



EFFECT OF PARENTING STYLE ON ACADEMIC ACHIEVEMENT OF SENIOR SECONDARY SCHOOL STUDENTS: AN ANALYTICAL ANALYSIS

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Abstract: *The present study was undertaken to examine academic achievement of senior secondary school students in relation to their perceived parenting style. Academic achievement was treated as dependent variable, whereas parenting style (Autocratic, democratic, permissive and uninvolved) and demographic variables: type of school (Govt. & Private) and gender (Male & Female) were treated as independent variables. Descriptive survey method was employed for the present study. A sample of 598 students was taken using multi-stage random sampling technique. Parenting Style Scale by Gupta and Mehtani (2017) was used to collect the data and Three-Way ANOVA with 4×2×2 factorial design was used to analyze the data. Levene's Test of Homogeneity of Variance was also applied to test the assumption of homogeneity of variance for ANOVA. Main effect of parenting style and gender on academic achievement of senior secondary school students was found to be significant. However, no significant effect of type of school was reported. No significant interaction effect of parenting style and type of school & type of school and gender was found on academic achievement of senior secondary school students. On the other side, significant interaction effect of parenting style and gender was reported on academic achievement of senior secondary school students. Triple interaction effect of parenting style, type of school and gender on academic achievement of senior secondary school students was found to be insignificant.*

Keywords: *Gender, Parenting Style and Type of School.*

INTRODUCTION

No two individuals are same. Individuals of the same age group and even of the same grade are found to differ from each other in their abilities and academic achievement. The same individual may differ in his or her academic achievement with the change in time or with the change in their maturity level. "Academic achievement is the knowledge obtained or skills developed in the school subjects usually designed by test scores or marks assigned by the teacher," (Good, 2009). For a student, academic achievement paves the way for getting a



valuable job and also for the attainment of personal satisfaction as well as social recognition. Numerous studies have been conducted to identify those factors which are affecting student's academic performance. A student's academic performance depends on a number of factors like students' attendance in the class, family income, mother's and father's education, teacher-student ratio, presence of trained teacher in school, sex of the student and distance of schools.

Family as well as parents are considered as an indispensable support system available to any child and seem to play a significant role in the development of the child. Although the significance of home environment in the developmental of the child cannot be ignored, yet the strongest factor influencing the development of the child is, the style used by parents for their child's rearing. "Academic performance of school students depends on parenting styles along with other conditions i.e. parents being responsive (supportive and warm), demanding (controlling and supervising) and guidance given to the students towards their academic performance (Hoghuighi and Long, 2004)." Moreover, it is the duty of parents to provide proper nutrition, safe environment and guidance to their child to prepare them to fulfill the demands of lifelong learning.

Authoritative parenting style predicts the academic performance significantly (Turner, Chandler and Heffer, 2009). Dehydagary, Yaacob, Juhari and Talib (2012) found that there exists a significant correlation between authoritative parenting style and academic achievement. Seth and Ghormode (2013) indicated that significant positive effect of authoritative parenting style exists on the achievement in all subjects at high school level. Rahimpour, Moghadam, Moghadam and Hashemian (2015) found that significant relationship of permissive, authoritarian and authoritative parenting styles exist with the students' average score. Chonge, Barasa and Chonge (2016) found that parenting styles significantly influenced students' performance in mathematics. Awasthi (2017) found that among six different modes of parenting, accepting parenting is the best as it was found that the children who perceives accepting parenting have high academic achievement as compared to the children who perceive any other type of parenting style.

In the present competitive era, when every parent wants their child to perform well in each and every field of life, it is very much important to understand the effect of different parenting styles on the child's development including his academic achievement. Review of literature makes it clear that only a few researches has been done in India which focuses on



parenting style and academic achievement of senior secondary school students. However, the main effects and interaction effects of parenting style, type of school and gender on academic achievement of senior secondary school students have not been studied yet. Thus, the present study is an endeavor to investigate the academic achievement among senior secondary school students with reference to parenting style and demographic variables (type of school and gender).

VARIABLES USED

- **Dependent Variable:** Academic Achievement
- **Independent Variables:** Parenting Style, Demographic variables (Type of School and Gender)

OBJECTIVES OF THE STUDY

1. To study the main effect of (a) parenting style, (b) type of school and (c) gender on academic achievement of senior secondary school students.
2. To study the interaction effect of (a) parenting style & type of school; (b) parenting style & gender; and (c) type of school & gender on academic achievement of senior secondary school students.
3. To study the interaction effect of parenting style, type of school and gender on academic achievement of senior secondary school students.

HYPOTHESES OF THE STUDY

- H₀₁** There exists no significant effect of (a) parenting style, (b) type of school, and (c) gender on academic achievement of senior secondary school students.
- H₀₂** There exists no significant interaction effect of (a) parenting style & type of school; (b) parenting style & gender; and (c) type of school & gender on academic achievement of senior secondary school students.
- H₀₃** There exists no significant interaction effect of parenting style, type of school, and gender on academic achievement of senior secondary school students.

DESIGN AND METHODOLOGY

In the present study, descriptive survey method is used. Multistage random sampling technique is used to select the sample of 598 secondary school students of Haryana state. In order to analyze the data, three way analysis of variance with 4×2×2 Factorial Design is used. The sample is further stratified on the basis of parenting style i.e. Autocratic parenting



style (164), Democratic parenting style (195), Permissive parenting style (131) and Uninvolved parenting style (108); type of school i.e. Govt. (306) and Private (292); and also on the basis of Gender i.e. Male (295) & Female (303). A layout of the factorial design used in the study for the variables i.e. parenting style, type of school and gender is given in the Fig. 1.

