

Correlation Analysis between the Test Anxiety and Achievement in Mathematics among the Higher Secondary Students

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Abstract

The present study was aimed to identify the correlation between the test anxiety and Mathematics achievement among the Higher Secondary students. Normative survey method was used in the present study. The sample consist of 100 male and 200 Female students Stratified random technique was used to select the students. Test Anxiety Scale J.Princy Immaculate (2020) was used to identify the test anxiety among the Higher Secondary students in Trichy District. The statistical techniques used to analysis the data were mean, standard deviation, t-test F-test and Percentage analysis. Results of the study revealed that there is a positive relationship between the test anxiety and the achievement in mathematics among the higher secondary students. There exists significant difference between the male and female higher secondary students in their test anxiety. There is no significant difference between the Tamil and English medium of higher secondary students in their test anxiety. There is significant difference between the Government, Aided and Private school students in their test anxiety among the higher secondary students in Trichy district.

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I. INTRODUCTION

Too much anxiety about a test is commonly referred to as test anxiety. It is perfectly natural to feel some anxiety when preparing for and taking a test. In fact, a little anxiety can jump start your studying and keep you motivated. However, too much anxiety can interfere with your studying. You may have difficulty learning and remembering what you need to know for the test. Further, too much anxiety may block your performance during the test. You may have difficulty demonstrating what you know during the test. The severity of test anxiety can vary considerably from one person to another. Some people might feel like they have "butterflies" in their stomach and while others might find it difficult to concentrate on the exam. Others might experience a racing heartbeat and a sense of shakiness. In the most severe cases, people can feel nauseous and short of breath or might even experience a full-blown panic attack. Anxiety is a complex combination of the feeling of fear, apprehension and worry often accompanied by physical sensations such as palpitations, chest pain and/or shortness of breath. Anxiety is often described as having cognitive, somatic, emotional, and behavioural components (Seligman, Walker & Rosenhan, 2001). The cognitive component entails expectation of a diffuse and uncertain danger. Maths Anxiety is an intense emotional feeling that people have about their inability to understand and do mathematics. People who suffer from maths anxiety feel that they are not capable of doing any course or activity requiring mathematics. Mathematics anxiety refers to a state of uneasiness and distress about mathematics or the taking of mathematics tests. Mathematics seems to provide a real cause or threat to students, who have not learned how to cope with them.

NEED AND SIGNIFICANCE OF THE STUDY

Test anxiety is an important dimension in the field of education. A student's ambition can be fulfilled only through his test performance in school. It's the foundation stage of higher secondary school students to get prepared for entry into professional course for a better performance in academics is achievable to a student by developing a habit of withstanding test anxiety. Higher Secondary school students is the transformation stage to adolescent. Adolescence is a highly critical period of any student's life to cope with academic performance. These students are to be identified and counseled specially those fall under low achievement in Mathematics categories. The investigator would like to see at the higher secondary student's test anxiety in mathematics subject and their achievement in Mathematics, whether there is mutual interdependence. students. Have

difficulty in adjusting their capacity to the demand of the parents, school and the society.

Mathematics is different from other subject it requires conceptual learning rather than mugging up the facts. In today's field application of mathematics (Trigonometry Calculus Algebra etc) plays immense role analysis of many problems in daily life. In the Indian classroom environment, students are in different level of abilities. Sometimes these abilities will not be useful for the students to do mathematical concept and therefore, it is very difficult for the teachers to show special attention on low ability students and train them in solving mathematical concepts. In this situation, the study is needed one to help teachers to identify the dull and backward students and to help them to improve their mathematics ability in a successful way. Hence the title is entitled "**Correlation Analysis between the test anxiety and achievement in mathematics among the higher secondary students in Trichy District**"

TEST ANXIETY

Test anxiety is actually a type of performance anxiety a feeling someone might have in a situation where performance really counts or when the pressure's on to do well. For example, a person might experience performance anxiety when he or she is about to try out for the school play, sing a solo on stage, get into position at the pitcher's mound, step onto the platform in a diving meet, or go into an important interview. Generally, public examinations act as a deciding factor in the admission process of higher education.

Reputed educational institutions in the country assign special weightage to the public exam scores for the intake of students and hence, these examinations are perceived vital by parents and society at large.

Mathematics anxiety refers to a state of uneasiness and distress about mathematics or the taking of mathematics tests. Mathematics seems to provide a real cause or threat to students, who have not learned how to cope with them. A student who has not prepared for a test will have the fear of failing the test. An excessive fear is certainly destructive and painful, but a reasonable amount of fear in certain situations is beneficial providing motivation to increase learning in order to perform well in the exams. Excessive anxiety results in low self-esteem and poor academic performance (Rajpalje, 2006).

II. REVIEW OF RELATED LITERATURE

Ann Mary, Marslin, Franklin & Sheeba (2014) highlighted the issue of students' "suicide in the state of Tamilnadu, India, and explored the test anxiety of 100 students from 10th and 12th grades. The students were administered Westside Test Anxiety Scale and their state anxiety before board exams was assessed. The results revealed that students had higher levels of anxiety, especially the boys and the 12th standard students when compared to girls and 10th standard students respectively. It was also found that the type of family of the student had a significant effect, i.e. the students from nuclear family reported high levels of anxiety. The researchers highlighted that the findings are in line with the existing literature with respect to test anxiety debilitating the mental health of the students.

Núñez-Peña, Suárez-Pellicioni & Bono (2016) examined gender differences in test, trait, and math anxiety among university students with respect to their academic performance. A sample of 168 students from University of Barcelona was administered measures of test anxiety, math anxiety, and trait anxiety. In addition, the students were also asked to report their expected level of anxiety when faced with four specific test situations namely multiple-choice, open-question, oral presentation and an exam involving calculations. The results were analysed at the end of their course and it was found that female students reported higher levels of test, math, and trait anxiety when compared to their male counterparts. Moreover, female students displayed greater expected anxiety in three of the four test situations considered than male students. In spite of high levels of anxiety, female students showed comparatively higher academic achievement than male students in either the open-question or the multiple-choice exams. These contradictory results were supported with mediating effects of gender differences in socialization patterns and coping styles.

