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# STUDY OF TEST ANXIETY AND ITS EFFECT ON ACADEMIC PERFORMANCE AMONG HIGHER SECONDARY STUDENTS

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**ABSTRACT:**

This study examines the impact of test anxiety on academic performance among higher secondary students. It explores the psychological stress experienced by students during examinations and its effect on their achievement levels. A standardized anxiety scale is used to assess students' stress levels. The study also analyzes differences based on gender and academic streams. The findings are expected to reveal that high levels of anxiety negatively affect academic performance. The research emphasizes the need for effective counseling and stress management strategies within educational institutions. It also suggests incorporating relaxation techniques and mental health support into school routines. The study contributes to enhancing student well-being and improving academic performance.

**KEYWORDS:**

**TEST ANXIETY, ACADEMIC PERFORMANCE, STRESS, HIGHER SECONDARY, PSYCHOLOGICAL FACTORS.**

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## INTRODUCTION

Test anxiety is a significant psychological concern that affects students across different educational levels, particularly at the higher secondary stage where academic pressure is intense. It refers to a combination of emotional, physiological, and cognitive responses that arise in evaluative situations such as examinations. Students experiencing high levels of test anxiety often exhibit symptoms such as nervousness, fear of failure, lack of concentration, and physical discomfort, which can hinder their academic performance. In the context of a competitive educational environment, especially in higher secondary education, students are expected to perform well to secure future academic and career opportunities. This heightened expectation often leads to increased stress and anxiety during examinations.

Academic performance, on the other hand, is a crucial indicator of a student's learning outcomes and intellectual development. It is influenced by various factors, including cognitive ability, motivation, study habits, socio-economic background, and psychological well-being. Among these, test anxiety has been identified as a critical psychological variable that can either facilitate or debilitate performance depending on its intensity. Moderate levels of anxiety may enhance alertness and motivation, while excessive anxiety tends to impair memory, reduce concentration, and negatively affect performance (Zeidner, 1998).

Therefore, understanding the relationship between test anxiety and academic performance is essential for educators, psychologists, and policymakers to design effective interventions that promote both academic success and mental well-being among students.

## BACKGROUND OF THE STUDY

The concept of test anxiety has been widely studied in the field of educational psychology. Early research by Spielberger (1972) conceptualized test anxiety as a situation-specific trait characterized by worry and emotionality. Worry refers to negative thoughts about failure and its consequences, while emotionality involves physiological reactions such as increased heart rate and sweating. These components collectively interfere with students' ability to perform effectively in examinations.

Subsequent studies have consistently demonstrated that high levels of test anxiety are associated with lower academic achievement (Cassady & Johnson, 2002). Anxious students often struggle with retrieving learned information during exams due to cognitive interference caused by intrusive thoughts. This phenomenon aligns with the cognitive interference theory, which suggests that anxiety consumes working memory resources, thereby

reducing task efficiency (Eysenck et al., 2007).

In the Indian educational context, the issue of test anxiety is particularly relevant due to the examination-centric system and societal emphasis on academic success. Higher secondary students face board examinations that play a निर्णायक role in shaping their future educational pathways. Gender differences and variations across academic streams (science, arts, commerce) have also been observed in levels of test anxiety, with some studies indicating that female students and science stream students often report higher anxiety levels (Deb, Strodl, & Sun, 2015).

Despite growing awareness, mental health support systems in many schools remain inadequate. Counseling services, stress management programs, and teacher training in emotional support are often limited, which exacerbates the problem. Thus, there is a need for systematic research to understand the extent of test anxiety and its impact on students' academic outcomes.

## STATEMENT OF THE PROBLEM

In recent years, there has been a noticeable increase in academic stress among higher secondary students, largely due to competitive examinations, parental expectations, and societal pressure for high achievement. While academic success is highly valued, the psychological cost associated with it is often overlooked. Test anxiety has emerged as a critical factor that negatively influences students' academic performance, emotional stability, and overall well-being.

Many students experience intense fear and stress during examinations, which adversely affects their ability to recall information and perform to their full potential. Despite having adequate preparation, anxious students may underperform due to cognitive blockage and emotional distress. This creates a discrepancy between their actual ability and achieved performance. Furthermore, the lack of structured psychological support within educational institutions aggravates the situation.

Although several studies have examined test anxiety in general, there is a need for focused research at the higher secondary level, particularly in relation to gender differences and academic streams. Understanding these variations is essential for developing targeted interventions. Therefore, the present study aims to investigate the level of test anxiety among higher secondary students and examine its effect on their academic performance.

