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**LEARNING STYLE, GENDER AND LOCALITY AS THE DETERMINANTS OF  
EDUCATIONAL ANXIETY AMONG SCHOOL STUDENTS: AN EMPIRICAL STUDY**

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**Abstract**

This study was designed to examine empirically the main and interaction effect of gender, locality and learning style on the educational anxiety of secondary school students. Educational anxiety was treated as dependent variable and gender (male & female), locality (urban & rural) and Learning style (high & low) as independent variables. Multiple stratified random sampling techniques was used to select 350 school students studying in IX<sup>th</sup> class of six different Govt. schools of Rohtak District of Haryana State for the present study. Descriptive survey method was used for this study. The Learning style of the sample was assessed by using Learning Style Inventory developed (LSI-MK) by Misra (2005)[8] & to judge the educational anxiety of students, Educational Anxiety Inventory (EAI-SVAA) prepared by Sood & Anand (2012)[13] was used. Balanced Three-way ANOVA with 2×2×2 factorial design was used for the purpose of data analysis and Hartley's Test of Homogeneity was applied to test the assumption of homogeneity of variance for ANOVA. The data were subjected to analyze by using SPSS( version20). The findings of the study revealed that main effect of locality on educational anxiety of secondary school students was found significant whereas the main effect of other two independent variables i.e. gender and learning style on educational anxiety of secondary school students were not found significant. Significant double interaction effects of gender and locality; locality and learning style on the educational anxiety of secondary school students were reported whereas no significant double interaction effect of gender and learning style on the educational anxiety among secondary school students was observed. No significant triple interaction effect of gender, locality and learning style on the educational anxiety of secondary school students was found.

**Keywords:** Educational Anxiety, Learning style, Gender, Localit

## **INTRODUCTION**

In the present era, educational anxiety becomes a problem that needs a solution when the amount experienced grows so excessive that a student is no longer able to function productively. A careful and timely identification of educational anxiety among students proves beneficial as far as their educational performance is concerned. It facilitates the students with various skills to perform better and adjust not only in educational institution but also in society. Facilitating educational anxiety provides the power of fighting against negative situations aroused by school setting, examination, feeling of surpassing others, home environment, society and low socio- economic status etc. Educational anxiety makes students curious to something new of their interest. It plays an important role in developing creative thinking among students. Thus, educational anxiety is of greatest importance for students as far as their educational performance and adjustment is concerned. For enjoying its more and more benefits it is needed to identify it at early stage and deal efficiently according to degree and severity of the problem being faced by sufferer. Educational anxiety is the combination of academic anxiety and test anxiety. There are many factors, which are responsible in provoking educational anxiety like personal, familial, social and institutional. Personal factors include emotional disorders, health disorders, maladjustment, low self- concept, low aspiration level, intelligence levels, learning style etc. Familial factors include socio-economic status, family environment, and attitude of the parents. Social factors have social status and social reputation. Last factor is Institutional factor that includes fear of teacher and fear of test and subject fear. Learning style is one of the factors that also affect the educational anxiety.

Learning style is a relatively consistent pattern of perception interaction with and response to stimuli in a particular learning environment. (Kolb,1984)[6] Every student should have an opportunity to reach his or her individual potential. We also know that an individual learner's culture, family background, and socioeconomic level affect his or her learning. The particular method of perceiving and processing information is denominated as a learning style. People with

different learning styles that are reflected in different educational strengths, weaknesses, skills and interests (Felder et al. 2002)[4]. Students with every possible learning style have the potential to succeed. Learning style as the characteristic ways in which individuals orientate to problem-solving (Ellis, 2005)[3]. When learner consciously chooses strategies that fit his or her learning style, these strategies become a useful toolkit for active, conscious, and purposeful self-regulation of learning (Oxford, 2001)[11]. Zainol Abidin (2011)[14] was found that high, moderate and low achievers have a similar preference pattern of learning in all learning styles. The purpose of using learning styles is to find the best ways for both students to learn effectively and teachers to teach efficiently. By observing the ways of learning style, we can determine the method to be used to give a large number of information. If we don't use appropriate learning style and want to score good marks, in that situation students use slip or other unfair means to copy. Thus, we concluded that if students use the appropriate learning style according to their learning, this will help in reducing educational anxiety among students. This means learning style affects the educational anxiety. Educational anxiety is considered a very significant determinant of their success in later life.

