TEST ANXIETY AND ACADEMIC ACHIEVEMENT: EXPLORING THE CONNECTION AMONG SECONDARY SCHOOL STUDENTS
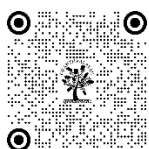
Dr. Anisha V. Gopalakrishnan [1], Dr. Jisha Baby [1], Dr. Shaiju Francis [2], Dr. Sunitha Susan Jose [1]

[1] Assistant Professor, St. Joseph's Training College, Mannanam, Kottayam
[2] Associate Professor, St. Joseph's Training College, Mannanam, Kottayam

ABSTRACT

The major aim of this research study is to explore the relationship between test anxiety and academic achievement of secondary school students. A sample of 350 students was randomly selected from different schools from Kottayam district. Data were collected by using the Test Anxiety Scale (TAS) developed by the investigators. It was found there is a negligible positive correlation between Test anxiety and Academic Achievement of secondary school students. Though the relationship is positive, any increase or decrease in the scores of Academic achievements will be followed by the increase or decrease in the Test anxiety.

Keywords: Academic Achievement, Test Anxiety

1. INTRODUCTION

Education is a systematic process through which a child or an adult acquires knowledge, experience, skills, and sound attitude. Its goal is to make an individual prefect. True education is the harmonious development of the physical, mental, spiritual, and social faculties, the four dimensions of the life (Kumar, 2012). The meaning of test is something (such as a series of questions or exercises) for measuring the skill, knowledge, intelligence, capacities, or aptitudes of an individual or group. Anxiety is an abnormal and overwhelming sense of apprehension and fear often marked by physical signs (such as tension, sweating, and increased pulse rate), by doubt concerning the reality and nature of the threat, and by self-doubt about one's capacity to cope with it. Most people get nervous before they take an important test, but some people experience an intense fear or worry known as Test anxiety. Test anxiety is a type of performance anxiety, because there is pressure to do well in a specific situation. People can experience Test anxiety for a number of reasons. They may fear failure and the uncertainty of the future if they do poorly on an examination. They may have procrastinated due to this fear and feel overwhelmed by cramming for a test at the last minute. They may also have experienced poor test performance in the past and worry about the incident repeating (Zeidner 1998). Achievement in an educational institution may be taken as desirable learning that is observed in the student. Since the word desirable implies a value judgment, it is obvious that a particular learning may be referred to as achievement. Achievement is the task oriented

behavior that allows the individuals performance to be evaluated according to some internally or externally imposed criterion that involves the individual in competing with others or that otherwise involves some standard of excellence. Academic achievement represents performance outcomes that indicate the extent to which a person has accomplished specific goals that were the focus of activities in instructional environments, specifically in school, college, and university. School systems mostly define cognitive goals that either apply across multiple subject areas (e.g., critical thinking) or include the acquisition of knowledge and understanding in a specific intellectual domain (Ediger, 2006). This study helps in providing a better understanding about Test anxiety and Academic achievement of secondary school students, thereby all-round development of them.

2. SIGNIFICANCE OF THE STUDY

Education is a never-ending process of inner growth and development and its period stretches from cradle to grave. Education is a dynamic and continuous process by which human beings develop thinking and reasoning, problem solving and creativity, intelligence, positive sentiments, life coping skills and attitudes. We are a unique learner. Some learn best by listening, some have to observe every step, while others have to do it to learn it. The fact is that individuals need all three modalities to truly commit information to memory: visual, auditory, and kinesthetic (Whitehead, 1960). A little nervousness before a test is normal and can help sharpen your mind and focus your attention. But with Test anxiety, feelings of worry and self-doubt can interfere with your test-taking performance and make you miserable. Test anxiety can affect anyone, whether you're a primary or secondary school student, a college student, or an employee who has to take tests for career advancement or certification (Annis & Davis, 1978).

2.1. CAUSES OF TEST ANXIETY

- Fear of failure. While the pressure to perform can act as a motivator, it can also be devastating to individuals who tie their self-worth to the outcome of a test.
- Lack of preparation. Waiting until the last minute or not studying at all can leave individuals feeling anxious and overwhelmed.
- Poor test history. Previous problems or bad experiences with test-taking can lead to a negative mindset and influence performance on future tests.

