

Impact of Cultural Background on Cognitive Abilities of Boys and Girls

Dr. Ajay Kumar

Psychologist, Psycho-Yogic Center, Muzaffarpur, (Bihar) India

Abstract

Culture has a far reaching impact on cognitive and non-cognitive development of an individual. The impact of culture on the child begins from his early life and its affect throughout his life. The present study tries to investigate the impact of sex on cognitive variables. It is because some sex differences have been recognized in cognitive abilities. Boys and girl are reared in the similar family environment. In this sense they do not belong to two cultural groups but the rearing and socialization of these two groups are distinct which give them a sense of being a boy and a girl. Here the role of culture becomes prominent and in this sense they may be called to belong to different cultures. This differences between sexes results in differential cognitive and intellectual abilities of these two sex groups.

Key Words: Culture, Cognitive variable, Family, Socialization, Cognitive ability

Introduction

Sex differences are found not only in intelligence but in other cognitive mental functions. Earlier studies reported that sex groups differences in achievement. Michaels (1978) reported that boys and girls differed in their mathematics achievement. Home or school environment that lead to differential reinforcement has been found to affect achievement.

Culture works as an agent in socialization processes. The study done to find out the impact of culture on cognitive ability mostly come to the conclusion that culture affects the development of cognitive ability and that different cognitive abilities produce differences in various cognitive abilities.

Culture has a far reaching impact on cognitive and non-cognitive development of an individual. The impact of culture on the child begins from his early life and its affect throughout his life. It is due to this impact of culture that a man becomes the model of his

culture. Culturally rich societies are found to be rich in cognitive abilities where as culturally deprived groups are lower in their cognitive abilities also. Several types of cultural features affect the individual differentially.

Heilman (1933) after surveying different studies about sex differences in intelligence come to the conclusion that there are many defects in studies that attempted to reveal sex differences. He suggested that the two sex groups be equalized on various factors to make a reliable study of sex difference in intellectual ability.

Methodology:

- (a) **Sample:** This study was planned to be conducted on 10+2 school of Muzaffarpur, (Bihar). The total number of students for the study was 400. Both boy's and girl's students were included in the sample. The students have similar back ground and most of the students come from

rural families. Their standard of teaching is more or less equal. Their parents provide equal facilities to their children so these 8 schools were selected for the purpose of the study and all students 10 and 10+2 classes, only.

(b) Tests and Tools:

- (i) General Intelligence Test (GIT)
Developed by Mohsin (1968)
- (ii) Standard progressive Matrices (SPM) Constructed and Revised scale of Raven, (1956)
- (iii) Verbal, Numerical and abstract Reasoning Test (VNART) Dr. R.N. Singh, It is a battery of three subjects consisting of VRT, NRT, ART.
- (iv) Personal data Sheet

Procedure: The mean of Boys and girls were computed using t.test of significance. The purpose of the research was to verify the following hypothesis –

- (i) Boys and girls would differ in their verbal ability as measured by GIT.
- (ii) Boys and girls would not differ in their non-verbal ability as measured by SPM.
- (iii) Boys and girls would differ in the verbal reasoning ability as measured by VRT.
- (iv) Boys and girls would differ in their numerical reasoning ability as measured by NRT.
- (v) Boys and girls would not differ in their abstract reasoning as measured by ART.

Table - 1: Mean, SD and t-ratio for GIT scores of Boys and Girls

Groups	N	M	SD	t-ratio	Sig. level
Boys	230	94.12	17.26		
				.63	NS
Girls	170	95.20	16.55		

Table - 1 indicates that the mean score of girl students is slightly higher than that of boy students. However, the obtained t-ratio is not significant meaning thereby that there is no real difference between the two sex groups. The slight difference between the

two groups indicates a trend that girls excel in their verbal ability, however, this result is not fully confirmed. The hypothesis of real difference between boys and girls has not been confirmed.

Table - 2 : Mean, SD and t-ratio for SPM scores of Boys and Girls

Groups	N	M	SD	t-ratio	Sig. level
Boys	230	33.01	11.52		
				1.08	NS
Girls	170	34.24	11.22		

Table - 2 indicates that the mean score of girls is higher than that of boy students. However, the obtained t-ratio is not significant. It means that there is no real difference between boys and girls with

regards to their non-verbal ability. The hypothesis has been fully confirmed. Girls excel in their verbal ability but such a trend is not observed for non-verbal abilities.