### **Theoretical Background**

Significant differences were found in academic anxiety and academic achievement of male and female secondary school students and girls found to be more academically anxious and had better academic achievement than boys (Attri & Neelam, 2013)[1]. Bihari (2014)[2] found no significant difference between the overall mean scores of secondary school boys and girls and rural and urban students on their academic anxiety. Khosravi (2005)[5] found that school anxiety was found significantly negatively correlated with self-concept. Girls were higher on school anxiety than boys. Oommen (2015)[9] was found significant correlation between learning style and academic achievement of secondary students. Students have many anxieties related to education. By observing the ways of learning style we can determine the method to be used to give a large number of information. Learning styles, school environment and test anxiety are the most important predictor of learning outcomes (Ogundokun, 2011).[10] It helps to reduce the educational anxiety among the school student. Till date, number of researches has been done on academic anxiety and test anxiety with academic achievement of secondary school

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students, no research conducted with learning style of secondary school students. However, negligible researches have been conducted in India that examines the impact of learning style on educational anxiety among secondary school students. This is where it hopes that this study will fill a gap. The other aspect of this research is to find interaction effect of the levels of learning style, gender & locality on educational anxiety. Therefore, from this point, this research work would like to find out how learning style affect the educational anxiety.

### **Variables involved**

- ❖ Dependent Variables:
  - Educational Anxiety
- ❖ Independent Variables:
  - Learning Styles,
  - Gender
  - Locailty

### **OBJECTIVES OF THE STUDY**

The present study is designed to meet the following objectives:

1. To study the main effect of (i) gender (A), (ii) locality (B) and (iii) learning style (C) on educational anxiety of secondary school students.
2. To study the interaction effect of gender (A) and locality (B) on educational anxiety of secondary school students.
3. To study the interaction effect of locality (B) and learning style (C) on educational anxiety of secondary school students.
4. To study the interaction effect of gender (A) and learning style (C) on educational anxiety of secondary school students.
5. To study the interaction effect of gender (A), locality (B) and learning style (C) on educational anxiety of secondary school students.

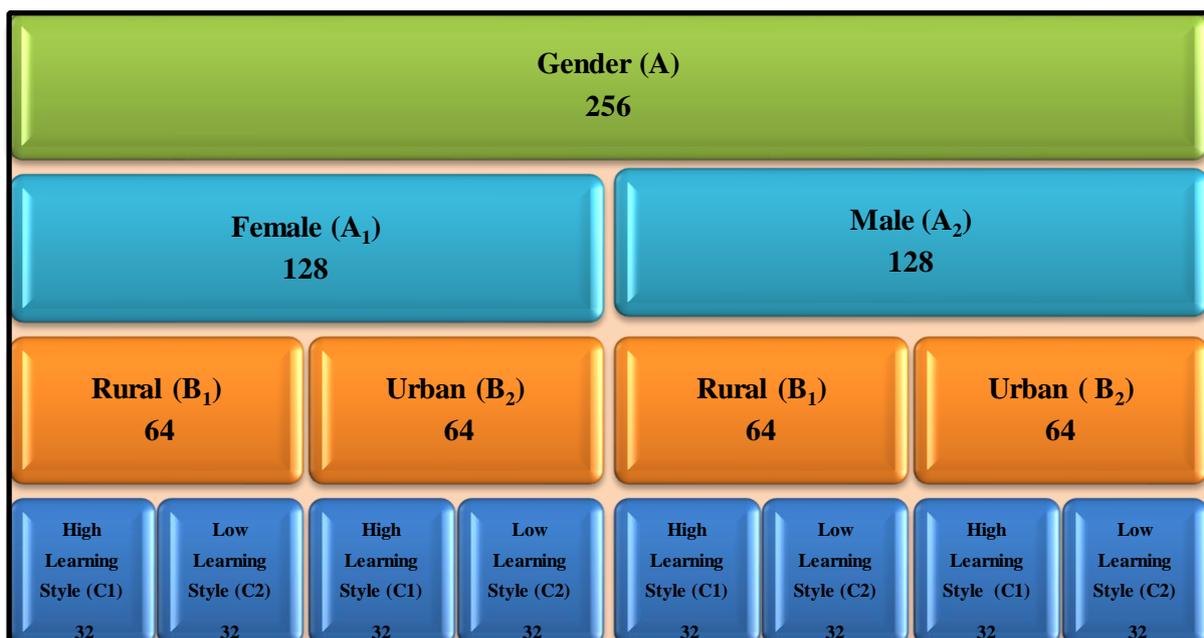
### **HYPOTHESES OF THE STUDY**

1. There is no significant effect of (i) gender (A), (ii) locality (B) and (iii) learning style (C) on educational anxiety of secondary school students.

2. There is no significant interaction effect of gender (A) and locality (B) on educational anxiety of secondary school students.
3. There is no significant interaction effect of locality (B) and learning style (C) on educational anxiety of secondary school students
4. There is no significant interaction effect of gender (A) and learning style (C) on educational anxiety of secondary school students
5. There is no significant interaction effect of gender (A), locality (B) and learning style (C) on educational anxiety of secondary school students.

