

STUDY OF PARENT CHILD INTERACTION OF LOW AND HIGH ACHIEVING IX GRADERS IN RELATION TO ACADEMIC STRESS AND FAMILY CLIMATE

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Abstract

The present study investigated the parent child interaction of secondary school students in relation to academic stress and family climate. The research investigation was carried out on 100 students of class IX selected randomly from two high schools of Chandigarh affiliated to Central Board of Secondary Education. The scale of academic stress taken from Bisht Battery of Stress Scales by Bisht (1987), Family Climate Scale by Shah(2001) and Parent Child Interaction Scale by Sharma(2000) were used as instruments for data collection in this study. Achievement scores were taken as cumulative percentage of marks obtained by students in the house test, unit tests and annual examination. A two way $2 \times 2 \times 2$ Analysis of Variance was used to arrive at the following conclusions: (i) High achievers show superior parent child interaction as compared to low achievers. (ii) Parent child interactions of high and low academic stress groups were not different. (iii) Parent Child Interactions of interactive and passive family climate groups were not different. (iv) Academic achievement and academic stress operate independent of each other in respect of parent child interactions. (v) Academic achievement and family climate operate independent of each other in respect of parent child interactions. (vi) There exists significant interaction effect of academic stress and family climate on parent child interaction. (vii) Academic achievements, academic stress and family climate operate independent of one another in respect of parent child interaction.

Keywords: Parent Child Interaction, Achievement, Academic Stress, Family Climate

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Introduction

Parental involvement, that is “parents’ interactions with schools and with their children to promote academic success” (Hill & Taylor 2004) is an umbrella term that includes a variety of behaviours and activities of parents directly or indirectly related to the education of their children. Parent child interaction can help parents to emphasize good work habits, value learning and good character, set high expectations for their children, stay informed about their children's progress and monitor their children's activities. Parent child interaction plays an important role in shaping the personality of the child. If the parents are rational and their attitude towards the child is logical and considerate, it is sure to pick up a behaviour pattern which is analytical and co-operative. In case parents are too emotional and their attitude is non-rational and they act more in terms of expediency in an authoritative manner, child will fail to have a proper emotional training, thus lacking in emotional normality. When the interaction between the child and parents is less, the child develops a sense of loneliness and in later life. He may also become a confined individualist, self seeking and introvert.

Parents logically have the advantage over peers, educators, counsellors and other professionals of serving as a continual stable resource for their children over the life span (Farmer, 1985; Trusty & Watts, 1996). Parental involvement in children's education appears to be associated with a range of positive outcomes for elementary school children including fewer behaviour problems (Comer, 1984) and higher student achievement (Kohl, Lengua & McMahan, 2000; Muller, 1993; Reynolds & Bezruczko, 1993; Stevenson & Baker, 1987).

Parental involvement in a child's education along with environmental and economic factors may affect child development in areas such as cognition, language, and social skills. Numerous studies in this area have demonstrated the importance of family interaction and involvement in the years prior to entering school (Bergsten, 1998; Hill, 2001; Wynn, 2002). Research findings have also shown that a continued effort of parental involvement throughout the child's education can improve academic achievement (Driessen, Smit & Sleegers, 2005; Fan, 2001; Hong & Ho, 2005). In general, parental involvement is associated with children's higher achievements in language and mathematics, enrolment in more challenging programs, greater academic

persistence, better behaviour, better social skills and adaptation to school, better attendance and lower drop-out rates (Henderson & Mapp, 2002).

The modern world, which is said to be a world of achievements, is also a world of stress. One finds stress everywhere, whether it be within the family, business, education or any other social or economic activity. Right from the time of birth till the last breath drawn, an individual is invariably exposed to various stressful situations. Stress is an agitated physiological state in which the electrical transmission of information along neurons is heightened to the point that the nervous system may collapse and/or bodily function may perform poorly.

According to Lazarus and Folkman (1984) "Stress is inharmonious fit between person and the environment, one in which the person's resources are taxed or exceeded, forcing the person to struggle, usually in complex ways and to cope with". Stress is defined as a feeling of tension that is both emotional/physical. It can occur in specific situations. Different people perceive different situations as stressful.

Stress is a contributing factor in causing numerous emotional and behavioural difficulties including depression, anxiety, temper tantrums, suicide attempts, child abuse, spouse abuse, physical assault, and destructive expression of anger, feeling of inadequacy or failure, feelings of bitterness and resentment, irritability, impatience and stuttering (Greenburg, 1980).

