



EFFECT OF GENDER AND EXAMINATION BOARD ON DIMENSIONS OF EXAMINATION STRESS OF CLASS X STUDENTS

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Abstract: The present study was conducted with the objective of studying the effect of different board (CBSE Board, CG Board) and different gender (boys, girls) on various dimensions of Examination Stress (Frustration, Conflict, Pressure and Anxiety). CBSE Board follows Grading System and CG Board follows Numerical System of evaluation. The sample of the study comprised of 120 students (60 boys, 60 girls) of class X selected from three schools of each board. Random Sampling (Lottery Method) was used for selection of a sample. For data analysis, mean, S.D. and Two-way ANOVA were computed. The results of the study showed that board and gender individually have no effect on dimensions of Examination Stress - Frustration, Conflict, Pressure and Anxiety but interaction effect of both variables is seen on Frustration and Conflict. No significant interaction effect of these variables is seen on Pressure and Anxiety.

Keywords: Examination Stress, Examination Board, Gender, Class X students, Grading system, Numerical Marking System

Introduction:

Education plays an important role in every society as it is responsible for grooming the human resource of the country. Examination system in education helps in assessing the development of students. Kaur (2020) cited “emphasis of rote learning, cheating during examination, subjectivity, theoretical nature, poor content coverage by papers and defective paper making techniques by teachers” as the main defects in examination system of India. Further our examination system fails to measure overall development of student and is one of causes of stress among students. The crippling effect of external examinations on the quality of work in higher education is so great that examination reform has become crucial to all progress, and has to go hand in hand with the improvements in teaching - Report of Education Commission, (1964-66). Keeping in mind the societal needs and shortcomings of the prevailing examination system; various committees were formed to bring forth desired reforms in examinations in India. A major landmark in Indian examination is Calcutta University Commission (1917-1919) . It was after its recommendations that Secondary Education was segregated into University Education and Boards of High School and Intermediate Education were formed. After independence, on the suggestions of University Education Commission (1948-1949) popularly known as “Radha Krishna Commission” objective examinations were introduced in education system of India. Later Secondary Education Commission also known as Mudaliar Commission (1952-1953) introduced the word “evaluation” together with examination. It recommended that subjectivity should be reduced in examination and due weightage should be given to school records and internal marks of students. Use of internal assessment

and other techniques of evaluation along with written examination was emphasized by Education Commission (1964-66). National Policy Of Education (NPE 1986) and Programme of Action 1992 laid the foundation of Continuous and Comprehensive Evaluation (CCE) and replaced marks by grades. CBSE Board introduced grading system in session 2009-2010 with the aim of reducing the examination stress among students.

“Examination Stress can be defined as stress among students due to fear of failure, high expectation of parents, course awkwardness, academic overload and low motivation” Bataineh (2013). Afolayan et.al. (2013) found that students expressed examination anxiety through physiological, psychological and behavioural changes. Verma, Tomar & Bharath (2014) revealed that students were depressed due to stress of lower marks, comparison by parents and teachers, betrayal by friends and high expectations of parents. Researcher pursued the present study to measure four dimensions of Examination Stress i.e. frustration, conflict, pressure and anxiety. Since Bisht Battery of Stress Scales by Bisht (1995) measures all four components of examination stress hence it was used by researcher. Frustration items include “delays, lack of resources, losses and failures”. Conflict items depict “approach-avoidant, double-approach conflict and double-avoidant conflicts”. Pressure items are based on “competitive achievement, sustained concentration of efforts and rapid changes”. Finally anxiety includes worry items (“concern of consequences, negative expectation and negative self-evaluation”) and emotionality items (“uneasiness and nervousness”).

Grading system of evaluation followed by CBSE Board provides relative position of students in their group. Within subjects, grades are standardized measurements of varying levels of comprehension. Grades are assigned in letters (like A, B, C, D or E), as range (like 4.0 – 1.0). These grades are used as indicators of performance (excellent, good, satisfactory, needs improvement). While Numerical Marking system followed by CG Board is traditional marking system of evaluation where marks ranging from 1 to 100 are assigned by teachers and therefore it is also called 101 point scale.

Delimitations:

The present study is conducted on 120 Class X students randomly selected from 6 schools (3 CBSE Board, 3 CG Board) of Bhilai Nagar, Durg, CG. The study is restricted to only two demographic variables – gender and type of schools. Bisht Battery of Stress Scales by Bisht (1995) has been used to measure Examination Stress. Four dimensions of Examination Stress – frustration, conflict, pressure and anxiety were studied.