In current system of education in India as well in globe is putting the future of children in a race where everyone would be searching for a short cut for success in his life. Hence students become restless and over loaded with work. They show lack of integrated development with physical, social, emotional, cognitive and balanced mental health due to total stress. There are a lot of expectations from the children from parents, society, teachers and others. But the students are not able to play any active role in the attainment of knowledge. His entire education is passive and mechanical. Things are loaded on his mind which he cannot digest; he only crams and therefore they never become his own, which at the end puts him in the struggle for his academic achievement.

To help the pupils to attain successful Academic achievement it is highly important to develop their personality with emotional intelligence which will enable them to handle their stress (Tryon,1980).

Serious research studies are a necessity in this field so that gravity of a problem can be brought to light and can be brought to the attention of teachers, parents, students and the Government.

2.2. STATEMENT OF THE PROBLEM

The present study is an attempt to find out "Test Anxiety and Academic Achievement: Exploring the Connection among Secondary School Students"

Operational definitions

Academic Achievement

Good (1949) defines Academic achievement as, "knowledge attained or skills developed in the school subjects, usually designed by test scores or by marks assigned by teachers, or by both".

In the present study Academic achievement means terminal examination marks of secondary school students collected from school records.

In the present study secondary school students are those students who are studying in Std VIII and IX, in Kerala state syllabus and CBSE syllabus schools of Kottayam District.

Test Anxiety

Test anxiety is a type of performance anxiety, because there is pressure to do well in a specific situation (Zeidner, 1998).

In the present study Test anxiety of secondary school students is determined by administering Test Anxiety Scale prepared by the investigator. The tool consists of three dimensions namely before test, during test, and after test, with 33 statements altogether.

Secondary School Students

In Kerala secondary school students means students studying in standard VIII, IX and X.

In the present study secondary school students refer to students studying in standard VIII and IX, in Kerala state syllabus and CBSE syllabus schools of Kottayam District.

2.3. OBJECTIVES

- To find out the Level of Test anxiety among secondary school students.
- To find out the Level of Academic Achievement of Secondary School Students
- To find out whether there is any relationship between Test anxiety and Academic achievement Secondary School Students

Hypothesis

There is significant relationship between Test anxiety and Academic achievement of secondary school students.

3. METHOD ADOPTED FOR THE STUDY

Survey method was adopted for the present study. In the present study the investigators attempted to find out Academic achievement of secondary school students in relation to Test anxiety. Population consists of secondary school students of Kottayam District. For this purpose the investigators collected data from a sample of 350 secondary school students. The survey is conducted with the use of apt data collecting tools.

3.1. SAMPLE OF THE STUDY

Random sampling technique was used for the present study. The samples were drawn by random selection from different schools from Kottayam district. Out of the total samples collected from various schools, incomplete, unclear samples were avoided and finally 350 samples were accepted for the study.

3.2. TOOL USED IN THE STUDY

Test Anxiety Scale prepared by the Investigators. The tool consists of the following dimensions namely

Before Test, During Test and After Test.

3.3. STATISTICAL TECHNIQUES USED

The test scores were consolidated for statistical analysis. The study was aimed at Academic achievement of secondary school students in relation to their Test anxiety.

The investigator employed various statistical techniques such as mean, standard deviation, and correlation. All the statistical techniques were done in SPSS.

The t-test was employed to find out the significant difference between two variables. Finally the statistical technique correlation was employed to find out relationship between the variables Test anxiety and Academic achievement.

4. ANALYSIS AND INTERPRETATION

Descriptive Analysis of Test Anxiety of Secondary School Students

Test Anxiety scores were collected and calculated by the measures of central tendency, dispersion, skewness, and kurtosis. The details are given in Table 1

Table 1

Result of measures of central tendency, measures of dispersion, skewness, and kurtosis score of Test Anxiety of the total sample

Variable	N	AM	Md	SD	Sk	Ku
Test Anxiety	350	91.05	91	8.39	0.819	0.35

Table 1 shows the arithmetic mean of the total sample that is 91.05 and the standard deviation is 8.39. The maximum possible score in the Test anxiety questions is 165 and the least is 33. This reveals the higher level of Test anxiety of secondary school students. The value of median obtained is 91, which shows that 50 percent of the secondary school students scored above 91. The distribution is positively skewed since the value of skewness is 0.819. This means that the number of secondary school students who got high scores were comparatively higher than those who got the low scores in the group, it indicates that scores are massed at the high end. Kurtosis of the scores is 0.35 which, is greater than the normal value 0.263. Therefore the distribution is platokurtic.

