

# A STUDY ON HIGHER SECONDARY STUDENTS' REASONING ABILITY AND HOME ENVIRONMENT

Research  
Paper

## ABSTRACT

*Reasoning is said to be a typical thinking process a productive and advanced stage in the complex process of one's thinking. Reasoning ability is the ability to interpret various symbols, development of concepts and language. It is the process of thinking involving inference, or of solving problems by employing general principles. The present study is made on reasoning ability and home environment of first year higher secondary students. The present investigation is confined to 800 higher secondary students from Villupuram district. The findings of the present study reveal that the students have average reasoning ability and home environment. It is inferred that a positive and significant relationship exists between their reasoning ability and home environment.*

## INTRODUCTION

Reasoning is said to be a systematic and organized thinking that follows some systematic steps. Reasoning ability is a definite purpose or goal. It is an implicit act and involves problem solving behaviours using one's previous knowledge and experience. It is the specialized thinking which helps an individual explore mentally the cause and effect relationship of an event or the solution to a problem.

Home is the ground consisting of parents and their children whether living together or not. Environment consists of the sum total of the stimulation that the individual receives from conception until death. It covers all those circumstances which assert their influence on the individual since conception to death. The social setting includes the attitudes or the general dispositions of the parents towards their children, the encouraging or discouraging nature of the parents, the kind of help the parents render to their children and also other facilities available at home.

## REVIEW OF LITERATURE

Experimental studies done in respect of reasoning show that "Reasoning is an essential part of thinking as the solution of a problem". Jain (1979) in his doctoral study attempted to isolate the main factors, which influenced success in mathematics and concluded that reasoning ability and attitude towards the subject played a vital role in learning mathematics. Reasoning ability and problem solving ability are essential for a successful career in any

science subject.

Singh (1983) has stated that verbal ability and deductive reasoning are important determinants among intellectual abilities of higher secondary students for high involvement in studies. Natasha Slesnick, Jillian L. Prestopnick, (2005), studied "the perceptions of the home environment and youth behaviors". Adolescents perceived a more negative home environment than did their parents, and parents rated their youth as having more externalized problems than did the youths themselves.

## NEED AND IMPORTANCE OF THE STUDY

Reasoning ability plays a significant role in one's life. It controls not only cognitive activities but also influences the total behaviour and personality. Nowadays for all important courses the selection process is through entrance tests and screening tests. In such a situation one who has good knowledge and reasoning skill alone can get selected through entrance examination. It is essential in this context to study about the reasoning ability of higher secondary students.

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The higher secondary stage is a crucial period in the life of an individual. Stanly Halls calls this period one of great stress and strain, storm and strife. So they need a good family environment. At all levels of education, it is essential to provide a good family environment for the students. Home environment helps the students to learn to participate in cultural activities, social activities, recreation activities, and to excel in communication, expression, adjustment, knowledge, behaviour etc. The favourable home environment facilitates learners' achievement and ability. Therefore the investigator intended to investigate the reasoning ability and home environment of higher secondary students for the present study.

## METHODOLOGY

### Sample

The investigator adopted the normative survey method for the present research. A sample of 800 first year higher secondary students were selected by using the random sampling technique from 15 schools in Villupuram district.

### TOOLS USED

Reasoning ability - constructed and validated by Sadhana Bhatnagar (1986)

Home Environment - constructed and validated by Dr.Karuna Shankar Misra (1983).

### OBJECTIVES OF THE STUDY

1. To find out the level of reasoning ability in higher secondary students.
2. To find out the level of the home environment of higher secondary students.
3. To find out if there exists any significant difference between higher secondary boys and girls in their reasoning ability and home environment.
4. To find out the significant relationship between their reasoning ability and home environment.

### HYPOTHESES OF THE STUDY

1. The reasoning ability of first year higher secondary students is high.
2. The home environment of first year higher secondary students is most favourable.

3. There is no significant difference between higher secondary boys and girls in their reasoning ability and home environment.
4. There is no significant relationship between reasoning ability and home environment of Higher Secondary Students.

## ANALYSIS AND INTERPRETATION

Descriptive and differential analysis has been applied.

### I. Descriptive Analysis

On the basis of reasoning ability scores the students have been divided into high, average, low and very low reasoning ability groups, which has been given in Table I.

**Table 1**

#### CLASSIFICATION OF SUBJECTS BASED ON REASONING ABILITY SCORE

Classification	N	Mean	Standard deviation
Very low Reasoning Ability	212	28.42	8.99
Low Reasoning Ability	181	27.21	7.64
Average Reasoning Ability	301	29.12	8.16
High Reasoning Ability	106	28.32	7.88
Total	800	29.51	8.42

The result reveals that, most members of the sample have average reasoning ability.

### II. Descriptive Analysis

The home environment scores of the students were analyzed and are presented in table 2.

**Table 2**

#### SHOWING MEAN AND STANDARD DEVIATION OF HOME ENVIRONMENT SCORE

	N	Mean	Standard deviation	Minimum score	Maximum score
Home Environment	800	223.11	44.01	61	382

The result reveals that, most members of the sample have a favourable home environment.

### II. Differential Analysis

The reasoning ability scores of boys and girls were analyzed and the details are given in table 3.

**Table 3**  
**SHOWING T-TEST FOR STUDENTS' REASONING ABILITY ON THE BASIS OF GENDER**

Gender	N	Mean	SD	t-value	LS
Boys	412	32.22	9.02	2.78	S
Girls	388	29.81	7.73		

The calculated t-value 2.78 is significant at 0.01 level. It confirms that there is significant difference in students reasoning ability on the basis of gender. Hence the stated hypothesis is rejected. To sum up boys and girls differ significantly in their reasoning ability and boys are better in this regard.

**Table 4**  
**SHOWING T-TEST FOR STUDENTS HOME ENVIRONMENT ON THE BASIS OF GENDER**

Gender	N	Mean	SD	t-value	LS
Boys	412	222.27	44.68	0.552	NS
Girls	388	223.99	43.32		

The calculated t-value 0.552, is not significant, confirms that there is no significant difference in students home environment on the basis of gender. Hence the stated hypothesis is accepted. To sum up boys and girls do not differ significantly in their home environment.

**Table 5**  
**SHOWING CORRELATION BETWEEN REASONING ABILITY AND HOME ENVIRONMENT OF HIGHER SECONDARY STUDENTS**

	Home environment
<b>Reasoning ability</b>	0.628**

\*\* Significant at 0.01 level

The result shows that there is a positive and significant correlation between reasoning ability and home environment of first year higher secondary students.

**FINDINGS**

1. First year higher secondary students have average reasoning ability.
2. First year higher secondary students have a favourable home environment.

3. Significant difference is found between higher secondary boys and girls in respect of their reasoning ability and boys show better in reasoning ability than girls.
4. Boys and girls do not differ significantly in their home environment.
5. There is a positive significant relationship between reasoning ability and home environment.

**RECOMMENDATIONS**

The present study renders a detailed view about higher secondary students' reasoning ability and home environment. Based on the important findings stated earlier the following recommendations are suggested. Higher secondary students must be offered more opportunities to think. They must be allowed to interpret symbols and concepts by using various teaching aids in the class rooms. The learning materials to be presented to the students should be made more meaningful, interesting, attractive and useful. The cultivation of proper habits of correct thinking will surely improve one's reasoning ability. Family members should orient the young ones in the social skills like developing social attitudes, co operating with other social members, learning to accept the feelings of others, recognizing others etc. In addition to the above recommendations the government and concerned authorities should provide a harmonious environment in the schools for better living.

**REFERENCE**

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