EFFECT OF EDUCATIONAL ANXIETY AND GENDER ON ACADEMIC CHEATING OF SECONDARY SCHOOL STUDENTS: AN ANALYTICAL STUDY

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ABSTRACT

The present study was undertaken to examine the academic cheating among secondary school students in relation to educational anxiety and gender. Academic cheating was treated as dependent variable whereas educational anxiety and gender were treated as independent variables. Descriptive survey method was employed for the present study. A sample of 600 secondary school students was taken by using multi-stage random sampling technique. Academic cheating scale by Kalia and Deep (2011) and Educational anxiety scale by Dahiya and Dahiya (2018) were used to collect the data. The obtained data was analyzed using Two Way ANOVA with 3×2 factorial design. Levene's Test of Homogeneity of Variance was also applied to test the assumption of homogeneity of variance for ANOVA. Main effect of educational anxiety and gender found to have a significant effect on academic cheating of secondary school students. Further, Double interaction effects of educational anxiety and gender had a significant effect on academic cheating of secondary school students.

Keywords: Academic cheating, Educational anxiety and Gender

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INTRODUCTION

Cheating means copying from other students during exams, one of the forms of misconduct that has become one of the biggest concerns of educational institutions (Wilkinson, 2009). Researchers can manipulate data in favor of what they want to achieve. Other forms of academic cheating such as copying test responses from a classmate, taking exams for other people; failure to cite other peoples work; taking exam home and purchasing research papers and one assumes it is his/her work. Also actions such as breaking the office or teachers file to access the test or answer key; sabotaging peers ongoing work or gaining illegal access to school computer to change official grades are all forms of academic dishonesty (Petress, 2003). In fact, much of the research on academic cheating has been centered on elucidating possible psychological reasons why students engage in cheating behaviors. Most prominently, variables significantly related to cheating include test anxiety, impulsivity, intelligence, self-esteem, locus of control, social desirability and guilt (Alarape & Onakoya, 2003). Educational anxiety is a deliberating factor which impact on students' academic achievement. Almost everyone is anxious at one time or another. Many students become anxious just before a test that they know will be difficult and most get nervous when they have to give a prepared speech in front of their peers. Students have many anxieties related to education like pressure by parents and schools to achieve top scores has created stress levels among students. A student always wants to stand first for that he/she use unfair means. The students know cheating is wrong but they feel like the most important thing they do is get the grades, by hook or by crook.

Dependent Variable: Academic Cheating

Independent Variables: Educational anxiety and Gender

OBJECTIVES OF THE STUDY

1. To study the main effect of educational anxiety (D) and gender (B) on academic cheating among secondary school students.

2. To find out the interaction effect of educational anxiety and gender on academic cheating among secondary school students

HYPOTHESES OF THE STUDY

H_{01} There exists no significant main effect of educational anxiety (D) on academic cheating among secondary school students.

H_{02} There exists no significant main effect of gender (B) on academic cheating among secondary school students.

H_{03} There exists no significant interaction effect of educational anxiety and gender on academic cheating among secondary school students.

DESIGN AND METHODOLOGY: In the present study, descriptive survey method was used. The 3×2 factorial randomized group design was used to analyze the data. All the independent variables i.e. Educational anxiety (High, Average and Low) and gender (Male & Female) were varied at the two levels which have been shown below in the schematic design.