### DESIGN OF THE STUDY

The present study employed descriptive survey method. The  $2 \times 2 \times 2$  factorial randomized group design was used to analyze the data. Each of the independent variables was varied at two levels as shown in fig.1:



**Fig1: Schematic Layout of  $2 \times 2 \times 2$  Factorial Design along with the break up detail of Sample of the Study**

### Sample

In the present study, multiple stratified random sampling techniques was employed to select the sample of 350 students of IX<sup>th</sup> class studying in Govt. secondary schools of Rohtak District of Haryana State. These were further classified on the basis of gender, locality and learning style.

The secondary school students who score 146 and below were considered as low level of learning style and those who scored 147 and above were considered as high level of learning style. In this way, for balanced three- way Anova, the final sample comprised 256 secondary school students as per the requirement of the 2x2x2 cells (32 in each cell) of the paradigm was chosen. The systematic layout of factorial design along with break up detail of sample of study shown in fig.1

### **Tools Used**

1. Educational Anxiety Inventory (EAI-SAVV) developed by Sood & Anand (2012) [13] was used to collect the data of educational anxiety of secondary school students. The scale consists of 42 items rated on a five point psychological continuum. The coefficient of reliability was calculated through test-retest method and internal consistency and it was found 0.738. The validity of this scale was determined by item validity, content validity, criterion related validity and cross validity methods.
2. Learning Style Inventory (LSI-MK) developed by Misra (2005)[8] was used to judge the learning style of secondary school students. It is likert type five- point scale with 42 items of three areas: enactive, figural & verbal and the coefficient of reliability was found 0.682, 0.742 & 0.903 respectively for three areas.

### **Statistical Techniques**

Descriptive statistics such as Mean and Standard Deviation was used. The Balanced Three Way Analysis of Variance (ANOVA) with 2x2x2 Factorial Design was computed to study the main effects and interaction effects of the independent variables i.e. gender, locality and learning style on the dependent variable i.e. educational anxiety. 't'-test was employed for further investigation wherever F-value was found to be significant at 0.05 and 0.01 level. For testing the assumption of homogeneity of variance for ANOVA, the Hartley's Test was applied. The data was analyzed by using SPSS 20.

### **Data Analysis and Interpretation**

This section investigates the effect of gender, locality and learning style on educational anxiety of the school students. The value of homogeneity of variance calculated by Hartley's Test and it

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was found  $F_{max}=1.97$  which does not fall in critical region. Therefore, it means that the variances of eight groups are homogenous.

In order to report the objectives of the study, to find the main and interaction effects of gender, locality and learning style on the educational anxiety of secondary school students, data was subjected to analysis of variance of a  $(2 \times 2 \times 2)$  factorial study with a randomized group design. For analyzing the data, the variables i.e. gender, locality and learning style were coded as A, B, C respectively and were varied into two ways as female (A1) and male (A2); rural (B1) and urban (B2); and high level of learning style (C1) and low level of learning style (C2). A layout of the factorial design used in the study for the variables: learning style, gender and locality has been presented in Fig. 1. The means and S.D's of different sub-samples have been presented in the Table 1 and Fig.2. The summary of three-way ANOVA  $(2 \times 2 \times 2)$  has also been presented in Table 2, which is analyzed in terms of main effects and interaction effects.

**Table 1: Mean's and S.D's of Sub Samples of  $2 \times 2 \times 2$  Design for Educational Anxiety of Secondary School Students with respect to Learning Style, Gender and Locality**

Gender (A)	Locality (B)	High LS (C1)	Low LS (C2)
Female (A1)	Rural (B1)	Mean= 138.28 S.D.= 36.13 N= 32	Mean= 124.16 S.D.= 19.28 N= 32
	Urban (B2)	Mean= 136.97 S.D.= 25.27 N= 32	Mean= 120.94 S.D.= 19.29 N= 32
Male (A2)	Rural (B1)	Mean= 135.72 S.D.= 25.71 N= 32	Mean= 137.94 S.D.= 21.74 N= 32
	Urban (B2)	Mean= 114.44 S.D.= 24.23 N= 32	Mean= 124.31 S.D.= 16.26 N= 32

