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Research Article

Triarchic Abilities Among Adolescents: Influence of Gender and Area

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ABSTRACT

The aim of the present study was to assess triarchic abilities among adolescents and evaluate the influence of gender and area on their Triarchic abilities. Sternberg Triarchic Abilities Test (STAT) and Shyness tests (SAT) were administered to a sample of 640 Adolescents between the age of 12-19 yrs. Data was subjected to statistical analysis to find out the differences in the level of triarchic abilities and the influence of gender and area on their triarchic abilities. Findings of the study suggest that that gender and area significantly influences the levels of triarchic abilities and male adolescents had higher levels of triarchic abilities compared to female adolescents. Further significant influence of urban and rural area on the levels of triarchic abilities

Keywords: Intelligence, Triarchic abilities, Analytical ability, Practical ability; Creative ability

INTRODUCTION

Every individual has the abilities to accomplish or succeed, but every individual is not able to achieve it. The reason for this may be individual difference in the innate abilities. Robert Sternberg (1995) opined that "mental activity is central to one's life in real-world environments. Individuals "succeed" in life when they use mental skills to adapt to, select, and shape external environments". He proposed Triarchic Theory of intelligence in 1986. His theory divides intelligence into three dimensions that works together namely: Analytical or componential, Creative or experiential and Practical or contextual. Analytical intelligence is needed during analyzing, evaluating, criticizing, reasoning, and judging indicating problem solving ability which involves some form of thought. Creative intelligence is expressed while discovering, dealing with innovation, and creating which involves the ability to deal with new situations using past experiences and current skills. Practical intelligence is used in application and implementing which allows values to be identified and prioritized, and later used to choose the best decisions for the situation. The theory predicts that "intelligent" people will recognize their strength and weaknesses compensate for their weaknesses and make use of the most of their strengths to succeed. A balance between analytical, creative, and practical abilities is regarded as the key to success (Kaufman & Singer, 2003; Sternberg, 2003).

Adolescence is identified as the period in human growth and development representing significant transition in the life span that occurs after childhood and before adulthood, from ages 10 to19 (WHO). According to Santrock (1993) "Adolescence is the developmental period of transition between childhood and adulthood that involves biological cognitive and social changes". It is through this period that teenagers come to understand the ground rules of commitment, decision making and assessment (Santrock, 2003). Adolescence is a period of rapid cognitive development. Piaget illustrates adolescence as the stage of life in which the individual's thoughts start taking more of an abstract form. This allows the individual to think and reason in a wider perspective. The thoughts, ideas and concepts developed at this period of life have significant influence on one's future life.

Since the early 1900s gender differences in cognitive, social, and personal characteristics have been investigated. Researchers have identified differences in several specific cognitive skills. The most consistent gender differences are found in verbal, language, and certain spatial skills. Individuals differ in their ability to understand complex ideas to adapt effectively to the environment, to learn from experience, to engage in various forms of reasoning, to overcome obstacles. Several studies have confirmed the influence of demographic variables such as gender, geographical area family background and education on intelligence or our abilities. In the present study an attempt is made to find out the association between traiarcic abilities

and gender and area. It is hypothesized that gender and area do have significant influence over trairchic abilities.

METHOD

Sample

For the purpose of the present study, 640 adolescents consisting of 320 girls and 320 boys were administrated STAT on the selected sample, as a main data gathering tool for the study. The test consisted of profile and the main data related queries. Of the total 640 students included in the study 320 were adolescent boys and the rest were girls. They were studying in the schools and colleges of rural and urban areas of Udupi District in Karnataka.

TOOLS

1. Personal data sheet: personal and socio demographic information is collected in this sheet.

2. TRIARCHIC ABILITIES TEST (STAT)

The STAT was developed to assess the components of Intelligence namely analytical, creative and practical skills using multiple choice questions. Level H of the test (Sternberg 1993) was designed to measure cognitive skills among secondary school and college students. The STAT scale is composed of nine subscales: Analytical–verbal, quantitative, and figural, Practical–verbal, quantitative, and figural, and Creative– verbal, quantitative, and figural. Thus there are a total of 36 items. Each multiple-choice item in the STAT has four different response options; from which the correct response could be selected. A scoring key is used for computing the scores.

Scoring and Data Analysis:

Responses were scored using the answer key. Correct answer gets a score of 1. Sum of all the items yield the final composite score. Maximum possible score is 36 (12 for each area)

The Chi Square test was employed to test the significance of the students and contingency coefficient was applied to find out the influence of gender and area on triarchic abilities.