SAMPLE: A sample of 600 secondary school students was selected by using multi-stage stratified random sampling technique on the basis of educational anxiety and gender. Distribution of sample has been depicted below:
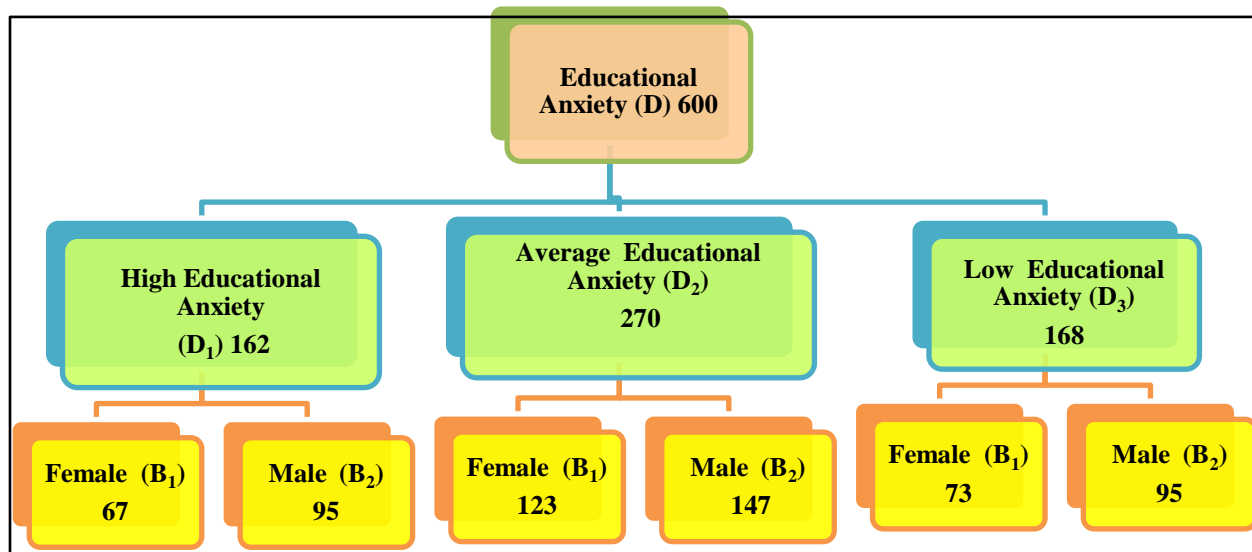

Fig. 1: Distribution of Sample

TOOL USED: Academic cheating scale by Kalia and Deep (2011) was used to assess the academic cheating among students and Educational anxiety scale by Dahiya and Dahiya (2018) was used to assess the educational anxiety of school students.

STATISTICAL TECHNIQUES USED: The data was analyzed by using descriptive as well as inferential statistics. The Two-Way Analysis of Variance (ANOVA) with 3×2 Factorial Design was computed using SPSS 20 version to study the main effect and interaction effects of the independent variables i.e. educational anxiety and gender on academic cheating among students. Levene's Test of Homogeneity of Variance was used to test the assumption of homogeneity of variance before applying Two-Way ANOVA. Wherever F-value was found significant, 't'-test was employed for further investigation.

DATA ANALYSIS AND DISCUSSION: The objectives of the present study was to find out the main and interaction effects of educational anxiety and gender on academic cheating among secondary school students, data were subjected to analysis of variance (ANOVA) of a (3x2) factorial study with a randomized group design. The independent variable such as Educational Anxiety coded as (D) and further categorized as High Educational Anxiety (D_1), Average Educational Anxiety (D_2), Low Educational Anxiety (D_3) ; gender coded as (B) and divided into two categorized – Female (B_1) and Male (B_2). The means and SDs of different sub-samples have also been given in the table 1 and Fig. 2. The summary of ANOVA (3x2) has also been further shown in the table 2, which is analyzed in terms of main and interaction effects of independent variable i.e educational anxiety and gender on academic cheating among secondary school students.

Table 1

Mean's and SD$_S$ of sub-samples of 3x2 Design for Educational Anxiety and Gender of Secondary School Students with respect to Academic Cheating

