

# Creative Thinking of Secondary School Students in Relation to their School Type and Residential Background

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## ABSTRACT

The purpose of this paper is to investigate the differences among male and female secondary school students studying in both private and government schools having different residential background on creative thinking. A sample of 300 students studying in secondary schools of Jammu city was randomly selected. The investigator had personally met the participants and administered the tool. Verbal test of Creative thinking by Dr. Kulwinder Singh (1981) was used for data collection. Mean, S.D and three way ANOVA were calculated to analyse the data. The findings revealed that there were no significant differences among male and female secondary school students studying in private and government schools coming from urban and rural areas on overall creative thinking and no interaction was found between gender and residential background, school type and residential background, and no interaction was found among school type, gender and residential background.

**Keywords:** Creative thinking, secondary students

Creativity is the most important attribute of human beings. Creativity is very important process for the progress and major advance in every field. All the major advances are made as a result of new ideas or creative process. It is the basis of all the social development and new inventions and discoveries in the field of science and technology. It is generally agreed that all persons have some creative potential, though there are wide individual differences in degree. Researchers also agree that creative thinking occurs at all stages, in some aspects of all cultures, and to some degree in all fields of human work and endeavour though there may be marked differences in the fluency, level, and type of creative thinking across these categories.

Creative persons are needed in the every walk of life in the modern world. Such persons are of utmost importance for the technological, aesthetic, cultural and educational progress of a nation. No nation whether developed or developing can afford to overlook the importance of creative thinking in this age of competition. Creative thinking, as the name

suggests, is associated with one's ability to create or construct something new, novel or unusual.

Psychologists have variously tended to regard creativity as imagination, fantasy, originality, divergent thinking, inventiveness, intuition, being venturesome, and exploration, curiosity problem solving (Arasteh and Arasteh 1976). In view of Galton capacity, zeal and striving are the three factors which are responsible for creativity. He further describes capacity as intelligence and special ability, zeal as persistence and hard work, and striving as fighting spirit and motivation.

According to famous psychologist Skinner (1968) "Creative thinking means the predictions and inferences for the individual are new, original, ingenious, and unusual. The creative thinker is one who explores new areas and makes new observations, new predictions and new inferences." Sternberg (1985) proposes that creativity is one type of intelligence. The creative intelligence is the ability to go beyond the given data to generate novel and

interesting ideas. Thus, creativity is the higher order intelligence that helps a person to translate ideas into practical accomplishments. Another famous psychologist and scholar Levin (1978) views that creative thinking as a special form of thinking, a way of viewing the world and interacting with it in a manner different from that of the general population. It is the ability to discover new solutions to problems or to produce new ideas, inventions or works of art.

Every day, we face new changes in all aspects of life and creativity is not only a means for adapting with changes but also a stimulus for producing knowledge in different fields of study. Participation in socio cultural aspects, innovative curriculum, stimulated school environment, interaction with public, life style, facilities available, opportunities, exposure etc., fortunately will be more in urban life than rural. This explains the development of creative thinking between rural and urban students. (Chaudhary 1983; Marsh 1985; Madhav and Hirdi Pal 1990; Asmali 1994; Sansanwal and Deepika 1997; Karimi 2000; Bashir and Hussain 2012; and Atefeh Kamaei and Mokhtar Weisani 2013). Sehgal (1978) also reported the similar finding but Sharma (1972-1974) reported that rural students were significantly more creative than rural students.

On the other hand, studies conducted by Passi (1971), Singh (1978), and Srivastava (1979) reported the creativity of urban students over rural students in creativity. From these studies, it is clear that the locality of students does act as a correlate of creativity. Although 55% studies of the total studies reviewed in this session, have reported the superiority of urban students over rural students in creativity, yet it is difficult to generalize because of insufficiency of studies. Thus, the investigator decided to go forward for investigating the creative thinking of male and female secondary school students of urban and rural localities.

### Objectives of the Study

1. To study the differences of secondary school students studying in private and government schools on creative thinking.
2. To study the differences of male and female students studying in private schools and government schools on creative thinking.

3. To study the differences of secondary school students who are coming from urban and rural areas on creative thinking.
4. To study the interactional effects of school type, gender and residential background on creative thinking.