The table 1 represents the distribution of male and female adolescents by various levels of triarchic abilities and results of test statistics. Table 2 shows the distribution of urban and rural adolescents by various levels of triarchic abilities and result of test statistics

RESULTS

Table 1: Distribution of male and female adolescents by various levels of triarchic abilities and results of test statistics

Triarchic abilities	Levels of Triarchic abilities		Male	Female	Total	Test statistics
Analytical ability	Low	Frequency	159	200	359	CC=.160; p=.000
		Percent	50.6%	61.5%	56.2%	
	Medium	Frequency	144	125	269	
		Percent	45.9%	38.5%	42.1%	
	High	Frequency	11	0	11	
		Percent	3.5%	0%	1.7%	
Creative ability	Low	Frequency	219	234	453	CC=.121; p=.009
		Percent	69.7%	72.0%	70.9%	
	Medium	Frequency	86	91	177	
		Percent	27.4%	28.0%	27.7%	
	High	Frequency	9	0	9	
		Percent	2.9%	0%	1.4%	
Practical ability	Low	Frequency	192	203	395	CC=.106; p=.026
		Percent	61.1%	62.5%	61.8%	
	Medium	Frequency	115	122	237	
		Percent	36.6%	37.5%	37.1%	
	High	Frequency	7	0	7	
		Percent	2.2%	0%	1.1%	
Total	Low	Frequency	163	176	339	CC=.009; p=.041
		Percent	51.9%	54.2%	53.1%	
	Medium	Frequency	145	149	294	
		Percent	46.2%	45.8%	46.0%	
	High	Frequency	6	0	6	
		Percent	1.9 %	0 %	.9%	

Table.2: Distribution of adolescents from urban and rural areas by various levels of triarchic abilities and results of test statistics.

Triarchic abilities	Levels of Triarchic abilities		Rural	Urban	Total	Test statistics
Analytical ability	Low	Frequency	194	165	359	
		Percent	60.6%	51.7%	56.2%	
	Medium	Frequency	126	143	269	
		Percent	39.4%	44.8%	42.1%	
	High	Frequency	0	11	11	
		Percent	.0%	3.4%	1.7%	
Creative ability	Low	Frequency	226	227	453	CC=.096; p=.052
		Percent	70.6%	71.2%	70.9%	
	Medium	Frequency	93	84	177	
		Percent	29.1%	26.3%	27.7%	
	High	Frequency	1	8	9	
		Percent	.3%	2.5%	1.4%	
Practical ability	Low	Frequency	205	190	395	CC=.110; p=.020
		Percent	64.1%	59.6%	61.8%	
	Medium	Frequency	115	122	237	
		Percent	35.9%	38.2%	37.1%	
	High	Frequency	0	7	7	
		Percent	.0%	2.2%	1.1%	
Total	Low	Frequency	176	163	339	CC=.073; p=.184
		Percent	55.0%	51.1%	53.1%	
	Medium	Frequency	143	151	294	
		Percent	44.7%	47.3%	46.0%	
	High	Frequency	1	5	6	
		Percent	.3%	1.6%	.9%	

Influence of Gender

Influence of gender: An analysis of the table 1shows that on the whole 56.2% of the selected sample low levels of analytical ability, 42.1% of them had medium levels of and 1.7% had high levels of analytical ability. Chi square test showed a significant difference between these groups of frequencies, adolescences with higher analytical abilities were significantly low compared to other levels. Further, gender-wise observations revealed a significant association between gender (CC=.121; p=.009), which clearly indicates that male adolescents have higher analytical ability compared to female adolescents.

Creative ability: The results in this subscale reveal that the higher percentage of the selected sample i.e. 70.9% had low level of creative ability; 27.7% of them had medium level and only 1.4% had low level of creative ability. Obtained contingency coefficient is .121 with a p= .009 indicating significant difference between males and females in their creative ability.

Practical ability: It is clear from the findings that 61.8%, 37.1% and 1.1% of the sample had low, medium and high level of practical ability respectively. Indicating adolescents with high level of practical ability are significantly low. Gender-wise observations revealed a significant association between levels of practical ability (CC=.106; p=.026), which clearly shows that there is significant difference between male and females with respect to practical ability.