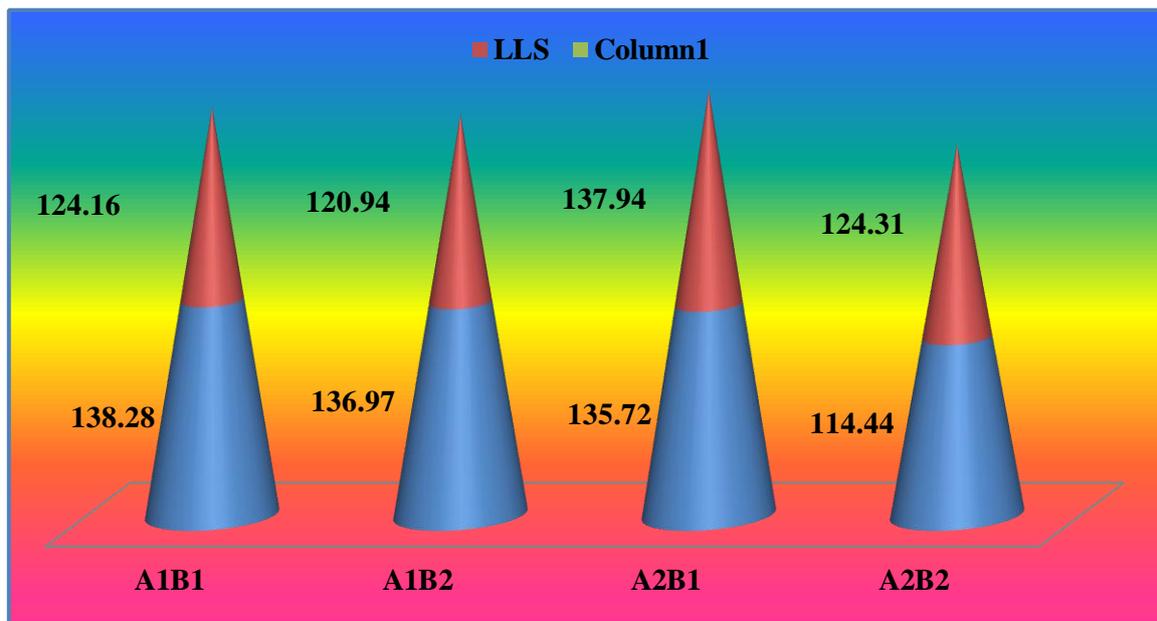


Fig.2: Mean Scores of Sub Samples of 2×2×2 Design for Educational Anxiety of Secondary School Students with respect to Learning Style, Gender and Locality

Table 2: Summary of Three-way ANOVA (2×2×2) for Educational Anxiety of Secondary School Students with respect to Learning Style, Gender and Locality

Source of Variance	df	Sum of Squares[SS]	Mean Sum of Squares [MS]	F-ratio
A ( Gender)	1	252.02	252.02	0.431 (NS)
B ( Locality)	1	6221.27	6221.27	10.652**
C ( Learning Style)	1	1305.02	1305.02	2.234 (NS)
A×B Interaction	1	3690.56	3690.56	6.319*
A×C Interaction	1	7140.25	7140.25	12.225**
B×C Interaction	1	132.25	132.25	0.226 (NS)
A×B×C Interaction	1	365.77	365.77	0.626 (NS)
Between Cells	7	19107.12		
With in cells	248	144846.63		
Total	255	163953.75		

\*\* Significant at 0.01 level

\* Significant at 0.05 level

NS

= Not Significant

**Main Effects of Gender (A), Locality (B) and Learning Style (C) on Educational Anxiety of Secondary School Students**

It can be inferred from the Table-2 that for main effect of gender and learning style on educational anxiety F-ratio 0.431 & 2.234 respectively is not significant at 0.01 levels, which reveals that male & female students and high & low level of learning style don't differ significantly with respect to their educational anxiety. Therefore, the null hypothesis Ho1 (a,c), "There exists no significant effect of gender and learning style on educational anxiety of secondary school students" stands retained. The result is contrast with the findings of Khosravi (2005)[5]; Attri & Neelam (2013)[1]; Siddiqui et al. (2014)[10] & as they revealed that girls were higher on educational anxiety than boys were. While, the result is in line with the findings of Mahajan (2015)[7] who found no significant difference between academic anxiety of male and female secondary school students. Further depicted in the Table-2 that F-ratio 10.652 for the main effects of locality on educational anxiety found significant at 0.01 levels. It indicates that rural and urban has shown their significant effects in educational anxiety. Therefore, the null hypothesis Ho1 (b)," There exists no significant effect of locality on educational anxiety of secondary school students" is not retained. The educational anxiety among rural school students found higher than urban school students. This finding is in contrast with the findings of Bihari (2014)[2] \ who revealed that no significant difference were found between the overall mean achievement scores of secondary school boys and girls and rural and urban students on their academic anxiety.

### **Double Interaction Effects of Gender, Locality and Learning Style on Educational Anxiety of Secondary School Students**

#### **Gender (A) × Locality (B)**

As evident from Table 2, the F-ratio (6.319) for interaction between gender (A) & locality (B) on educational anxiety of secondary school students found significant at 0.05 levels, which leads to the inference that gender (A) & locality (B) were interact with each other. Therefore, the null hypothesis Ho2 is not retaining. Therefore, it may conclude that there is a significant interaction effect of gender (A) & locality (B) on educational anxiety of secondary school students. For further investigation, 't'-test was employed to find out the significant difference in the mean scores of educational anxiety for different groups and the results have been presented in the

Table 3 and also shown graphically in Fig. 3. Table 3 't'-values for mean scores of on educational anxiety of secondary school students for different groups of gender (A) & locality (B).