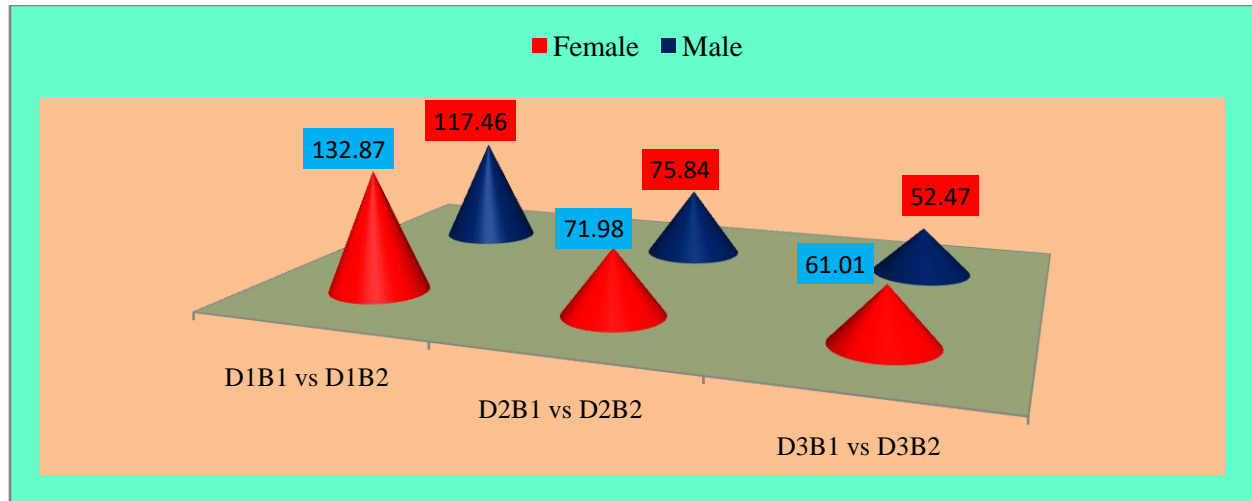| Educational Anxiety	Gender (B)	N	Mean	SD
High Educational Anxiety (D_1)	Female (B_1)	67	132.87	27.182
	Male (B_2)	95	117.46	37.690
Average Educational Anxiety (D_2)	Female (B_1)	123	71.98	41.841
	Male (B_2)	147	75.84	39.718
Low Educational Anxiety (D_3)	Female (B_1)	73	61.01	47.436
	Male (B_2)	95	52.47	37.542

Fig. 2 Mean Scores of Sub Sample of 3x2 Design For Academic Cheating of   Secondary School Students with respect to Educational Anxiety and Gender

Table 2

Summary of Two way ANOVA (3x2 Factorial Design) for Academic Cheating of Secondary School Students with respect to Educational Anxiety and Gender

Sources of variance	df	Sum of Squares (SS)	Mean sum of squares (MSS)	F-ratios
Main Effect				
D (Educational Anxiety)	2	415354.360	207677.180	133.987**
B (Gender)	1	6241.546	6241.546	4.027*
Double Interaction Effect				
D x B Interaction	2	10017.097	5008.549	3.231*
Between Cells	5	425590.907	85118.181	……..
With in cells	594	920691.091	1549.985	……..
Total	599	1346281.998	…………..	……..

* Significant at 0.05 level   ** Significant at 0.01 level

Main effects of Educational Anxiety and Gender on Academic Cheating of Secondary School Students

Educational Anxiety (D)

From the table 2, it is seen that F- ratio (133.98) for main effects of educational anxiety on academic cheating of secondary school students is significant at 0.01 level leading to the inference that educational anxiety has a significant effect on academic cheating . Therefore, the null hypothesis H_{01} , **"There exist no significant effect of educational anxiety on academic cheating of secondary school students"** is rejected. The present result is in tune with the results of Davis et al. (1992) who found that 'pressures for good grades in higher education, academic anxiety, ineffective deterrents, teacher attitudes, and an increasing lack of academic integrity are important determinants of cheating'. For further exploration, the t-value was computed and has been given in the table 3.

Table 3

't' – values for the mean score of academic cheating of secondary school students with respect to Educational Anxiety

Educational Anxiety	N		Mean		SD		t-value
HEA AEA	162	270	123.83	74.08	34.49	40.66	13.01**
HEA LEA	162	168	123.83	56.18	34.49	42.20	15.90**
AEA LEA	270	168	74.08	56.18	40.66	42.20	4.41**

