

## Study of Level of Scientific Attitude among Adolescents

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### Abstract

The present study is an investigate the level of scientific attitude among adolescents. The present study has been conducted on 200 adolescents taken randomly from Moga District of Punjab. In the present study for the collection of data the tools were used Science Attitude Scale by A. Grewal (2012).

### SCIENTIFIC ATTITUDE

We are living in a society, which is completely drawn into the scientific environment. Science has become an integral part of our life and living. Now we cannot think a word without science. The wonderful achievements of science have glorified the modern world and transformed the modern civilization into a scientific facts and laws; science has now become every day science of every body. Science has been referred to as a self corrective process of finding out.

**Neils Bohr expressed it** “science includes the methods by which man puts limiting value on his preconceptions”. Considering science from the intellectual point of view, it is the most inexhaustible store house of knowledge. Since nature is an exhaustible source of knowledge, science as a subject offers widest range of knowledge to learning. It has exposed mankind to infinite avenues of knowledge in nature, living and non-living, about the world beyond human perception and there by makes us conscious of the unknown to be explored.

**According to skinner (1986)**, “World science has been derived from the Latin word ‘scientia’ which means knowledge. Science is a systematized body of knowledge. This knowledge may pertain to any subject or field of life. Science is first of all a set of attitude. It is disposition to deal with facts rather than with what someone has said about them.

Science is universal and so can be its benefits. Its material benefits are immense and far reaching. Science and technology play an important role in our lives and hence become integral parts of our social and cultural life. Various activities are controlled and governed by science. It has helped men to acquire supremacy over nature from the minute we get up in the morning till we got to bed and fall asleep, even when we are enjoying a well earned deep sleep, a large number of grades work for us.

Science has revolutionized our way of living to the extent that it is termed as ‘modern living’ man’s material environment has been radically transformed by the magic world of science. Science plays major role in the field of agriculture, industry, health, telecommunication, transportation, technology etc. Inventions and discoveries of science

in the various fields have changed drastically not only our way of living but also our way of thinking.

The major objectives of science teaching in schools are knowledge, Understanding, application, skill, interest, attitude and appreciation. Science teaching must develop certain attitudes among the learners which are popularly known as scientific attitude. It is one of the most important objectives of teaching science to develop and train the student for this attitude or way of life.

Science plays a vital role in inculcating the various values in student, so as to fulfill primary goal of education i.e. harmonious development of an individual. These values; vocational, moral and cultural, aesthetic, utilitarian, psychological provided the training in the scientific method and development of scientific attitude.

Science has played a tremendous role in our lives during the last century and is now changing our entire existence. In the words of conent (1957), “science is an international scheme that has developed as a result of experimentation and observation”. Thus three basic principles of science can be identified as:

- An accumulated and systematize body of knowledge.
- The scientific method of enquiry.
- The scientific attitude.

Science can claim its honorable place in school curriculum when it product desirable changes in boys and girls, changes in their habit, actions, ways of living, creativity, personality and attitude towards life.

**National policy of education (1986)** entitled that objective of science education should be inculcation of scientific attitude among its learner through its study.

**National society of the study of Education (1960)** has defined scientific attitude as “open mindedness, a desire for accurate knowledge, confidence in procedure for seeking knowledge and expectation that the solution of the problem will come through the use of verified knowledge”.

Attitude are important keys in understanding the long range organization of behavior, the prominent role of attitudes in determining our thought, memory and learning process has been recognized by various psychologists.

**Allport (1935)** has been defined attitude as a “Mental and natural state of Readiness organized through experience, exerting a directive or dynamic influence upon the individual’s response to all objects with which it is related”.

Attitude is specific mental state of the individual towards something according to which his behavior towards it is molded. This definition reveals the following facts concerning attitudes.

- A attitude is the method or neural state of readiness.
- Attitude influences the reaction of the individual.

- Attitude changes the reaction of the individual.