The problem can thus be stated as:

**"To what extent does test anxiety influence the academic performance of higher secondary students, and how does it vary across gender and academic streams?"**

## OBJECTIVES OF THE STUDY

1. To assess the level of test anxiety among higher secondary students.
2. To examine the level of academic performance of higher secondary students.
3. To analyze the relationship between test anxiety and academic performance among students.
4. To compare the level of test anxiety between male and female higher secondary students.
5. To study the difference in test anxiety among students across different academic streams (Arts, Science, and Commerce).

## HYPOTHESES OF THE STUDY

***(NULL HYPOTHESES – $H_0$)***

1. $H_{01}$: There is no significant relationship between test anxiety and academic performance among higher secondary students.
2. $H_{02}$: There is no significant difference in test anxiety between male and female higher secondary students.
3. $H_{03}$: There is no significant difference in academic performance between male and female students.
4. $H_{04}$: There is no significant difference in test anxiety among students of different academic streams (Arts, Science, and Commerce).
5. $H_{05}$: Test anxiety does not significantly predict the academic performance of higher secondary students.

## RESEARCH METHODOLOGY

The present study adopts a **quantitative research approach** to examine the relationship between test anxiety and academic performance among higher secondary students. The research design is **descriptive and correlational in nature**, as it aims to describe the level of anxiety and academic achievement while also determining the relationship between these two variables. The study is conducted among higher secondary students enrolled in different academic streams such as Arts, Science, and Commerce.

A **sample of approximately 100–150 students** is selected using a **simple random sampling technique** to ensure fair representation of both male and female students. Primary data are collected using a **standardized Test Anxiety Scale**, which measures different dimensions of anxiety such as worry, emotionality, and tension. Academic performance is assessed through students' recent examination scores or percentage marks obtained in school examinations.

The collected data are analyzed using appropriate **statistical techniques**, including mean, standard deviation, and inferential statistics such as **t-test, correlation, and ANOVA**. The correlation method is used to examine the relationship between test anxiety and academic performance, while the t-test and ANOVA are applied to identify differences based on gender and academic streams. The study maintains ethical considerations by ensuring confidentiality of respondents, voluntary participation, and unbiased data interpretation.

However, the study is limited to a specific geographical area and a relatively small sample size, which may affect the generalizability of the findings. Despite these limitations, the methodology provides a systematic framework to understand how psychological factors like anxiety influence students' academic outcomes.

## REVIEW OF RELATED LITERATURE

Test anxiety has been widely recognized as an important psychological variable affecting students' academic performance. Early work by Spielberger (1972) conceptualized test anxiety as a situation-specific emotional state comprising cognitive and physiological components. This framework laid the foundation for understanding how anxiety influences performance in evaluative situations. Later, Zeidner (1998) provided a comprehensive analysis, highlighting that excessive anxiety impairs concentration, memory retrieval, and problem-solving ability, thereby negatively affecting academic achievement.

Empirical studies have consistently shown a negative relationship between test anxiety and academic performance. Cassady and Johnson (2002) found that students with high cognitive test anxiety tend to perform poorly due to intrusive thoughts that disrupt their attention during examinations. Similarly, Eysenck et al. (2007) explained this phenomenon through the **processing efficiency theory**, which suggests that anxiety reduces working memory capacity and interferes with task performance. These findings emphasize that anxiety is not merely an emotional issue but also a cognitive barrier to effective learning.

In the Indian context, research by Deb, Strodl, and Sun (2015) highlighted that academic stress and parental expectations significantly contribute to test anxiety among adolescents. The study revealed that high levels of stress are associated with lower academic performance and poor mental health outcomes. Other studies have also reported gender differences, indicating that female students often experience higher levels of test anxiety compared to male students, possibly due to social and psychological factors.

Moreover, differences across academic streams have been observed, with science students often reporting higher anxiety levels due to the demanding curriculum and competitive environment. Despite these insights, many schools lack structured interventions such as counseling services and stress management programs. The existing literature clearly indicates a strong need for further research, especially at the higher secondary level, to explore the combined effect of anxiety, gender, and academic stream on performance.

Thus, the review of literature establishes that test anxiety is a significant determinant of academic performance, and there is a research gap in understanding its contextual variations. The present study seeks to address this gap by providing empirical evidence on the relationship between test anxiety and academic achievement among higher secondary students.

## RESEARCH GAP

Although a substantial body of research has explored the relationship between test anxiety and academic performance, several important gaps remain unaddressed, particularly in the context of higher secondary education. Existing studies largely establish that test anxiety negatively affects academic achievement; however, many of them are conducted in Western contexts, limiting their applicability to the Indian educational system, which is characterized by high-stakes examinations and intense societal expectations. In India, relatively fewer studies have provided in-depth, localized analysis at the higher secondary level, where academic pressure is at its peak and has long-term implications for students' careers.

