International Research Journal of Education and Technology
Peer Reviewed Journal
ISSN 2581-7795

# A CRITICAL STUDY ON RELATIONSHIP BETWEEN ACADEMIC STRESS AND ACADEMIC ACHIEVEMENT OF SECONDARY SCHOOL STUDENTS IN HOWRAH DISTRICT

Debasish Das
PhD Research scholar
Department of Education
Seacom Skills University, Birbhum, West Bengal.

**Abstract:**

A study was conducted to measure the academic stress and achievement levels in secondary schools. A further objective of the study is to examine the relationship between academic stress and student achievement at secondary schools. A secondary objective is to examine how academic stress affects students' academic performance in secondary schools. Based on the survey approach, 217 secondary students were selected at random. Data was collected using a 24-item academic stress scale and a 5-point Likert scale. Regression, correlation, and descriptive analyses of the data were conducted. Students' academic achievement in secondary schools was significantly inversely related to academic stress, according to the correlation study. Research shows that academic stress in high schools significantly affects students' academic performance.

**Key words:** Academic Stress, Regression, correlation, Academic Achievement

## 1. Introduction

Educating learners is ultimately about their overall development. In most cases, students do not achieve this goal due to a number of reasons. There are many factors that are causing pupils to suffer from academic stress at the moment.

In 2012, Kadapatti and Vijayalaxmi called it a "career barrier." They also cite behavioral problems, irritability, and soon as signs of academic stress among kids. Studies, careers, and general life can be adversely affected by academic stress.

## 2. Study Area

Howrah is West Bengal's smallest district, after Kolkata, with a total area of 1467.00 km2. The location is even smaller than the typical West Bengal subdivision location. It holds a major position due to its national significance in the areas of industry, trade, and urbanization, despite its small size. The district's administrative center, Howrah City, is actually part of Metropolitan Kolkata.

It is located between latitudes 87°50'45" and 88°22'10" East and 22°12'30" and 22°46'55" North. As of January 1st, 1938, it became an independent district after being separated from Hugli. This is one of West Bengal's most populous districts. According to the 2011 Census, the district has a population of 4,850029. There are 53.38 men and 46.62 women in this total. The rural and urban environments are symbiotic. Contrary to the rural area, which accounts for 88 percent of the district's total area and employs the remaining labour force, the urban area, which accounts for only 12% of the district's total area, employs 50% of the labour force. Hugli district's northern and northwest boundaries are formed by the Arambagh and Serampur subdivisions, Calcutta

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proper, the Alip subdivisions, and Diamond Harbor of the South 24-parganas. Tamluk and Ghatal subdivisions are located on the southern and western boundaries of Medinipur.

