

REASONING ABILITY AND GENDER OF THE TEENAGERS

Dr. Lilu Ram Jakhar

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

ABSTRACT

The study examines the reasoning ability of the school students in relation to their gender. Reasoning ability is one of the factors to determine the scientific attitude of the individual, which is open mindedness, a desire for accurate knowledge, confidence in procedures of seeking knowledge and the inference comes through facts and observations. Reasoning ability is very important for rational and conscious decision making for an individual. The sample selected in the present study comprised of 416 students out of which 408 were boys and the equal number of the girls studying in government schools of the city Chandigarh. Descriptive survey method was employed to collect the data. Analysis of the data shows that mean score of the reasoning ability is more among girls than boys. The finding of the study revealed that there is no significant difference in the reasoning ability of the teenager students on the basis of gender.

INTRODUCTION

Human is blessed with the intelligence and natural ability which differentiates it from animals. With the physical development and growth the innate abilities also grows. Education helps in refining the innate abilities of the individual. Science education furthers the cognitive abilities by inculcating scientific attitude, reasoning ability and rationality among the learners. Science helps in gaining knowledge and hence understanding of nature and the natural world. Science letting us know that the things which we can feel, see, hear, smell, and taste to the tiniest details are based on identification, observation, experimental investigation, description and theoretical explanation of the natural phenomenon. Science helps the students in developing the understanding and forms explanation of the natural phenomenon. The students are required to be so as to able to think for themselves and to face the life ahead through scientific means. Science also equips them to use their intellect to think rationally and engage with the fellow citizens in building and protecting

open, decent and vital society. Reasoning ability is the combination of many qualities and virtues, which is reflected through the behavior and action of the person. Reasoning plays a significant role in the adjustment to the environment and problem solving of the individual. Reasoning determines one's cognitive activities and also influences the behaviour and personality. Sonnleitner, Keller, Martin, and Brunner (2013) found that complex problem solving substantially co-related to reasoning and to also with different indicators of educational success. Anwar (2015) investigated the reasoning ability and intelligence of secondary school students of classes IX and X in the Lucknow city and found that male students have better intelligence as compared to female students and no significant difference in the reasoning ability of male and female secondary school students was reported. Bhat (2016) studied the contribution of reasoning ability components to explain the variation in academic achievement of class X students. The investigator also found that reasoning ability components have predictive power to explain the academic achievement of the X class students. Out of the different components the maximum contribution was that of the deductive reasoning ability component. The study by Kanimozhi and Ganesan (2017) revealed that only 0.66 % of higher secondary students are good in reasoning ability and found that there exists a positive correlation between mathematical achievement and reasoning ability. Investigators further found no significant difference in reasoning ability of males and females of higher secondary. The result of the study by Rani (2017) revealed that, there was significant high positive correlation between reasoning ability and academic achievement among secondary school students. It was found that male students possess higher reasoning ability than that of female students and concluded that the age and the type of the school also influence the student's reasoning ability and academic achievement. Thus the different researches shows that reasoning ability is linked to academic achievement, problem solving and to the success of an individual.

EMERGENCE OF THE PROBLEM

The world today is moving at a faster pace and we are heading towards becoming more stress and perplexed due to the technological advancements. In this era of globalization everyone is busy in his or her own life to prove that he/she is successful. In this race of achieving success people sometimes forget and neglect things which are important for them. Parents, friends and relatives aspires that child to be more intelligent and successful in life and create undue pressure on them. The emotional as well as the personal growth of child is hampered to a great extent. Success of an

individual depends upon the capability of the child to cope with problem solving ability and hence the growth and adjustment of the child is determined by the development of certain basic skills. Different studies have demonstrated that success and academic achievement of the students is linked to the processing skills of the students and the reasoning ability of the child. The reasoning ability of the child plays a significant role in the balance development of personality and formation of the right kind of attitudes. Reasoning ability helps in developing open mindedness, skepticisms and also makes the child self - confident. Reasoning ability also affects the academic achievement of the students to a greater extent. Personality of the child also influenced by the gender orientation and hence the academic achievement. Thus the Reasoning ability & gender could be the significant factors that can predispose young children to immediate and long term personality consequences and success in life. Therefore the need of the hour is to check whether the gender of adolescents has any impact on the reasoning ability of the students. Investigator also deems it appropriate to assess the reasoning ability of the teenager in the changing societal setup.

OBJECTIVES OF THE STUDY

The main objectives of the study are:

1. To study and compare the reasoning ability of boys and girls.
2. To study the difference in reasoning ability of the students on the basis of gender.

