

GENDER DIFFERENCES IN CREATIVITY IN PRIVATE AND GOVERNMENT SCHOOL STUDENTS

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Abstract

The present research aimed to find out gender differences in the level of creativity in government and private school students. It was hypothesized that there are significant differences in the creativity level of private and government school students. It was also hypothesized that there are likely to be significant gender differences in creativity. Cross-sectional research design was used for this purpose. The sample consisted of N=120 students of 9th and 10th class from The Educators (private school) and Muslim High School (government school). Creative Behavior Inventory by Hocevar (1979) was used. Independent sample t-test was used to find out the gender differences and differences in creativity level in government and private schools students. Results revealed that there are significant differences between private and government school students in all domains of creativity. Results showed significant gender differences in some domains of creativity (literature, crafts, art and mathematics) whereas non-significant gender differences found on other domains (music and performing arts) in government school students. Results also showed significant gender differences in some domains of creativity (art, music, crafts, and performing

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arts) whereas non-significant gender differences found on other domain (literature and mathematics) in private school students. Research has important implications in educational settings and to enhance creativity of children through planning and implementations of different programs in schools.

Keywords: *Creativity, Government schools, private schools, Gender differences*

Introduction

Creativity is defined as the tendency to generate or recognize ideas, alternatives, or possibilities that may be useful in solving problems, communicating with others, and entertaining ourselves and others (Franken, 2001). Creativity comes up in solving the problems in our daily life ability to produce original and worthwhile solutions to problems (Watson, 1978). Gutman (1961) views creative behavior as consisting of any activity in which a person imposes a new order upon his environment. Sawyer (2003) stated that creative thinking is the occurrence of uncommon or unusual but appropriate responses. It is the process of choosing and shaping appropriate representations for a problem which lead an important discovery. Basically the creative response is not predictable until it is made a standard for the judgment of future creativity. According to Runco (2007) creativity is also defined as a psychological behavior, which requires an individual with an attitude certain abilities to combine some previous knowledge by following a certain process with an aim to produce an idea.

Sarsani (1989) have listed a number of factors that tend to stifle creative work in the school. These include: High standards of achievement for low level of work, inflexible assignments and methods of work, impatience of adults conformity of group standards of mediocrity and teacher's attitude.

Theories of creativity represent the use of ordinary cognitive processes in unique ways rather than being an unusual or distinct process. Feldman (2003) stated that creativity is involved in all development transitions each time we recognize our cognitive structures, as in Piaget's stages of development, it requires creativity. Feldman believed creativity is rooted in the desire for creative change. He believed that new creative efforts are inspired by the results.

Creativity can be changed through the manipulation of environmental conditions that may include the educational institution. Public or private schools are well

equipped and facilitated this is the reason public schools attract the most affluent crowd while the government schools lack facilities, this is the reason that in government schools, The students hail mainly from middle and lower class families. That is why the behavior of the teaching staff is different with the students in both of these schools (Agarwal, 1992). Since the standards of teaching and the physical facilities are supposed to be different in private and government schools, the creative thinking of students may be different. Public schools also reflect the economic realities of their location. When it comes to offering extra-curricular sports and clubs, academic support, and better supplies and learning tools, public schools have the edge (Prasad, 2009).

Generally speaking, gender differences may vary depending upon certain field of interest. For example, women achieve more in art such as writing drama or plays than men, whereas men are found better creative minded in performing scientific achievement or music. (See, Pritzker, 1999). However, to examine such differences between women and men there are not much evidence found through research. Although few studies have been made on it, these are not enough evidence to prove this assumption. (See, Pitzker, 1999).

Many researches have been conducted in past few years in regarding to exploring differences in creativity levels in students of private and government sectors. The study of Gupta (1978) in four higher secondary schools (government and private) revealed that the students of private schools score significantly higher than the students of government schools in different dimensions in verbal and non-verbal creativity. All dimensions of creativity were significantly higher for male and female students of private schools than the male and female students of government schools.