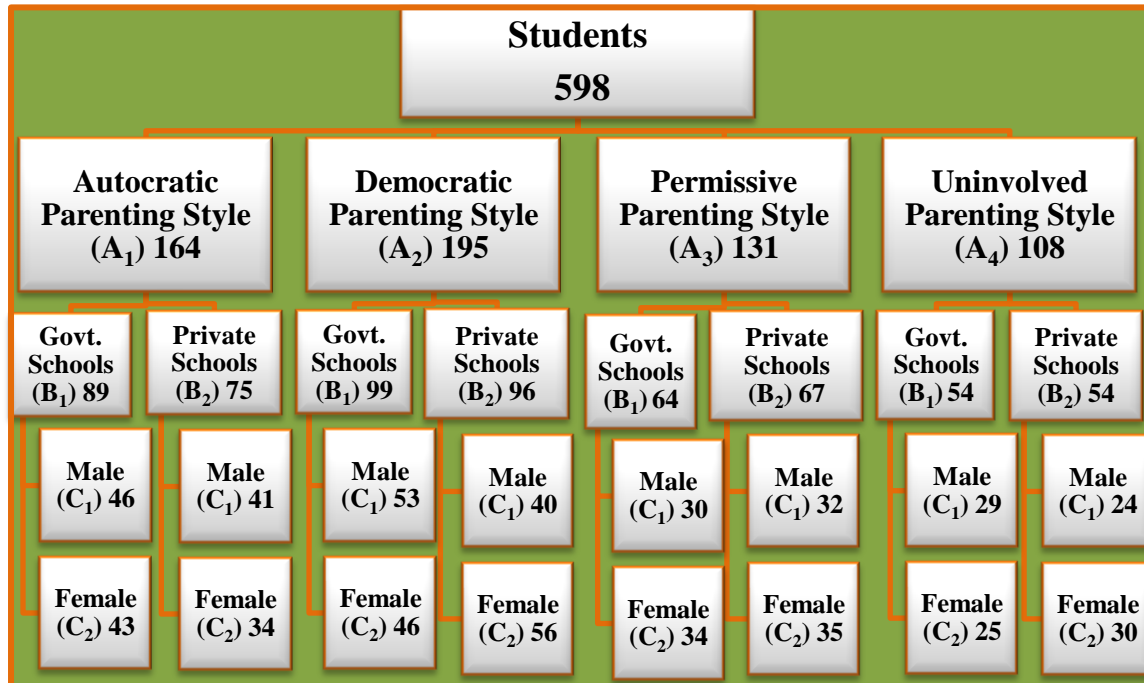


Fig. 1: Schematic Layout of 4x2x2 Factorial Design for Academic Achievement with respect to Parenting Style, Type of School and Gender

TOOL USED

Parenting Style Scale by Gupta and Mehtani (2017) was used to measure perceived parenting style of senior secondary school students. This scale consists of 44 statements to measure the four types of parenting style (Democratic, autocratic, permissive and uninvolved) adopted by Indian parents. Test-retest reliability of the scale is 0.911 and Split-Half reliability is 0.795. The scale has high construct validity which ranged from 0.508 to 0.819.

Academic achievement of the students was determined on the basis of marks obtained in previous class (10th Class marks).

STATISTICAL TECHNIQUES USED

The data was analyzed during descriptive as well as inferential statistics. The Three-Way Analysis of Variance (ANOVA) with 4x2x2 factorial design was computed using SPSS version



20 to study the main effect and interaction effects of the independent variables i.e. parenting style, type of school and locality on academic achievement of senior secondary school students. Levene's Test of Homogeneity of Variance was used to test the assumption of homogeneity of variance before applying Three-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 parenting-style, type of school and gender on academic achievement of senior secondary school students. The independent variables parenting style, type of school and gender are coded as A, B and C respectively. Independent variable parenting style (A) varies at four levels: Autocratic parenting style (A_1), Democratic parenting style (A_2), Permissive parenting style (A_3) and Uninvolved parenting style (A_4). On the other hand, two other independent variables type of school and gender varies at two levels: Govt. Schools (B_1) and Private Schools (B_2) & Male (C_1) and Female (C_2) respectively. The Means and SDs of different sub-samples are presented in the Table-1 and Fig. 2. The summary of ANOVA ($4 \times 2 \times 2$ Factorial Design) is also presented in Table-2, which is further analyzed in terms of main effects and interaction effects.

Table: 1 Means and SDs of Sub-samples of $4 \times 2 \times 2$ Factorial Design for Academic Achievement of Senior Secondary school students in relation to Parenting Style (A), Type of School (B) & Gender (C)

Parenting Style (A)	Type of School (B)	Male (C_1)	Female (C_2)
Autocratic (A_1)	Govt. (B_1)	N= 46 Mean=61.87 SD= 11.990	N= 43 Mean= 58.98 SD= 9.493
	Private (B_2)	N= 41 Mean= 62.02 SD=8.607	N= 34 Mean= 62.62 SD= 8.471
Democratic (A_2)	Govt. (B_1)	N= 53 Mean= 86.25 SD= 10.530	N= 46 Mean=86.39 SD= 11.839
	Private (B_2)	N= 40 Mean= 84.43 SD= 11.771	N= 56 Mean=86.41 SD= 11.654
Permissive (A_3)	Govt. (B_1)	N= 30 Mean= 62.73 SD= 9.836	N= 34 Mean= 64.26 SD= 8.031



