

Relation of Creativity and Educational Achievement in Adolescence

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ABSTRACT Each period of human development brings with it new competency requirements, challenges, and opportunities for personal growth. When an individual is in the phase of adolescence, his creativity and personality is being moulded by various surrounding factors. It is well recorded that the development of an individual doesn't occur in vacuum but is governed by his immediate surroundings. Creativity cannot be forced but should be nurtured and encouraged for its full and real emergence. For nurturing and encouraging the internal potentials, the fostering of external environment is very necessary and important. By setting up the conditions of psychological safety and freedom, family can create the most enduring environment for the emergence of constructive creativity. Environmental factors have a great impact on creative potential. Similarly, level of educational achievement too appears to be related to the creativity level of adolescents, with the objective of finding the influence of academic achievement on creativity, a study was conducted on adolescents in a sample of 240 subjects, (120 male students and 120 female students) of ages 15 to 17 years from Senior Secondary schools of Jodhpur city. Passi's Tests of Creativity (PTC) was used to measure the creativity level; Educational Achievement was measured on the basis of percentages of aggregate marks obtained by the subjects in their previous examination. The results indicate that (i) the high achiever group of adolescents were more alike and shared similar traits overriding the impact of gender, when gender differences between high achiever group on creativity was observed. (ii) There were gender differences among low achiever group on creativity. (iii) Gender is less impacting than the level of achievement.

INTRODUCTION

Each period of human development brings with it new competency requirements, challenges, and opportunities for personal growth. Different periods of life present certain prototypic challenges and competency demands for successful functioning. There are many pathways through life and, at any given period, people vary substantially in how successfully they manage their lives in the milieus in which they are immersed (Bandura 2006). The child on his way to becoming an adult, during adolescence learns the tasks of adulthood and forms an identity for himself.

Adolescence is a process, rather than a period of achieving the desired growth, attitude, beliefs and methods for effective participation in society as an emerging adult. The way in which adolescents develop and exercise their personal efficacy during this transitional period can play a key role in setting the course their life paths take. Adolescents have to manage major biological, educational, and social role transitions concurrently (Bandura 2006). The transition to middle-level schools involves a major environmental change that taxes personal efficacy.

However, in our country adolescence is not seen as a distinct stage and hence the needs of the adolescence are not given much importance

over and above their childhood needs. But it is empirically well-established that adolescence marks an important time in the process of human development, the passage between childhood and adulthood (NASW 2003).

When an individual is in the phase of adolescence, his creativity, quest for self-identity and personality is being molded by various surrounding factors. Creativity is a critical aspect of a person's life starting from embryonic existence onward through adulthood. Creativity is the ability to see something in a new way, to view and solve problems in different ways, untried and unusual, and to engage in mental and physical experiences that are novel, unique or different.

Creative individuals are as achievement-oriented as their less creative counterparts. Achievement in the area of education is very important for children, especially during adolescence. Educational achievement has become an index of success in this highly competitive world, in the present century this is marked as safe corner for the successful future and career security.

Family also plays an important role in shaping the creative thinking of children. Most young people are able to navigate these adolescent years successfully with the support of caring families. Children lay the foundation for their attitudes toward people, things and life in general through their contacts with family members. Parents serve

as significant interpreters for children of information about the world and children's abilities. Close parent/adolescent relationships, good parenting skills, shared family activities and positive parent role modelling all have well-documented effects on adolescent health and development.

The present study therefore, was conducted with the following objectives:

1. To find out relation between educational achievement in adolescents and their creativity.
2. To find out impact of gender differences in creativity on educational achievement of adolescents.
3. To find out importance of family in educational achievement of adolescents.

METHOD

Sample

For the present investigation, a total sample of 240 subjects, 120 male students and 120 female students of ages 14 to 16 years were selected from Senior Secondary schools of Jodhpur. In all there were four sub-groups, each consisted of 60 Ss (students) and the total sample comprised of 240 Ss. The subjects were chosen on the basis of stratified random sampling.

Tools

In the present study tools used were:

A self-constructed background information sheet was used to collect information about the details regarding family back ground and personal information.

Passi Tests of Creativity (PTC) by Passi (2001) was used to measure the creativity level of Ss. In all it consists of six sub tests, namely: (i) The Seeing Problems Test, (ii) The Unusual Uses Test, (iii) The Consequences Test, (iv) The Test of Inquisitiveness, (v) The Square Puzzle Test and (vi) The Blocks Test of Creativity.

Educational Achievement was measured on the basis of percentages of aggregate marks obtained by the subjects in their previous examination. Those above 65%, were categorized as high achiever group (HA) and those having marks below 45%, were put into the category of low achievers (LA).

Procedure

After availing the informed consent and establishing rapport, each of the Ss were distributed the personal information sheet. Duly filled up sheets were then collected and Ss were then given the test booklet of PTC test. Detailed instructions regarding its filling up were given. Once completed, the booklets were collected. Each item was scored with the help of scoring key. The data, thus collected were tabulated and statistically treated to arrive at meaningful inference.