Bisht (1987) referred to at least thirteen types of stress viz existential stress, achievement stress, academic stress, self actualisation stress, physical stress, social stress, role stress, institutional stress, family stress, financial stress, vocational stress, superstition stress and self concept stress. Academic stress is a mental distress with respect to some anticipated frustration associated with academic failure or even an awareness of the possibility of such failure (Gupta & Khan, 1987).

Academic stress is an important factor accounting for variation in academic achievements, it also contributes to major health hazards, problems both physical and mental, and stress related diseases. Stress makes a significant contribution to the prediction of subsequent school performance and acts as a negative predictor of academic performance in school children

(Endler, Kantor & Parker, 1994). In addition, well-meaning parents sometimes unwittingly add to the stress in their children's lives. For example, high achieving parents often have great expectations for their children, who may lack their parents' motivation or capabilities. According to Bector (1995) a student is caught in a dynamic technological whirlpool and seems to be precariously poised on the brink of disaster.

Significance of the Study

Since adolescence is the most highlighted age group of today they are thought to be troublesome and problematic age group. As children get older, academic and social pressures create stress. As per the reports of NCRB, in 2013 alone, 2,471 suicides were attributed to “failure in examination” and 32,325 suicides were attributed to “family problems”. National Crime Records Bureau (NCRB) 2015 quoted that every hour one student commits suicide in India. Academic stress has been reported to have a detrimental impact on students’ emotional states during their daily activities, and to create a variety of somatic symptoms (Verma & Gupta, 1990). Academic stress and school related stressors also contribute to the challenges faced by adolescents. Parents are baffled by the unexpected changes in their behaviours and yet unable to deal with them. In particular, research suggests that adolescents are at risk for depression as a function of ongoing exposure to adverse family environments characterized by the absence of supportive and warm interactions and by elevated levels of harsh and conflictual interactions (e.g., Sheeber, Davis, Leve, Hops, & Tildesley, 2007). Research indicates that the quality of parent-child interactions predicts both the course of depressive episodes (Asarnow, Goldstein, Thompson, & Guthrie, 1993; Sanford et al., 1995) and response to treatment (Birmaher et al., 2000). So there is a dire need to focus on this topic so as to help the society in future and to create a better understanding of the issue.

Objectives

- To study impact of family climate of low and high achieving students on parent-child interactions.
- To study impact of academic stress of high and low achieving students on parent-child interactions.

- To family study the interaction effect of family climate and academic stress of low and high achieving IX graders on parent-child interaction.

Hypotheses

H₁: There exists no significant difference between parent-child interaction of low and high achievers groups.

H₂: There exists no significant difference between parent-child interaction group of low and high academic stress.

H₃: There exists no significant difference between parent-child interaction groups of interactive and passive family climate.

H₄: There exists no significant interaction effect of academic achievement and stress on parent-child interaction groups.

H₅: There exists no significant interaction effect of academic achievement and family climate on parent-child interaction groups.

H₆: There exists no significant interaction effect of stress and family climate on parent-child interaction groups.

H_{6.1}: For high stress: The parent-child interaction scores as reported by parents were not different for interactive and passive family climate groups.

H_{6.2}: For low stress: The parent-child interaction scores as reported by parents were not different for interactive and passive family climate groups.

H_{6.3}: For interactive family climate: The parent-child interaction scores as reported by parents were not different for high and low academic stress groups.

H_{6.4}: For passive family climate: The parent-child interaction scores as reported by parents were not different for high and low academic stress groups.

H₇: There exists no significant interaction effect of academic achievement, stress and family climate on parent child interaction groups.

Sample

The research investigation was carried out on 120 students of class IX of the age ranging between 13-15 years. The sample was selected randomly from two high schools of Chandigarh affiliated to Central Board of Secondary Education.

Table 1: School wise distribution of sample

S.No.	Name of the School	No. of Students
1.	Government Model High School, Sector- 411 Chandigarh	63
2.	Government Model High School, Sector- 441 Chandigarh	57
Total		120

Design

The present investigation falls in the domain of descriptive type of research. The study was conducted by taking achievement as a classification variable. The academic stress and family climate were taken as independent variables each one of which was studied at two levels, whereas parent child interaction pattern was a dependent variable.

Tools Used

- 1 Scale of academic stress taken from Bisht Battery of stress scales developed by Bisht (1987).
- 2 Family Climate Scale developed and standardised by Shah (2001).
- 3 Parent Child Interaction Scale developed and validated by Sharma (2000).
- 4 Achievement Scores were taken as cumulative percentage of marks obtained by students in the house test, unit tests and annual examination.