**Table 3 't'-values for Mean Scores of on Educational Anxiety of Secondary School Students for different groups of Gender (A) × Locality (B)**

Groups	N		Mean		SD		t-test
A1B1 vs. A1B2	32	32	131.22	128.95	29.60	23.72	0.34(NS)
A1B1 vs. A2B1	32	32	131.22	136.83	29.60	23.64	0.84(NS)
A1B1 vs. A2B2	32	32	131.22	119.38	29.60	21.07	1.84(NS)
A1B2 vs. A2B1	32	32	128.95	136.83	23.72	23.64	1.33(NS)
A1B2 vs. A2B2	32	32	128.95	119.38	23.72	21.07	1.70(NS)
A2B1 vs. A2B2	32	32	136.83	119.38	23.64	21.07	3.90**

\*\*= Significant at 0.01 level

\*= Significant at 0.05 level

NS= Not Significant

A1=Female students

B1= Rural

A2=Male students

B2= Urban

As seen in the Table 3, it was found that t-values for all the groups are not significant except the group A2B1 vs. A2B2, which is found to be significant at 0.01 level with respect to their educational anxiety leading to the inference that the mean scores of this group of educational anxiety, differ significantly. The interaction effect gender (A) & locality (B) on educational anxiety of secondary school students has been presented in form of line graph in Fig. 4, which exhibits a significant interaction effect of gender, and locality on educational anxiety of secondary school students.

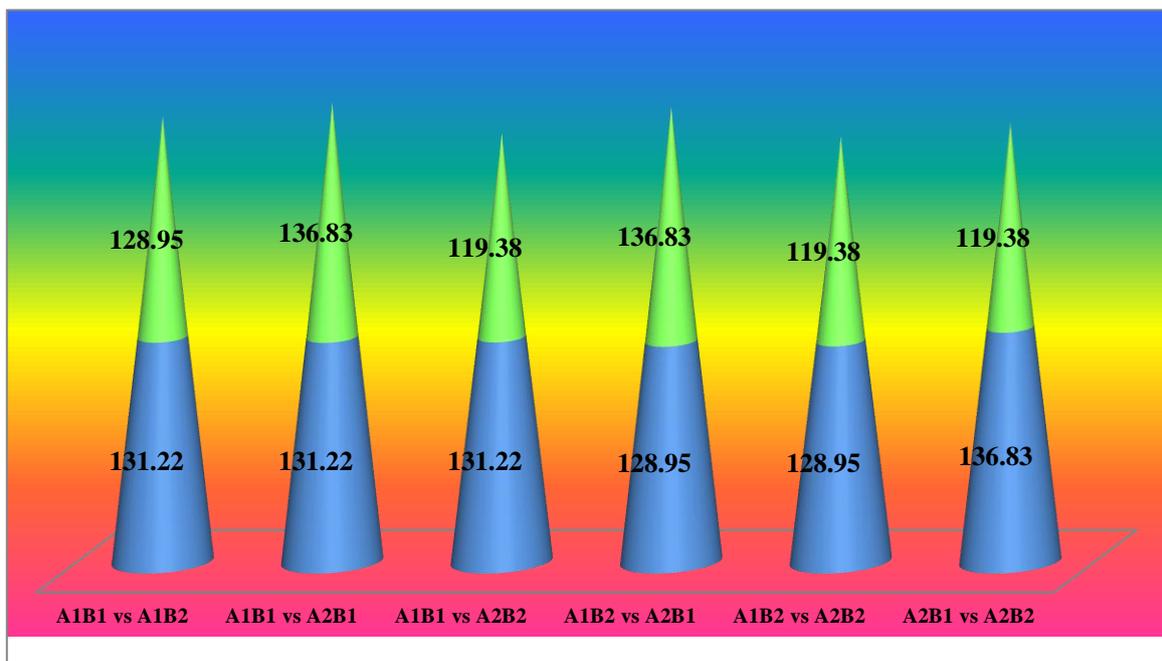


Fig. 3: Mean Scores interaction effect of Gender (A) × Locality (B) on educational anxiety of secondary school students.

