

**SCIENTIFIC ATTITUDE IN RELATION TO FAMILY ENVIRONMENT OF
SECONDARY SCHOOL STUDENTS**

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Abstract

The study aims to see the relationship between Scientific Attitude and Family Environment of Secondary School Students. The sample was selected at two stages -first the school was selected out of the total number of existing government schools in Chandigarh by lottery method and then 100 students of 9th class comprising of 50 boys and 50 girls were selected by lottery method from the selected schools. Scientific Attitude Scale by Bajwa and Mahajan (2009) and Family Environment Scale by Bhatia and Chadha (1993) were used as tools for the study. The results highlight that there is significant relationship between Scientific Attitude and Family Environment of Secondary School Students. Further analysis of the data shows that there is no significant difference between scientific attitude and Family Environment of boys and girls of secondary schools.

Keywords: Scientific Attitude, Family Environment, Secondary School Students

Introduction

The attitude once developed in the student proves very useful in later parts of life. Apart from this teaching of science is based on sound psychological footing. The concepts and activities are the main basis of teaching science and satisfy the instincts of curiosity, creativeness, self-assertion and self expression of the pupils. Scientific attitude improves not only the cognitive but also affirmative skills of the student.

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It provides an experimental platform to study and prove several scientific principles to improve quality and standards of human life and values.

Marcelle and Michael [2003] suggested through a research work 'Changes in Attitude about the Relevance of Science Questionnaire and Assessing two High School Science Classes' that it is possible to enhance student's attitude about the relevance of science by using innovative and issue based activities. Ahuja (2017) concluded in 'A study on scientific attitude in relation to science achievement scores among senior secondary students' that teaching methodologies focusing on developing scientific attitude among students facilitate them in scoring academically high and thus scientific attitude may work as determinant of academic performance of students. Gutierrez (2015) studied the effects of integrating socio-scientific issues to enhance the bioethical decision-making skills of biology students using a quasi-experimental research design. Results of the independent and related samples t-test on the pre-and posttest mean scores of 72 students significantly revealed that integrating socio-scientific issues in biology lessons are useful to enhance their bioethical decision-making skills.

Jelani [2000] examined the effects of family functioning, marital status and family income, on African American adolescent's self-esteem and concluded that parental marital status had no effect on girls' self-esteem. Akomolafe et al. [2011] investigated the impact of family type on secondary school students' academic performance. The results showed that family type significantly influenced academic performance of secondary school students. On the basis of the findings, it was suggested that parents should be given adequate training on how best they can assist their children to attain maximum success. Chawla [2012] conducted a study on the relationship between family environment and academic achievement. Findings of the study revealed that family environment score was positively correlated with academic achievement on cohesion, expressiveness, independence, and caring and conflict components of the family environment.

Thus, it is found that various types of family environments duly affect the emotional and scientific behavior of the child and thus also affects his/her scientific attitude.

Objectives

1. To study the relationship between scientific attitude and family environment of secondary school students.
2. To study the difference of scientific attitude between boys and girls of secondary schools.
3. To study the difference of family environment between boys and girls of secondary schools.

Hypotheses

1. There is no significant relationship between scientific attitude and family environment of secondary school students.
2. There is no significant difference between scientific attitude of boys and girls of secondary schools.
3. There is no significant difference between family environment of boys and girls of secondary schools.

Sample

Sample was selected at two stages first the school was selected out of the total number of existing schools in Chandigarh (Government) by lottery method and then 100 students of 9th class comprising of 50 boys and 50 girls were selected by lottery method from the selected schools were picked up as sample of the study

Tools used

1. Scientific Attitude Scale by Bajwa and Mahajan. (2009)
2. Family Environment Scale by Bhatia and Chadha. (1993)

Analysis and interpretation

Mean, median, mode, SD, were calculated to study the general nature of the sample. Skewness and Kurtosis were calculated to see the deviation of score from normal probability curve. Correlation was calculated between the two variables and t –test was calculated to find out the difference between the mean scores of boys and girls.

Interpretation and Discussion:

Hypothesis-1

There is no significant relationship between Scientific Attitude and Family Environment of Secondary School Students

Table 1

Relationship between Scientific Attitude and Family Environment of Secondary School Students

Variables	Mean	Correlation Value	Df
Family Environment	163.88	0.588**	98
Scientific Attitude	237.98		

** *Significant at 0.01 level*

Table 1 show that the coefficient of correlation between Family Environment and Scientific Attitude of Senior Secondary School Students is 0.588 which is more than the table value and is significant at 0.01 level. It shows that there is a significant relationship between Family Environment and Scientific Attitude of Senior Secondary School Students.

Therefore hypothesis-1 stating that there is no significant relationship between Scientific Attitude and Family Environment of Secondary School Students is not retained. It means Family

Environment does affect the Scientific Attitude of Senior Secondary School Students. Result shows that Family Environment and Scientific Attitude are positively related to each others. It

means Family Environment is healthy, positive and conducive for growth of Senior Secondary School students and definitely promotes Scientific Attitude in students.

Hypothesis-2

There is no significant difference between scientific attitude of boys and girls of secondary schools.