	Private (B ₂)	N= 32 Mean= 59.16 SD= 7.883	N= 35 Mean= 65.54 SD= 8.283
Uninvolved (A ₄)	Govt. (B ₁)	N= 29 Mean=56.07 SD= 8.506	N= 25 Mean= 66.20 SD= 8.602
	Private (B ₂)	N= 24 Mean= 55.00 SD= 9.422	N= 30 Mean= 61.10 SD= 9.796

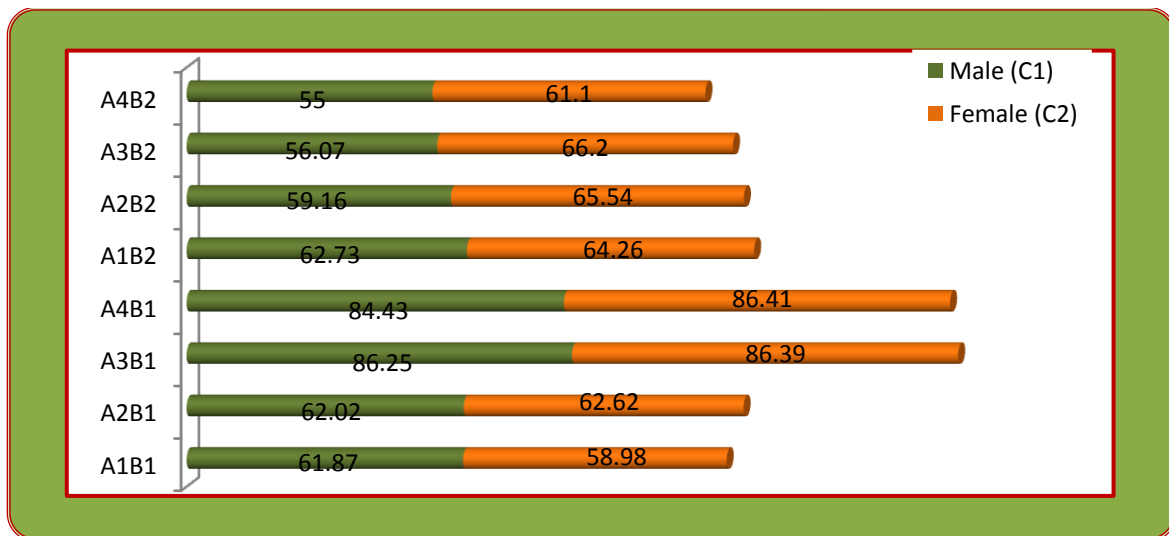


Fig. 2: Mean Scores of Sub-samples of 4x2x2 Factorial Design for Academic Achievement of Senior Secondary school students in relation to Parenting Style, Type of School and Gender

Table: 2 Summary of Three-Way ANOVA (4x2x2 Factorial Design) for Academic Achievement of Senior Secondary school students in relation to Parenting Style, Type of School and Gender

Sources of Variance	df	Sum of Squares (SS)	Mean Sum of Squares (MSS)	F-ratios
A (Parenting Style)	3	78193.174	26064.391	259.968**
B (Type of School)	1	92.228	92.228	0.920 (NS)
C (Gender)	1	1265.868	1265.868	12.626**
Double Interaction				
A x B Interaction	3	431.928	143.976	0.231 (NS)
A x C Interaction	3	1548.834	516.278	5.149*
B x C	1	83.252	83.252	0.830 (NS)



Interaction				
Triple Interaction				
A x B x C Interaction	3	332.085	110.695	1.104 (NS)
Between Cells	15	141541.875	
Within Cells	582	58351.246	100.260	
Total	597			

** Significant at 0.01 level * Significant at 0.05 level NS-Not Significant

Main effects of Parenting Style, Type of School and Gender on Academic Achievement of Senior Secondary school students

Parenting Style (A)

It is evident from the Table-2 that F-ratio (259.968) for the main effect of parenting style on academic achievement of senior secondary school students is significant at 0.01 level. It leads to the conclusion that parenting style has a significant effect on academic achievement of senior secondary school students. Thus, the null hypothesis H_{01} (a), "There exists no significant effect of parenting style on academic achievement of senior secondary school students," is **not retained**. The present result is in consonance with the results of Odongo, Aloka and Raburu (2016), Babu (2015), Ogunleye, Omirin and Balogun (2013) & Gota (2012) who also found that parenting style had a significant and positive direct effect on the academic achievement of senior secondary school students. Further, t-test is employed to find out the significance of difference between mean academic achievement scores for different groups. The results are shown in Table-3.

Table: 3 t-values for the Mean Academic Achievement Scores of Senior Secondary school students with respect to Parenting Style

Parenting Style		N		Mean		SD		t-values
Autocratic (A₁)	Democratic (A₂)	164	195	61.30	85.95	9.880	11.367	22.01**
Autocratic (A₁)	Permissive (A₃)	164	131	61.30	63.01	9.880	8.748	1.57 (NS)
Autocratic (A₁)	Uninvolved (A₄)	164	108	61.30	59.57	9.880	9.978	1.41 (NS)
Democratic (A₂)	Permissive (A₃)	195	131	85.95	63.01	11.367	8.748	20.48**
Democratic (A₂)	Uninvolved (A₄)	195	108	85.95	59.57	11.367	9.978	20.95**
Permissive (A₃)	Uninvolved (A₄)	131	108	63.01	59.57	8.748	9.978	2.80**