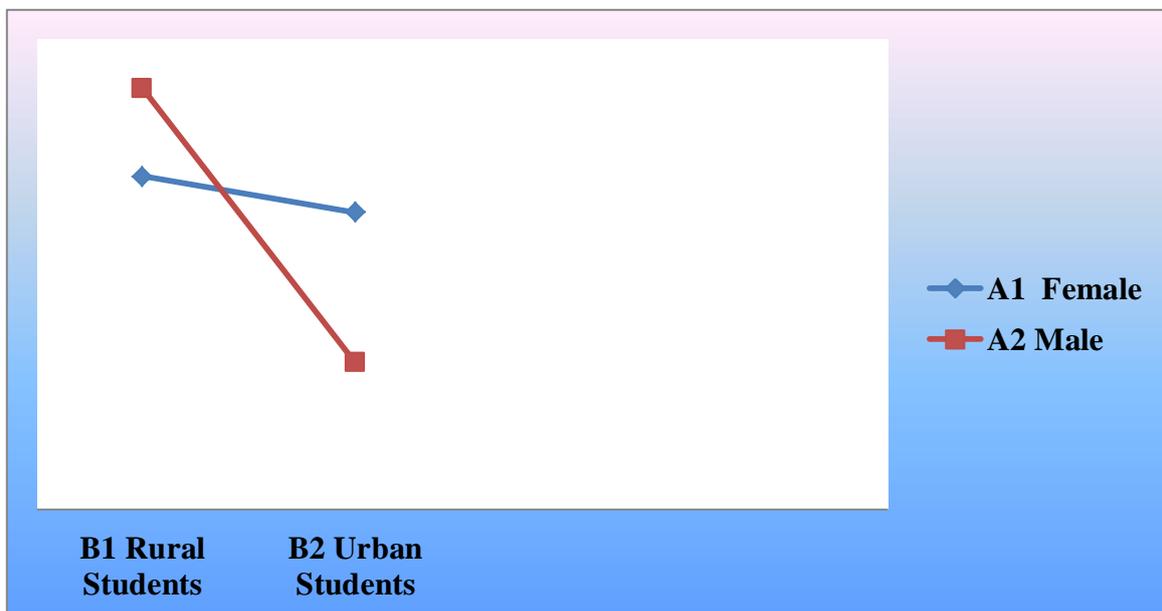


Fig. 4: Interaction Effect between Gender (A) × Locality (B) on Educational Anxiety of Secondary School Students

**Gender (A) × Learning Style (C)**

As shown in Table 2, the F-ratio 12.225 for interaction between gender (A) & learning Style (C) on educational anxiety of secondary school students found significant at 0.05 level which leads to the inference that gender (A) & learning style (C) do interact with each other. Therefore, the null hypothesis Ho3 is not retaining. It may be conclude that there is a significant interaction effect of gender (A) & learning style (C) on educational anxiety of secondary school students. For further investigation, ‘t’-test was employed to find out the significant difference in the mean scores of educational anxiety for different groups and the results have been presented in the Table 4 and also shown graphically in Fig.5. Table 4 ‘t’-values for Mean Scores of on educational anxiety of secondary school students for different groups of gender (A) & learning style (C)

**Table 4 ‘t’-values for Mean Scores of on Educational Anxiety of Secondary School Students for different groups of Gender (A) × Learning Style (C)**

Groups	N		Mean		SD		t-test
A1C1 vs. A1C2	32	32	137.63	122.55	30.93	19.200	2.34*
A1C1 vs. A2C1	32	32	137.63	125.08	30.93	27.003	2.14*
A1C1 vs. A2C2	32	32	137.63	131.13	30.93	20.24	0.995 (NS)
A1C2 vs. A2C1	32	32	122.55	125.08	19.20	27.00	0.432 (NS)
A1C2 vs. A2C2	32	32	122.55	131.13	19.20	20.24	1.71 (NS)
A2C1 vs. A2C2	32	32	125.08	131.13	27.00	20.24	1.01 (NS)

\*\*= Significant at 0.01 level

\*= Significant at 0.05 level

NS= Not Significant

**A1=Female students**

**C1= High learning Style**

**A2=Male students**

**C2= Low Learning Style**

As seen in the Table 4, it was found that t-values for all the groups are not significant except the two groups: A1C1 vs. A1C2 & A1C1 vs. A2C1 which is found to be significant at 0.05 level with respect to their educational anxiety leading to the inference that the mean scores of this groups of educational anxiety differ significantly. The interaction effect of gender (A) and learning style (C) on educational anxiety has been presented in form of line graph in Fig.6, which exhibits a

significant interaction effect of gender & learning style on educational anxiety of secondary school students.