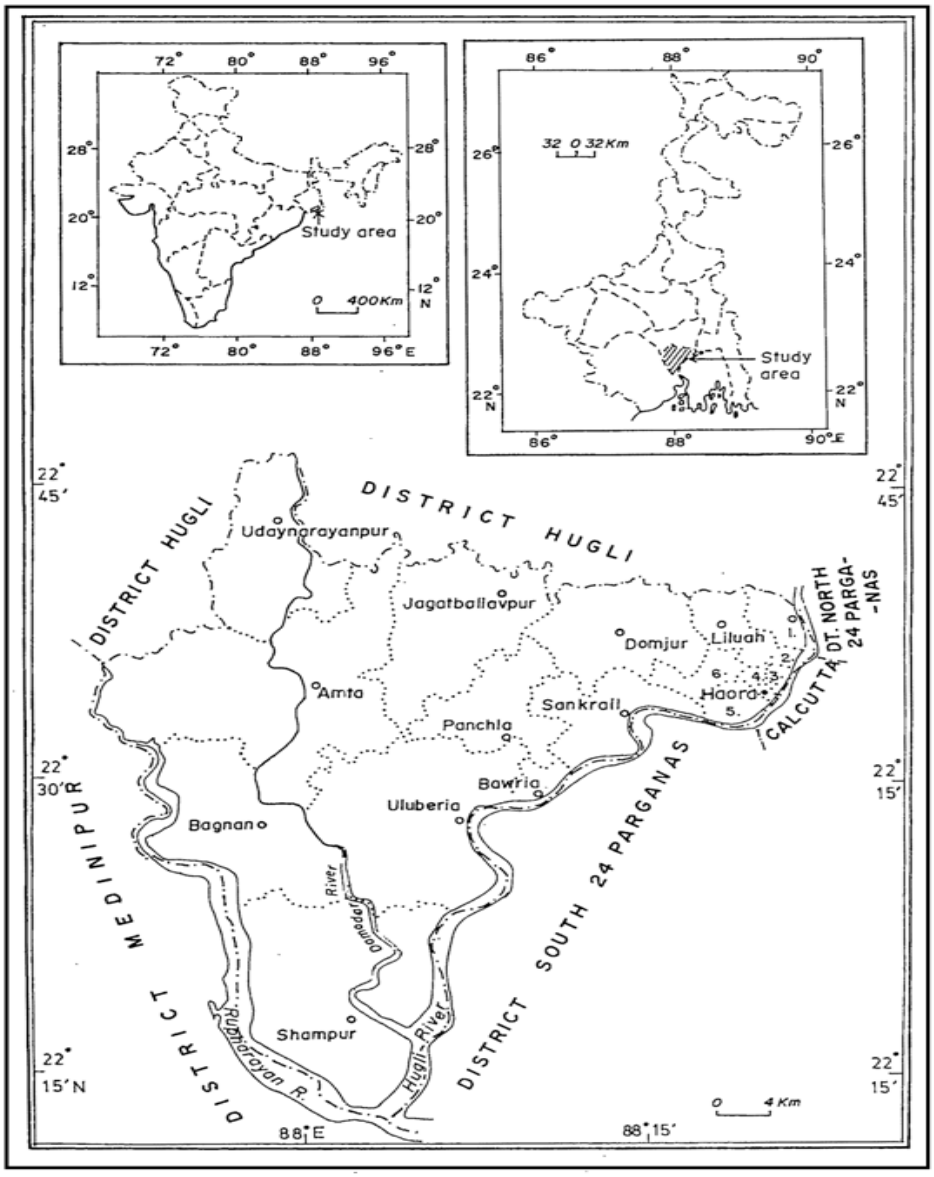


Figure1: Location Map of the study Area

**3. Academic success and stress**

Throughout their academic careers and other aspects of education, students encounter a wide range of problems. One's own standards and shortcomings, academic and familial expectations, the consequences of performing poorly, and so on. It is necessary. Several assignments are due. These limitations could lead to academic stress if they are in place for a prolonged period of time.

The psychological pain students experience when they fail academically or are perceived to fail academically is called "school stress" in psychology. The authors of Bernstein et al. (2008) argue that "stressors," or sources of stress, can interfere with the daily functioning of people. Stress in schools is caused by a variety of factors. The study considers three main factors: exam stress, exam anxiety, and the classroom learning environment. According to Mishra (2017), work load and grade anxiety are the two primary causes of academic stress. Students' stress is primarily caused by academic pressure, according to Mehfooz and Haider (2017) and Elias, Ping, and Abdullah (2011). Stress is a major problem for students because they fear failing (Bataineh, 2013). Academic achievement is evaluated and knowledge is cataloged using exams, grades, and test results.

**4. Need and relevance of the research.**

Academic stress was significantly associated with successful academic performance in 2018, according to Stankovska, Gordana, and colleagues.

Academic pressure is associated with subpar performance, however. Academic stress is a valid indicator of a student's chances of succeeding in school, according to experts. According to

Karaman, Mehmed, et al. (2019), female students are more likely to experience academic stress than male students. According to Chothani (2014), academic stress is related to classroom language. According to Siraj et al. (2013), high school stress negatively affects academic performance, the exact opposite of what Sohail (2013) found.

Gender was a significant predictor of academic stress in subsequent correlation and regression studies. Academic stress was associated with lower course grades, according to Struthers et al. (2000). Students who consistently practice self-care experience less academic stress, according to a study published in 2019. Academic stress symptoms like sorrow and anxiety have a significant impact on academic success in addition to their impact on health and wellness (Bernal-Morales et al. 2015).

As academic stress affects academic success more strongly, it seems appropriate to explore it in greater depth.  students who are in secondary school. Specifically, the current study investigates how school stress affects high school students' academic performance and their ability to succeed in upper secondary school.

## 5. Objectives Of The Study

- Analyzing the academic performance and stress levels of upper secondary school students.
- In order to investigate the relationship between academic stress and achievement among students in high schools, we conducted a study.
- Identify whether academic stress has any effect on academic performance among students in secondary schools.

