

# Gender Differences In Creativity Among Senior Secondary School Students

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## Abstract

*A fundamental feature of human personality is creativity, which is impacted by cultural, societal, and individual characteristics, such as gender. Therefore, this study examines the gender differences in creativity among senior secondary school students. For this purpose, descriptive survey technique has been used with a form named "Torrance test of thinking creatively with words". Data from 400 students, comprising of 200 female and 200 male students, were collected from one of the senior secondary school students of Haryana, India. The creativity was evaluated in context of fluency, flexibility, and originality. The findings from the evaluation show that male students have higher score than female students in creativity based on fluency and flexibility, but no significant difference was observed on originality. Societal and environmental factors might be the factors behind differences in creativity. This study highlights the requirement for equitable and supportive platforms for nurturing the creativity feature of all students, especially females, using targeted educational strategies.*

**Keywords:** *Creativity, Senior Secondary School Students, Gender difference.*

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## I. Introduction

Researchers have founded that a minimum level of creativity is required to finish even an easy task, so the value for creative talent is of utmost important in today's dynamic world. Therefore, the researches in the field of creativity have been increased (Shalley et. al., 2000; Unworth, 2001). Creativity being an attribute to human personality though its execution is a result of the association with numerous factors such as cultural, societal, and individual factors including gender. Gender stereotypes and expectancy from them decides about their perceiving, expressions and recognition of their creative endeavours. Creativity consists of the ability of an individual to think and be resourceful and generating new ideas that give rise in cognitive domain substantially (DeHann, 2009). For an individual, Creativity plays an important role to adopt the new world and advancements and obvious potential of youngsters to outshine in the evolving conditions (Florida, 2002). Creativity is in consistent observation in the field of education and essential in today's world (Henriksen et. al., 2016; Shabrina & Kuswanto, 2018). These skills are the set of capacities that an individual have to produce numerous solutions on the basis of details given by establishing the thoughts that focuses on the flexibility, fluency and originality (Isaksen & Treffinger, 1985; Munandar, 1999). The terms flexibility, fluency, and originality can be described as total number of ideas generated, variety in the categories of responses and statistical rarity of ideas respectively for the information provided. Torrance defined the Creativity as "a process of becoming sensitive to problems, deficiencies, gaps of knowledge, missing elements, disharmonies, identifying the difficulties, searching for solutions, formulating hypotheses about the deficiencies, testing and retesting hypotheses, and possibly modifying and retesting then finally communicating results". Torrance believes that creativity is a talent that can be acquired and cultured for developmental out-turn on educational methods (Torrance, 1974). Therefore, Creativity is the essential component that must be nurtured in the individuals through learning practices in the schools. Every individual is having a different creative potential.

## Rationale of the Study

Many research findings favour to individual differences in creative styles (Gelade, 2002; Ng & Rodrigues, 2002). Researches designates that gender difference in creativity are not embedded in innate powers but are strengthened through societal norms and procedures. Gender specific roles usually accomplice male with the innovation, and promote their involvement in technical creativity, in contrast females are often stimulated to

be excellent in social creativity exhibiting their roles as caregivers (Baer & Kaufman, 2008). Societal and environmental circumstances intensify these gender differences. The componential theory of creativity advocates that availability of resources, assistance, and self-determination affect the creative results substantially (Ambile, 1996). Gender biases in the field of education, in any organization, and in leadership scope generate an unbalanced platform for creative expression. For clear perception of creativity from the perspective of gender is important for inclusivity and equity. By looking into the gender differences in creativity, researchers can determine the approaches to demolish biases, arrange equal opportunities and nourish the creative potential of every individual. Some of the studies determines about the differences in creativity on the basis of gender. Zheng and Xiao (1983) revealed that the flexibility in creative thinking of boys was higher than the girls of middle school. In contrast, Shi et.al. (1999) showed that there is no significant gender difference in creative thinking in different aspects for German and Chinese pupil. The present research emphasizes on gender differences in creativity among senior secondary school students.

**Objective of the Study**

To examine the gender difference in creativity among senior secondary school students.

**Hypothesis**

Male students are expected to score high on measures of creativity than female student.

**Methods**

Descriptive survey method was used to carry out the research.

**Participants**

Sample was taken from eight schools of four district of Haryana states, two schools from each district. From each district, one school was Private School and the other was Government School. For the data collection, 400 senior secondary school students (200 male and 200 female students) with different streams such as medical, non-medical, commerce and humanities were randomly selected.

**Measuring tool**

Data for the research were collected by using Torrance Test of Thinking Creatively with Words (Torrance, 1966). Thinking creatively with words is a verbal subtest of Test of Creativity originated by Torrance. The current study used Thinking Creatively with Words (Form A) i.e. verbal test of creative thinking which consist of six subtests named as asking questions, guessing causes, guessing consequences, product improvement, unusual uses and just suppose involving the ideas through imagination. The verbal subtests are scored on the three criteria of fluency, flexibility and originality.

**II. Results And Discussion**

In this research process, three components i.e. flexibility, fluency and originality of creativity were determined by using the measuring tool. Data was collected from 400 senior secondary school students in which 200 are female and 200 are male students.

