

# ATTITUDE OF SECONDARY SCHOOL STUDENTS TOWARDS MATHEMATICS – A STUDY

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**Abstract:** The present study is an attempt to assess the attitude of secondary school students towards mathematics. For the present study, the investigator has randomly selected sixty (60) students of class X from 5 purposively chosen secondary schools under the SEBA course of greater Guwahati. From each school, twelve (12) students were selected; out of which 6 (six) were female and six (6) were male so that the number of female students were 30 and the rest 30 were the male students. Gender wise comparison of attitude was done by using a scale developed by Aiken, named as “AIKEN REVISED MATHS ATTITUDE SCALE.”

**Keyword:** Attitude, Secondary School Student, Mathematics.

## INTRODUCTION

### Rationale of the Study:

Students' success in mathematics depends upon attitude towards mathematics. Attitude is a disposition of an individual to learn and to develop some proficiency in some particular area. On the basis of interest to a subject, the future performance of a student can be predicted. It has been found that failure of a student in certain field is because of without having positive attitude towards it.

Attitude towards mathematics plays a crucial role in the teaching and learning processes of mathematics. It effects students' achievement in mathematics. Like teacher's encouragement towards mathematics, method used to teach, introducing creative problems to students, making the class interesting etc., but the main part is attitude of a student towards the subject. It is true that unless one develops love for a subject, s/he cannot learn. It can be said that above all there are different ways for creating a positive attitude in the mind of a student towards the subject. Therefore, it seems quite appropriate on the part of the investigator to enquire about attitude of student towards mathematics. It is known to all that secondary stage is very important for a student to determine a path for his future education and life. Hence, the present study has been undertaken in this purview.

### Statement of the Problem: ATTITUDE OF SECONDARY SCHOOL STUDENTS TOWARDS MATHEMATICS—A STUDY

#### Operational Definitions of the key terms:

· Attitude: The term 'attitude' represents individual feeling for or against something. In other words, attitude is predisposition or a tendency to respond positively or negatively towards a certain idea, object, person or situation.

· Secondary School Students: It comprises the student group of class IX and X. In the present study, only class X students were taken into consideration.

· Mathematics: It is an abstract science of number, quantity and space.

#### Objectives of the study:

- (1) To study the attitude of secondary school students towards mathematics.
- (2) To compare the attitude of secondary students towards mathematics with respect to the variable gender.

**Hypotheses formulation:** As the objective (1) is associated with fact finding issue, so there is no need to formulate any hypothesis. For the objective (2), following hypotheses have been formulated:

#### Null Hypothesis:

H0: There is no significant difference between the attitude of male and female students towards mathematics.

Research Hypothesis:

H1: There is a significant difference between the attitude of male and female students towards mathematics

**Methodology:** The investigator has adopted Descriptive Survey method for the present problem “Attitude of secondary school students towards mathematics- A study”.

#### Sample:

For the present study, the investigator has randomly selected sixty (60) students of class X from 5 purposively chosen secondary schools under the SEBA course of greater Guwahati. From each school, twelve (12) students were selected; out of which 6 (six) were female and six (6) were male so that the number of female students were 30 and the rest 30 were the male students.

**Tool used for data collection:** For the present study, the investigator has adopted “AIKEN REVISED MATHS ATTITUDE SCALE.” The scale was constructed by considering 20 structured statements on mathematics, out of which 10 were positively and the rest 10 were negatively worded. For scoring procedure, five-point Likert Scale (viz., Strongly Agree, Agree, Undecided, Disagree and Strongly Disagree) was adopted. The five points have been quantified by giving the scores ranging from 1 for 'strongly disagree' to 5 for 'strongly agree' for the positive items; while the reverse

order was adopted for the negative items. In this way, total attitude score has been calculated for each student.

**Statistical Test of Significance:** For statistical analysis, Mean and Standard Deviation (SD) were calculated and t-test was adopted to test the significance between the variables.

**Delimitations of the study:** The investigator was restricted to study about the attitude of secondary school students towards mathematics in the Guwahati city only. Hence the findings cannot be generalized to all the secondary school students of the country.

**Analysis and Interpretation of Data:**

**Objective 1:** To study the attitude of secondary school students towards mathematics.

To fulfil the objective 1, the investigator has calculated the summated rating scores of all the 60 sample students. From those summated attitude scores, various statistical measures have been calculated and the results are presented in the following table.