Table - 3 : Mean, SD and t-ratio for VRT scores of Boys and Girls

Groups	N	M	SD	t-ratio	Sig. level
Boys	230	22.12	6.42		
				4.09	.01
Girls	170	24.62	6.12		

Table - 3 show that the mean VRT score of girls is higher than that of boys. It means that girls have higher verbal reasoning than boys. The obtained t-ratio is also significant

at .01 levels. It again confirms that there is a real difference between boys and girls with respect to the verbal learning. The hypothesis is fully confirmed.

Table - 4 : Mean, SD and t-ratio for NRT scores of Boys and Girls

Groups	N	M	SD	t-ratio	Sig. level
Boys	230	21.12	7.42		
				1.86	NS
Girls	170	19.72	7.71		

It is clear from Table - 4 that the mean score of boys is higher than that of girls. It means that boys show higher numerical reasoning than girls. But the obtained t-ratio is not significant, meaning thereby that is no real

difference between the two means score and if there is any difference, it has only been obtained by chance. The hypothesis of real difference between boys and girls is not confirmed.

Table - 5 : Mean, SD and t-ratio for ART scores of Boys and Girls

Groups	N	M	SD	t-ratio	Sig. level
	230	18.12	6.42		
				.25	NS
Girls	170	17-91	8.42		

Table - 5 indicates that there is no difference between the mean scores of boys and girls. The t-ratio is not significant. It again indicates that there is no real difference between the mean score of two sex groups. Both boys and girls are similar in their abstract learning. The hypotheses have been confirmed. Thus boys and girls have similar ability of abstract reasoning.

of different culture have been found to differ in their cognitive abilities. Intelligence is the most important cognitive facture and individual of different cultures and social classes have been found to differ in their intellectual ability. Sex groups of people differ in their intellectual and cognitive ability. Creativity is the second most important cognitive ability which has been found to differ from culture to culture. Both intelligence and creativity are cognitive

In the conclusion, cognitive abilities are closely associated with culture. Individuals

features related to cultural factors. Therefore, both are supposed to be related to each other.

Lastly, I conclude that sex is a factor that

make differences in intellectual and other cognitive factors. Boys and girls have different ability as observed by present research.

References:

1. Armstrong, C.P. (1932): Sex differences in mental functioning of school children; *J. Appl. Psychol.* 16, 559-571.
2. Auld, B.F. Jr. (1952) : Cultural influence on Personality test responses unpublished manuscript In Auld, F., Influence of social class on Personality test responses, *Psychol Bull.*, 49,318-322, 1962.
3. Bookman, M.E. (1972) : Potentials of mental abilities : Ethnic, Socio-economic and sex difference, *Amer. Edu. Res. J.* 9, 1-12.
4. Cole, M and Bumens, J.S.. (1971) : Cultural differences and inference about Psychological Processes, *American Psychologists*, Vol. 26, 867-876.
5. Commins, W.D. (1928): More about sex differences, *School and societies.* 28, 599-600.
6. Das, J.P., and Singh P.S. (1975) : Caste, Class and cognitive competence, *Indian educational Review*, Vol. 10, 1-17.
7. Das, J.P. (1977): Cultural deprivation and cognitive competence, *International Review of Research in Mental retardation*, Vol. 6, (a), 2-53.
8. Gages, A.I. (1961) : Sex differences in reading ability, elementary school., *J.*, 61,431-434.
9. Davidson, G.R. and Free body, P.R. (1988) : Cross-cultural Perspective on the development of meta cognitive thinking, *Hiroshima Forum For Psychology.*, Vol. 13, 21-23.
10. Dawson, J.L.M. (1972): Effects of sex hormones on cognitive style in rats and men *Behavior genetics*, 2,20-41.
11. Heilman, J.D. (1933): Sex differences in intellectual abilities. *J. Educ. Psychol.*, 24,47-62.
12. Hilton, T.L. and Berglund, G.N. (1974): Sex differences in mathematics achievement: A longitudinal study, *J. edu. Res.*, 67,231-237.
13. Johnson, D.D. (1973-74): Sex differences in reading across culture, *Reading Research Quarterly*, 9 (1), 67-86.
14. Kumar, B. (1981): A comparative study of cognitive and non-cognitive Factors of high school tribal and non-tribal pupils of Singhbhum, Ph.D. Thesis, Patna University.
15. Michaels, J.W. (1978) : Effect of differential rewarding and sex on math. Performance, *J. educ., Psychol.*, 70, 565-573.
16. Peltier, G. (1968): Sex differences in the school: Problem and Proposed solution, *Phi Delta Kappan*, 50,182-185.