** Significant at 0.01 level * Significant at 0.05 level NS-Not Significant



Table-3 presents a comparative description of academic achievement of senior secondary school students on the basis of perceived parenting style. It discloses that t-value 22.01 for the group (A_1 vs A_2) is found significant at 0.01 level. It means that the senior secondary school students belonging to these groups differ significantly on academic achievement. It may be concluded that senior secondary school students who perceived their parents' parenting style as autocratic differ significantly on academic achievement to those senior secondary school students who perceived their parents' parenting style as democratic. Mean academic achievement scores of senior secondary school students who perceived their parents' parenting style as democratic (85.95) are higher than mean academic achievement scores of senior secondary school students who perceived their parents' parenting style as autocratic (61.30). It shows that senior secondary school students who perceived their parents' parenting style as democratic have high academic achievement as compared to senior secondary school students who perceived their parents' parenting style as autocratic. Table further discloses that t-value 20.48 and 20.95 for the groups (A_2 vs A_3) and (A_2 vs A_4) have also been found significant at 0.01 level. It indicates that the senior secondary school students belonging to these groups differ significantly on academic achievement. It may be concluded that senior secondary school students who perceived their parents' parenting style as democratic differ significantly on academic achievement to those who perceived their parents' parenting style as permissive and to those who perceived their parents' parenting style as uninvolved. Mean academic achievement scores of senior secondary school students who perceived their parents' parenting style as democratic (85.95) are higher than mean academic achievement scores of senior secondary school students who perceived their parents' parenting style as permissive (63.01) as well as to those who perceived their parents' parenting style as uninvolved (59.57). It shows that senior secondary school students who perceived their parents' parenting style as democratic have high academic achievement as compared to senior secondary school students who perceived their parents' parenting style as permissive or uninvolved. Table reveals that t-value 2.80 for the group (A_3 vs A_4) is found significant at 0.01 level. It depicts that the senior secondary school students belonging to these groups differ significantly on academic achievement. It may be concluded that senior secondary school students who perceived their parents' parenting style as permissive differ significantly on academic



achievement to those senior secondary school students who perceived their parents' parenting style as uninvolved. In terms of mean scores, it can be seen that the mean academic achievement scores of senior secondary school students who perceived their parents' parenting style as permissive (63.01) are higher than mean academic achievement scores of senior secondary school students who perceived their parents' parenting style as uninvolved (59.57). It shows that senior secondary school students who perceived their parents' parenting style as permissive have high academic achievement as compared to senior secondary school students who perceived their parents' parenting style as uninvolved. Further, t-values 1.57 and 1.41 for the groups (A₁ vs A₃) and (A₁ vs A₄) respectively have not been found significant which means that no significant difference exists between the academic achievements of senior secondary school students belonging to these groups. Mean academic achievement scores of senior secondary school students for different groups of parenting style have also been presented below in the Fig. 4.3:

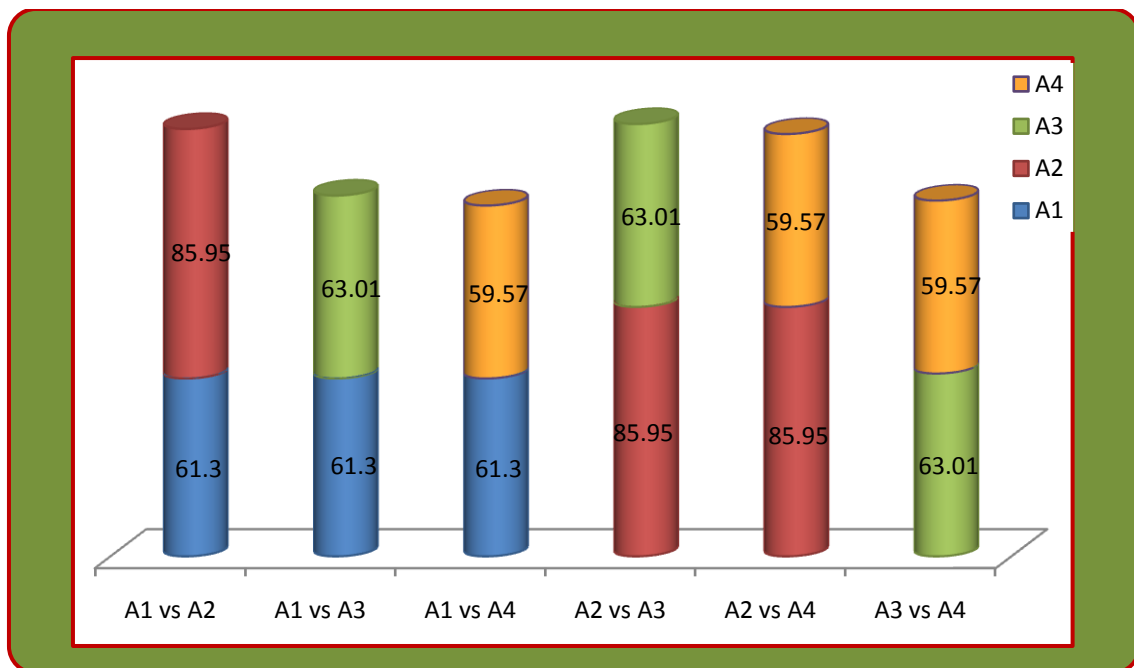


Fig. 3: Mean Academic Achievement Scores of Senior Secondary school students for different groups of Parenting Style (A)

Type of School (B)

It is evident from the Table-2 that F-ratio (0.920) for the main effect of type of school on academic achievement of senior secondary school students is not significant at 0.05 level leading to the conclusion that type of schools does not have any significant effect on the



academic achievement of senior secondary school students. Thus, the null hypothesis H_{01} (b), "There exists no significant effect of type of school on academic achievement of senior secondary school students," **is retained**. The present result is in consonance with the finding of Akinyele, Hassan and Adejumo (2008) who also found that there exists no significant difference in the academic achievement of school students studying at govt. and private students. In terms of mean, it is revealed that mean academic achievement scores of govt. senior secondary school students (69.53) are almost equal to mean academic achievement scores of private senior secondary school students (69.27).

