



## Science Attitude of Higher Secondary Biology Students

### KEYWORDS

Science Attitude, Higher Secondary Students, Level of Science Attitude

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**ABSTRACT** Science attitude is absolutely necessary to dispel ignorance and backwardness. It will bring a balanced perspective to face the social evils and conflicts and could lead to a better world. The present study was designed to make out the status of science attitude of biology group students of higher secondary stage. Survey method was adopted in this study. The sample consists of 621 Std. XI students randomly drawn from Thiruvannamalai District, Tamilnadu. In addition to Basic Data Sheet, the Science Attitude Scale of Avinash Grewal (1977) was used to collect the data. The study indicates the moderate level of science attitude among higher secondary students. Further the female biology teachers has more influenced on developing science attitude among the students as compared male teachers and girls significantly deferred with boys in science attitude.

### Introduction

Science attitude is a composite of a number of mental habits, or of tendencies to react consistently in certain ways to a novel or problematic situation. Science attitude is a cognitive concept and normally associated with the mental processes. These habits are important in the daily life of everyone. Scientific attitude possess attributes thought to be either false and do not express an evaluative quality. To lessen the semantic confusion, scientific attitudes may be better labeled as "scientific attributes". The attributes of science attitude are: rationality, curiosity, open mindedness, aversion to superstitions, objectivity and intellectual honesty and suspended judgement. According to Lawson (1982), "science attitude is absolutely necessary to dispel ignorance and backwardness; it will bring a balanced perspective to bear on social evils and conflicts and could lead to a better world". The most useful scientific attitudes are open mindedness, critical mindedness, respect for evidence, suspended judgement, intellectual honesty, willingness to change opinion, search for truth, curiosity, rational thinking, etc. Teaching of science at school stage helps in development of science literacy. It also helps in the formation of science attitude, which is essential to dispel social evils and helps in development of open mindedness, decision-taking ability. Training in science method improves the quality of thinking (Indira Sharma, 2007).

### Objectives:

The objectives of the present study are as follows:

1. To find out the level of science attitude of higher secondary students.
2. To find out whether there is any significant difference in science attitude of higher secondary students with respect to gender of teachers
3. To find out whether there is any significant difference in science attitude of higher secondary students with respect to gender of students

### Hypotheses:

The following are the hypotheses of this study:

1. The level of science attitude of higher secondary students is high.
2. There is no significant difference in science attitude of higher secondary students with respect to gender of teachers
3. There is no significant difference in science attitude of higher secondary students with respect to gender of students

### Research Design:

Survey method is adopted by the investigators.

### Population:

The population of this study comprises of the first year higher secondary students in Thiruvannamalai District of Tamilnadu.

### Sample and Sampling Procedure:

Six hundred and twenty one Std. XI Biology group students were randomly selected from the higher secondary schools located in Thiruvannamalai District of Tamilnadu State.

### Instruments Used:

The researchers adopted the Science Attitude Scale (SAS) developed and validated by Avinash Grewal (1977), besides a Basic Data Sheet developed by the researchers.

### Data Analysis:

Descriptive and differential analysis was used to compute the data and to verify the hypotheses by using the Statistical Package for the Social Sciences (SPSS). The results of the analysis are presented in Tables 1 to 3.

### Results:

**Table 1: Shows the level of science attitude of higher secondary students.**

Level of Science Attitude	N	%
Low	154	24.8
Moderate	307	49.4
High	160	25.8
Total	621	100.0

**Table 2: Shows the significant difference in science attitude of higher secondary students with respect to gender of Teachers.**

Gender of Teachers	Mean	SD	t' value	Significance at 0.05 level
Male Teachers	56.32	15.284	3.199	S
Female Teachers	60.26	15.238		

Note: S - Denotes significant.

**Table 3: Shows the significant difference in science attitude of higher secondary students with respect to gender of students.**

Gender	Mean	SD	't' value	Significance at 0.05 level
Male	42.01	9.920	4.080	S
Female	45.35	10.008		

Note: S - Denotes significant.

#### Findings:

From the analysis, the following findings are observed:

Table-1 reveals that among higher secondary students about 49.4 % of them are having moderate level of science attitude, 25.8% of them are having high level of science attitude and the remaining 24.8% of them are having low level of science attitude.

From Table-2, significant difference is noted as the obtained t-value (3.199) is greater than the table value (1.96) at 0.05 level. So, it is inferred that the higher secondary students significantly differed in science attitude with respect to gender of biology teachers. In this, the students taught by female teachers have gained more mean score (60.26) as compared to their counterpart (56.32).

From Table-3, significant difference is observed as the obtained t-value (4.080) is greater than the table value (1.96) at 0.05 level. So, it is inferred that there exists significant difference between the higher secondary boys and girls in science attitude. In this, girl students have gained more mean score (45.35) in science attitude than the boys (42.01).

#### Discussion:

Present study intended to know the level of science attitude among higher secondary students and if there is any significant difference exist between them with respect to their gender and gender of biology teachers. The study reveals the moderate level of science attitude among the biology group +1 students of higher secondary level. This finding is supported by the findings of **Indira Sharma (2007)**. As far as gender difference is concerned, the present study reveals girls significantly differs with boys, which is not corresponding with the studies of **Krishna Maitra & Alka (1997)**; **James & Marice (2004)**; and **Sundararajan & Rajasekar (1993)**.

#### Conclusion:

The present investigation reveals the moderate level of science attitude among +1 students of higher secondary stage. It is also noted that female students are having more attitude towards science as compared to the male students. Further, the study shows the influence of female biology teachers on science attitude of higher secondary students as compared to the male biology teachers. However, science attitude is a vital factor in determining the students' day-to-day life and future career. Hence, science attitude need to be developed in higher secondary students and the initiation should start from the beginning of school education.

#### REFERENCE

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