Reddy (1989) found that the students from private school were superior in all aspects of creativity over government school students. Boys and girls scores from both type. Henderson (2003) found no gender differences in self-reported creative achievement of 247 inventors working in multinational firms who responded to a 90-question on-line survey. Findings of the previous researches by Reddy (1989) Flaherty (1992), Ochse (1990) Galton (1974) Boling & Boling (1993), Kogan (1974), Potur & Barkul (2009), Coone (1969), Warren and Luria (1972) and Dudek, Stobel, & Runco (1993) revealed that girls obtained higher scores than boys across all subtests with significant differences in Originality and Creative Index scores. However, the significant findings in Originality vary from those of Tegano and Moran (1989), who found third grade boys scored higher than girls in this area.

In the light of previous theories and researches creativity is presenting a novel idea or producing something new and rare. Ability of producing something new through previous knowledge depends on some factors like socio-economic background, birth order, educational pattern etc. Every person is born with some special abilities. These abilities are just needed to be groomed to use them in full potential but on the other hand environment and genetic factors influence creativity.

Rationale

This research will be helpful in determining how private and government school students differ in their creativity level and how the private and government schools are contributing towards the enhancement of students' creativity. This research will also be helpful in determining the various ways in which the schools can manage to improve the students' creative dimensions through different avenues. It is a dire need to study how private and government school students differ in their creativity level and how the private and government schools are contributing towards the enhancement of students' creativity (Rao & Prasad, 2009). Contributions are needed in determining the various ways in which the schools can manage to improve the students' creative dimensions through different avenues.

Aims and Objectives

1. To see the difference in the creativity level of private and government school students.
2. To see the difference in the creativity level of male and female students of private and government school students.

Hypotheses

- 1) There is likely to be a difference in the creativity level of private and government school students.
- 2) There are likely to be gender differences in the creativity level in students of private and government school students.

Method**Research Design**

Cross-sectional Research Design was used.

Sample and Sampling Strategy

Purposive sampling strategy was employed to draw the sample. The sample consisted of N=120 students of 9th and 10th class (n=60 Government school (30 boys and 30 girls) and n=60 private school (30 boys and 30 girls) from The Educators (private school) and Muslim High School (government school). Age range of the sample was 13 -17 years.

Inclusion/ Exclusion criteria

1. Participants were taken only from private and a government school. Semi government schools were not included.
2. Only 9th and 10th class students were taken. O level students were not taken.

Table I
Descriptive of the Sample Characteristics (n=120)

Characteristics	<u>Male(n=60)</u>		<u>Female(n=60)</u>	
	F	%	f	%
Age				
13	4	6.70	11	18.32
14	15	25.01	30	50.02
15	22	36.70	16	26.71
16	15	25.01	3	5.01
17	4	6.72	0	0
Class				
9 th	21	35.0	33	55.00
10 th	39	65.0	27	45.03

Table I (continued)
Descriptive of the Sample Characteristics (n=120)

Characteristics	<u>Male(n=60)</u>		<u>Female(n=60)</u>	
	f	%	f	%
Subjects				
Arts	51	85.0	60	100.0
Science	9	15.0	0	0
Type of school				
Private	30	50.0	30	50.0
Government	30	50.0	30	50.0
Family system				
Joint	23	38.32	12	20
Nuclear	37	61.70	8	80

Operational Definition

The higher your positive score on each dimension of creativity, the more you display characteristics associated with a creative personality (Hocevar, 1979).

Assessment Measures

Creative Behavior Inventory

Creative Behavior Inventory given by Dennis Hocevar, is a self-report personality inventory for creativity assessment. The scale consists of 90 statements. Hocevar (1979) compiled the most extensive check-list to date, the Creative Behavior Inventory, composed of 90 items spanning the domains of literature, music, crafts, art, math/science, and performing arts. Participants responded to each item on a 4-point scale ranging from 1 to 4. Higher score shows higher level of creativity.

Ethical considerations

1. Permission from author for the use of assessment measure was taken through email.
2. Permission from concerned authorities was taken.
3. Participant's willingness was taken through informed consent.
4. Proper instructions were given to the participants.

