

## **Gender Disparity in Creative Performance among Senior Secondary School Students in Nigeria**

Chinwe, Okereke Ph.d,

Department of Educational Psychology, Imo State University, Owerri, Nigeria

Charles N. Ugwuegbulam, Ph.d,

Department of educational psychology/g and c, Alvan Ikoku Federal College of Education, Owerri, Imo State, Nigeria

**DOI Link:** <http://dx.doi.org/10.6007/IJARBSS/v4-i3/717>

**Published Date:** 21 March 2014

### **Abstract**

Each period of human development brings with it new competency requirements, challenges, and opportunities for growth even academically. The main purpose of this study is to determine the gender disparity on the creative performance of senior secondary school students. The sample comprised of two hundred and thirty five senior secondary school one (SSI) students within the age range of 14-16 years. One hundred and eighteen females and one hundred and seventeen males were randomly selected from five secondary schools in the south east of Nigeria. Four hypotheses were formulated and a research question was raised to guide the study. The data collected were analyzed using statistical means and z-test. The result showed significant difference in the mean scores of male and female students in originality and fluency. It showed no significant differences in elaboration and total creativity grades.

Based on the findings, recommendations were made that, stakeholders should give equal opportunity to every child be it male or female. Again, appropriate measures should be given to students to utilize their creative potentials.

### **Introduction**

The quintessential performance oriented domain in education for secondary school students in particular includes, high performance on tests and assignments, passing their subjects and completing their senior secondary school certificate examinations. However, gender issues have been put under serious considerations in all development initiatives in Nigeria. Education is one of such areas of development. Actually, any nation that does not take education of her citizenry very serious will not experience any meaningful development.

Gender can be seen as the society constructed responsibility ascribed to males and females by the various societies. Obasi (2004) refers to gender as many social and cultural

characteristics, qualities, behaviours and roles which different societies ascribed to males and females in the society.

Gender is not the same thing as sex although many an individual use it interchangeable as if they are one and the same thing. Gender is different from sex because, sex describes the biologically determined physical distinctions between males and females which are universal (Ironkwe, 2008).

To Unamma (2003), gender is seen as sex role identity which include division of labour, power inequalities and other cultural concepts of masculine and feminine which most societies stimulate during the process of socialization. Gender issues in creative performance include the male and female students' ability to think about something in novel and unusual ways and come up with unique solution to school problems when provided with equal strategies like brain storming, creative stimulating environment, encouraging intrinsic motivation, fostering flexible and playful thinking.

Gender disparity in academic achievement has been an issue of great concern for sometime now. To bridge this gap, the government of the Federal Republic of Nigeria proposed the provision of equal learning opportunities to her citizenry. In the bid to encourage girl – child education as a way of balancing school attendance of both male and female, parents were asked to train their daughters in school because when you train a girl, you are training a nation (FRN, 2006). One of objective from National policy on Education (2004) has been to provide an increasing number of learners irrespective of sex for an equal education of a higher quality.

Creativity is different from intelligence because it is the ability of an individual to generate many unique but appropriate solutions to a problem for which there is no one correct answer. To some psychologists, there is no such thing as “all purpose creativity”, people are creative in particular areas. But to be creative, the invention has to be intended.

To Plucker, Beghettor & Dow, 2004 creativity is the ability to produce work that is original but serves appropriately. Creativity is all about having a rich store of knowledge in an area through the ability to see things in a new form or way. Creativity is vital for a person's psychological, physical, social and career success.

Guilford (1988) posits that creativity represents divergent rather than convergent thinking. In convergent thinking, students are required to generate the one best answer to a problem while in divergent thinking, they are to generate a variety of solutions to problems for which there is no one right answer.

The characteristics of learners whom teachers consider to be creative include those with high intelligence, but, these students display high inquisitiveness and flexibility in school work, making connecting between ideas that others don't have. Generally speaking, creativity results from a convergence of many personal and situational factors. If creativity reflects all these attributes, then, it is understandable why many students with high intelligent quotients are not particularly creative. Yet, some researchers believe that most learners have the potentials to be creative to some degree if teachers can outline the resources that enhance creativity and encourage them to invest in the right kind of learning goals.