Gender (C)

A close perusal of the Table-2 reveals that F-ratio (12.626) for the main effect of gender on academic achievement of senior secondary school students is significant at 0.01 level. It shows that gender has a significant effect on academic achievement of senior secondary school students. Thus, the null hypothesis H_{01} (c), "There exists no significant effect of gender on academic achievement of senior secondary school students," **is not retained**. The present result is in consonance with the result of Powell (2004), Chaturvedi (2009) & Reddy and Reddy (2016) who also found that male and female students differ significantly in their academic achievement. Mean academic achievement scores of female senior secondary school students (70.78) are found to be academic achievement scores of male senior secondary school students (67.99). This finding is also in agreement with the finding of Karthigeyan and Nirmala (2012) who also concluded that female senior secondary school students exhibit better academic achievement as compared to their male counterparts.

Double interaction effects of Parenting Style and Type of School; Type of School and Gender; and Parenting Style and Gender on Academic Achievement of Senior Secondary school students

Parenting Style and Type of School (A x B)

Table-2 reveals that F-ratio (0.231) for the interaction effect of parenting style and type of school is not significant at 0.05 level which indicates that parenting style (A) and type of school (C) do not have interaction effect on academic achievement of senior secondary school students. Hence, the null hypothesis H_{02} (a), "There exists no significant interaction effect of parenting style and type of school on academic achievement of senior secondary school students," **is retained**.



Parenting Style and Gender (A x C)

It is further evident from the Table-2 that F-ratio (5.149) for the interaction effect of parenting style and gender is significant at 0.05 level. It shows that parenting style (A) and gender (C) have significant interaction effect on academic achievement of senior secondary school students. Therefore, the null hypothesis H_{02} (b), "There exists no significant interaction effect of parenting style and gender on academic achievement of senior secondary school students," **is not retained**. Further, t-test was used to find out the significance of difference between mean academic achievement scores of different groups. The results are shown in the Table-4:

Table: 4 t-values for Mean Academic Achievement Scores of Senior Secondary school students for Different Groups of Parenting Style (A) and Gender (C)

Sr. No.	Groups	N		Mean		SD		t-values
1.	A ₁ C ₁ vs A ₂ C ₁	87	93	61.94	85.46	10.473	11.056	14.7**
2.	A ₁ C ₁ vs A ₃ C ₁	87	62	61.94	60.89	10.473	8.990	0.66 (NS)
3.	A ₁ C ₁ vs A ₄ C ₁	87	53	61.94	55.58	10.473	8.861	3.83**
4.	A ₁ C ₁ vs A ₁ C ₂	87	77	61.94	60.58	10.473	9.180	0.88 (NS)
5.	A ₁ C ₁ vs A ₂ C ₂	87	102	61.94	86.40	10.473	11.679	15.19**
6.	A ₁ C ₁ vs A ₃ C ₂	87	69	61.94	64.91	10.473	8.125	1.99*
7.	A ₁ C ₁ vs A ₄ C ₂	87	55	61.94	63.42	10.473	9.539	0.86 (NS)
8.	A ₂ C ₁ vs A ₃ C ₁	93	62	85.46	60.89	11.056	8.990	15.17**
9.	A ₂ C ₁ vs A ₄ C ₁	93	53	85.46	55.58	11.056	8.861	17.89**
10.	A ₂ C ₁ vs A ₁ C ₂	93	77	85.46	60.58	11.056	9.180	21.08**
11.	A ₂ C ₁ vs A ₂ C ₂	93	102	85.46	86.40	11.056	11.679	0.58 (NS)
12.	A ₂ C ₁ vs A ₃ C ₂	93	69	85.46	64.91	11.056	8.125	13.61**
13.	A ₂ C ₁ vs A ₄ C ₂	93	55	85.46	63.42	11.056	9.539	12.81**
14.	A ₃ C ₁ vs A ₄ C ₁	62	53	60.89	55.58	8.990	8.861	3.18**
15.	A ₃ C ₁ vs A ₁ C ₂	62	77	60.89	60.58	8.990	9.180	0.2 (NS)
16.	A ₃ C ₁ vs A ₂ C ₂	62	102	60.89	86.40	8.990	11.679	15.75**
17.	A ₃ C ₁ vs A ₃ C ₂	62	69	60.89	64.91	8.990	8.125	2.68**
18.	A ₃ C ₁ vs A ₄ C ₂	62	55	60.89	63.42	8.990	9.539	1.47 (NS)
19.	A ₄ C ₁ vs A ₁ C ₂	53	77	55.58	60.58	8.861	9.180	3.13**
20.	A ₄ C ₁ vs A ₂ C ₂	53	102	55.58	86.40	8.861	11.679	18.35**
21.	A ₄ C ₁ vs A ₃ C ₂	53	69	55.58	64.91	8.861	8.125	5.98**
22.	A ₄ C ₁ vs A ₄ C ₂	53	55	55.58	63.42	8.861	9.539	4.43**
23.	A ₁ C ₂ vs A ₂ C ₂	77	102	60.58	86.40	9.180	11.679	16.55**
24.	A ₁ C ₂ vs A ₃ C ₂	77	69	60.58	64.91	9.180	8.125	3.03**
25.	A ₁ C ₂ vs A ₄ C ₂	77	55	60.58	63.42	9.180	9.539	1.71 (NS)
26.	A ₂ C ₂ vs A ₃ C ₂	102	69	86.40	64.91	11.679	8.125	14.14**
27.	A ₂ C ₂ vs A ₄ C ₂	102	55	86.40	63.42	11.679	9.539	13.28**
28.	A ₃ C ₂ vs A ₄ C ₂	69	55	64.91	63.42	8.125	9.539	0.92 (NS)