Table-2

Difference between Scientific Attitude of boys and Girls of Secondary Schools

	N	Mean	Std. Deviation	t-value	p-value
Boys	50	238.28	29.76	.104	.917
Girls	50	237.68	27.89		

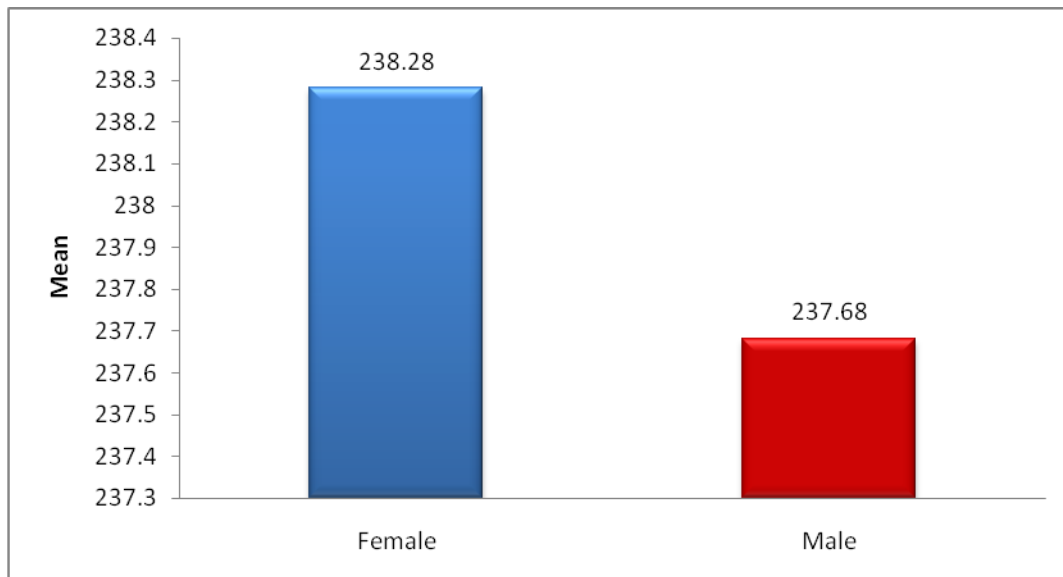


Figure 1: Difference between Scientific Attitude of Boys And Girls Of Secondary Schools

Table 2 shows that there is insignificant difference between Scientific Attitude of Boys and Girls of Senior Secondary Schools as t ratio (0.104) is found insignificant.

It shows that there is no significant difference between Scientific Attitude of boys and girls of senior secondary schools. Therefore hypothesis 2 stating that there is no significant difference between scientific attitude of boys and girls of secondary schools is retained.

Result shows that boys and girls can perform in the same manner to show their Scientific Attitude as according to results there is no significant difference found in the Scientific Attitude of boys and girls of senior secondary schools.

Hypothesis-3

There is no significant difference between Family Environment of boys and girls of secondary schools

Table-3

Difference between Family Environment of boys and Girls of Secondary Schools

	N	Mean	Std. Deviation	t-value	p-value
Boys	50	166.18	12.70	1.877	.063
Girls	50	161.58	11.79		

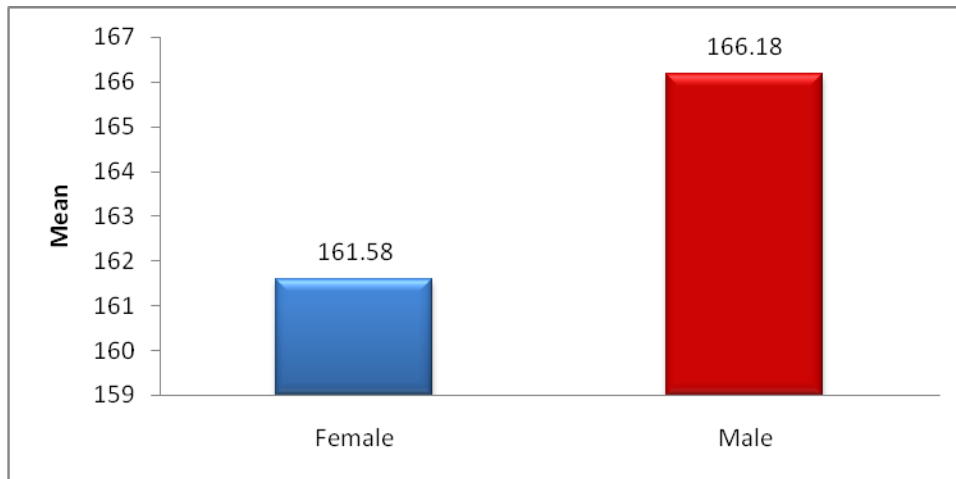


Figure-2: Difference between Family Environment of boys and girls of Secondary Schools

Table 3 reveals that there is insignificant difference between Family Environment of boys and girls of Senior Secondary Schools as t ratio (1.877) is found insignificant.

Therefore hypothesis 3 stating that there is no significant difference between Family Environment of boys and girls of secondary schools is retained.

Result shows that boys and girls can get same type of family environment to perform better in their life as according to results there is no significant difference found in the Family Environment of boys and girls of Senior Secondary School.

So it can be inferred that among the different environmental factors, the family environment is probably the most significant because it often lasts through a lifetime.

The quality of environment provided by the family influences almost every aspect of an individual's behaviour including the scientific attitude. A positive environment nurtures, sustains and helps in personal development and growth while the disturbed environment often harms and handicaps a person's attitude.

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