According to the investment theory of creativity by Stern Berg and Lubart, creative learners are willing to invest themselves in ideas and projects that are novel in which they may have encountered resistance initially, conquered through perseverance and then move to the next novel idea that has growth potential. These theorists believe that creativity depends on a convergence of six distinct but interrelated sets of resources. These are

intellectual resources, knowledge, cognitive style, personality, motivation and a supportive environment.

Even with the years of research on creativity, psychologists according to Simonton, 2000, are yet to get close to comprehending creativity in women and minorities. This shows that males have been the focus of creativity research writing over the years.

Some studies have reported that creativity is related to high levels of academic achievement when such needed achievement include divergent and productive ability. However, awareness of academic performance is vital for education and teaching and there is a lack of data on the relationship between these variables among students (Behroozi, 2006).

There has clearly been a greater openness to investigating gender differences in recent years and some researcher like Plivto (2004), have made contributions to explain the observed differences. Despite the many studies that have been done, gender differences in creativity has not become an important focus in literatures. This could be as a result of inconsistent findings. Hence, the need for this study. The need for this study is paramount because most studies relating to gender differences in creativity were based on divergent thinking.

The research question raised for this study includes: Do gender have any disparity in creative performance of secondary school students? The following null hypotheses are formed.

- There is no significant difference in the mean scores of male and female students for originality.
- There is no significant difference in the mean scores of students for fluency by gender.
- There is no significant difference in the mean scores of students for elaboration by gender.
- There is no significant difference in the mean scores of males and females students for total creativity.

### **Research Design and Procedure**

The design is descriptive survey. The sample consist of 235 SSI students made up of 118 females and 117 male selected from five secondary schools in the southeast zone of Nigeria. 47 students were randomly selected from Imo State, Abia State, Anambra State, cross River state and Ebonyi State. These schools are owned by the state government. The instrument used for data collection was a Test for creativity by Torrance (1984). This @@@@TTET is a standardized test with tested reliability and validity of 0.89, 0.94, 0.90, 0.50 to 0.93 respectively done by Kyung in 2010.

### **Procedure**

Senior secondary school students 1 (SSI) were presented with puzzle cards about disjointed names of elements and their symbols. They were asked to rearrange some cards to form a name of an element. These students were allowed to think, rearrange the puzzle and to come up with a clearer picture. The period of thinking usher them into an insight to the problem. They took the risk of joining various cards and symbols without any teacher making them to work.

When they were done, they thought of a mnemonic way of remembering those elements that no one else could think of. They were given extra paper to draw their own module of the first twenty elements, construct a song to remember what they did, explain

what they did and present their special songs to others. The test papers were collected at the end of the session and scored based on originality, fluency, elaboration and resistance to premature closure, and total creativity.

### Results

Table 1: Mean scores of participants in all levels of convergent creativity test.

Gender	N	X originality	X fluency	X Elaboration	X total Grade
Females	118	18.50	12.06	40.50	71.06
Males	117	18.11	11.30	41.72	71.13

From the above result, female students scored more than the males with a difference of 0.39, 0.76 in originality and fluency respectively while the male students were ahead of the female in elaboration by 1.22. On the average, the male students performed better than the females in all areas with a total score of 71.13. This result did not agree with the findings of Naderi, Abdullah, Nzan, Sharir & Kumar (2009). Maybe the varied environment affected their findings. Their study indicated that females are better than male students in creativity but the findings of this study is in line with Karimi's (2000) finding that boys strikingly excelled the girls in creativity. The disparity in the findings may be as a result of location and the education levels of their parents. Despite the average total performance of the male students, female students grades were also encouraging.

Table 2: Two – tailed z-test of Difference male and female scores in four levels of tests.

	Mean	SD	N	Standard Error	Zcal	Ztab
Male			117			
Origin	18.11	5.83		0.17	2.365	1.960
Fluency	11.30	3.50		0.32	2.571	1.960
Elab	41.72	18.48		0.52	0.540	1.960
Total	71.13	26.17		0.03	1.14	1.960

	Mean	SD	n	Standard Error	Zcal	Ztab
Female			118			
Origin	18.50	5.86		0.17	2.365	1.960
Fluency	12.06	3.80		0.32	2.571	1.960
Elab	40.50	18.90		0.52	0.540	1.960
Total	71.06	27.30		0.03	1.14	1.960

From table 2, originality zcal equals 2.365 while the ztab is 1.960. Based on the result,  $Z_{cal} > z_{tab}$ , therefore  $H_01$  is rejected. This shows that there is a significant difference in their performance on originality under fluency. With  $Z_{cal}$  of 2.571 and  $Z_{tab}$  of 1.960, the  $H_02$  is also rejected, meaning that there is a significant difference in the mean scores of male and female students in fluency. This result agrees with Okoro (2003) and Bharadways (1985) that females had higher fluency scores. It also agrees with the findings of Fichnova, (2002) where females scored higher than male in verbal fluency.

