

SCIENTIFIC ATTITUDE IN RELATION TO THE SELF- CONCEPT OF THE SCHOOL STUDENTS

Mr. Lilu Ram Jakhar*

ABSTRACT

The present study examines the scientific attitude of the school students in relation to their self-concept. Scientific attitude is open mindedness, a desire for accurate knowledge , confidence in procedures of seeking knowledge and the expectations that the solution of the problem will come through the use of verified knowledge. Self-concept is the totality of a complex, organized , and dynamic system of learned beliefs, attitudes and opinions that each person holds to be sure about his or her personal existence. The sample in the present study comprised of 100 students studying in government schools in Chandigarh. Descriptive survey method was employed to collect the data. The major finding of the study revealed that there is a positive correlation between the scientific attitude and self-concept of the school students.

Keywords : *Scientific Attitude, Self-Concept, School students*

Introduction

Science is a way of gaining knowledge and understanding of our natural world. The things, we can feel, see, hear, smell, and taste to the smallest detail are based on observation, identification, description, experimental investigation, theoretical explanation of the natural phenomenon. In terms of education, science helps students to develop the understanding and also develop good habits of using the mind. The students need to become compassionate human beings who are able to think for themselves and to face the life ahead. Science also equip them to participate thoughtfully with the fellow citizens in building and protecting a society that is open, decent and vital . Scientific attitude is the combination of many qualities and virtues, which is reflected through the behavior and action of the person. The persons are open minded, experiment oriented, systematic in approach, possess love for knowledge, intellectuality honest, unbiased and truthful and possess scientific temper(Kulshreshtha, 2008).

The period of adolescence is extremely important in the life of an individual because at this stage, one moves from childhood to stages of maturity, where in the individual takes active part in life process. Self-concept is one of the most influential factors. Successes and other pleasurable events in life lead to the enhancement of self- concept whereas the failure and other denigrating experiences tend to lower the self-concept of the adolescents. Self-concept is best conceived as a system of attitudes towards oneself. Self-concept consists of all the perceptions, feelings, attitudes, aspirations and values of oneself. Self-concept of adolescents is more affected by personality, school and family

*Assistant Professor, Govt. College of Education, Sector-20 D, Chandigarh

environment. Attitude plays an important role in developing understanding among individuals and scientific attitude provides realistic edifice to the development of the personality of the adolescents during the period of growth and adjustment. Self-concept is your impression or concept of your-self. It includes your own listing of personal trials that you deem important and your evaluation of how you rate according to these trials. It has much to do with whether you like yourself and how much (Rathus&Nevid, 2003).

In the present study the two variables of scientific attitude and self-concept were explored to assess whether there is any relationship between these for the school students.

Emergence of the Problem

The world today is moving fast and we are heading towards becoming more advanced. In this present situation everyone is busy in his or her own life. But in this race people sometimes forget and neglect a lot of things which are important for them. Society aspires that our children to be more intelligent and successful in life and for this reason we emphasize more on the studies of our children. In the process we neglect the emotional level as well as the personal growth of children to a great extent. Sometimes children are unable to cope up with these fast changes happening in the society and as a result they start feeling lonely and develop their self - concept which is sometimes harmful for them. The self-concept of the child plays a significant role in the development of personality and formation of the attitudes. Scientific attitude develops open mindedness, skepticisms and makes the child self - confident. Scientific attitude also affects the academic achievement and has influence on the personality of the students. Thus the Scientific attitude & self- concept are significant factors that can predispose young children to immediate and long term negative consequences. So the need of the hour is to check what these adolescents feel and think. Investigator felt a need to conduct research on the variables of scientific attitude and self-concept and to explore the relation between them.

Objectives of The Study

The main objectives of the study are :

1. To study and compare the scientific attitude of adolescent boys and girls.
2. To study and compare the self-concept of adolescent boys and girls.
3. To study the relationship between scientific attitude & Self-concept of adolescents.

Hypotheses of the Study

The study was designed to test the following null hypothesis:

1. There exists no significant difference in scientific attitude of adolescent boys

and girls.