** Significant at 0.01 level	*Significant at 0.05 level	NS-Not Significant
A₁: Autocratic Parenting Style		A₂: Democratic Parenting Style
A₃: Permissive Parenting Style		A₄: Uninvolved Parenting Style
C₁: Male	C₂: Female	

A glance of the Table-4 indicates that t-values 14.7, 3.83, 15.19 and 1.99 for the groups (A₁C₁ vs A₂C₁); (A₁C₁ vs A₄C₁); (A₁C₁ vs A₂C₂) and (A₁C₁ vs A₃C₂) have been found significant either at 0.01 or 0.05 level. It concludes that male senior school students who perceived their parents' parenting style as autocratic (A₁C₁) differ significantly on academic achievement to male senior secondary school students who perceived their parents' parenting style as democratic (A₂C₁); to male senior secondary school students who perceived their parents' parenting style as uninvolved (A₄C₁); to female senior secondary school students who perceived their parents' parenting style as democratic (A₂C₂) and to female senior secondary school students who perceived their parents' parenting style as permissive (A₃C₂). Mean academic achievement scores of male senior secondary school students who perceived their parents' parenting style as autocratic (61.94) are higher than mean academic achievement scores of male senior secondary school students who perceived their parents' parenting style as uninvolved (55.58), while mean academic achievement scores of male senior secondary school students who perceived their parents' parenting style as autocratic (61.94) are lesser than mean academic achievement scores of male senior secondary school students who perceived their parents' parenting style as democratic (85.46), female senior secondary school students who perceived their parents' parenting style as democratic (86.40) and female senior secondary school students who perceived their parents' parenting style as permissive (64.91).

Further t-values 15.17, 17.89, 21.08, 13.61 and 12.81 for the groups (A₂C₁ vs A₃C₁); (A₂C₁ vs A₄C₁); (A₂C₁ vs A₁C₂); (A₂C₁ vs A₃C₂) and (A₂C₁ vs A₄C₂) respectively have been found significant at 0.01 level which lead to the conclude that male senior secondary school students who perceived their parents' parenting style as democratic (A₂C₁) differ significantly on academic achievement to male senior secondary school students who perceived their parents' parenting style as permissive (A₃C₁); to male senior secondary school students who perceived their parents' parenting style as uninvolved (A₄C₁); to female senior secondary school students who perceived their parents' parenting style as autocratic



(A₁C₂); to female senior secondary school students who perceived their parents' parenting style as permissive (A₃C₂) and to female senior secondary school students who perceived their parents' parenting style as uninvolved (A₄C₂). Mean academic achievement scores of male senior secondary school students who perceived their parents' parenting style as democratic (85.46) are higher than mean academic achievement scores of male senior secondary school students who perceived their parents' parenting style as permissive (60.89), male senior secondary school students who perceived their parents' parenting style as uninvolved (55.58), female senior secondary school students who perceived their parents' parenting style as autocratic (60.58), female senior secondary school students who perceived their parents' parenting style as permissive (64.91) and female senior secondary school students who perceived their parents' parenting style as uninvolved (63.42).

Further, t-values 3.18, 15.75 and 2.68 for the groups (A₃C₁ vs A₄C₁); (A₃C₁ vs A₂C₂) and (A₃C₁ vs A₃C₂) have been found significant at 0.01 level. It discloses that male senior secondary school students who perceived their parents' parenting style as permissive (A₃C₁) differ significantly on academic achievement to male senior secondary school students who perceived their parents' parenting style as uninvolved (A₄C₁); to female senior secondary school students who perceived their parents' parenting style as democratic (A₂C₂) and to female senior secondary school students who perceived their parents' parenting style as permissive (A₃C₂). Further, mean academic achievement scores of male senior secondary school students who perceived their parents' parenting style as permissive (60.89) are high as compared to the mean academic achievement scores of male senior secondary school students who perceived their parents' parenting style as uninvolved (55.58). On the other hand, mean academic achievement scores of male senior secondary school students who perceived their parents' parenting style as permissive (60.89) are lesser than mean academic achievement scores of female senior secondary school students who perceived their parents' parenting style as democratic (86.40) and to mean academic achievement scores of female senior secondary school students who perceived their parents' parenting style as permissive (64.91).

A glance of Table further discloses that t-values 3.13, 18.35, 5.98 and 4.43 for the groups (A₄C₁ vs A₁C₂); (A₄C₁ vs A₂C₂); (A₄C₁ vs A₃C₂) and (A₄C₁ vs A₄C₂) are found to be significant at 0.01 level leading. It shows that male senior secondary school students who perceived their



parents' parenting style as uninvolved (A_4C_1) differ significantly on academic achievement to female senior secondary school students who perceived their parents' parenting style as autocratic (A_1C_2) or democratic (A_2C_2) or permissive (A_3C_2) or uninvolved (A_4C_2). In context of mean scores, mean academic achievement scores depicted that the male senior secondary school students who perceived their parents' parenting style as uninvolved (55.58) have less academic achievement as compared to female senior secondary school students who perceived their parents' parenting style as autocratic (60.58) or democratic (86.40) or permissive (64.91) or uninvolved (63.42).