Objectives:

The study was conducted with the following main objectives:

1. To study the main and interaction effect of examination board and gender on Frustration of Class X students.
2. To study the main and interaction effect of examination board and gender on Conflict of Class X students.
3. To study the main and interaction effect of examination board and gender on Pressure of Class X students.
4. To study the main and interaction effect of examination board and gender on Anxiety of Class X students.

Hypotheses:

Following hypotheses were formulated by researcher for the present study:

H₀ 1: There exists no significant main and interaction effect of examination board and gender on Frustration of Class X students.

H₀ 2: There exists no significant main and interaction effect of examination board and gender on Conflict of Class X students.

H₀ 3: There exists no significant main and interaction effect of examination board and gender on Pressure of Class X students.

H₀ 4: There exists no significant main and interaction effect of examination board and gender on Anxiety of Class X students.

Methodology:

The present comparative study conducted using survey method focuses on Examination Stress of Class X students of Bhilai under Grading System (CBSE Board Schools) and Numerical Marking System (CG Board Schools).

Population:

The population of present study comprises of all class X students studying in CBSE Board schools and CG Board schools in Bhilai area.

Sample:

In the present study 120 Class X students were taken as sample. Firstly through Random Sampling (Lottery Method) 3 CG Board schools and 3 CBSE Board schools were selected. From each school 20 students (10 boys, 10 girls) were randomly selected again using Lottery Method.

Variables:

There are two independent variables and one dependent variable in this comparative study.

Independent variables: Gender (Male, Female), Board (CBSE Board, CG Board)

Dependent variable: Examination Stress – Frustration, Conflict, Pressure, Anxiety

Tool:

Bisht Battery of Stress of Scales by Bisht (1995) was used to measure four dimensions of Examination Stress – frustration, conflict, pressure and anxiety. The battery has 13 sub-tests, Scale of Academic Stress (SAS) was used for study purpose. Reliability of the scales of the battery was calculated in three ways for knowing (a) dependability i.e. short-term correlations, (b) stability i.e. retest after a long interval and (c) internal consistency i.e. split half correlations. For SAS, reliability coefficient was found to be .87, .82 and .88. Further all scales have content validity, item validity and construct validity.

Statistical Techniques for Data Analysis:

Mean, Standard Deviation and Two-Way ANOVA were computed to study the main and interaction effect of examination board and gender on Frustration, Conflict, Pressure and Anxiety of Class X students.

Analysis and Interpretation of Data :

The present study deals with Examination Stress of tenth grade students studying in CBSE Board (Grading System) and CG Board (Numeric System) schools of Bhilai Nagar. To test the significance of the hypothesis, the raw data collected from students of CBSE Board and CG Board schools were tabulated and mean, standard deviation and ANOVA were calculated which is shown in following tables.

Table 4.01

Data Concerning Various Dimensions of Examination Stress of Various Groups

Dimension	Board	Gender	Mean	S.D.	N	TOTAL
Frustration	CG Board	Boys	97.40	18.46	30	Mean(Boys) = 101.15 S.D. (Boys) = 14.65 Mean(Girls) = 97.63 S.D. (Girls) = 18.31
		Girls	106.97	15.22	30	
		TOTAL	102.18	16.84	60	
	CBSE Board	Boys	104.90	10.85	30	
		Girls	88.30	21.41	30	
		TOTAL	96.60	16.13	60	
Conflict	CG Board	Boys	45.90	13.70	30	Mean(Boys) = 49.35 S.D. (Boys) = 13.78 Mean(Girls) = 50.41 S.D. (Girls) = 13.26
		Girls	56.83	10.04	30	
		TOTAL	51.36	11.87	60	
	CBSE Board	Boys	52.80	13.87	30	
		Girls	44.00	16.49	30	
		TOTAL	48.40	15.18	60	
Pressure	CG Board	Boys	83.30	12.73	30	Mean(Boys) = 83.90 S.D. (Boys) = 15.6 Mean(Girls) = 86.32 S.D. (Girls) = 19.67
		Girls	87.47	17.17	30	
		TOTAL	85.38	14.95	60	
	CBSE Board	Boys	84.60	18.47	30	
		Girls	85.17	22.17	30	
		TOTAL	84.89	20.30	60	
Anxiety	CG Board	Boys	51.53	8.97	30	Mean(Boys) = 53.88 S.D. (Boys) = 8.92 Mean(Girls) = 57.03 S.D. (Girls) = 10.52
		Girls	57.10	11.41	30	
		TOTAL	54.31	10.19	60	
	CBSE Board	Boys	56.23	8.87	30	
		Girls	56.97	9.64	30	
		TOTAL	56.60	9.25	60	

This is the comparative study of examination stress-dimensions between two boards and two genders. It is evident from table 4.01 that mean and S.D. of Frustration for CG Board boys is 97.40 and 18.46 and for girls is 106.97 and 15.22 respectively. Since the mean is more of CG Board girls than boys, this shows that girls have more frustration than boys in CG Board schools. Similarly mean and S.D. for CBSE Board boys is 104.90 and 10.85 and for girls is 88.30 and 21.41 respectively. Thus CBSE Board boys have more frustration than girls of CBSE Board.