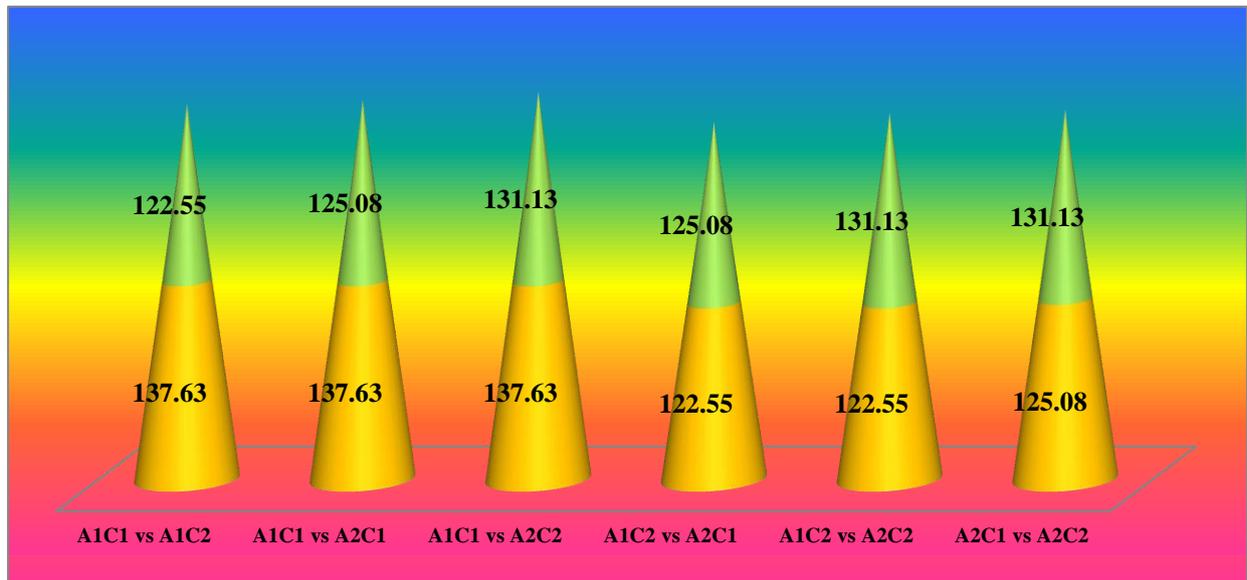


Fig. 5: Mean Scores interaction effect of Gender (A) × Learning Style (C) on Educational Anxiety of Secondary School Students.

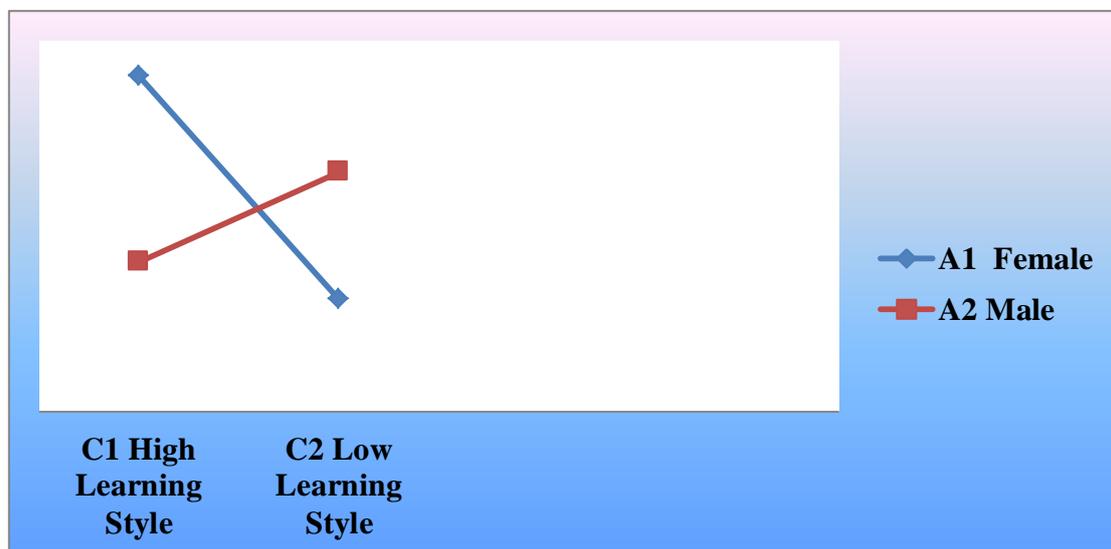


Fig. 6: Interaction Effect between Gender (A) × Learning Style (C) on Educational Anxiety of Secondary School Students

Locality (B) × Learning Style (C)

It can be shown from the Table 2 that the F-ratio 0.226 for interaction between locality (B) &

learning style (C) is not found significant at 0.01 levels which leads to the inference that locality (B) & learning style (C) do not interact with each other. Therefore, the null hypothesis Ho4 is retained. It is conclude that there is no significant interaction effect of locality (B) & learning style (C) on educational anxiety of secondary school students.

### **Triple Interaction Effect of Gender, Locality and Learning Style on Educational Anxiety of Secondary School Students**

#### **Gender (A) × Locality (B) × Learning style (C)**

The Table 2 indicates that the F-ratio 0.626 for interaction between gender, locality and learning style is not found significant at 0.01 levels, which leads to the inference that gender, locality and learning style do not interact with each other. Thus, hypothesis Ho5 “There exists no significant interaction effect of gender, locality and learning style on educational anxiety of secondary school students” retained. It is inferred that there is no significant interaction effect of gender (A), locality (B) and learning style (C) on educational anxiety of secondary school students.

### **FINDINGS OF THE STUDY**

- No significant difference found in educational anxiety between male and female secondary school students. It inferred that both females and males have almost same in their educational anxiety.
- Locality found to have a significant effect on educational anxiety of secondary school students. It revealed that secondary school students belonging to rural area faced higher degree of educational anxiety than secondary school students belonging to urban area .
- The study revealed that learning style had no significant effect on educational anxiety of secondary school students. It concluded that secondary school students having high learning style and low learning style just about in educational anxiety .
- A significant interaction effect for interaction between gender & locality on educational anxiety of secondary school students was reported.
- The study also revealed that there was significant interaction effect Gender & Learning Style on educational anxiety of secondary school students.