V	<u>Priv(n=60)</u>		<u>Gover(n=60)</u>		<i>T</i>	<i>p</i>	<u>CI 95%</u>		Cohen's d
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>			LL	UL	
Littot	6.32	5.68	9.13	6.87	-4.40	.00	-	-4.19	-0.44

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Music	3.86	3.69	7.30	4.34	-6.11	.00	-8.43	-4.24	-0.85
tot									
Craft	12.58	7.43	17.5	8.06	-4.62	.00	-	-5.25	-0.63
stot			0				13.3		
							5		
Art	6.48	4.01	8.45	4.35	-2.53	.01	-4.48	-.52	-0.47
tot									
Math	2.71	2.47	2.95	2.94	-2.50	.02	-3.30	-.37	-0.08
tot									
Perf	5.00	5.35	7.92	5.96	-5.37	.00	-	-4.74	-0.52
artot							10.4		
							5		
Non	6.55	3.95	8.23	4.95	-3.18	.00	-6.25	-1.42	-0.37
tot									
CB	43.51	27.30	61.4	31.2	-4.92	.00	-	-	-0.61
I			8	3			55.1	23.09	
tot							0		

Note. Littot= literature total, musictot= music total, craftstot= crafts total, arttot= art total, mathtot= math total, perfarttot= performing arts total, nontot= non-scalable total, CBItot= total creativity, Pri = Private, Govt = Government

Table II shows that there are significant differences between private and government school students in all of the subscales of creativity. Government school students have a higher mean score on all of the creativity subscales as compared to the private school students.

It was hypothesized that there is likely to be gender difference in creativity among private and government school students. Groups were compared using independent samples t-test.

Table 3

Difference between Male and female School Students in Creativity (N=120)

V	<u>Male(n=60)</u>		<u>Female(n=60)</u>		T	p	<u>CI 95%</u>		Cohen's d
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>			LL	UL	
Littot	8.88	7.76	6.57	4.53	1.20	.05	.01	4.62	0.36
Music	5.93	5.10	5.23	3.50	.88	.38	-.88	2.28	-0.65
tot									
Craft	13.08	9.04	17.0	6.56	-2.72	.01	-6.77	-1.06	-0.50
stot			0						

Arttot	6.38	4.00	8.55	4.31	-2.85	.01	-3.67	-.66	-0.52
Mathtot	3.65	2.96	2.02	2.16	3.45	.00	.70	2.57	0.63
perfartot	6.90	6.65	6.02	4.87	.83	.41	-1.23	6.90	3.00
Nontot	7.38	5.01	7.40	4.06	-.02	.98	-1.67	1.63	7.78
CBIItot	52.22	36.35	52.7	23.7	-.10	.92	-	10.56	-11.69
			8	5				11.6	
								9	

Note. Litttot= literature total, musictot= music total, craftstot= crafts total, arttot= art total, mathtot= math total, perfarttot= performing arts total, nontot= non-scalable total, CBIItot= total creativity, Pri = Private, Govt = Government

Results in Table III show that there are significant gender differences in literature, crafts, art total and mathematics whereas there are non-significant gender differences between music, performing arts and non-scalable scores.

Table 4

Gender Differences in Creativity in Private School System (N=60)

V	<u>Male(n=30)</u>		<u>Female(n=30)</u>		<i>t</i>	<i>p</i>	<u>CI 95%</u>		Cohen's d
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>			LL	UL	
Litttot	5.03	5.56	7.60	5.59	-1.78	.08	-5.45	.32	0.38
Musictot	2.77	2.76	4.97	4.54	2.40	.02	-4.40	-.36	-0.59
Craftstot	8.43	(5.33)	16.37	(6.95)	-5.19	.00	-11.51	-5.09	-1.28
Arttot	5.13	(3.36)	7.83	4.21	-2.75	.01	-4.67	-7.29	1.32
Mathtot	2.73	(2.56)	2.70	2.42	.05	.96	-1.25	-1.20	-0.76
perfartot	3.10	3.35	6.90	6.28	-2.9	.01	-6.40	6.90	3.00
Nontot	5.47	(3.80)	7.63	(3.86)	-2.19	.03	-4.15	-.19	-0.56
CBIItot	32.67	21.75	54.37	28.30	-3.33	.00	-34.76	-8.64	-0.86

Note. Litttot= literature total, musictot= music total, craftstot= crafts total, arttot= art total, mathtot= math total, perfarttot= performing arts total, nontot= non-scalable total, CBIItot= total creativity

Table 4 shows that there are no significant gender differences in literature and mathematics in private school system. There are negatively significant gender

differences in music, art, performance art, non-scalable creativity and creativity in private school system.