### Hypotheses

1. Students studying in private schools and government schools donot differ significantly oncreative thinking.
2. Male and female students studying in private schools donot differ significantly oncreative thinking.
3. Secondary school students coming from urban and rural areas do not differ significantly on creative thinking.
4. School type and gender donot interact significantly on creative thinking.
5. Gender and residential background do not interact significantly on creative thinking of students.
6. School type and residential background do not interact significantly on creative thinking of students.
7. The interactional effects of school type, gender and residential background on creative thinking is not significant.

### Method

Descriptive survey method was employed to study the creative thinking among secondary school students having different residential background.

### Population and Sample

Secondary students of Jammu district from rural and urban background constituted the population of the study. The sample consisted of 300 students of Class-XI from secondary schools of Jammu city. For drawing the sample of the present study, at the first stage, out of total Government & Private senior secondary schools of Jammu district, 09 Government and 06 Private secondary schools were selected on simple random sampling. At the second stage, out of 15 Schools (09 Government and 06 Private secondary schools), 300 students (150 students from Government schools and 150 students from

Private schools) of 11<sup>th</sup> class were selected on simple stratified sampling.

**Tools Used**

“Verbal Test of Creative Thinking” developed by Dr. Kulwinder Singh (1981) was used.

**RESULTS AND DISCUSSION**

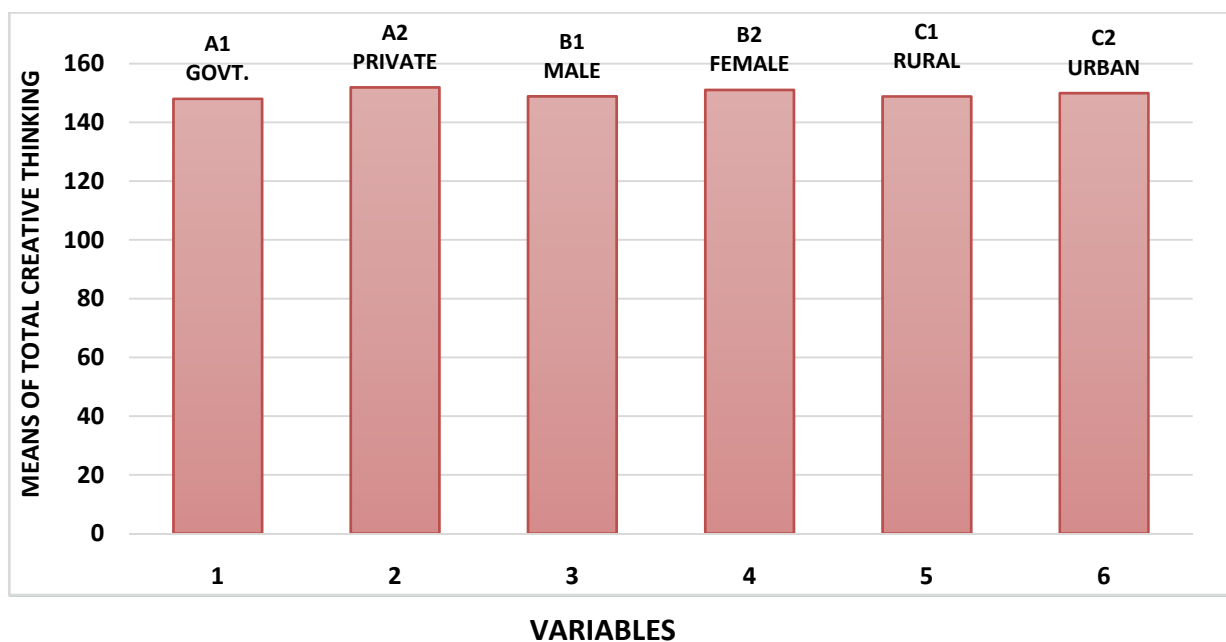
In order to find out the main effect of school type (Private and government schools), gender (male and female) and residential background (rural and urban) on creative thinking of secondary

school students along with their double and triple interactive effects, ‘analysis of variance’ (2×2×3 factorial design) was applied. The means of Creative thinking scores of secondary school students in relation to their school type, gender and residential background are given in Table 1 and pictorially shown in Fig. 1.

The summary of the results of main effects of school type, gender and residential background along with their double and triple interactional effects on creative thinking of secondary school students is given below in Table 2.