** Sigificant at 0.01 level

HEA : High Educational Anxiety   **AEA : Average Educational Anxiety**

LEA : Low Educational Anxiety

Table 4.13 presents a comparative description of academic cheating of secondary school students on the basis of educational anxiety. It discloses that t-values for all the groups such as HEA vs AEA ; HEA vs LEA and AEA vs LEA respectively have been found significant at 0.01 level leading to the inference that these groups differ significantly with respect to academic cheating among students. The mean scores of main effect corresponding to educational anxiety on academic cheating have been depicted in Fig. 3.
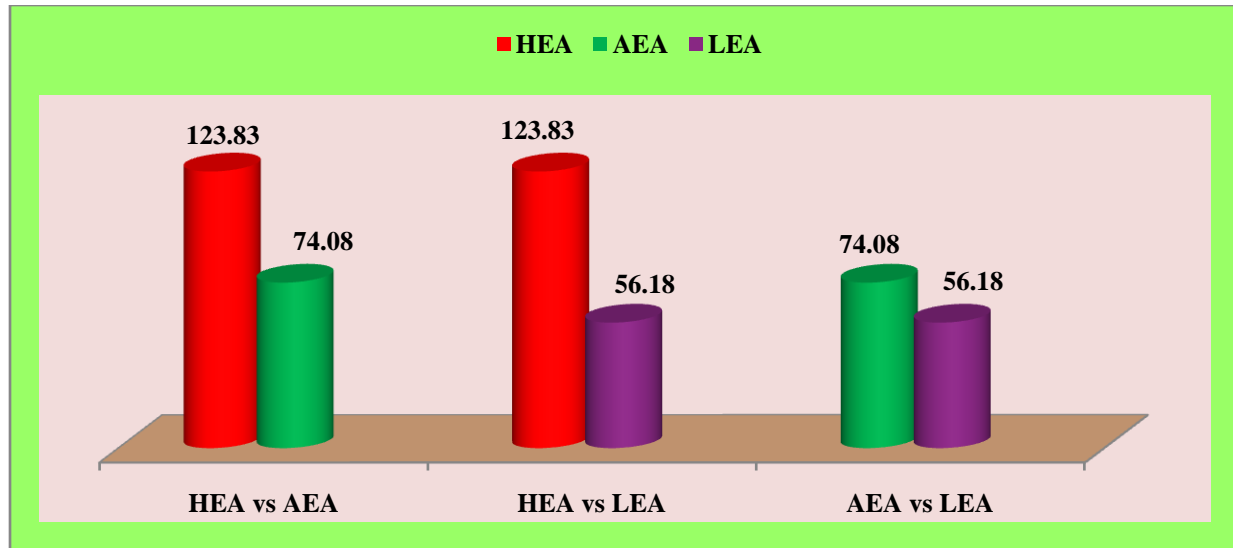
Fig. 3 Mean scores for Main Effect of Educational Anxiety on Academic Cheating of Secondary School Students

Gender (B)

It is apparent from the table 4.12 the F-ratio (4.027) is highly significant at 0.05 level for main effect of gender on academic cheating. This means that gender has a significant independent effect upon academic cheating. Therefore, the null hypothesis H_{02} , **"There exists no significant effect of gender on academic cheating of secondary school students"** is rejected. For further exploration, the 't'-value was computed and has presented in Table 4.

Table 4

t-value for the Mean Scores of Academic Cheating of Secondary School Students with respect to Gender

Groups	N	Mean	SD	t-value
Female Students	263	84.44	49.44	0.88 (NS)
Male Students	337	80.99	45.76	