Table 2 also showed a value of 0.540  $Z_{cal}$  and 1.960  $Z_{tab}$  for elaboration scores.  $H_03$  is accepted because  $z_{cal} < z_{tab}$ . This shows that male and female students did not differ significantly in their mean scores for elaboration. This could be as a result of intrinsic task

motivation from both genders. Female students may have been able to be elaborate in their scores due to brainstorming and their ability to persevere.

Finally, in the mean scores of males and females total creativity grade,  $Z_{cal} < Z_{tab}$ . This implies that generally, there is no significant difference in the general mean scores of all the tests by gender. With these finding, the initial margin in how boys and girls develop distinctive styles of expression has been closed. Female gender connectednesses in academic activities are now prominent.

In conclusion, Bruce (1974) and Torrance (1963) reported that the gender disparity in differences in creativity began to diminish in the 1970's. This study fully agrees with former studies. The idea of undermining the confidence of females in their ability is alarming.

Based on the findings, parents should encourage originality and general creativity by offering educational resources to their daughters. Counselors and teachers should help students especially the females to overcome societal barriers and pursue their creative passions. Appropriate measures should be given to students to utilize their creative potentials. This study agrees with the investment theory of creativity.

**REFERENCES**

- Bharadway, R. (1985). Intelligence, Sex and Age as Correlates of the Components of Creativity. *Asian Journal of Psychology and Education* 16: 41-44.
- Behroozi, N. (2006). Necessary Education for Creativity in High Education. *Education Engineering in Iran*, 8 (29), 81-95.
- Bruce, P. (1974). Reactions of Preadolescent Girls to Science Tasks. *Journal of Psychology*, 86(2): 303-308.
- Federal Republic of Nigeria, white paper 2006.
- Fichnova, K. (2002). Creative Abilities of Preschool-age Boys and Girls. *Tvorive Schopnosh Chlapcov a Dievcat Predskolskeho Veku. Psychologia a Patopsychologia Dietata*, 37, 306-314.
- Guilford, J.P (1988). Some Changes in the Structure of the Intellect Model. *Educational and Psychological Measurement*, 40, 1-4.
- Ironkwe, A.G. (2008). Gender in Yam Technology Development. Transfer and Utilization in South-East Agro Ecological Zone of Nigeria: Michael Okpara University *Ph.D Dissertation*.
- Karimi, A. (2000). The Relationship between Anxiety, Creativity and Gender. Academic Achievement and Social Prestige among Secondary School. University of Shiraz, Shiraz.
- National Policy on Education,(2004). NERDC, Lagos.
- Naderi, H., Abdullahi, R., Aizan, T.H Shari & Kumar, V.K. (2009). Creativity Age and Gender as predictors of Academic Achievement Among under graduate students. *Journal of American Science* 5 95). 101-112.
- Obasi, U. (2004). Curriculum for Gender Neutral Education. *WOREC Journal of Gender Studies* 1 (2) 81-86.
- Okoro, C.C. (2003). Sex Differences among Junior Secondary school Student Creative Performance in Uyo metropolitan school. *The Educational psychologist* Pp 14-20.
- Plirto, J. (2004). *Understanding creativity*. Scohsdale. Az: Great potential press.
- Plucker, J.A, Beghetto, R.A., & Dow, G.T (2004). Why isn't creativity more important to educational psychologists? Potential Pitfalls and Future Directions in Creativity Research. *Educational Psychologist*.

Sternberg, R.J., & Lubart, T.I. (1996) Investing in creativity. *American Psychologist*, 51, 677-688.

Torrence, E.P. (1963). *Education and Creative Potential*. Minneapolis, MN: University of Mimesota press.

Unamma, R.P.A. (2003). Gender Impact in Agricultural Technology Adoption and Commercialization REFILS Nigeria Experience. F.A.OIITA Ibadan workshop on Gender Impact on Commercialization of Stakeholders.