

A Study of Mathematics Anxiety among Upper Primary Students in Purba Bardhaman District

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Abstract: This study is focused to compare the mathematics anxiety among boys and girls of both rural and urban areas students of upper primary school. Descriptive survey method is applied to conduct the present study. Population of this study is taken from upper primary level students in Purba Bardhaman district of West Bengal. Sample in this study consists of 120 students in total, 30 students from each of rural boys, rural girls and urban boys, urban girls of class VII and VIII. The collected data is analyzed by mean, standard deviation, t-test and co-relation as statistical techniques. We have found that there is a significant difference in the level of anxiety between boys and girls as well as for rural and urban areas students towards mathematics. So, we concluded that boys' anxiety is less than girls' anxiety as well as rural areas students' anxiety is less than urban areas students' anxiety towards mathematics.

Keywords: Mathematics Anxiety, Upper Primary Students, Rural Areas, Urban Areas.

1. Introduction: At present situation, mathematics anxiety among students is most important issue to acquirer their active learning and good achievement. Mathematics anxiety is a feeling of tension, fear, discomfort, dissatisfaction, and dislike what students face to a mathematical situation or solve mathematical problems (Richardson and Suinn, 1972). Mathematics anxiety among students can lead towards strain, distress, fear, helplessness, incapability to cope mathematical problems, physiological reactions such as vomiting, dry lips, pale face, highly breathing and failure to solve mathematical problems (Posamentier and Steel man, 1990).

Hombree (1990) performance of a mathematical test is directly proportion to the anxiety of mathematics. Mathematics anxiety depends on various factors like (i) attitudes toward mathematics, (ii) avoidance of mathematical problems. Low level students performance and high level students avoidance of mathematics in pre-college are found in male students than female students.

Zakaria, Zain, Ahmad & Erlina (2012) highlight the anxiety of mathematics is consisted among secondary level students. There is no significant difference between male and female students towards mathematics anxiety. Students achievement depends on various factors but most important factor is mathematics anxiety.

Pourmoslemi, Erfani & Firoozfar (2013) :-Mathematics anxiety and mathematics performance are interrelated. Different levels of anxiety consist with men and womens students towards mathematics. Students academic performance is high when their academic performance is low and vice-versa.

Ameen (2016):- The Level of anxiety is different between male and female students towards mathematics. Female students anxiety is higher than male students towards mathematics. Rural areas students anxiety is higher than Urban areas students towards mathematics. Mathematics anxiety level depends on various factors like (i) Home and school environment, (ii) Student's attitudes toward mathematics, (iii) Basic knowledge regarding mathematics, (iv) Educational background, (v) Gender and (vi) Socioeconomic status. The researcher has received many studies related to mathematics anxiety among elementary, pre-primary, upper primary, secondary students. In this revised studies most of them are survey researches and a few are experimental. Both Indian and foreign studies are on different levels of people.

From the above studies, most of the researchers have pointed out the differences of anxiety in mathematics between men and women depend on various factors like attitude, feeling of tension, basic knowledge, socio-economic status, avoidance of mathematics, home and school environment etc. Thus the present study is different and significant from the investigatory point of views. The present study differs from the above studies in terms of area, population and sample. But the researchers don't find out any of them worked on mathematics anxiety in Purba Bardhaman district .

2. Objectives of the Study:

1. To compare the mathematics anxiety in boys and girls students of upper primary schools .
2. To compare the mathematics anxiety in rural and urban areas students of upper primary schools .

3. Hypotheses of the Study:

Ho1: There is no significant difference between boys and girls students in the anxiety level for mathematics.

Ho2: There is no significant difference between rural area and urban areas students in the anxiety level for mathematics.

4. Methodology:

4.1 Research Design: The present study is done through descriptive survey method, and it is a quantitative study.

4.2 Variables of the Study:

The purpose of the study is to investigate the relationship between a set of independent variables i.e. gender (Male and Female), locality (Rural and Urban) and dependent variables i.e. Mathematics anxiety. So, the Major variable is Mathematics Anxiety and The Categorical variables are Locality (Rural and Urban) and Gender (Male and Female).