Figure 1

Graphical representation showing the Test anxiety of the total sample
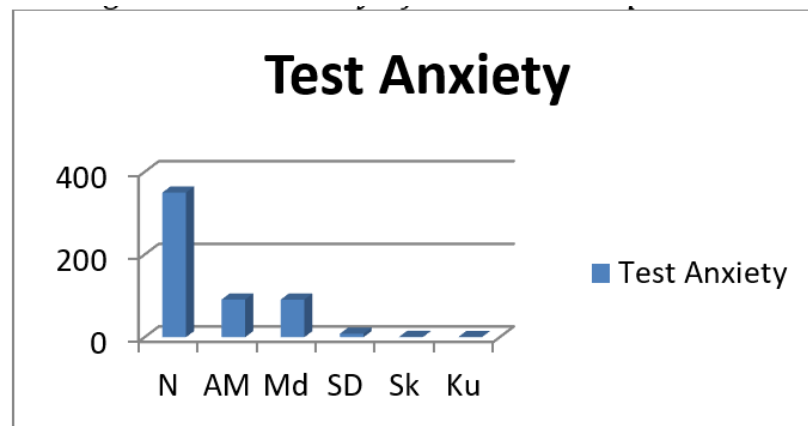
The level of Test anxiety of Secondary School Students

To assess the levels of Test anxiety of secondary school students, the total sample is classified into three groups; high, average and low. For the classification, the conventional procedure of σ distance from mean M is used. The mean and standard deviation of the total score of levels of Test anxiety is calculated respectively. The scores obtained by secondary school students with high levels of Test anxiety is greater than M + σ(99.44) and the scores obtained by those with low levels of Test anxiety is less than M - σ (82.66), and those with average levels of Test anxiety obtained scores that are in between M + σ to M - σ (in between 99.44 to 82.66).

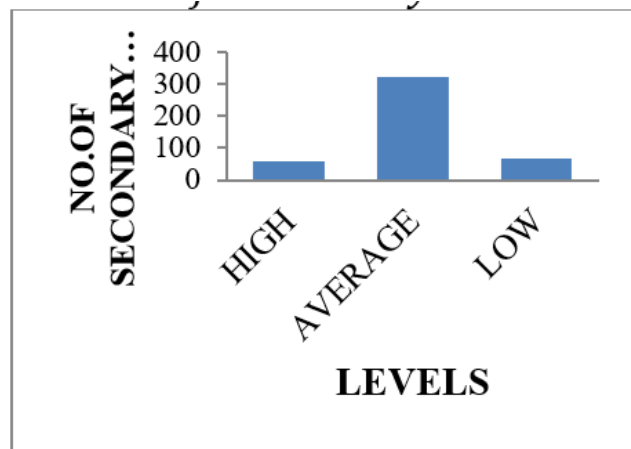**Table 2**

Level of Test anxiety of secondary school students

Levels	High	Average	Low	

Norms	M+σ	M+σ to M-σ	M-σ	
Scores	99.44	99.44 to 82.66	82.66	
No. of secondary school students	60	223	67	
Percentage	13%	72%	15%	

Table 2 shows the levels of Test anxiety of secondary school students. It is clearly evident that 13.33% of secondary school students have high levels of Test anxiety and 71.78%of secondary school students possess average levels of Test anxiety. Whereas 14.89% of secondary school students have low levels of Test anxiety. Therefore it can be concluded that most of the secondary school students have average levels of Test anxiety.