The mean and S.D. of Conflict for CG Board boys is 45.90 and 13.70 and for girls is 56.83 and 10.04 respectively. Since the mean score of girls is more than that of boys hence it shows that girls have more conflict than boys. Further for CBSE Board boys mean and S.D. values are 52.80 and 13.87 and for girls of this board the values are 44.00 and 16.49 respectively. As the mean value of CBSE board boys is more than girls, it reveals that boys have more conflict than girls.

For Pressure, the mean and S.D. for CG Board boys is 83.30 and 12.73 and for girls is 87.47 and 17.17 respectively. This shows that girls (M=87.47) have more pressure than boys (M=83.30). Similarly CBSE girls (M=85.17) are slightly more pressured than boys (M=84.60). Finally for Anxiety, comparing mean values CG Board girls (M=57.10) are found to have more anxiety than CG board boys (M=51.53) and similarly CBSE Board girls (M=56.97) and boys (M=56.23) have almost same anxiety.

Table 4.02**Summary of ANOVA for Effect of Examination Board and Gender on Frustration**

Source	df	SS	MS	F	Significance
Examination Board (A)	1	935.21	935.21	3.147	Not Significant
Gender(B)	1	371.01	371.01	1.248	Not Significant
Board X Gender (AXB)	1	5132.2	5132.2	17.27	Significant
Within Subjects	116	34471.17	297.165		
Total	119	40909.59			

Table 4.02 reveals that for the effect of examination board on Frustration F-value is 3.147. While in the book “Research Methodology – Methods and Techniques” by C.R. Kothari the table value of F at df 1,116 is 6.85 for 0.01 level of significance and 3.92 for 0.05 level of significance. Since the obtained value is less than the table value at both the levels of significance so the value is not significant. It means that examination board has no effect on Frustration. On studying mean values of CG Board (M=102.18) and CBSE Board (M=96.16) students, it is clear their means are having less difference. Similarly for gender the F-value is 1.248 which is less than the table value at .01 and .05 levels of significance. Hence gender too does not have significant effect on Frustration.

When the interaction effect of examination board and gender is studied on Frustration, the F-value at df 1,116 is found to be 17.27 which is higher than the table value of F at .01 and .05 levels of significance (Table value of F at df 1,116 is 6.85 and 3.92 respectively). This means that interaction effect of examination board and gender is significant on Frustration. Similarly Sadhu (2014) revealed that gender has no effect on frustration among students but standard and school area create frustration among them but Kaur(2015) and Waghmare (2018) found that male students were more frustrated than female students. Rathee & Thakran (2019) found significant main effects of frustration and gender And non-significant interaction effect of both on academic achievement of senior secondary students. Thus from table 4.02 it is clear that main effect of examination board and gender on Frustration is not significant but interaction effect of both on Frustration is significant.

“ Null hypothesis H_0 1 is partially rejected.”

Table 4.03**Summary of ANOVA for Effect of Examination Board and Gender on Conflict**

Source	df	SS	MS	F	Significance
Examination Board (A)	1	264.04	264.04	1.35	Not Significant
Gender(B)	1	34.14	34.14	0.175	Not Significant
Board X Gender (AXB)	1	2920.52	2920.52	14.99	Significant
Within Subjects	116	22591.67	194.756		
Total	119	25810.37			

Table 4.03 reveals that F-value for effect of examination board on Conflict is 1.35. Similarly for the effect of gender on Conflict the F-value is 0.175. Both these values are less than the table values of F at .01 and .05 levels of significance (Table value of F at df 1,116 is 3.92 at .05 level of significance and 6.85 at .01 level of significance).Hence examination board and gender do not have effect on Conflict individually . Mean values of CG Board (M=51.36) and CBSE Board (M=48.40) and similarly mean values of Boys (M=49.35) and Girls (M=50.41) are having less difference. When interaction effect of examination board and gender is found on Conflict the F-value is 14.99 which is higher than the table value of at both .01 and .05 levels of significance. This means that the interaction effect of both is significant on Conflict. Conversely, Lance (2004) stated that female student athletes have more role conflict than male student athletes. Based on table 4.03 we conclude that main effect of examination board and gender on Conflict is not significant but interaction effect of both on Conflict is significant.