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2. There exists no significant difference in self-concept of adolescent boys and girls.
 3. There exists no significant correlation between scientific attitude & self-concept of adolescents.

Procedure and Tools of the Study

The descriptive survey method was used to collect data by employing the tools namely; Scientific Attitude Scale (SAS-BM) developed and standardized by Bajwa and Mahajan (2012) and Self-concept inventory by developed and standardized by Saraswat (2011). Data related to both the variables were collected by following the proper procedures mentioned in the respective manuals from two government schools viz. Govt. Model senior Secondary School, Sector- 20D Chandigarh and Govt. Model senior Secondary School, Sector-19 C, Chandigarh. The Sample consists of 100 students out of which 70 were boys and 30 were girls. The student were assured of the confidentiality of the data. The data was scored and analyzed and interpreted by employing different statistical techniques.

Analysis and Interpretation of the Data

The data collected was analyzed by employing descriptive and inferential statistics and the results were interpreted. The analysis of the data revealed that the distribution of Scientific Attitude and Self-concept scores were approximately normal.

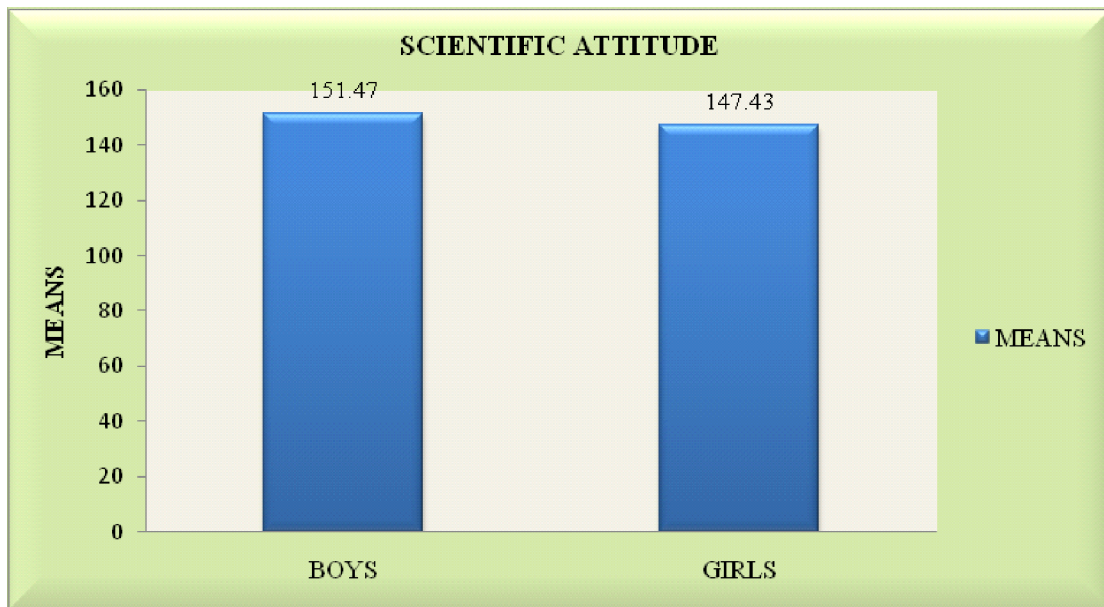
Table 1: Difference in the Scientific Attitude of Boys and Girls

Variable	Groups	Total Students	Mean	Standard Deviation	t-Value	Remarks
Scientific	Boys	70	151.47	12.09	1.554	Not Significant
Attitude	Girls	30	147.43	11.45		

Degree of freedom = 98; Table value of t at 0.05 level of significance = 1.98; Table value of t at 0.01 level of significance = 2.63.

Table 1 shows that the calculated value of t-ratio for scientific attitude of boys and girls. It comes out to be 1.554 which is even less than the table value of 1.98 at 0.05 level of significance. It shows that the calculated value of t is not significant at 0.05 level of significance. So it can be said that there exists no significant difference in the scientific attitude of boys and girls at 0.05 level of significance. Hence, the hypothesis that there exists no significant difference in scientific attitude of adolescent boys and girls is retained. Hence there is no significant difference in scientific attitude of boys and girls.