Hence, science teacher all over the world have long recognized that development of proper scientific attitude is an important outcome of science teaching. A virtualized study of science with emphasis on open mindedness tolerance and objectivity will lead to the development of rational outlook and scientific attitude.

### **OBJECTIVES OF THE STUDY**

To study the scientific attitude of adolescents

### **HYPOTHESIS**

There is no significant difference in the level of superstition between boys and girls.

### **METHOD**

The investigator has adopted descriptive survey method for conducting the study.

### **SAMPLE**

For the present study 200 students (100 boys and 100 girls) from schools of Moga district were selected.

### **TOOLS USED**

In the present study for the collection of data the tool were used

Science Attitude Scale by A. Grewal (2012)

### **STATISTICAL TECHNIQUES USED**

Statistical techniques are indispensable tools for organizing, analyzing and interpreting data expressed in numerical terms by synthesizing the data. These techniques facilitate the derivation of conclusion and formation of generalization. These give a concise picture to the whole data, so that, it can easily comprehended.

In the present study, following statistical techniques are used for drawing results. The description statistics like mean, median, standard deviation, skewness, kurtosis, correlation are used to find out the relationship between boys and girls.

### **ANALYSIS AND INTERPRETATION OF DATA**

#### **Hypothesis**

There is no significant difference in the level of scientific attitude between boys and girls.

**Table 1**

**Table showing 1 Mean, S.D and t-value of scores of scientific attitude between boys and girls**

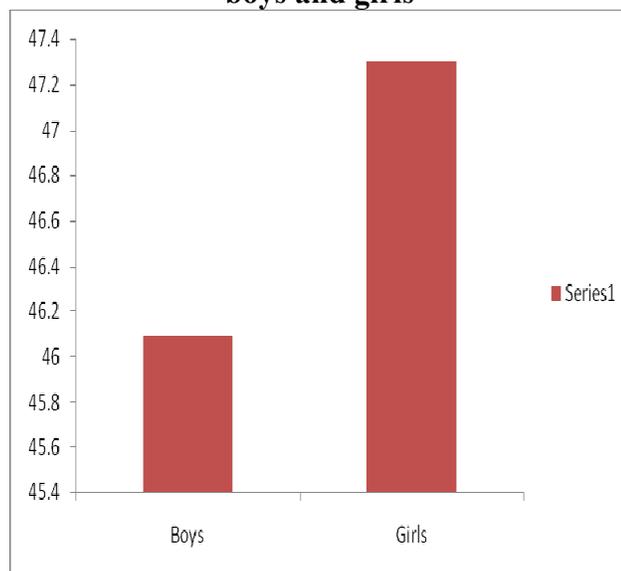
<b>Variable</b>	<b>Groups</b>	<b>Mean</b>	<b>S.D</b>	<b>t- value</b>	<b>Level of significant</b>
Scientific attitude	Boys	46.09	8.69	0.76	Non- significant
	Girls	47.34	13.89		

Table 1 shows Mean and Standard deviation of the scores of scientific attitude of boys is 46.09 and 8.69 respectively and those of girls is 47.34 and 13.89 respectively. The value of t- ratio in case of boys and girls is 0.76 which is non- significant.

Hence, the hypothesis states, “There is no significant difference in the mean scores of scientific attitude of boys and girls”, stands accepted. Bar graph shows that the level of scientific attitude of girls are high as compare to boys.

**Fig. 1**

**Bar graph 1 showing the difference of Mean scores of scientific attitude between boys and girls**



## CONCLUSION

There exist no significant differences in the mean scores of scientific attitude of boys and girls.

## EDUCATIONAL IMPLICATIONS

The present study has multiple implications in the field of education. The finding of this study can help the parents, teachers, guidance workers and counselors to understand the scientific attitude of the children of adolescent age.

The teacher acts as a role model for their students. So, they should adopt scientific thought. They should also try to eliminate irrational thinking, blind faith and prejudice among their students. The teachers should develop curiosity, thoughtful, positive, constructive and scientific attitude in their students by encouraging debate and discussing in the classroom as well as co-curricular activities.

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