“ Null hypothesis H₀ 2 is partially rejected.”

Table 4.04
Summary of ANOVA for Effect of Examination Board and Gender on Pressure

Source	df	SS	MS	F	Significance
Examination Board (A)	1	7.5	7.5	0.0224	Not Significant
Gender(B)	1	168.04	168.04	0.50	Not Significant
Board X Gender (AXB)	1	97.2	97.2	0.291	Not Significant
Within Subjects	116	38727.13			
Total	119	38999.87			

In Table 4.04 it is seen that the F-value for effect of examination board on Pressure is 0.0224 and that of effect of gender on Pressure is 0.50 which are both less than the table values of F at df 1,116 in .01 level of significance (F=6.85) and .05 level of significance (F=3.92).This means that examination board does not have effect on Pressure. Mean value of CG Board (M=85.38) and CBSE Board (M=84.89) have very less difference. Similarly mean values of Boys (M=83.90) and Girls (M=86.32) too have less difference. When the interaction effect of examination board and gender is seen on Pressure the F-value is found to be 0.291 which is again less than the table values of F at .01 and .05 levels of significance. Thus interaction effect of both is not significant on Pressure. Likewise Deb, Strodl & Sun (2015) found no significant differences in academic pressure due to gender, age and grade. Table 4.04 reveals that main and interaction effect of examination board and gender on Pressure is not significant.

“ Null hypothesis H₀ 3 is retained.”

Table 4.05

Summary of ANOVA for Effect of Examination Board and Gender on Anxiety

Source	df	SS	MS	F	Significance
Examination Board (A)	1	156.41	156.41	1.58	Not Significant
Gender(B)	1	297.67	297.67	3.01	Not Significant
Board X Gender (AXB)	1	175.21	175.21	1.772	Not Significant
Within Subjects	116	11469.5	98.875		
Total	119	12098.79			

In table 4.05 the F value for effect of examination board on Anxiety is 1.58 and for the effect of gender on Anxiety the F value is 3.01. Both these values are less than the table values of F at .01 and .05 levels of significance. This means that examination board does not have significant effect on Anxiety. The mean values of CG Board (M=54.31) and CBSE Board (M=56.60) have very less difference. Similarly gender too does not lay significant effect on Anxiety. The F value of interaction effect of examination board and gender on Anxiety is 1.772 which is again less than the table values at .01 and .05 levels of significance. Hence we conclude that the interaction effect of these two variables on anxiety is not significant. Baloglu (2002) revealed no significant effect of gender on anxiety but significant effect of age on anxiety was found. Thus older students displayed higher anxiety than younger students. Whereas Rezazadeh & Tavakoli (2009) concluded that gender had effect on anxiety, female students had higher test anxiety than male students. Calvarese (2018) found that in comparison to male counterparts females experience higher level of frustration, depression and anxiety while dealing with stress. Based on table 4.04 it can be concluded that main and interaction effect of examination board and gender on Anxiety is not significant.

“ Null hypothesis H_0 4 is retained.”

Discussion:

The results of the study have indicated that examination board and gender have no significant main effect on any of the dimensions of Examination Stress (Frustration, Conflict, Pressure and Anxiety). These results are opposed to Rajshree and Kumar(2013) which revealed direct effect of board (Numerical Marking System) on examination stress , Attri and Neelam (2013) who found girls to be more academically anxious and Chothani (2014) who discovered English medium school students have more academic stress. Further significant interaction effect of gender and board was found on two dimensions of examination stress- Frustration and Conflict but no significant interaction effect was found on Pressure and Anxiety. This interaction effect on the two dimensions may be due to reasons cited by various researchers. Medium of instruction (Chothani , 2013) , nuclear families (Ann Mary et.al,2014), securing lower marks, comparison by parents and teachers and high expectation by parents (Verma, Tomar & Bharath, 2014).

Conclusion:

The results of the study revealed that different board (Grading System, Numerical Marking System) and different gender (Boys, Girls) individually lay no significant effect on various dimensions of examination stress but together they lay significant interaction effect on two dimensions-Frustration, Conflict. Based on the results of earlier studies on examination stress, Yoga Training (Pant, Bera & Shete, 2013), Value Education (Jahan, 2017) and counselling to maintain health during examination (Afolayan et.al, 2013) is recommended for students studying in higher classes.

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