Figure 2
Graphical representation showing the levels of Test anxiety

Descriptive Analysis of Academic Achievement of Secondary School Students
Academic achievement scores were collected and calculated the measure of central tendency, dispersion, skewness kurtosis. The details are given in table 3

Table 3
Results of measures of central tendency, measures of dispersion, skewness, and kurtosis scores of Academic Achievements for the Total Sample

Variable	N	AM	Md	SD	Sk	Ku
Academic Achievements	350	71.22	76	19.89	-0.22	-0.38

Table 3 shows the arithmetic mean of the total samples that is 71.22 and the standard deviation that is 19.89. The maximum possible score in Academic achievement is 100. From this it is clear that the Academic achievement of secondary school students are good. The value of median obtained is 76 which shows that 50 percent of the secondary school students have scored above 71.22. The distribution is negatively skewed since the value of skewness is -0.22. This means that the number of secondary school students who got high scores were comparatively higher than those who got the low scores in the group. It indicates that scores are massed at the high end. Kurtosis of the scores is -0.38 which is greater than the normal value 0.263. Therefore the distribution is platikurtic.

Relationship between Academic Achievement and Test Anxiety of Secondary School Students

The calculation of coefficient of correlation is done by Karl Pearson's product moment method and it is tested for significance by finding t-value.

The relationship between Academic achievement and Test anxiety is studied by computing 'r' and tested for significance using the t- value. Table 4 contains the details.

Table 4

Result of test of Significance of 'r' between Academic achievements and Test anxiety of secondary school students for total sample

N	Df	r	t
350	348	0.34	7.65

The obtained value of 'r' is 0.34, which means that there is a negligible relationship between Academic achievement and Test anxiety of secondary school students. Though the relationship is positive, any increase or decrease in the scores of Academic achievements will be followed by the increase or decrease in the Test anxiety.

The calculated t-value is 7.65 and the table value for t- test for degrees of freedom 348 is 1.96.at 0.05 level and 2.58 at 0.0l level. It is clear that the calculated t- value is greater than both the table values. That means 'r' is significant at both level. Thus it can be inferred that there is a significant relationship between the Academic achievement and Test anxiety of secondary school students.

Figure 3

Scatter Plot Showing Correlation between Academic Achievement and Test Anxiety of secondary school students
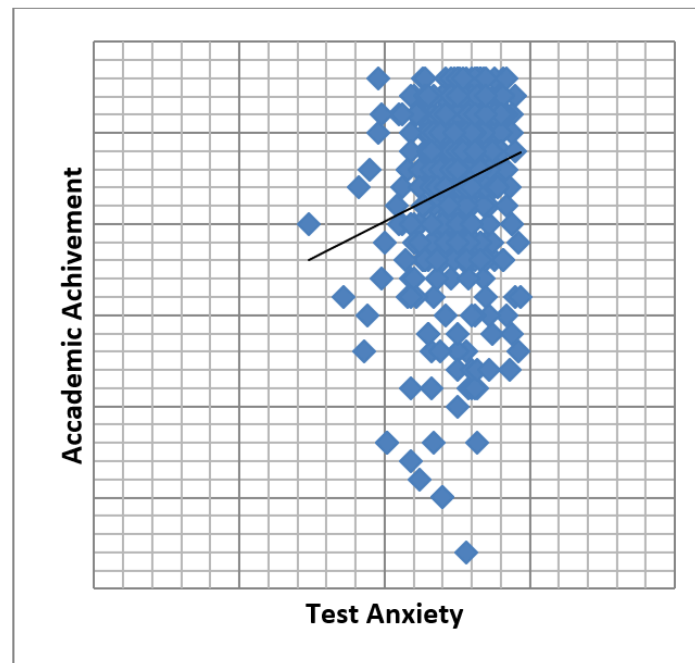
The positive value obtained for 'r' and the right upward slope of the scatter plot in the figure 3 indicates that Academic achievement and Test anxiety of secondary school students are positively correlated..

Hence it is concluded that there is a significant positive correlation between Test anxiety and Academic Achievement of secondary school students.

5. FINDINGS OF THE STUDY

The major conclusions drawn out from the analysis of the collected data is given below.