Further, t-values 16.55, 3.03, 14.14 and 13.28 for the groups (A_1C_2 vs A_2C_2); (A_1C_2 vs A_3C_2); (A_2C_2 vs A_3C_2) and (A_2C_2 vs A_4C_2) respectively have been found significant at 0.01 level. It means that female senior secondary school students who perceived their parents' parenting style as autocratic (A_1C_2) differ significantly on academic achievement to female senior secondary school students who perceived their parents' parenting style as democratic (A_2C_2) or permissive (A_3C_2); and female senior secondary school students who perceived their parents' parenting style as democratic (A_2C_2) differ significantly on academic achievement to female senior secondary school students who perceived their parents' parenting style as permissive (A_3C_2) or uninvolved (A_4C_2). From the mean scores, it can be reported that mean academic achievement scores of female senior secondary school students who perceived their parents' parenting style as autocratic (60.58) are less than mean academic achievement scores of female senior secondary school students who perceived their parents' parenting style as democratic (86.40) and female senior secondary school students who perceived their parents' parenting style as permissive (64.91). Also, mean academic achievement scores of female senior secondary school students who perceived their parents' parenting style as democratic (86.40) are found higher as compared mean academic achievement scores of female senior secondary school students who perceived their parents' parenting style as permissive (64.91) and to mean academic achievement scores of female senior secondary school students who perceived their parents' parenting style as uninvolved (63.42).

Therefore, it can be concluded that both male and female senior secondary school students who perceived their parents' parenting style as democratic have higher academic achievement than senior secondary school students who perceived their parents' parenting



style as autocratic or permissive or uninvolved. Table also reveals that t-values 0.66, 0.88, 0.86, 0.58, 0.2, 1.47, 1.71 and 0.92 for the groups (A_1C_1 vs A_3C_1); (A_1C_1 vs A_1C_2); (A_1C_1 vs A_4C_2); (A_2C_1 vs A_2C_2); (A_3C_1 vs A_1C_2); (A_3C_1 vs A_4C_2); (A_1C_2 vs A_4C_2) and (A_3C_2 vs A_4C_2) is not significant at 0.01 level. The mean achievement scores of senior secondary school students for different groups of parenting style and gender have also been presented in the Fig. 4.

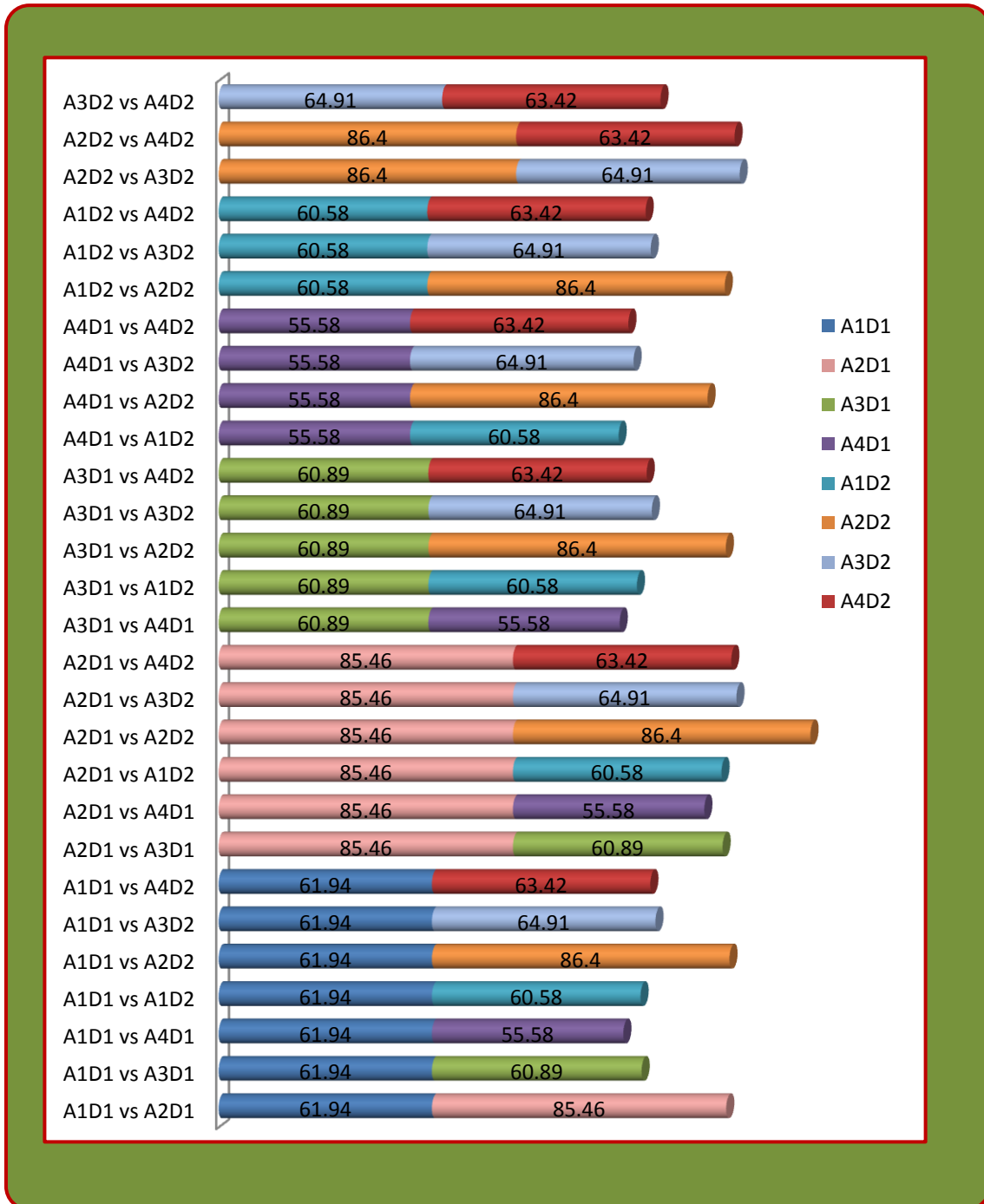


Fig. 4: Mean Academic Achievement Scores of Senior Secondary school students for different groups of Parenting Style (A) and Gender (C)



