. Error	.281	.281

In the Table 1, the descriptive statistics of academic stress (M = 84.21, SD = 13.33) and academic performance (M = 62.15, SD = 13.63) were presented. Besides, the following Q-Q Plot for the scores of academic stress (Figure 1) and academic performance (Figure 2) were presented which clearly show the normality of the distributions.
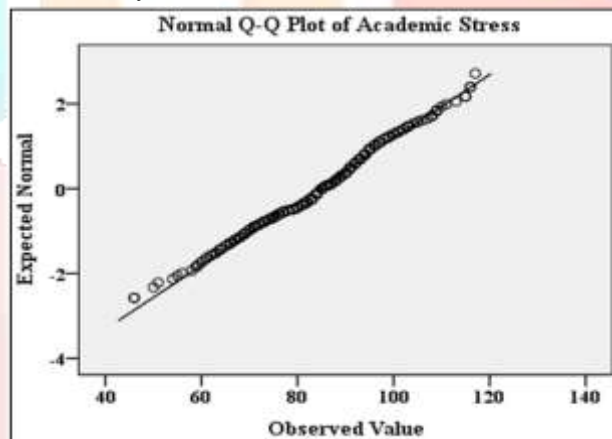

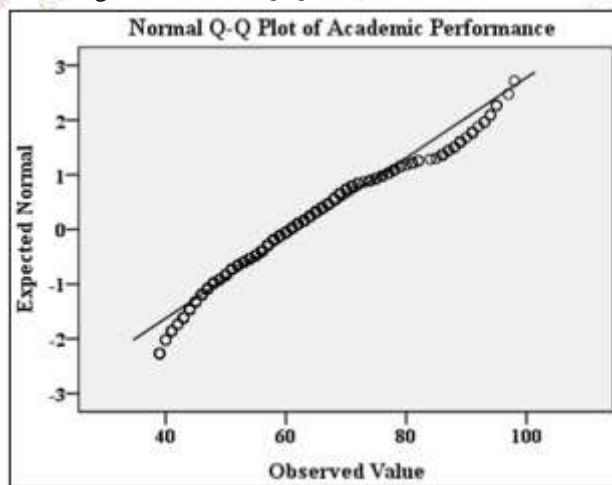Figure 1 Normal Q-Q Plot of Academic Stress

Figure 2 Normal Q-Q Plot of Academic Performance

Analysis pertaining to null hypothesis 1:

$H_{0.1}$: There is no significant relationship between academic stress and academic performance of higher secondary school students.

Table 2 Descriptive statistics of academic stress and academic performance of total sample.

Correlations

			Academic Performance
Total Sample (N = 300)		Pearson r	-.363**
		Sig. (2-tailed)	.000
		N	300
Male (N = 150)	Academic Stress	Pearson r	-.410**
		Sig. (2-tailed)	.000
		N	150
Female (N = 150)		Pearson r	-.274**
		Sig. (2-tailed)	.001
		N	150

**. Correlation is significant at the 0.001 level (2-tailed).

From the Table 2, it was found that academic stress and academic performance of the total sample is negatively correlated (r = -.363, p < 0.001) and the relation is moderate and statistically significant. In case of male students, a significant negative moderate correlation (r = -.410, p < 0.01) between academic performance and academic stress was found. For the female students, a significant negative weak correlation (r = -.274, p < 0.01) was found between academic performance and academic stress. Hence, it may be interpreted that the correlation of academic stress and academic performance are negative and statistically significant. Therefore, the null hypothesis (H0.1) was rejected. As the correlation for the male students was moderate and the correlation for the female students was weak, the t test was applied to know whether there is any significant difference between two correlation coefficients of male and female students and it was found (t = -1.32, p > 0.05) that the difference is not statistically significant.

Analysis pertaining to null hypothesis 2:

$H_{0.2}$: There is no significant difference between academic stress of higher secondary school students with regards to their gender.

Table 3 Presentation of descriptive statistics of academic stress.

Group Statistics

	Gender	N	Mean	SD	SEM
Academic Stress	**Male**	150	81.50	13.02	1.06
	Female	150	86.91	13.13	1.07

Table 4 Result of independent samples test for the academic stress of male and female students.

Independent Samples Test

	t-test for Equality of Means				
	t	df	Sig. (2-tailed)	Mean Difference	SED
Academic Stress	-3.586	298	.000	-5.413	1.51

Table 3 shows that female students scored higher (M = 86.91, SD = 13.13, N = 150) in academic stress than their male counterpart (M = 81.50, SD = 13.02, N = 150). The independent samples t-test was applied to determine the statistical significance of the difference between academic stress of male and female students and it was found from the Table 4, that the t value [t (298) = -3.586, p< 0.001] is significant. Hence, it is evident that the null hypothesis ($H_{0.2}$) is rejected and it may be interpreted that there is a significant difference in academic stress due to the gender of the students of class XI.

Analysis pertaining to null hypothesis 3:

$H_{0.3}$: There is no significant difference between academic performances of higher secondary school students with regards to their gender.

Table 5 Presentation of descriptive statistics of academic performance.

Group Statistics

	Gender	N	Mean	SD	SEM
Academic Performance	**Male**	150	64.25	13.69	1.12

Group Statistics

	Gender	N	Mean	SD	SEM
Academic Performance	**Male**	150	64.25	13.69	1.12
	Female	150	60.05	13.29	1.09

Table 6 Result of independent samples test for the academic performance of male and female students.

Independent Samples Test

	t-test for Equality of Means				
	t	df	Sig. (2-tailed)	Mean Difference	SED
Academic performance	2.701	298	.007	4.20	1.56

Table 5 shows that male students scored higher (M = 64.25, SD = 13.69, N = 150) in academic performance than female students (M = 60.05, SD = 13.29, N = 150). The independent samples t test was applied to determine the statistical significance of the difference between academic performance of male and female students and it was found from the Table 6, that the t value [t (298) = 2.701, p < 0.01] is significant. Hence, it is evident that the null hypothesis ($H_{0.3}$) is rejected and it may be interpreted that there is a significant difference in academic performance due to the gender of the students of class XI.

XI. DISCUSSION AND CONCLUSION

The present study explored that there is a significant difference in academic stress due to the gender of the students of class XI. The study conducted by Mathew and Jayan (2006), Agarwal (2011), Prabu (2015), also revealed the similar results. But, Supe et.al. (2002), Singh and Upadhyay (2008) explored that female students perceived more academic stress in comparison of their male counterpart. The present study also revealed that there is a significant difference in academic performance due to the gender of the students of class XI. The present study also explored that the correlation between academic stress and academic performance is negative and statistically significant which was supported by the studies conducted by Kaplan et al., (2005), Malik and Balda (2006), Sohail (2013), Bharti (2013). As the relation between academic stress and academic performance is in-verse in nature, hence, it can be said that academic stress affects academic performance and plays a role of debilitator of academic achievement. Hence, the researchers suggest further researches on the problem including more numbers of samples and variables, so that the academicians and parents could get more and more information regarding decrease of academic stress and enhancing academic performance.

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