4.3 Population and Sample:

The population of the present study is to identify the purpose of the investigation. The researchers identified all the students of Bengali medium school of class VII and VIII in the academic year 2020 of Purba Bardhaman district of West Bengal affiliated to W.B.B.S.E. Simple random sampling technique is used. Sample of this study consists of 120 students in total, 30 students from each of rural boys, rural girls and urban boys, urban girls of class VII and VIII.

4.4 Tools of the Study:

The investigator has prepared anxiety scale in mathematics to collect raw data. This anxiety scale consists of 30 statements of 3-point Likert type which is designed to measure the mathematics anxiety of upper primary school students. A questionnaire prepared by the researchers with 30 items and this is standardized by some experts. In the questionnaire 10 questions deal with personal anxiety, 4 questions deal with family anxiety, 10 questions deal with school anxiety and 6 questions deal with texts anxiety. The scoring of each question on the basis of anxiety was 3/2/1. That is here 3, 2, 1 suggest high, medium, no anxiety respectively. The anxiety scale was three points scales (YES / NO/ NONE OF THESE).

4.5 Delimitation of the Study:

1. The study is delimited to area is selected by researchers in upper primary school.
2. The study is delimited to the schools of West Bengal by W.B.B.S.E.
3. The study is delimited to Government aided Bengali medium school in Purba Bardhaman district.

5. Objective wise Findings and Discussion:

5.1 Objective No.1: To compare the mathematics anxiety in boys and girls of upper primary school students. To fulfill this objective, one null hypothesis was formulated and tested which was as follows:

Ho1: There is no significant difference in the anxiety between boys and girls Students towards mathematics.

Testing of Ho1:

To test the Ho1, descriptive statistics and inferential statistics were computed and the result are given below:

Table No. 1:

Group statistics			t-test: Two Samples Assuming Equal Variances.			
	N	Mean	Standard deviation	Value of t (Critical Two tailed)	df	Value of P (Significant)
Boys	60	64	5.43061	1.98027224	118	0.001493628
Girls	60	66.98333	4.58254			

To test this hypothesis t-test was done and we get the Table No.1. From the table no.1, it is seen that, the value of P ($T \leq t$) is 0.001493628 which is less than 0.05 and so the t Critical Two-tail value is 1.980272249 for $df=118$. And the t Critical Two-tail value is 1.98022249 is statistically significant at 0.05 level of significance. Hence the null hypothesis Ho1 is rejected. Hence we can say that there is a significant difference in the level of anxiety of boys and girls students towards mathematics. Also from the above table no.1 we have seen that anxiety of boys is less than anxiety of girls towards mathematics. So, it can be concluded that the upper primary boys and upper primary girls Students have the different level of mathematics anxiety.

5.2 Objective No.2: To compare the mathematics anxiety between rural and urban areas Students of upper primary school.

To fulfill this objective, one null hypothesis was formulated and tested which was as follows:

Ho2: There is no significant difference in anxiety between rural areas and urban areas Students towards mathematics.

Testing of Ho2:

To test the Ho2, descriptive statistics and inferential statistics were computed the results are given below:

Table-2:

Group statistics				t-test: Two Samples Assuming Equal Variances.		
	N	Mean	Standard deviation	Value of t (Critical Two tailed)	df	Value of P (Significant)
RURAL STUDENTS	60	64	5.30749	1.980272	118	0.00149362
URBAN STUDENTS	60	66.98333	4.72459			

To test this hypothesis t-test was done and we get the Table No.2. From the above table no.2, it is seen that the value of P ($\leq t$) is 0.001493628 which is less than 0.05 and so the t Critical Two-tail value is 1.98027224 for $df=118$. That is t Critical Two-tail value 1.98027224 is statistically significant at 0.05 level of significance. Hence the null hypothesis is rejected. Hence we can say that there is a significant difference in anxiety between rural and urban areas students towards mathematics. Also from table no.2 we have seen that rural areas students' anxiety of mathematics is less than the urban areas students' anxiety of mathematics. So, it can be concluded that rural areas Students and urban areas Students of upper primary schools have the different level of mathematics anxiety.

6. Conclusion:

We have discussed our whole study elaborately and statistically and then it is seen that-

- (i) There is a significant difference in the anxiety of mathematics among boys and all girls students.
- (ii) There is a significant difference in the anxiety of mathematics among rural areas and urban areas students.

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