## 6. Hypotheses Of The Study

**H1:** secondary school students' achievement is not influenced by academic stress.

**H2:** Academic stress has no effect on students' academic performance in secondary schools.

## 7. The Research Methodology

The current study uses the "survey method." The aim is to examine the impact of academic stress on students' academic performance in secondary schools, as well as the correlation between academic stress and achievement.

## 8. Sample Of The Study

Study participants are all secondary school students in the Howrah District of West Bengal. Random sampling was used to select 217 students from secondary schools for the study.

## 9. DATA COLLECTION APPLICATIONS AND TOOLS

In order to conduct this study, researchers developed and validated the 24-item Academic Stress Scale. The scale is based on a five-point Likert scale. A learning environment, academic pressure, and test anxiety are divided into three categories. Eight objects represent each group.

In terms of the Academic Stress Scale's reliability, Cronbach Alpha coefficient was 0.806. 0.898 was found to be its square root, showing that the scale is useful. Therefore, the instrument can be trusted and is real. Academic achievement scores were calculated based on pupils' board exam

grades at secondary schools. Data was collected from each participant after they received the instrument.

## 10. RESULTS AND DISCUSSION

### 10.1 Results based on Descriptive Analysis

**Table 1 Mean and Standard Deviation of Academic Stress and Academic Achievement for Entire Sample.**

| Variables | Mean | Standard Deviation |
|---|---|---|
| Academic Stress | 79.90 | 9.737 |
| Pressure to Perform | 28.51 | 4.416 |
| Exam Fear | 25.86 | 6.622 |
| Classroom Environment | 25.53 | 3.917 |
| Academic Achievement | 68.75 | 16.199 |

Among those surveyed, the following measures were found to be significant: Classroom Environment, Exam Fear, Academic Achievement, Academic Stress, and Pressure to Perform.

International Research Journal of Education and Technology
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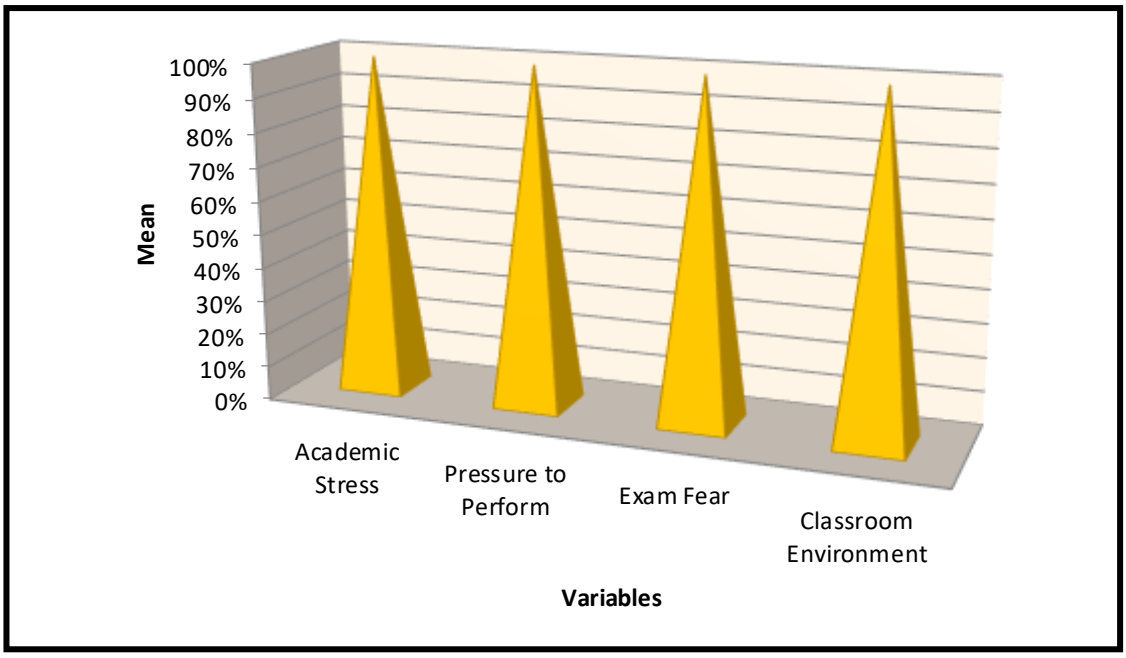


Figure1: Mean of Academic Stress and Academic Achievement for Entire Sample

**10.2 Results based on Correlation Analysis**

**Table 2 Pearson's Correlation coefficient between Academic Stress and Academic Achievement.**

| Variables | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|
| AcademicStress | - | | | | |
| PressuretoPerform | 0.313** | - | | | |
| Exam Fear | 0.716** | 0.403** | - | | |
| Classroom Environment | 0.923** | 0.331** | 0.544** | - | |

| | | | | | |
|---|---|---|---|---|---|
| Academic Achievement | -0.402** | -0.305** | -0.465** | 0.220** | - |

** Correlation is significant at the 0.01 level (2-tailed).

Note: The correlation co-efficient value (r-value) were shown below the diagonal.