HYPOTHESIS OF THE STUDY

The study has been designed to test the following null hypothesis:

1. There exists no significant difference in reasoning ability of teenage boys and girls.

PROCEDURE AND TOOLS OF THE STUDY

The descriptive survey method was used to collect data by employing the tools namely; Reasoning Ability Scale (SAS-BM) developed and standardized by Bajwa and Mahajan (2012). Data related to gender and the variable of reasoning ability were collected by following the proper procedures mentioned in the respective manuals from the government schools of Chandigarh, all the sections were covered in four randomly selected schools out of 114 schools of the city Chandigarh to have a comprehensive view of the reasoning ability of the students. The Sample consists of 416 students out of which 208 were boys and 208 were girls. The data so collected was scored and tabulated to

interpret further. 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 reasoning ability scores were approximately normal.

Table 1: Difference in the Reasoning Ability of Boys and Girls

Variable	Groups	Total Students	Mean	Standard Deviation	t-Value	Remarks
Reasoning Ability	Boys	208	57.45	10.91	0.124	Not Significant
	Girls	208	59.03	11.26		

Degree of freedom = 207; Table value of t at 0.05 level of significance = 1.96; Table value of t at 0.01 level of significance = 2.58.

Table1 and figure 1 shows that the mean score of the reasoning ability of the boys is 57.45 and that of the girls is 59.03; therefore the girls possess more reasoning ability than boys. There is difference of 1.58 in reasoning ability score in the favour of girls.

Figure1. The mean scores of Reasoning Ability of Boys and Girls



The figure 1 clearly indicates that there is difference in mean scores of reasoning ability of the boys and girls in favour of the girls. However, to check whether the difference in reasoning ability is significant or not the t-ratio for reasoning ability of boys and girls was calculated. It came out to be 0.124 for $df=207$, which is even less than the table value of 1.98 at 0.05 level of significance. This shows that the calculated value of t is not significant even at 0.05 level of significance. So it can be stated that there exists no significant difference in the reasoning ability of boys and girls at 0.05 level of significance. Hence, the hypothesis that “there exists no significant difference in reasoning ability of teenage boys and girls” is retained. Hence there is no significant difference in reasoning ability of the teenage boys and girls.

FINDINGS AND CONCLUSIONS

On the basis of data analysis and interpretation of the results obtained through various statistical techniques in the present study, it can be concluded that: 1. There is difference of 1.58 in reasoning ability score in the favour of girls. 2. The study shows that there is no significance difference in reasoning ability of teenage boys and girls. Therefore the study is in agreement to the results obtained by Kanimozhi and Ganesan (2017), which stated that males and females do not differ in the reasoning abilities and contrary to the findings of the study by Rani (2017), which revealed that male possess higher reasoning ability as compared to their female counterparts. Thus the study has an important implication that the reasoning ability is not gender specific rather it is an individual characteristic and no discrimination be made with regards to career options for the teenagers.

REFERENCES

- Anwar, E. (2015). A Study of Reasoning Ability of Secondary School Students In Relation To Their Intelligence. *IOSR Journal of Humanities and Social Science (IOSR-JHSS)*, 20(5), Ver. VII (May. 2015), PP 29-31.
- Bajwa, S. & Mahajan, M. (2012). *Manual for Reasoning Ability scale*. Agra: National psychological corporation.

- Bhat, M. (2016). The Predictive Power of Reasoning Ability on Academic Achievement. *International Journal of Learning, Teaching and Educational Research*. 15. 79-88.
- Kanimozhi, P. & Ganesan, P. (2017). Reasoning ability among higher secondary students. *International Journal of Research - Granthaalayah*, 5(6), 471-475. <https://doi.org/10.5281/zenodo.822356>.
- Kulshrestha, S.P. (2008). Scientific attitude. In Ed. *Teaching of Physical Science*, Meerut: R. Lal Book Depot.
- Purkey, W. (1988). *An Overview of Self-Concept Theory for Counselors*. ERIC Clearinghouse on Counseling and Personnel Services, Ann Arbor, Mich. (An ERIC/CAPS Digest: ED304630)
- Rani, K.V. (2017). Reasoning Ability and Academic Achievement among Secondary School Students in Trivandrum. *i-manager's Journal on School Educational Technology*, 13(2), 20-30. <https://doi.org/10.26634/jsch.13.2.13828>
- Rao, P. (2005). Teachers' objective in science. *International journal of Science and Education*, 8, 54-78.
- Rathus, S. A. & Nevid, J. S. (2003). *Psychology and the Challenges of Life*, 8th Ed. . New York: John Willey and Sons Inc.
- Saraswat, R. K. (2011). *Manual of Self-concept inventory*. Agra: National psychological corporation.
- Siddique, N. & Yadav, M. S. (2001). *Teaching of Physical Science*, New Delhi: Vikas Publishing House.
- Sonnleitner, P., Keller, U., Martin, R., & Brunner, M. (2013). Students' complex problem-solving abilities: Their structure and relations to reasoning ability and educational success. *Intelligence*, 41(5), 289-305.