**Table 1:** Means of Creative Thinking Scores of Secondary School Students in Relation to their School Type (A) [Private (A1) and Government School (A2)], Gender (B) [Male (B1) and Female (B2)] and Residential Background (C) [Rural and Urban Areas]

Sl. No.	Variables	Mean Values	Pairs of Comparison	Mean Differences
1	School Type (A)			
	Government School (A1)	148.05		
	Private School (A2)	151.94	A1-A2	3.89
2	Gender (B)			
	Male (B1)	148.89		
	Female (B2)	151.09	B1-B2	2.19
3	Residential background (C)			
	Rural (C1)	148.85		
	Urban (C2)	151.13	C1-C2	1.14



**Fig. 1:** Means of Creative Thinking Scores of Secondary School Students in Relation to their School Type (A) [Private (A1) and Government School (A2)], Gender (B) [Male (B1) and Female (B2)] and Residential Background (C) [Rural and Urban Areas]

**MAIN EFFECTS**

**(i) School Type (A)**

The calculated value of 'F' for the main effect of school type on the creative thinking of secondary school students, irrespective of the gender and residential background, came out to be 2.235, which is much lower than the table value even at 0.05 level of significance. Hence, the hypothesis no. 1 that, "Students studying in private and government schools do not differ significantly on creative thinking" was retained. Table 1 also makes it evident that means of creative thinking scores of private school (151.94) and government school students (148.05) are the same.

**(ii) Gender (B)**

The obtained value of 'F' for the main effect of gender on the creative thinking of secondary school students, irrespective of their school type and residential background, came out to be .779, which is lower than the table value at 0.05 level of significance.

Hence, the hypothesis no. 2 that, "Male and female secondary school students do not differ significantly with respect to their creative thinking" was retained.

**(iii) Residential background (D)**

The computed value of 'F' for the main effect of residential background category on the creative thinking of secondary school students, irrespective of their school type and gender, came out to be .825, which is lower than the table value at 0.05 level

of significance. Hence, the hypothesis no. 3 that, "Secondary school students belonging to rural and urban areas do not differ significantly with respect to their creative thinking" was retained.

**INTERACTIONAL EFFECTS**

**(i) School Type and Gender (A×B)**

The computed value of 'F' for the interactional effect of school type and gender on creative thinking of secondary school students, came out to be .626, which is lower than the table value even at 0.05 level of significance. Hence, the hypothesis no. 4 that, "School type and gender do not interact significantly with regard to their creative thinking" was retained.

It may be interpreted that there are approximately the same differences in the means of creative thinking scores of students studying in private and government schools regardless of their gender i.e. male and female.

**(ii) Gender and Residential background (B×D)**

The obtained value of 'F' for the interactional effect of gender and residential background on the creative thinking of secondary school students, came out to be .013, which is much below than the table value at 0.05 level of significance. Hence, the hypothesis no. 5 that, "Gender and residential background do not interact significantly with regard to creative thinking" was retained.

It may be inferred that there are approximately the same differences in the means of creative thinking

**Table 2:** Summary Table of Analysis of Variance

Sl. No.	Source of Variation	Sum of Squares	Df	Mean Square (Variance)	F-Values	Level of Significance
1	School Type (A)	1159.978	1	1159.978	2.235	NS
2	Gender (B)	404.245	1	404.245	.779	NS
3	Residential background(C)	428.338	1	428.338	.825	NS
4	(A×B)	324.975	1	324.975	.626	NS
5	(B×C)	6.656	1	6.656	.013	NS
6	(A×C)	21.923	1	21.923	.042	NS
7	(A×B×C)	3.490	1	3.490	.007	NS
	Within condtions	151565.175	292	519.059		
	Total	153838.989	299			

NS=Not significant at 0.05 level of significance.

scores of male and female students regardless of the residential background to which they belong i.e. rural and urban.

### **(iii) School Type and residential background (A×D)**

The calculated value of 'F' for the interactional effect of residential background and school type on creative thinking of secondary school students, was found to be .042, which is less than the table value at 0.05 level of significance. Hence, the hypothesis no. 6 that, "School type and residential background do not interact significantly with regard to creative thinking of students" was retained.

It may be said that there are approximately the same differences in the means of creative thinking scores of students studying in private and government schools regardless of their residential background (rural and urban).