Figure1. The mean scores of Scientific Attitude of Boys and Girls



The figure 1 clearly indicates that there is not much difference in mean scores of Scientific Attitude of the boys and girls.

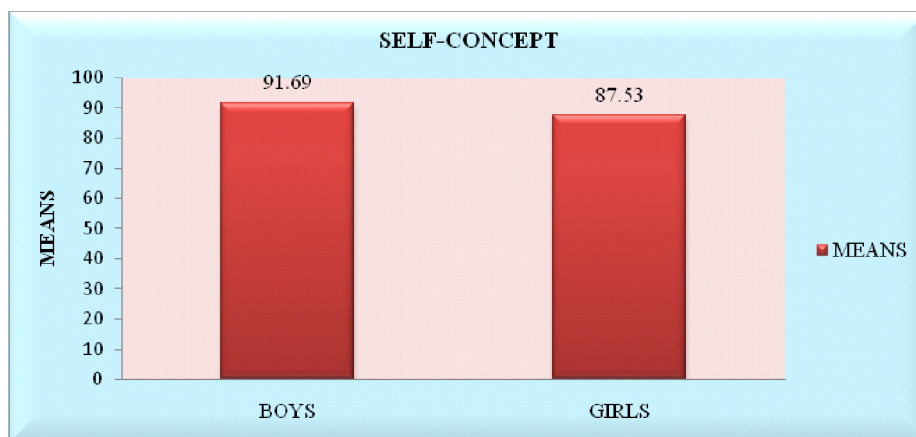
Table 2: Difference in Self-concept of boys and girls students

Variable	Groups	Total Students	Mean	Standard Deviation	t-Value	Remarks
Self-Concept	Boys	70	91.69	28.21	0.668	Not Significant
	Girls	30	87.53	29.17		

Degree of freedom = 98; Table value of t at 0.05 level of significance = 1.98; Table value of t at 0.01 level of significance = 2.63.

Table 2 shows the calculated value of t-ratio for self-concept of boys and girls students. It comes out to be 0.668 which is even less than the table value 1.98 at 0.05 level of significance. It shows that the calculated value of t is not significant at 0.05 level of significance. So it can be said that there exists no significant difference in the self-concept of boys and girls at 0.05 level of significance. Hence, the hypothesis that there exists no significant difference in self-concept of adolescent boys and girls is retained at 0.05 level of significance. Thus there is no significant difference in Self-concept of the boys and girls.

Figure 2. The mean scores of Self-concept of Boys and Girls



The figure 2 clearly indicates that there is not much difference in mean scores of self-concept of boys and girls.

The coefficient of correlation was calculated to find out relation between Scientific Attitude & Self-Concept of the students as shown in table 3.

Table 3: Coefficient of Correlation between Scientific Attitude and Self-Concept of the students

Variables	N	Coefficient of correlation	Remarks
Scientific attitude	100	0.963	Significant at 0.01 level
Self-concept	100		

Degree of freedom = 98; Table value at 0.05 level = 0.195; Table value at 0.01 level = 0.254

Table 3 reveals that the coefficient of correlation between scientific attitude & self-concept of the students is 0.963 which is higher than the table value 0.195 at 0.05 and 0.254 at 0.01 level of significance respectively. It shows that there is a very high positive correlation between scientific attitude and self-concept of adolescents. It further means that students having high level of scientific attitude will have high level of self-concept. Hence, the hypothesis that there exists no significant correlation between scientific attitude and self-concept of adolescents is rejected at 0.05 level of significance as well as at 0.01 level of significance. Therefore, there exists significant correlation between scientific attitude & self-concept of the students.

Findings and Conclusions

On the basis of data analysis and interpretation of the results obtained through various statistical techniques in the present study, following conclusions were drawn :

1. The study shows that there is no significance difference in scientific attitude of boys and girls.
2. The study also shows that there exist significance difference in the Self-Concept of the boys and girls.
3. The study shows that there is a positive correlation between the scientific attitude and self-concept of school students.

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