- No significant interaction effect of locality & learning style on educational anxiety of secondary school students was found.
- There was no significant interaction effect of gender, locality and learning style on educational anxiety of secondary school students.

## **CONCLUSION**

From the present study, it revealed that significant effect of locality on educational anxiety of secondary school students was found whereas the main effect of other two independent variables i.e. gender and learning style on educational anxiety of secondary school students were not found significant. Significant double interaction effects of gender and locality; locality and learning style on the educational anxiety of secondary school students were reported whereas no significant double interaction effect of gender and learning style on the educational anxiety among secondary school students was observed. No significant triple interaction effect of gender, locality and learning style on the educational anxiety of secondary school students was found.

## **EDUCATIONAL IMPLICATIONS**

Adolescents are the main segment of the population of country. Therefore, it is very important for us to reduce their educational anxiety in a proper manner and to take knowledge of one's learning style. This study has implications for parents, teachers, educational administrators, counselor, other laypersons and all those involved in the lives of adolescents. Educational anxiety is find a severe problem among secondary school students. Strenuous efforts are needed to create anxiety free climate in school by providing counseling to students to choose appropriate stream according to the abilities, interests and potentials of students.

Teacher must create a climate in classroom free from anxiety by providing extra attention to those who are from rural area and low level of learning style because they suffer more from educational anxiety. Educators should ensure that activities designed and carried out in ways that offer each learner the chance to engage in the manner that suits them best. It can also help students to learn more effectively by the identification of their lesser preferred learning styles and the strengthening of these styles and it helps to decrease their educational anxiety. Rural are more prone to anxiety as compared to urban it may be because of family obligations,

environment biasness etc. There must be give appropriate attention inside the school to get relief from academic anxiety disorder. Parents and teachers must play an active role in minimizing the academic anxiety of students by expecting academic performance from students that is not beyond their abilities, interest, potentialities & learning style etc, because over expectations from parents and teachers result in more academic anxiety.

## REFERENCES

- [1.] Attri, A.K. & Neelam (2013). Academic anxiety and achievement of secondary school students- A study on gender difference. *International Journal of Behavioural Social and Movement Sciences*, Vol. 2(1),27-30.
- [2.] Bhiari, S.(2014) . Academic anxiety among secondary school students with reference to gender, habitat and types of school. *International Journal of Education and Psychological Research (IJEPR)* Vol. 3(4), 30-32.
- [3.] Ellis, R. (2005). *The study of second language acquisition*. Shanghai: Shanghai Foreign Education Press.
- [4.] Felder R.M., Felder G.N. & Dietz E.J. (2002). The effects of personality type on engineering student performance and attitudes. *J. Eng. Educ.* Vol. 91(1):3-17.
- [5.] Khosravi, M (2005) *A comparative study of relationship between self- concept and anxiety among adolescence students*. Ph.d thesis, Pune: University of Pune.
- [6.] Kolb, D. A.(1984). *Experiential learning: Experience as a source of learning and development*, Englewood Cliffs, NJ: Prentice Hall.
- [7.] Mahajan, G. (2015). Academic Anxiety of Secondary School Students in Relation to their Parental Encouragement. *International Journal of Research in Humanities and Social Sciences*, Vol. 3( 4), 23-29. [www.rajimr.com](http://www.rajimr.com)
- [8.] Misra, K.S. (2002). *Manual and inventory of Learning Style*. National Psychological Corporation: Agra.
- [9.] Ogundokun, M.O. (2011). Learning style, school environment and test anxiety as correlated of learning outcomes among secondary school students. *Ilf Psychologia*, Vol. 19(4), 2034-2037.
- [10.] Oommen,N.M. (2015). Learning style and academic achievement in biology of secondary school students. *Journal of Current Research*, 7, (8), 19818-19820.
- [11.] Oxford, R.L. (2001). *Language learning styles and strategies*. In *Teaching English as A Second or Foreign Language*. Boston: Heinle & Heinle Press.
- [12.] Siddiqui M.A. & Rehman A.U. (2014). An Interactional Study of Academic Anxiety in relation to Socio- Economic Status, Gender and School type among Secondary School Students. *International Journal of Educational Research and Technology IJERT: Vol. 5 [2]*, 74-79.

- [13.] Sood , V. & Anand, A. (2012). *Manual & inventory of Educational Anxiety (EAI-SVAA)*. H.P. Bhargava Book House: Agra.
- [14.] Zainol, A.M. (2011). Learning styles and overall academic achievement in a specific educational system. *International Journal of Humanities and Social Science*. Vol. 1(10), 143-152.