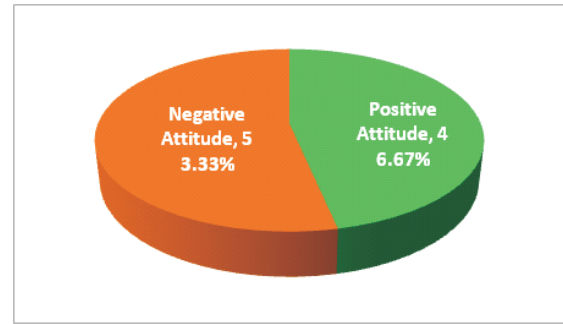
**Table 1: Various statistical measures of attitude scores among the entire sample students (n=60)**

Mean	67.20
Median	67
Mode	67
SD	9.51

Table 1 has depicted that the mean attitude score of students was 67.20 along with the standard deviation of score 9.51. On the basis of mean attitude score, the students have been grouped into two categories, viz- having negative attitude and positive attitude. The students who scored less than the mean score, i.e. <67.20 have been treated as having negative attitude towards mathematics; while the students who scored higher than the mean score, i.e.  $67.20$  treated as having positive attitude towards mathematics.

**Table 2: Number of students according to their attitude levels**

Level of Attitude	No. of students	% of students
Positive Attitude	28	46.67
Negative Attitude	32	53.33
Total	60	100



**Figure 2.1: Pie diagram showing the % distribution of students according to their attitude level**

From table 2 and its corresponding pie diagram, it has been found that 53.33% students have negative attitude towards mathematics; while 46.67% students have a positive attitude towards mathematics.

Objective 1 has been fulfilled from table 1 and table 2.

**Objective 2:** To compare the attitude of secondary students towards mathematics with respect to the variable gender.

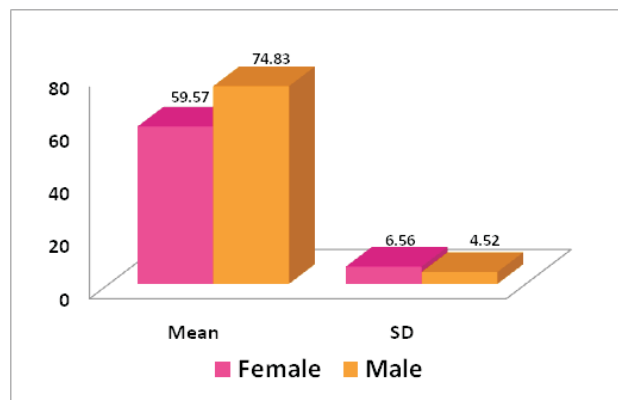
**H0:** There is no significant difference between the attitude of male and female students towards mathematics.

**H1:** There is a significant difference between the attitude of male and female students towards mathematics.

**Table 3: Comparison of attitude among male and female students towards mathematics**

Gender	Mean Attitude Score	SD	SE <sub>M</sub>	Degrees of freedom	t-value	Significance at 0.01 level
Female (n=30)	59.57	6.558	1.197	58	10.49*	Highly Significant
Male (n=30)	74.83	4.519	0.8250			

(The table value of 't' at 0.01 level of significance with 58 d.f. is 2.00)



**Figure 3.1: Graph showing the mean and SD of attitude score among the samples w.r.t. the variable gender**

It has been found from table 3 and figure 3.1 that the male students possess higher mean attitude score than their female counterparts. For testing the significance of difference, the unpaired 't'-test has been applied and the calculated value was found to be much higher than the table value of 't' at 0.01 level of significance with 58 d.f. So, the null hypothesis has been rejected and the research hypothesis has been accepted. We can, therefore, conclude that there is a highly significant difference between the girls and boys students regarding their attitude towards mathematics.

#### MAJOR FINDINGS OF THE STUDY:

- 1) The average attitude score of the student samples towards mathematics is 67.20.
- 2) Out of 60 students, 46.67% students have positive attitude; while 53.33% students have a negative attitude towards mathematics.
- 3) Male students were found to have higher mean attitude score than their female counterparts.
- 4) There exists a 'highly significant difference' in attitude towards mathematics between the male and female students.

#### SUGGESTIONS:

On the basis of the findings of the present study, the investigator puts the following few points:

- 1) The basic concept of mathematics should be learned from the earlier classes. Students should be encouraged to ask question for their any difficulty.
- 2) Female students should encourage for the subject, as it will help them to find out various ways and means for their future.
- 3) Mathematical laboratory, well developed teaching aids, etc. are very important for effective teaching-learning process. So, the concerned authority should have to consider this problem.
- 4) School environment as well as home environment should be healthy as they influence students both positively and negatively for learning.

#### CONCLUSION:

The teaching method, the support of the school, the family and students' attitude towards school affect the attitude towards mathematics. Attempt to improve attitude towards mathematics at secondary level provides base for higher studies in mathematics. It also causes effect in achievement of mathematics at Secondary school level.

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