The interaction effect of parenting style (A) and gender (C) on academic achievement of senior secondary school students (4x2 design) is also presented in the form of line graph in Fig. 5. A_1, A_2, A_3 and A_4 are marked on the X-axis at any distance; and on Y-ordinate a scale is taken for the mean values. As, there are eight cells, mean of each cell is used to plot the points. The means $M_{11} = 61.94$, $M_{21} = 85.46$, $M_{31} = 60.89$ and $M_{41} = 55.58$ are marked to plot line C_1 . Similarly, the means $M_{12} = 60.58$, $M_{22} = 86.4$, $M_{32} = 64.91$ and $M_{42} = 63.42$ are marked for plotting the line C_2 . An interaction effect is generally represented by the set of non-parallel lines. From the graph, it is clear that the lines are non-parallel. Thus, the line graph represents a significant interaction effect of the two variables (parenting style and gender) on academic achievement of senior secondary school students.

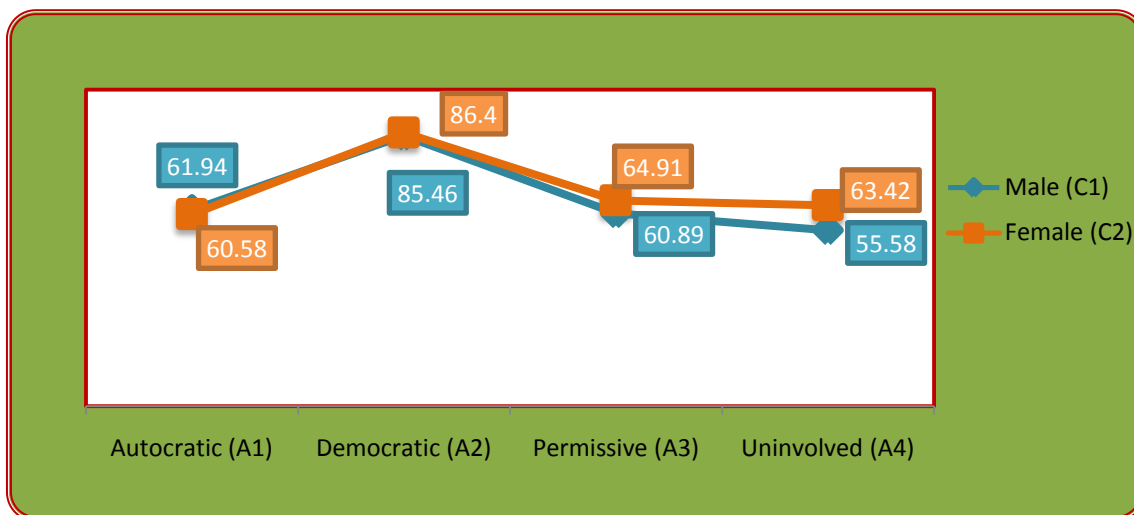


Fig. 5: Interaction effect of Parenting Style (A) and Gender (C) on Academic Achievement of Senior Secondary school students

Type of school and Gender (B x C)

Table-2 further concludes that F-ratio (0.830) for the interaction effect of type of school and gender is not significant at 0.05 level. It depicts that type of school (B) and gender (C) do not have interaction effect on academic achievement of senior secondary school students. Hence, the null hypothesis $H_{02}(c)$, "There exists no significant interaction effect of type of school and gender on academic achievement of senior secondary school students," is **retained**. The present result in consonance with the result of Gupta and Suman (2017) who also reported that there exists no significant interaction effect of type of school and gender on academic achievement of the senior secondary school students.



Triple interaction effect of Parenting Style, Type of School and Gender on Academic Achievement of Senior Secondary school students

Parenting Style x Type of School x Gender (A x B x C)

The Table-2 also indicates that the F-ratio (1.104) for the triple interaction effect of parenting style, type of school and gender on academic achievement of senior secondary school students is not significant at 0.05 level. It discloses that parenting style, type of school and gender do not have interaction effect on academic achievement of senior secondary school students. Therefore, the null hypothesis H_{03} , "There exists no significant interaction effect of parenting style, type of school and gender on academic achievement of senior secondary school students," **is retained**.

EDUCATIONAL IMPLICATIONS

Parenting style has substantial effect on children's development. It was found that parenting style had a significant effect on academic achievement of senior secondary school students. So, parents must be made aware of their contribution in children's life domain. It was further found that students who perceived their parents' parenting style as democratic demonstrated high academic achievement. Hence, parents must adopt democratic parenting style and must use it practically while dealing with their children. They must encourage their children to participate in activities that match their talents and also to work hard by being genuinely interested in their activities. Understanding the importance of parenting style in the life of children, schools and administrators should organize workshops and trainings for parents to guide the parents about the various strategies which they should use for their child's development.

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