Table 5

Gender Differences in Creativity in Government School System (N=60)

V	<u>Male(n=30)</u>		<u>Female(n=30)</u>		<i>t</i>	<i>p</i>	<u>CI 95%</u>		Cohen's d
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>			LL	UL	
Littot	12.73	7.81	5.53	2.86	4.74	.00	4.1	10.24	1.22
Musictot	9.10	5.25	5.50	2.03	3.50	.00	1.54	5.66	0.90
Craftstot	17.73	9.64	17.27	6.26	-5.19	.22	.83	-3.73	4.67
Arttot	7.63	4.25	9.27	4.35	-2.75	.01	-1.47	.15	-3.86
Mathtot	4.57	3.09	1.33	1.63	5.07	.00	1.96	4.51	1.31
perfertot	10.70	6.99	5.13	2.74	4.06	.00	2.82	8.31	1.05
Nontot	9.30	5.38	7.17	4.31	1.70	.10	-.39	4.65	1.50
CBItot	71.77	37.74	51.20	81.48	2.68	.01	5.21	35.92	0.32

Note. Littot= literature total, musictot= music total, craftstot= crafts total, arttot= art total, mathtot= math total, perfarttot= performing arts total, nontot= non-scalable total, CBIItot= total creativity

Table 5 shows that there are significant gender differences in literature, music, mathematics and performance art in government school system. There are no significant gender differences in craft, art and non-scalable creativity.

Discussion

The present study was designed to explore gender differences in creativity in private and government school students.

The first hypothesis of the study stated that there is likely to be a significant difference between the students of private and government sectors. The results revealed that there is the significant difference in creativity among private and government school students. The previous study of Gupta (1978) in four higher secondary schools (government and private) revealed that the students of private schools score significantly higher than the students of government schools in

different dimensions in verbal and non-verbal creativity. All dimensions of creativity were significantly higher for male and female students of private schools than the male and female students of government schools.

Reddy (1989) also studied the type of the school (private and government) as one of the variables. He found that the students from private school were superior in all aspects of creativity over government school students. Boys and girls scores from both type of schools significantly differed.

The second hypothesis of the research study revealed that there would be likely significant difference between male and female students in creativity. It was found through the results that there is significant gender difference between male and female among private and government sectors students regarding the creativity. Findings of the one study by Flaherty (1992), Boling (1993), Kogan (1974), Coone (1969), Warren and Luria (1972), and Dudek, Stobel, and Runco (1993) revealed that girls obtained higher scores than boys across all subtests with significant differences in Originality and Creative Index scores. However, the significant findings in Originality vary from those of Tegano and Moran (1989), who found third grade boys scored higher than girls in this area.

It was concluded from the results of the present research that there is a significant difference in creativity among private and government school students. Gender differences also seem to play any significant role in creativity.

The quoted researches supported the hypothesis of the present research study. Creativity is shown to be related to a wide range of variables including family income, birth order, estimated time spent in creative activities, etc.

Limitations and Suggestions

1. The data was collected from only two schools of Lahore. The sample was small in diversity therefore the results cannot be generalized to the entire population of Pakistan. Data should be collected from more schools.
2. Time span for data collection and entire research was limited. Allotted time for the research should be increased
3. Due to short allotted time students were unable to understand most of the items on the scale due to language complexity and cultural differences. To develop tools according to needs and language so that cultural differences can be reduced and tool translation should be avoided.

Implications

Research has important implications in educational settings and to enhance creativity of children through planning and implementations of different programs in schools.