1) The arithmetic mean for the Test anxiety is 91.05 and standard deviation is 8.39. The maximum possible score in Test anxiety questions is 165 and the least is 33. This shows that the higher level of Test anxiety of secondary school students. The value of median obtained 91 which shows that 50 percent of the secondary school students had scored above 91. The distribution is positively skewed since the value of skewness is 0.819. This means the number of secondary school students who got high scores was comparatively higher than those who got the low scores in the group, it indicates that scores are massed at the high end. Kurtosis of the scores is 0.35 which, is greater than the normal value 0.263. Therefore the distribution is platokurtic.

2) The Test anxiety of secondary school students. It is clear that 13.33% of secondary school students have high levels of Test anxiety and 71.78% of secondary school students have average levels of Test anxiety and 14.89% of secondary school students have low levels of Test anxiety. Therefore it can be tentatively concluded that most of the secondary school students have average levels of Test anxiety.

3) The arithmetic mean for the total sample is 71.22 and standard deviation is 19.89. The maximum possible score in Academic achievement is 100. This shows that the Academic achievement of secondary school students is found good. The value of median obtained 76 which shows that 50 percent of the secondary school students had scored above 71.22. The distribution is negatively skewed since the value of skewness is -0.22. This means the number of secondary school students who got high scores was comparatively higher than those who got the low scores in the group.

4) The obtained value of 'r' is 0.34, which means there is negligible relationship between Academic achievement and Test anxiety of secondary school students. Though the relationship is positive it indicates that any increase or decrease in the scores of Academic achievement will be followed by increase or decrease in Test anxiety. The calculated t-value is 7.65 and the table value for t- test for degrees of freedom 348 is 1.96 at 0.05 level and 2.58 at 0.0l level. It is clear that the calculated t- value is greater than both the table values. That means 'r' is significant at both level. Thus it can be inferred that there is negligible relationship between the Academic achievement and Test anxiety of secondary school students.

6. CONCLUSION

The study undoubtedly proved that there is a negligible positive correlation between Test anxiety and Academic Achievement of secondary school students. Teachers can improve the classroom atmosphere from the traditional note-taking and mugging up activity to a lively, anxiety free atmosphere. The feeling student experience on or before the test also make student anxious. As students have reported that they feel uneasy, upset, nervous, tense and panic. These feelings arise irrespective of the extent of preparation of examination on the part of the student; therefore, can be assumed as not specific to tests, but anxiety we all experience during any unseen endeavour of life we go through. Students can be trained to minimize affective test anxiety by providing opportunities to handle unforeseen problem situations and letting them experience test situation more often.

It is evident that feelings (affective) and worry (cognitive) related anxiety are sources of drop in student achievement. Student achievement can be improved by training/educating students about handling stress situations in academic life. If students can manage their emotional anxiety it can assist in improved achievement. Academic programmes in institution of higher education should also focus on grooming students in skills to stabilize their emotional response to potentially difficult situations like tests. The faculty can benefit from popularly used techniques to handle both cognitive and emotional anxiety among students.

CONFLICT OF INTERESTS

None.

ACKNOWLEDGMENTS

None.

REFERENCES

Annis, L., & Davis, J. K. (1978). Study techniques: Comparing their effectiveness. American Biology Teacher, 40, 108–110.

Ediger, M. (2006), "Writing in the mathematics curriculum. The Journal of Instructional Psychology, 33, 120-123.

Good, C.V. (1959). Factors relating the academic achievement of high school students. Journal of Education Psychology, 40(2), 65-181.

Hartley, J.(1998). Learning and studying: A research perspective. London: Routledge.

Hunt, R. R., & Worthen, J. B. (Eds.). (2006). Distinctiveness and memory. New York, NY: Oxford University Press.

Kumar, S. (2012). Relational studies of home environment and emotional maturity of higher secondary school students. Journal new frontiers in education, 45(3)

Patel, G. N. (1979). Investigation in to anxiety among secondary school students in Sabarkantha District, Doctoral Thesis, Sardar Patel University.

Tryon, G. S. (1980). The measurement and treatment of test anxiety. Review of Educational Research, 50, 343-372.

Whitehead, P. R. (1960). Aims of education and other essays. London: Williams and Norgate.

Zeidner, M. (1998). Test anxiety: The state of the art. New York: Plenum Press.