M., Zhang, Y., Liu, H. & Hao, Y. (2017) conducted a study to examine the gender difference in mathematics achievement among students. The sample of the study was grade 5 & 8 students. A meta-analysis was used in this study. The findings of the study revealed that no gender difference in mathematics achievement was found in grade five students.

STATEMENT OF THE PROBLEM

A study on Achievement in Mathematics among the Higher Secondary Students in relation to their Test Anxiety in Trichy District

OBJECTIVES OF THE STUDY

1. To find out the level of Test Anxiety among the Higher Secondary Students in Trichy District.

2. To find out significant difference between the male and female higher Secondary Students with respect to their Test Anxiety.
3. To find out significant difference between the Tamil and English Medium higher secondary Students with respect to their Test Anxiety
4. To find out significant difference among the higher secondary school students Test Anxiety based on their type of management.
5. T find out the correlation between the Test Anxiety and Achievement in Mathematics among the Higher Secondary Students in Trichy District.

HYPOTHESES OF THE STUDY

1. The level of Test Anxiety among the Higher Secondary Students are high in Trichy District.
2. There is no significant difference between the male and Female higher secondary students with respect to their Test Anxiety.
3. There is no significant difference between the Tamil and English Medium higher secondary students with respect to their Test Anxiety.
4. There is no significant difference between the higher secondary students Test Anxiety with respect to their Type of Management.
5. There is no significant relationship between the Test Anxiety and Achievement in Mathematics among the Higher Secondary Students in Trichy District

ANALYSIS AND INTERPRETATIONS

Null Hypothesis-1 The level of Test Anxiety among the Higher Secondary Students are high in Trichy District.

TABLE -4.T.01

THE LEVEL OF TEST ANXIETY AMONG THE HIGHER SECONDARY STUDENTS

Variable	N	Low		Moderate		High	
		N	%	N	%	N	%
Test Anxiety	300	40	13.33	48	16	212	70.66

It can be seen from the table 4. T.1 that as many as 13.33% of Higher Secondary studentsexpressed that the Test Anxiety is low whereas for almost 16% of them expressed Moderate and70.66 % Higher Secondary students expressed that the Test Anxiety is high. Hence, the Test Anxietyamong the Higher Secondary Students are high.

Hence the hypothesis is accepted.

NULL HYPOTHESIS – 2

There is no significant difference between the male and Female higher secondary students with respect to their Test Anxiety.

TABLE -4. T.02

Table shows the significant difference between the higher secondary school students test anxiety based on their gender using mean scores.

VARIABLE	GENDER	N	MEAN	SD	t - value	L.S
Test Anxiety	Male	100	62.36	22.24	5.25	S
	Female	200	77.53	30.77		

INFERENCE

From the above table we may infer that the calculated value 5.25 is greater than the table value 1.96 at 0.05 level. Hence there is significant difference between Male and Female students among higher Secondary school students with regard to their Test Anxiety.

Therefore, the above Null Hypothesis is rejected.

HYPOTHESIS:3

There is no significant difference between the Tamil and English Medium higher secondary students with respect to their Test Anxiety.

TABLE -4. T.03

Table shows the significant difference between the higher secondary school students test anxiety based on their Medium of Instruction using mean scores.

VARIABLE	GENDER	N	MEAN	SD	t - value	L.S
Test Anxiety	Tamil	75	78.36	28.32	0.042	NS
	English	225	77.53	30.56		

INFERENCE

From the above table we may infer that the calculated value 0.042 is lesser than the table value 1.96 at 0.05 level. Hence there is nosignificant difference between Tamil and English Medium of Higher Secondary Students with respect to their Test Anxiety.

Therefore, the above Null Hypothesis is accepted.

TABLE 4.T.04

Table showing the significant difference among the Higher Secondary Students test anxiety based on their Type of Management.

VARIABLE	TYPE OF MANAGEMENT	N	Mean	S.D.	t-value	L.S
TEST ANXIETY	Government	50	75.87	10.43	6.998	0.01
	Aided	25	93.88	16.58		
	Government	50	75.87	14.43	7.905	0.01
	Private	200	101.58	19.99		
	Aided	25	93.88	16.58	9.732	0.01
	Private	200	101.58	19.99		

INFERENCE

The above table clearly shows that there exists a significant difference between Government, Private, aided school students based on their Test Anxiety.

Hence the hypothesis is rejected.

NULL HYPOTHESIS – 5

There is no significant relationship between the Test Anxiety and Achievement in Mathematics among Higher secondary students.

Table-4.T.05

SHOWING THE RELATIONSHIP BETWEEN THE TEST ANXIETY AND ACHIEVEMENT IN MATHEMATICS AMONG HIGHER SECONDARY STUDENTS.

Variable	Number	Correlation
Test Anxiety Vs Achievement in Mathematics	300	0.613

INFERENCE

From the above table, it is observed that there is a positive relationship between Test Anxiety and Achievement in Mathematics among Higher secondary students. Therefore, the null hypothesis is rejected. There exists a positive relationship among these two groups.

III. CONCLUSION

Test anxiety is the result of many interrelated beliefs and experiences. Ineffective study methods and procrastination can lead to anxiety and a lowered self- image. Test-anxiety reduction is seen to provide stronger test gains to low-achieving probation students and more modest gains for higher-achieving students. A test-anxiety reduction program may significantly improve school performance for students on academic probation.

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