Based on the results in Table 2, the null hypothesis is rejected since the p-value for the correlation between Academic Stress and Academic Achievement is less than 0.01. Therefore, Academic Stress and Academic Achievement have a significant relationship at a significance level of 0.01. It was found that Academic Stress was negatively correlated with Scholastic Performance with a r-value of -0.402. Accordingly, Academic Stress has a significant negative relationship with Academic Achievement at a 0.01 level of significance. Even at 0.05 level of significance, Pressure to Perform and Academic Achievement have a significant negative relationship (r = -0.305). The relationship between Exam Fear and Academic Achievement is significant (r = -0.465) at the 0.05 level of significance. Classroom Environment and Academic Achievement are significantly correlated (r = 0.220) at the level of significance of 0.01.

**10.3 Results based on Regression Analysis**

Sample regression coefficients are indicated by β. In summary, the null hypothesis is - H0 and the alternative hypothesis is $\beta = 0$. Alternatively, Hypothesis - H1 should be $\beta \neq 0$. According to the regression equation, $Y = a + \beta X$. Where Y = Dependent Variable: Academic Achievement X = Independent Variable: Academic Stress a = Constant

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**Table 3: Model Summary**

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate |
|---|---|---|---|---|
| 1 | 0.761 | 0.579 | 0.534 | 15.761 |

Predictors: (Constant), Academic Stress Dependent Variable: Academic Achievement

Table 3 shows that the R Square value is 0.579, which indicates that the Regression Model is fit. Additionally, the independent variable estimates 57.90% of the variation in the dependent variable.

**Table 4: ANOVA**

| Model | | Sum of Squares | Df | Mean Square | F | p - value |
|---|---|---|---|---|---|---|
| 1 | Regression | 3270.283 | 1 | 3270.283 | 13.165 | 0.000 |
| | Residual | 53408.28 | 215 | 248.411 | | |
| | Total | 56678.56 | 216 | | | |

As shown in Table 4, there is a value of 0.000, which is less than 0.01 and a F ratio of 13.165. The null hypothesis is therefore rejected at a level of significance of 0.01. Hence the regression coefficient (β) is not equal to 0.

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**Table 5: Regression Coefficients**

| Variables | Unstandardized Coefficients | | Standardized Coefficients | t | p - value |
|---|---|---|---|---|---|
| | B | Std. Error | Beta | | |
| (Constant) | 36.818 | 8.865 | | 4.153 | 0.000 |
| Academic Stress | -0.640 | 0.110 | -0.420 | 3.628 | 0.000 |

Dependent Variable: Academic Achievement

In Table 5, we can see that the t - value for constant is 4.153 and for Academic Stress it is 3.628, with a p - value of 0.000, less than 0.01 for both cases. At the 0.01 level of significance, the null hypothesis is rejected. There is no doubt that the regression coefficient (β) is not equal to 0. -0.640 is the regression coefficient for the independent variable and 36.818 is the constant. Based on the results presented above, we can derive the following regression equation:

For every unit increase in Academic Stress, Y = 36.818 + (-0.640) X Academic Achievement = 36.818 - (0.640) Academic Stress Academic Achievement decreases by 0.640.

## 10. Results

- On a 0.01 level of significance, Metacognition and Scholastic Performance are significantly negatively correlated (r = -0.402).

- High school students' academic achievement is negatively impacted by academic stress. In the regression equation, Academic Achievement = 36.818 - (0.640) Academic Stress, Academic Achievement decreases by 0.640 times for every unit increase in Academic stress.

## 11. Conclusion

It is imperative for students to maintain a high academic record in order to succeed in their careers and in life. students in secondary schools are adversely affected by stress in terms of their academic achievement. This indicates that prolonged academic stress can discourage students from pursuing rewarding careers. The importance of teaching students' effective ways to manage stress cannot be overstated. students need to understand how academic stress impacts their academic performance and health.

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