References

- Agarwal, B. (1989). Rural women, poverty and natural resources: sustenance, sustainability and struggle for change. *Economic and Political Weekly*, 1122(43), 46-65.
- Boling, H. N., & Boling, T. I. (1993). *Theories of creativity*. U.S.A: Sage Publications.
- Coone, H. (1969). Creative thinking of school students. Retrieved from <http://books.google.com.pk/books?id=Ev7GuLO45o0C&printsec=frontcover#v=onepage&q&f=false>
- Dudek, W., Stobel, E., & Runco, T. (1993). Gender, gender role and creativity: Social behaviour and personality. USA: Milliserville university.
- Feldman, D. H. (1999). *Handbook of Creativity*. USA: Cambridge University Press.
- Flaherty, J. L. (1992), Creativity 101. Retrieved from http://books.google.com.pk/books?id=Susr8vzIwxoC&printsec=frontcover&dq=kaufman+creativity&hl=en&ei=0ErOTuGpFMTorAfsudz2CQ&sa=X&oi=book_result&ct=result&resnum=1&ved=0CC8Q6AEwAA#v=onepage&q=kaufman%20creativity&f=false
- Franken, R. (2001). *Human motivation* (6th ed.). Florence, KY: Wadsworth.
- Galton, F. (1874). *English men of science: their nature and nurture*. London: Macmillan.
- Gupta, A. K. (1978). *A study of pupil creativity in two institutional settings, creativity newsletter*, 7(1).
- Gutman, H. (1961). Biological roots of creativity. *Genetic Psychology Monographs*, 64, 417-458.
- Hocevar, D. (1979). The development of the creative behavior inventory (CBI). Retrieved from http://www.eric.ed.gov/ERICWebPortal/search/detailmini.jsp?_nfpb=true&_ERICExtSearch_SearchValue_0=ED170350&ERICExtSearch_SearchType_0=no&accno=ED17035

- Kogan, S. R. (1974). *Encyclopedia of creativity*. USA: Academic Press.
- Ochse, R. (1990). *Before the gates of excellence the determinants of creative genius*. New York, NY: Cambridge University Press.
- Potur, A. A., & Barkul, O. (2009). Gender and creative thinking in education: A theoretical and experiment overview. Available at <https://docs.google.com/viewer?a=v&q=cache:WLl16moYHiwJ:www.az.itu.edu.tr/azv6n2web/05poturbarkul0602.pdf+potur+and+barkul&hl=en&gl=pk&pid=bl&srcid=ADGEESjr8p-Qued5tJd1AKL9W55ILX0aOF25imJC0SRH9ChxDoglzNSPuC60fwZUFuAUI2FIfMnZnhw9ykCC-CpVikiDsi1xx4T3xrBjucaHAnkt32hUJIxGtgLehEmNyFMHyNKXQtXq&sig=AHIEtbRDvrhiiCnTJfVAXfHXHQkwxh-kXQ>
- Prasad, C. R. (2009). *Exploring the life, myth and art of India*. Malaysia: Rosen Publishing Group.
- Pritzker, S. R. (1999). *Encyclopedia of creativity*. Retrieved from http://books.google.com.pk/books?id=cpc7CJH1-s8C&pg=PA346&dq=creative+people+are+rebellious+and+less+emotionally+intelligent&hl=en&sa=X&ei=Gz03T_quCImjiQfMrriaAg&ved=0CGoQ6AEwCQ#v=onepage&q=creative%20people%20are%20rebellious%20and%20less%20emotionally%20intelligent&f=false
- Rao, S., & Parasad, C.R. (2009). *Creative thinking of school students*. Available online at http://books.google.com.pk/books?id=Ev7GuLO45o0C&pg=PA79&dq=differences+in+the+creativity+level+of+private+and+government+school+students&hl=en&sa=X&ei=My7rT_rEJ4THswb_8OXUBQ&ved=0CDEQ6AEwAA#v=onepage&q=differences%20in%20the%20creativity%20level%20of%20private%20and%20government%20school%20students&f=false
- Reddy, Y. S. (1989). *Creativity in Adolescents*. Retrieved from <http://books.google.com.pk/books?id=uNy0rkBUQAEC&printsec=frontcover&dq=creativity+in+adolescents&hl=en&sa=X&ei=7Rc1T-3->
- Runco, M. A. (2007). *Creativity, theories and themes: Research, development and practice*. Amsterdam: Elsevier.
- Sarsani, M. R. (1989). *Creativity in school*. Retrieved from <http://books.google.com.pk/books/>

- Sawyer, R. K. (2012). Explaining creativity: The science of human innovation. Retrieved from http://books.google.com.pk/books?id=QyJjyZ_YBAkC&pg=PA401&dq=creativity+in+students&hl=en&sa=X&ei=VMNdT868AcidOpbRvfwM&ved=0CEUQ6AEwBA#v=onepage&q=creativity%20in%20students&f=false
- Watson, J. W. (1978). The development of individual styles in children's drawings. *New Directions for Child and Adolescent Development*, 90, 49–63.