RESULTS AND DISCUSSION

Before presenting any result, it is essential to know about demographic composition of the sample population. For this purpose table 1 show the background indicators of the adolescent and adult population. Since the criterion for sample selection were gender and age range, the sample comprised of equal numbers (120 each) of male and female adolescents with ages ranging between 14 to 15 years. The age wise distribution of the sample reveals that 41 % of Ss were 14 years old and 59 % of Ss were 15 years old.

The 52.92 % of fathers passed graduation, 37.50 % fathers passed senior secondary and 9.58 % were illiterate. While 35.84 % mothers passed graduation, 45 % mothers passed senior secondary and 19.16 % were illiterate.

Table 1: Demographic distribution of the sample in percentage

Gender	Males	50
	Females	50
Age	14 years	41
	15 years	59
Father's education	Illiterate	9.58
	Senior	37.50
	Secondary	
	Graduate	52.92
Mother's education	Illiterate	19.16
	Senior	45.00
	Secondary	
	Graduate	35.84
Father's occupation	Service	85.83
	Business	12.50
	Not Employed	1.67
Mother's occupation	Service	8.75
	Business	5.42
	Not Employed	85.83
Type of family	Joint	52.18
	Nuclear	47.82

Table 1 also depicts that 85.83% of the fathers had jobs while 12.50% had their own business while 85.83% mother were not employed, 8.75% of mothers had job and 5.42% of mothers had their own business. Table 1 also reveals that 52.18 % adolescents were from joint families and 47.82 % belonged to nuclear families.

Table 2 manifests that high achiever adolescents differed significantly ($t = 8.666, 7.878, 7.560, 6.458, 5.937; p < 0.01$) on almost all the subtests of creativity. The adolescent males are better at comprehending problems have fluency, flexibility and originality in naming names of things used for numerous purposes existing in psychological and physical environment. They have fluency, originality in expressing consequences. They are also inquisitive as compared to low achiever.

There are no significant differences on Square Puzzle Test and Blocks Test of Creativity. This shows that both the groups are similar in persistency, block fluency, flexibility, originality and creativity.

Table 2: Differences on PTC of high achiever and low achiever male adolescents

PTC	HA Males N=60		LA Males N=60		't'
	Mean	S. D.	Mean	S. D.	
Seeing problem test	20.72	8.316	9.43	5.706	8.666**
Unusual uses test	30.27	12.778	14.62	8.573	7.878**
Consequences Test	16.40	6.233	8.73	4.779	7.560**
Test of inquisitiveness	4.23	3.099	1.45	1.241	6.458**
Square puzzle test	30.75	7.382	32.30	5.835	1.276
Blocks test of creativity	48.52	18.088	51.05	19.926	0.729
Composite creativity	150.88	34.232	117.58	26.755	5.937**

** $p < 0.01$

Table 3 reveals that HA adolescent females have obtained a significant mean difference ($t = 4.942, 3.895, 5.589, 4.540, 2.905, 4.445; p < 0.01$) on almost all the subtests of creativity except blocks test of creativity (NS). It signifies that the high achiever female adolescents are better at expressing fluency (SP, UF, and CF), flexibility (UX), originality (UO, CO), persistency and inquisitiveness measured by PTC. Also they differ significantly on the composite creativity score indicating their high level of overall creativity.

Table 3: Differences on PTC of high achiever and low achiever female adolescents

PTC	HA Females N=60		LA Females N=60		't'
	Mean	S. D.	Mean	S. D.	
Seeing problem test	19.98	8.033	13.08	7.242	4.942**
Unusual uses test	32.18	14.836	23.08	10.365	3.895**
Consequences test	15.58	7.019	9.60	4.416	5.589**
Test of Inquisitiveness	3.75	1.874	2.28	1.658	4.540**
Square puzzle test	31.13	6.445	27.50	7.231	2.905**
Blocks test of creativity	45.60	17.322	47.32	18.170	0.530
Composite creativity	148.23	31.875	122.87	30.621	4.445**

** $p < 0.01$

Table 4 clearly highlights that there are no significant differences among the HA adolescent males and females on all the sub tests of PTC and Composite Creativity scores. Both the groups have somewhat similar level of creativity.

Table 4: Gender differences between high achiever adolescents on PTC

PTC	Males N=60		Females N=60		't'
	Mean	S. D.	Mean	S. D.	
Seeing problem test	20.72	8.316	19.98	8.033	0.491
Unusual uses test	30.27	12.778	32.18	14.836	0.758
Consequences test	16.40	6.233	15.58	7.019	0.674
Test of inquisitiveness	4.23	3.099	3.75	1.874	1.034
Square puzzle test	30.75	7.382	31.13	6.445	0.303
Blocks test of creativity	48.52	18.088	45.60	17.322	0.902
Composite creativity	150.88	34.232	148.23	31.875	0.439

N.S = not significant

It is clear from table 5 that there are significant differences ($t = 3.067, 4.876, 3.117, 4.002; p < 0.01$) in the mean scores of low achiever male and female adolescents on 4 aspects of creati-

ity. It signifies that low achiever adolescent females show fluency on Seeing Problem Test, scored better on unusual fluency, flexibility and originality. They are also more inquisitive. While males performed better on dimension of persistency.