N.S – Not Significant

Table 4 reveals that t-value (0.88) for the mean scores of academic cheating in between the female and male students is not significant. The present result is in accordance with the result of Hensley et al. (2013) who reported that gender also plays a role in academic cheating. Female tend to have higher rates of academic cheating than male. The mean scores of main effect corresponding to gender on academic cheating have been depicted in fig.4.
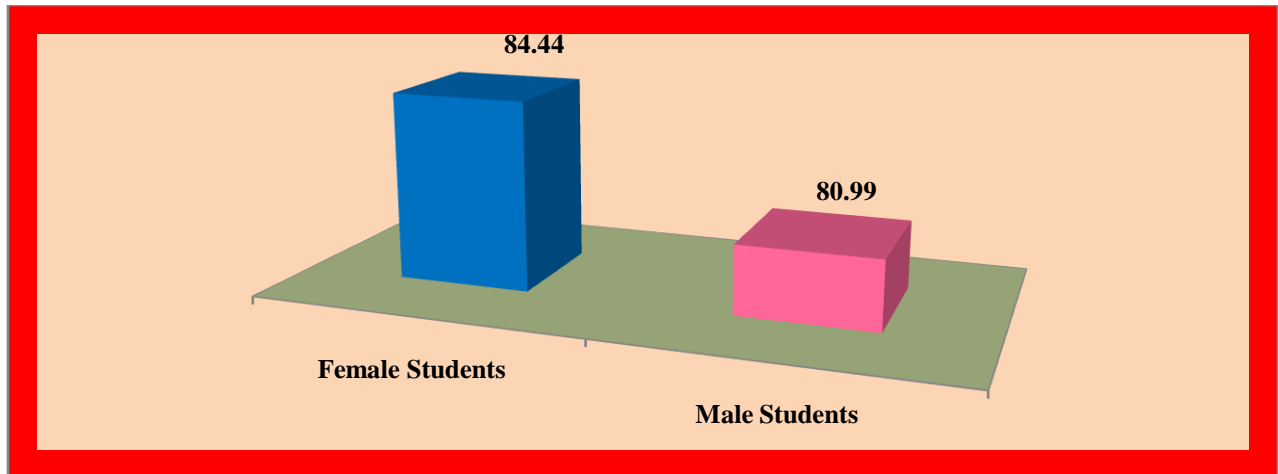
Fig. 4 Mean Scores for Main Effect of Gender on Academic Cheating of Secondary School Students

Double Interaction Effects of Educational Anxiety and Gender on Academic Cheating of Secondary School Students

Educational Anxiety x Gender (B)

It is palpable from the table 2 that F-ratio (3.231) for the interaction between educational anxiety and gender is which is significant at 0.05 level leading to inference educational anxiety and gender interact with each other in relation to educational anxiety of secondary school students. therefore, null hypothesis H_{03}, **" There exists no significant interaction effect of educational anxiety and gender on academic cheating of secondary school students"** is rejected. It is concluded that there is a significant interaction effect of educational anxiety and gender on academic cheating. For further investigation, t-test was employed to find out the significant difference between mean scores of academic cheating for educational anxiety and gender. The results for the same have been presented in the table 5.

Table 5

t-value for Mean Scores of Academic Cheating of Secondary School Students for Different groups of Educational Anxiety x Gender(B)

Sr. No.	Groups	N		Mean		SD		't'-value
1	D_1B_1 vs. D_2B_1	67	123	132.87	71.98	27.18	41.84	10.73**
2	D_1B_1 vs. D_3B_1	67	73	132.87	61.01	27.18	47.43	10.86**
3	D_2B_1 vs. D_3B_1	123	73	71.98	61.01	41.84	47.43	1.68(NS)
4	D_1B_2 vs. D_2B_2	95	147	117.46	75.84	37.69	39.71	8.12**
5	D_1B_2 vs. D_3B_2	95	95	117.46	52.47	37.69	37.54	11.90**
6	D_2B_2 vs. D_3B_2	147	95	75.84	52.47	39.71	37.54	4.56**
7	D_1B_1 vs. D_1B_2	67	95	132.87	117.46	27.18	37.69	2.86**
8	D_2B_1 vs. D_2B_2	123	147	71.98	75.84	41.84	39.71	0.77(NS)
9	D_3B_1 vs. D_3B_2	73	95	61.01	52.47	47.43	37.54	1.30(NS)
10	D_1B_1 vs D_2B_2	66	147	133.90	75.83	26	39.71	12.70**
11	D_1B_1 vs. D_3B_2	66	95	133.90	52.47	26	37.54	16.28**
12	D_2B_1 vs. D_1B_2	123	95	71.97	117.46	41.84	37.69	8.42**
13	D_2B_1 vs. D_3B_2	123	94	71.97	52.28	41.84	37.69	3.63**
14	D_3B_1 vs. D_1B_2	73	95	61.01	117.46	47.43	37.69	8.35**
15	D_3B_1 vs. D_2B_2	73	147	61.01	75.83	47.43	39.71	2.30*