### **(iv) School type, Gender and Residential background (A×B×D)**

The computed value of 'F' for the triple interactional effect of school type, gender and residential background on creative thinking of secondary school students, came out to be .007, which is much below the table value at 0.05 level of significance. Hence, the hypothesis no. 7 that, "The triple interactional effect of school type, gender and residential background on the creative thinking of students was not significant" was retained.

The fact is that the triple interaction among school type, gender and residential background is not significant means that school type and Gender interactions with regard to creative thinking for the separate levels of residential background are of the same form; that the gender and residential background interactions with regard to creative thinking for the separate levels of school type are of the same form; that the school type and residential background interactions with regard to creative thinking for the separate levels of gender are of the same form.

## **FINDINGS OF THE STUDY**

1. There were no significant differences among students studying in Private and Government schools on overall creative thinking.

2. There were no significant differences among male and female secondary school students studying in Private and Government schools on creative thinking.
3. There were no significant differences among secondary school students coming from urban and rural areas on creative thinking.
4. There was no interaction between gender and residential background on creative thinking of students.
5. There was no interaction between school type and residential background on creative thinking of students.
6. There were no interaction among school type, gender and residential background on creative thinking is not significant.

## **CONCLUSION**

No significant differences were found among male and female secondary students from private and government schools coming from urban and rural localities on creative thinking. It was also found that no interaction was found among gender, school type and residential background of secondary students of Jammu district.

Based on the findings of the study certain implications are discussed below so that the results could be utilized for the progress and benefit of our educational system. Creative students and their potential fields must be located by parents, teachers, psychologists and all those who have concern for the well-being of students and the nation.

There should be no segregation of students on the basis of sex differences. Findings of the investigation are going against the old tradition that rural males and females are far behind than the urban males and female students.

Rural students should not be neglected in the name of being rural. They must be treated equally so that they can also work for the progress of the nation. Students belonging to the rural class need to be provided with greater opportunities to the world of creative thinking.

## **REFERENCES**

- Arasteh, A.R. and Arasteh, J.D. 1976. *Creativity in human development*. An interpretive and annotated Bibliography Cambridge: MA, Schenkman.

- Asmali, K. 1994. A study of the relationship between science achievement, science interest, scientific attitude, process outcomes in science and scientific creativity of secondary school pupils. Unpublished M.Phil. Thesis. Deptt. Of Education, University of Kerala, Thiruvananthapuram.
- Atefeh Kamaei, J. and Mokhtar Weisani, F. 2013. Relationship between achievement motivation, creativity and academic performance among secondary school students. *Journal of Applied Psychology and Education*, 6(7), 21-29., 33(1): 101-112. Attitude and creativity of high school students. *Asian Journal of Psychologia*.
- Bashir, K. and Hussain, J. 2012. A Study on creativity and academic achievement of secondary school students. *Journal of Personality and Social Psychology*, 51(3): 62-78.
- Chaudhary, V. 1983. Impact of academic achievement on creativity. *Indian Journal of Psychometrics and Education*, 39(2): 176-177.
- Galton, F. 1978. *Hereditary Genius*, New York: Julian Friedman.
- Karimi, A. 2000. The relationship between anxiety, creativity, gender, academic achievement and Social prestige among secondary school. *University of Shiraz, Shiraz*. Retrieved from: [www.fofamerican science.org/journals/lam sci lam 0601/241104](http://www.fofamerican science.org/journals/lam sci lam 0601/241104).
- Madhav, K. and Hirdi Pal, O. 1990. The relationship between gender, locality and creativity on academic achievement of secondary school students. *Journal of Psychology*, 84(1): 135-142.
- Mangal, S.K. 2012. *Advanced Educational Psychology*, Second Ed. New Delhi: Ashoke K. Ghosh, 362-363.
- Marsh, M. 1985. A study on creativity and academic Achievement of high school Students. *Journal of Psychological Researches*, 39(1): 51-55.
- Sehgal, K. 1978. School system as related to creativity of students. *The Progress of Education*. 52: 10 -11, 207-211.
- Sharma, K.N. 1972. Rural urban differences in creativity, *Journal of Psychological Researches*, 16(3): 121-122.
- Singh, A. 1978. *A study of some of the intellectuals and non- intellectual factors of creative students of X<sup>th</sup> class*. Unpublished Master's Degree thesis. University of Delhi.
- Sternberg, R.J. 1985. *Cognitive processes in problem solving*. New York: Longman.