There are no significant differences on Consequences Test and Blocks Test of Creativity. This shows that both the groups are similar on fluency (CF, BF), flexibility (BX), originality (CO, BO), and blocks creativity.

Table 5: Gender differences between low achiever adolescents on PTC

PTC	Mean	S. D.	Mean	S. D.	't'
Seeing problem test	9.43	5.706	13.08	7.242	3.067**
Unusual uses test	14.62	8.573	23.08	10.365	4.876**
Consequences test	8.73	4.779	9.60	4.416	1.032
Test of inquisitiveness	1.45	1.241	2.28	1.658	3.117**
Square puzzle test	32.30	5.835	27.50	7.231	4.002**
Blocks test of creativity	51.05	19.926	47.32	18.170	1.072
Composite creativity	117.58	26.755	122.87	30.621	1.006

** $p < 0.01$

DISCUSSION

Theoretically it is proposed that there exist a relation between intelligence and creativity to a certain level. Educational achievement is also closely associated with one's level of intelligence. Therefore the difference in creativity on level of educational achievement was studied. The present study also scrutinized the gender differences in creativity on level of educational achievement i.e. high achiever (HA) and low achiever (LA).

Gender differences among low achievers on creativity were seen. It was found that low achiever girls performed better on Seeing Problem Test, meaning they are better in comprehending problems and are able to write better about items, which have proximity with their physical environment, as also they are more inquisitive. Low achiever males performed better on Square

Puzzle Test that measures the dimension of persistency. One of the reasons for females to be better at writing ability and reading could be that girls throughout school years attain higher scores on reading and writing. Girls have an early advantage in language skills, which might be fostered by their faster rate of physical maturation.

Vamadevappa (2005) studied positive and significant relationship between parental involvement and academic achievement. Vamadevappa has also found the similar findings regarding gender differences with academic achievements. There was a significant difference in the achievement scores of boys and girls of high parental involvement group as compared to low parental involvement group. Similarly, Sood (2006) in a study on adolescents found that females exhibited significantly higher academic motivation than male. Further, socio-culturally, it is seen that children think of reading as a feminine activity, and therefore boys do not go for it. Sananda and Sreethi (2000) studied academic achievement as related to procrastination behavior and study habits. The results also indicate that females are better academic achievers than male students. Parent's too rate daughters as more competent in reading than their sons (Halpern 2000).

Verbal creativity is affected greatly by the enriched school environment. It was concluded that verbal abilities develop more in a highly enriched but formal environment, while non-verbal ability is equally affected by an enriched formal as well as informal environment (Ahmed 1998). Sahu et al. (2005) studied the environment of school and academic achievement. They have shown significant relationship between students' perception of teachers' attitude towards them and their self-perception with their academic achievement.

In contrast to the low achiever group, the high achiever group of adolescents was more alike and shared similar traits overriding the impact of gender. In table 4 gender differences between high achievers on creativity tests were observed and it was found that both the sexes performed similar on all the sub-tests of creativity and no significant differences were found. It may be due to the fact that today's middle class parents hold similar perceptions and expectations of their sons and daughters. Similarity in parent child relations, family support and encouragement given to both appears to shrink the impact of gender difference in adolescents. Children's intelligence, openness

to experience and, marginally, conscientiousness partially mediate the association between parents' education and children's academic achievement (Steinmayr et al. 2010). Adolescents who grow up in small families are healthier, have somewhat higher intelligence test scores, do better in school, attain higher levels of education, and engage in lower rates of anti-social behavior (Mishra 1997).

Comparing the result on two groups of high and low achievers it can be concluded that gender is less impacting than the level of achievement. High achievers irrespective of gender, scored better than their low achiever counterparts. Suman and Umapathy's (2003) study also did not reveal any significant differences between girls and boys in achievement motivation. High achiever males and females performed better on Seeing Problem Test, Unusual Uses Test, Consequences Test, Test of Inquisitiveness, Square Puzzle Test and Composite Creativity almost all sub tests of creativity (Table 2, 3) as compared to low achiever adolescents. This may be due to the fact that high expectations from parents earlier during preadolescence have positive effects on adolescents. Parental expectation for achievement has a powerful effect on the extent to which children develop achievement motivation and authoritative parenting lead to better adolescent school performance (Thakur 2001).

CONCLUSION

The results indicate that (i) the high achiever group of adolescents had higher level of creativity than low achiever group (ii) were more alike and shared similar traits overriding the impact of gender (iii) There were gender differences among low achiever group on creativity. (iv) Gender is less impacting than the level of

achievement. Family demographics of the two groups were found to be different.

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