** Significant at 0.01 level;   *Significant at 0.05 level;   NS = Not Significant

D_1: High Educational Anxiety B_1: Female

D_2: Average Educational Anxiety B_2: Male

D_3: Low Educational Anxiety

As evident from the Table 5 reveals that t-values for all the groups such as D_1B_1 vs. D_2B_1 ; D_1B_1 vs. D_3B_1 ; D_1B_2 vs. D_2B_2; D_1B_2 vs. D_3B_2; D_2B_2 vs. D_3B_2; D_1B_1 vs. D_1B_2; D_1B_1 vs D_2B_2; D_1B_1 vs. D_3B_2; D_2B_1 vs. D_1B_2; D_2B_1 vs. D_3B_2; D_3B_1 vs. D_1B_2 and D_3B_1 vs. D_2B_2 respectively have been found significant at 0.01 level leading to the inference that these groups differ significantly with respect to academic cheating among students. Table 5 further indicates that 't'-value for all the groups such as D_2B_1 vs. D_3B_1; D_2B_1 vs. D_2B_2 and D_3B_1 vs. D_3B_2 have not been found to be significant.
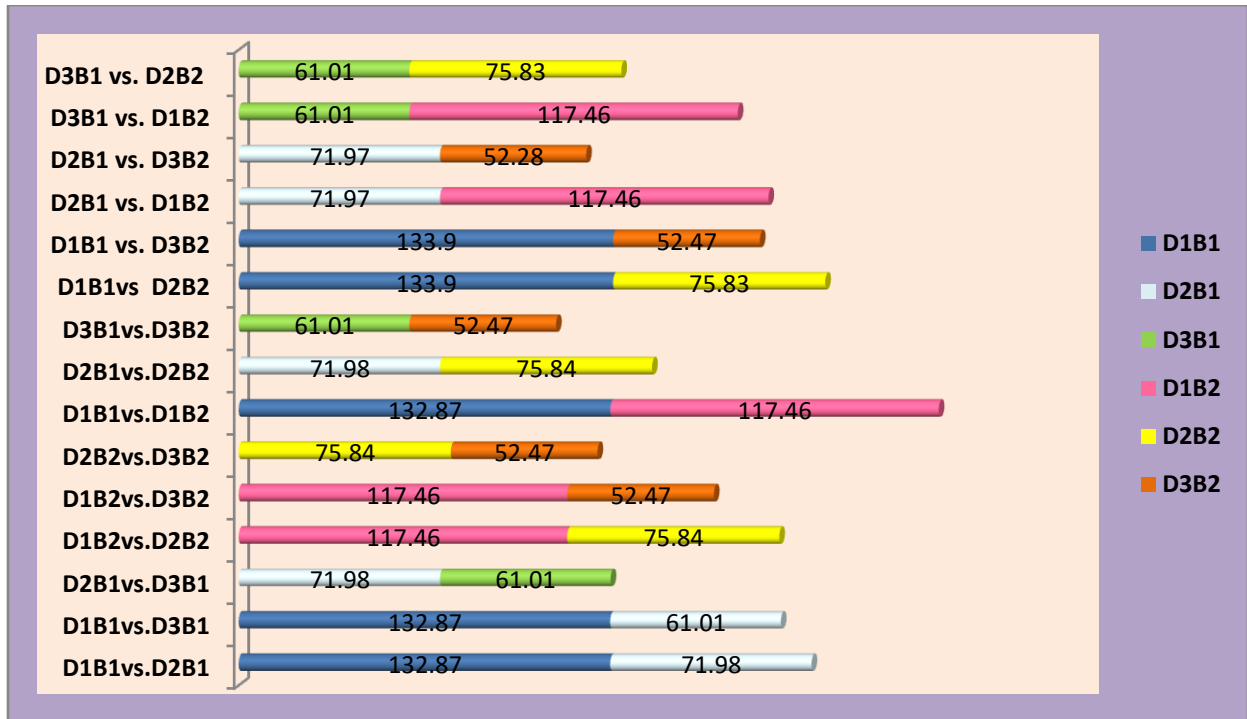
Fig. 5: Mean scores for Interaction Effect of Education Anxiety and Gender on Academic Cheating of Secondary School Students
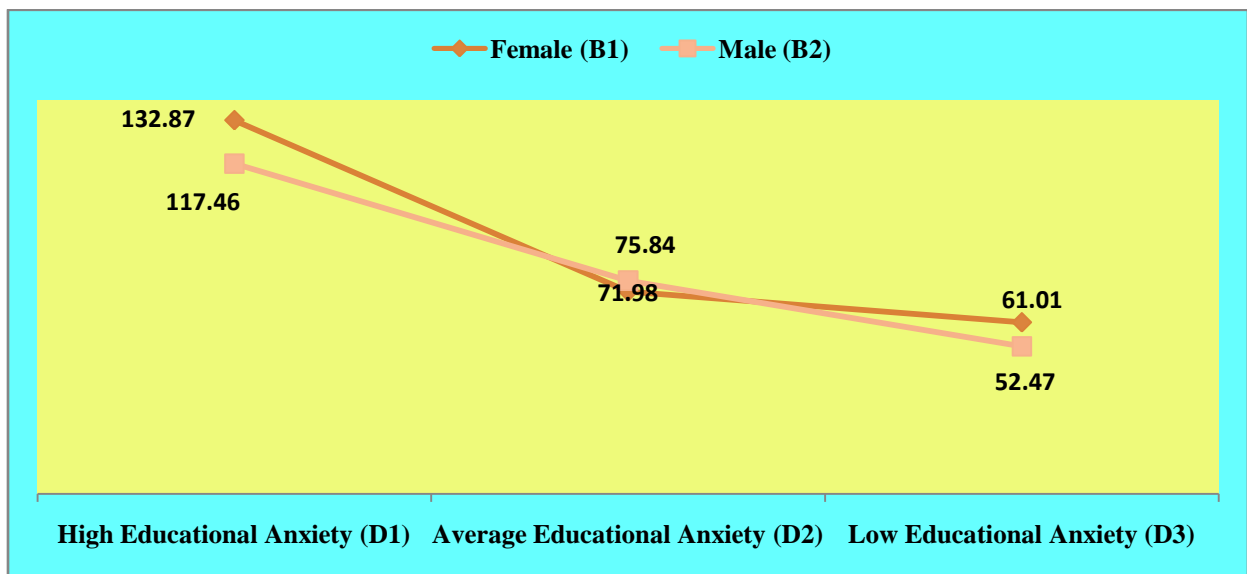