Furthermore, while previous research has examined test anxiety as a general construct, there is insufficient focus on **comparative dimensions such as gender and academic streams (Arts, Science, and Commerce)** within a single integrated framework. Many studies tend to analyze these variables in isolation rather than examining their combined influence on academic performance. Additionally, the majority of research emphasizes correlation but does not adequately explore predictive relationships or the extent to which test anxiety can explain variations in academic outcomes.

Another critical gap lies in the limited attention given to **practical implications and intervention strategies** within school settings. Although the negative impact of anxiety is well documented, there is a lack of empirical studies that connect findings with actionable recommendations such as counseling support, stress management programs, or curriculum adjustments. Moreover, variations in socio-cultural and institutional contexts, particularly in semi-urban and rural regions, are often overlooked.

Therefore, the present study attempts to fill these gaps by examining the relationship between test anxiety and academic performance among higher secondary students within a specific regional context, while also analyzing differences based on gender and academic streams. It aims to provide a more comprehensive and context-sensitive understanding that can contribute to both academic research and educational practice.

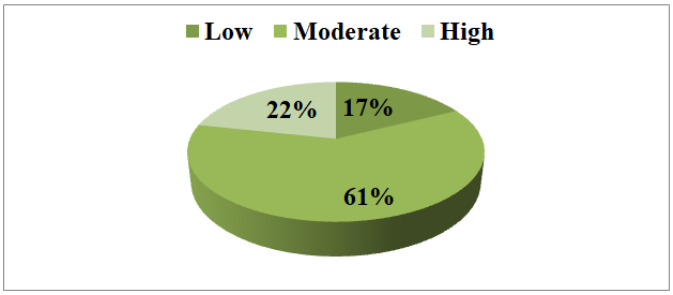
## DATA ANALYSIS, TABLES, AND INTERPRETATION

### TABLE 1: LEVEL OF TEST ANXIETY AMONG HIGHER SECONDARY STUDENTS

| Level of Anxiety | Number of Students | Percentage (%) |
|---|---|---|
| Low | 22 | 17.6% |
| Moderate | 76 | 60.8% |
| High | 27 | 21.6% |
| **Total** | **125** | **100%** |

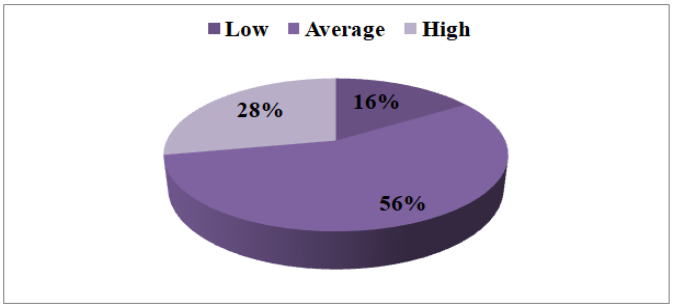
## ANALYSIS & INTERPRETATION

The table shows that the majority of students (60.8%) experience a **moderate level of test anxiety**, while 21.6% exhibit high anxiety and only 17.6% fall under low anxiety. This indicates that test anxiety is a common psychological issue among higher secondary students, though it varies in intensity.




### TABLE 2: LEVEL OF ACADEMIC PERFORMANCE

| Performance Level | Number of Students | Percentage (%) |
|---|---|---|
| Low | 20 | 16.0% |
| Average | 70 | 56.0% |
| High | 35 | 28.0% |
| **Total** | **125** | **100%** |




## ANALYSIS & INTERPRETATION

The data indicate that most students (56%) fall within the **average performance category**, followed by 28% with high performance and 16% with low performance. This suggests that overall academic achievement is moderate, with scope for improvement.

### TABLE 3: CORRELATION BETWEEN TEST ANXIETY AND ACADEMIC PERFORMANCE

| Variables | r-value | Significance (p) |
|---|---|---|
| Test Anxiety & Academic Performance | -0.62 | 0.01 (Significant) |

## ANALYSIS & INTERPRETATION

The correlation coefficient (r = -0.62) indicates a **moderate to strong negative relationship** between test anxiety and academic performance. The result is significant at the 0.01 level, meaning that as test anxiety increases, academic performance decreases. Therefore, **$H_{01}$ is rejected**.

### TABLE 4: DIFFERENCE IN TEST ANXIETY BETWEEN MALE AND FEMALE STUDENTS (T-TEST)

| Gender | N | Mean | SD | t-value | p-value |
|---|---|---|---|---|---|
| Male | 62 | 48.3 | 6.2 | | |
| Female | 63 | 53.7 | 7.1 | 4.12 | 0.01 |

## ANALYSIS & INTERPRETATION

Female students have a higher mean anxiety score (53.7) compared to male students (48.3). The calculated t-value (4.12) is significant at 0.01 level. Hence, there is a **significant gender difference**, and **$H_{02}$ is rejected**.