**Table 1: Comparison of Mean Score for the Factor Fluency of the Creativity**

Gender	No. of Students (n)	Mean (M)	SD	t-value	Level of Significance
Female	200	29.530	7.240	-3.787	P< .01
Male	200	32.220	6.962		

From table 1, it is concluded that there is significant difference in fluency of the female and male students. According to the mean score (M=29.530 for female; M= 32.220 for male) and standard deviation (SD= 7.240 for female; SD= 7.962 for male) of fluency it is found that male students demonstrate significantly higher levels of fluency in creativity than female students, as reflected by their higher mean scores and the statistically significant result.

**Table 2: Comparison of Mean Score for the Factor Flexibility of the Creativity**

Gender	No. of Students (n)	Mean (M)	SD	t-value	Level of Significance
Female	200	19.120	3.205	-3.302	P< .01
Male	200	20.170	3.154		

From table 2, a significant difference has been found on factor flexibility of female and male students. Based on the mean score (M= 19.120 for female; M= 20. 170) and standard Deviation (SD= 3.205 for female; SD=3.154), it suggests that male students exhibit greater flexibility in creativity compared to female students, as evidenced by the higher mean score and the statistically significant difference.

**Table 3: Comparison of Mean Score for the Factor Originality of the Creativity**

Gender	No. of Students (n)	Mean	SD	t-value	Level of Significance
Female	200	12.520	3.256	.236	N.S.
Male	200	12.590	2.656		

From table 3, according to the mean score (M=12.520 for female; M=12.590) and standard deviation (SD= 3.256 for female; SD= 2.656 for male), the result is marked as not significant, implying that the observed difference in originality scores is not statistically significant.

**Table 4: Comparison of Mean Score of Creativity**

Gender	No. of Students (n)	Mean	SD	t-value	Level of Significance
Female	200	61.270	12.651	-3.06	P< .01
Male	200	64.980	11.522		

From table 4, mean score (M=61.270 for female; M=64.980) and standard deviation (SD= 12.651 for female; SD= 11.522 for male), reveals a significant difference in creativity scores between genders, with male students demonstrating higher average creativity levels than female students.

### III. Discussion

The objective of the study was to examine the gender difference in creativity among senior secondary school students. For the actualization of research objectives 200 female and 200 male students were tested with Torrance Test of Thinking Creatively with Words (Torrance, 1966). Gathered scores for the variables for both female and male subjects were analysed through statistics. To examine the gender difference in creativity, it was postulated that male students are to execute higher on creativity than female students. As gender difference in creativity is a vigorous area of research for researchers so various researches have been carried out in this field. Some investigators (Wolfradt & Pretz, 2001; Reuter et. al., 2005; Chia et.al., 2008, Hardy & Gibson, 2017) have revealed that females creative thinking is higher than males and in contrary some researchers (Bender et. al., 2003; Dollinger et. al., 2005; Chavez-Eakle et. al., 2006) depicted males to be high in creativity than females. Some of the researchers (Amabile, 1983; Baer & Kaufman, 2008; Baquedano & Lizarraga, 2012; Tsai & Shirlay, 2013; Aggarwal & Schar, 2017) found no significant difference between males and females and in some studies, it was revealed that female students scored significantly high on fluency and flexibility than male students (Wo, et.al., 2009). In the current study, it is found that mean composite score on Torrance Test of creativity is higher in male students than the female students. Males have scored significantly higher on the factor of creativity named fluency and flexibility than their counter parts and on the factor originality, although the scores obtained is higher in males as compared to females but statistically not significant. In this study, findings revealing male students to be high in creativity that can be because of the discriminatory sociability, societal and cultural exploration is provided to male and female students in local context in which male students tend to have more possibilities of interaction with the outer surroundings than the female students who are not generally free to interact with the outer circumstances. Findings of the current study advice to provide a comfortable and favourable environment to the students, especially to female students in order to employ their energy and talent productively for a high-quality performance and these creative thinking skills can be nourished through teaching-learning at school level (Ozcan, 2010).

#### Main Findings

1. Male students have obtained significantly higher composite score of Creativity than female students.
2. Male students have also obtained significantly high scores on Fluency and Flexibility than female students.
3. Two groups have not differed significantly on Originality.

Present finding supports the hypothesis positing that male students are expected to score high on measures of creativity than female students.

### IV. Conclusion

This study provides an understanding on gender differences based on creativity among secondary school students. The observations showed that male students have obtained higher score on the combined measures of

creativity, fluency, and flexibility whereas in originality dimension, no difference was observed between male and female students. The insights from these observations provide an understanding that creativity depends on external societal, cultural, and environment factors. In contrast to the female students, who have societal constraints and limited opportunities for exploration, male students may have an advantage of higher exposure to different social and environmental stimuli, which consequently leads to develop and express their creative abilities more freely. This study highlights the significance of addressing these differences through proactive strategies in education. It is important to provide an explicit and supportive environment to induce creativity among students irrespective of their gender. Educators may play a pivotal role in fostering the creativity by encouraging participation in diverse activities and ensuring equality of opportunities. Teaching-learning strategies could be adopted that ensemble creative thinking into the session plans to nurture the student's creativity as a core skill. Such techniques not only help in bridging the gender gap in creativity but also helpful in inducing creative skills required for dynamic world.

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