Fig. 6 Interaction Effect of Educational Anxiety (D) x Gender (B) on Academic Cheating of Secondary School Students

The means $M_{11} = 132.87$, $M_{21} = 71.98$ and $M_{31} = 61.01$ are marked to plot the line B_1. Similarly, the means $M_{12} = 117.46$, $M_{22} = 75.84$ and $M_{32} = 52.47$ are marked for plotting the line B_2. An

interaction effect is generally represented by the set of non-parallel lines. From the graphs, it is clear that the lines are non-parallel. Thus, the line graph represents a significant interaction effect of the two variables (educational anxiety and gender) on the academic cheating of secondary school students.

FINDINGS OF THE STUDY

• Educational anxiety had a significant effect on academic cheating of secondary school students.

• Gender was reported to have a significant effect in academic cheating scores of secondary school students.

• Double interaction effects of educational anxiety and gender had a significant effect on academic cheating of secondary school students.

CONCLUSION

Past researches highlighted the problem of Academic Cheating, so the researcher, found it interesting to explore the factors which are responsible for increase in the tendency of cheating. Educational anxiety was found to be significantly related with academic cheating. Teachers can improve the classroom atmosphere from the traditional note-taking and mugging up activity to a lively, anxiety free atmosphere. Academic cheating can also be decreased by employing various techniques like group-work, discussions and activities. Teachers may help their students to control their anxiety level by not over-pressurizing them.

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