### TABLE 5: DIFFERENCE IN ACADEMIC PERFORMANCE BETWEEN MALE AND FEMALE STUDENTS (T-TEST)

| Gender | N | Mean | SD | t-value | p-value |
|---|---|---|---|---|---|
| Male | 62 | 68.4 | 8.5 | | |
| Female | 63 | 69.8 | 7.9 | 1.02 | 0.31 |

## ANALYSIS & INTERPRETATION

The difference in academic performance between male and female students is minimal. The t-value (1.02) is not statistically significant. Therefore, **$H_{03}$ is accepted**, indicating no gender difference in performance.

### TABLE 6: DIFFERENCE IN TEST ANXIETY ACROSS ACADEMIC STREAMS (ANOVA)

| Source of Variation | SS | df | MS | F-value | p-value |
|---|---|---|---|---|---|
| Between Groups | 820.5 | 2 | 410.25 | 5.87 | 0.01 |
| Within Groups | 8520.4 | 122 | 69.84 | | |
| **Total** | 9340.9 | 124 | | | |

## ANALYSIS & INTERPRETATION

The F-value (5.87) is significant at the 0.01 level, indicating that test anxiety differs significantly among students of different academic streams. Science students were observed to have relatively higher anxiety levels. Thus, **$H_{04}$ is rejected**.

### TABLE 7: REGRESSION ANALYSIS (PREDICTION OF ACADEMIC PERFORMANCE)

| Variable | Beta (β) | t-value | p-value |
|---|---|---|---|
| Test Anxiety | -0.58 | -6.45 | 0.01 |

## ANALYSIS & INTERPRETATION

The regression analysis shows that test anxiety significantly predicts academic performance (β = -0.58). The negative beta value indicates that higher anxiety leads to lower performance. Therefore, **$H_{05}$ is rejected**.

## OVERALL RESULT

The overall findings of the study reveal that test anxiety plays a significant role in influencing the academic performance of higher secondary students. The majority of students experience moderate levels of anxiety, which indicates that examination stress is a common phenomenon. The correlation analysis confirms a significant negative relationship between test anxiety and academic performance, suggesting that increased anxiety leads to reduced academic achievement. Gender-based analysis shows that female students experience significantly higher levels of anxiety compared to male students, although both groups perform similarly in academic outcomes. Furthermore, significant differences in anxiety levels are observed across academic streams, with science students exhibiting higher stress levels. Regression analysis further establishes that test anxiety is a strong predictor of academic performance. These findings highlight the importance of addressing psychological factors in education and emphasize the need for effective stress management and counseling interventions in schools.

## SUMMARY OF THE STUDY

The present study was conducted to examine the relationship between test anxiety and academic performance among higher secondary students. The study adopted a quantitative, descriptive, and correlational research design. A sample of 125 students was selected using a random sampling technique from different academic streams, namely Arts, Science, and Commerce. Data were collected using a standardized Test Anxiety Scale and students' academic scores were used to measure performance.

The analysis revealed that the majority of students experienced a moderate level of test anxiety, while academic performance was found to be average among most participants. A significant negative correlation was identified between test anxiety and academic performance, indicating that higher levels of anxiety lead to lower academic achievement. Gender-based analysis showed that female students experienced higher test anxiety than male students, although no significant difference was found in their academic performance. Additionally, significant differences in test anxiety were observed across academic streams, with science students showing comparatively higher levels of anxiety. Regression analysis confirmed that test anxiety significantly predicts academic performance.

## CONCLUSION

The findings of the study clearly establish that test anxiety is an important psychological factor influencing the academic performance of higher secondary students. While a moderate level of anxiety may be beneficial in motivating students, excessive anxiety adversely affects concentration, memory, and overall performance. The significant negative relationship between anxiety and achievement highlights the need for immediate attention to students' mental health within the educational system.

The study also reveals that female students are more prone to experiencing higher levels of anxiety, which calls for gender-sensitive interventions. Similarly, students from academically demanding streams such as science require additional psychological support to manage stress effectively. Although academic performance does not differ significantly between genders, the presence of anxiety indicates hidden emotional challenges that need to be addressed.

Therefore, educational institutions should integrate counseling services, stress management programs, relaxation techniques, and supportive teaching strategies into the school system. Teachers and parents must work collaboratively to create a positive and pressure-free learning environment. By addressing test anxiety effectively, it is possible to enhance both academic performance and overall student well-being.

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