An analysis of the total result shows contingency coefficient value of .009, which is significant at .041 levels. This clearly shows that gender significantly influences the levels of triarchic abilities. Males had higher levels of triarchic abilities compared to females.

INFLUENCE OF AREA

Analytical ability and area: An analysis of the tables shows that higher percentage i.e. 60.6% rural adolescents and 50.1% of urban adolescents had low level of analytical ability and 39.4% of rural and 44.8% of urban adolescents of the of the selected sample had medium level of analytical ability. On the whole there is a significant association between levels of an analytical ability and area (CC=.149; p=.001), where it is clear that there is significant difference between adolescents from urban area compared to the adolescents from rural area in their analytical ability.

Creative ability and area: An analysis of scores in creative ability of the selected sample revealed that 70.6% rural adolescents and 71.1% of urban adolescents had low level of creative ability; 29.1% of rural and 26.3% of urban adolescents had medium level of creative ability and a remaining 3% of rural and 2.5% of the urban adolescents had high level of creative ability. Area wise analysis of creative ability revealed a non-significant

association (CC=.096; p=.052), which clearly shows that adolescents from rural area had higher creative ability compared to the adolescents from urban area.
Practical ability and area: An analysis of scores in practical ability of the selected sample revealed that 64.1% rural adolescents and 59.6% of urban adolescents had low level of practical ability; 35.9% of rural and 38.2 % of urban adolescents had medium level of practical ability and 7% of the urban adolescents had high level of practical ability. Significant association between levels of practical ability and area (CC=.110; p=.020) was observed, which clearly shows that adolescents from urban area had higher practical ability compared to the adolescents from rural area.
Over all analysis of the result shows a contingency coefficient value of .073, which is non-significant at .184 levels. Thus, it is evident that there is significant influence of urban and rural area on the levels of triarchic abilities and urban adolescents had higher levels of triarchic abilities compared to the rural adolescents.

DISCUSSION

The main findings of the study are:

- Majority of the selected sample had lower level of triarchic abilities
- Significant gender differences are present in the level of triarchic abilities
- Adolescents from urban area had higher analytical and practical abilities compared to the adolescents of rural area
- Adolescents of rural area had higher level of creative ability compared to the adolescents form urban area

Findings of the present study as shown in the table 1, has brought out the fact that there is significant association between triarchic abilities and gender. Adolescent males had better analytical and practical ability is supported by the findings of a study conducted by Halpern, D.F., & LaMay, M.L. to explore the sex differences in intelligence. Findings of the study suggests reliable sex differences on tests of cognitive abilities and males have better ability to manipulate visual images in working memory (Halpern, D.F., LaMay, M.L.). More studies need to be carried on to support the findings of this study.
Findings presented in the table 2 shows significant influence of urban and rural area on the levels of triarchic abilities and urban adolescents had higher levels of triarchic abilities compared to the rural adolescents. This is supported by the findings of Nelson (1942), which suggests that the rural groups fall below urban groups in intelligence test scores and lower achievements of rural people on intelligence tests are due to differences in environmental backgrounds. According to Sternberg and Lubart (1995) creativity is area specific. It is quite possible that adolescents from rural area may be deprived of modern technological touch while struggling to understand the world with a limited exposure to teaching learning process. But his/her creative tendencies will have enough scope to build and explore themselves in a bigger frame than that of urban adolescents presented with. Enriched environment may provide more opportunity to interact and learn and intern develop analytical and practical abilities.
This study has provided an opportunity to identify one's own strengths and weaknesses. Identification of potentials and shortcomings helps to focus on these aspects and to take measures to overcome the shortcomings. Adolescents need help in developing the abilities in which they demonstrate weaknesses. Thus, developing appropriate techniques to improve their abilities which would help boost self-confidence.
Tools used here is a self-reporting and hence self-rating bias could not be eliminated. STAT in regional language i.e. Kannada, was not used in the study Regardless of these limitations, the present research has made a significant contribution to the most needed analysis of the effects of demographic variables such as area and gender on triarchic abilities.
The triarchic theory is still in growth and it calls for more scientific results to ensure its significance, and to adapt it, to reach successful intelligence as to improve our daily life. Practical ability is essentially a different kind of ability from analytical and creative abilities calls upon future studies.
The present study has attempted to throw light on identifying the potentials and weaknesses of adolescents and to find out the reason for failures despite of possessing certain abilities. Further this study has brought out the fact that demographic factors such as gender and area have significant influence on triarchic abilities

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