Analysis and Interpretation of the Results

The sum of squares, degree of freedom, mean sum of squares and F-ratio and correlation were used on parent child interaction scores have been presented in tables -1, 2 & 3.

Table 2: Summary of Analysis of Variance (2×2×2) factorial design

Source of Variance	Sum of Squares	df	Mean Sum of Squares	F- ratio
Levels of Achievement(A)	2525.06	1	2525.06	61.84**
Academic Stress(B)	126.56	1	126.56	3.09
Family Climate(C)	110.24	1	110.24	2.69
Interaction (A×B)	81.00	1	81.00	1.98
Interaction(A×C)	.063	1	.063	0.02
Interaction(B×C)	370.56	1	370.56	9.08**
Interaction(A×B×C)	.037	1	.037	0.01
Error Term	2286.48	56	40.83	

**Significant at 0.01 level of Confidence

(Critical Value 4.02 at 0.05 and 7.12 at 0.01 level, df 1,56)

Main Effect

Levels of Achievement(A)

Table-2 reveals that the F-ratio for the difference in mean scores of parent-child interaction of high and low achievers is 61.84, which in comparison to the table value was found significant at the 0.01 level of confidence. It suggests that the two groups were found different beyond the contribution of chance. The null hypothesis H_1 : There exists no significant difference between parent-child interaction scores of low and high achievers groups, was rejected. It may be inferred that parent-child interaction of high and low achievers was different. To probe further t-ratio was calculated.

In order to probe deeper, the F-ratio was followed by t-test. The values of t-ratio for mean scores of high and low achievers group have been presented in table-3.

Table 3: Means and t-ratio for the difference in mean of high and low achievers

Variable	High Achievers			Low Achievers			SE _D	t-value
	N	Mean	SD	N	Mean	SD		
ParentChild Interaction	32	64.28	10.57	32	51.72	9.95	2.57	4.89**

** Significant at 0.01 level

(Critical Value 2.00 at 0.05 and 2.66 at 0.01 levels, df 62)

Table-3 reveals that the mean score of parent child interaction of high achievers of students are 64.28, which is higher than the corresponding means score 51.722 of low achievers of students. The t-value testing the significance of mean difference between high and low achievers groups is 4.89, which in comparison to the table value was found significant at 0.01 levels of significance. An examination of the means of the two groups suggests that high achievers have better levels of parent child interaction as compared to their counterparts of low achievement group. It may be concluded that high achievers show superior parent child interaction compared to low achievers.

Academic Stress (B)

The table-2 reveals that the F-ratio for the difference in mean scores of parent child interaction of high and low academic stress groups is 3.09, which in comparison to the table value was not found significant even at the 0.05 level of confidence. It suggests that the two groups were not different, beyond the contribution of chance. The null hypothesis **H₂**: There exists no significant difference in parent-child interactions of high and low academic stress groups, was not rejected. It may be concluded that parent-child interactions of high and low academic stress groups were not different

Family Climate (C)

The table-2 reveals that the F-ratio for the differences in mean scores of parent-child interaction of interactive and passive family climate groups is 2.69, which in comparison to the table value was not found significant even at the 0.05 level of confidence. It suggests that the means of the groups may not be considered different. The null hypothesis **H₃**: There exists no significant difference between parent-child interaction scores of interactive and passive family

climate groups, was not rejected. The observed differences may be ascribed due to the chance factor alone. It may be concluded that parent-child interactions of interactive and passive family climate groups were not different.

Interaction Effect between Academic Achievement and Academic Stress (A × B)

The table-2 reveals that the F-ratio for the interaction effect between academic achievement and academic stress is 1.98, which in comparison to the table value was not found significant even at the 0.05 level of confidence. It suggests that the two factors i.e. academic achievement and family climate do not interact with each other to yield different parent-child interaction scores. It may be inferred that the combined effect of academic achievement and academic stress on parent child interaction was not found significant beyond the contribution of chance. The null hypothesis **H₄**: There exists no significant interactional effect of academic achievement and academic stress on parent-child interaction groups, was not rejected. It may be concluded that academic achievement and academic stress operate independent of each other in respect of parent-child interactions.

Interaction Effect between Academic Achievement and Family Climate (A × C)

The table-2 reveals that the F-ratio for the interaction effect between academic achievement and family climate is 0.02, which in comparison to the table value was not found significant even at the 0.05 level of confidence. It suggests that the two factors do not interact with each other to yield different parent child interaction scores. It may be inferred that the combined effect of academic achievement and family climate on parent child interaction was not found significant beyond the contribution of chance. The null hypothesis **H₅**: There exists no significant interactional effect of academic achievement and family climate on parent-child interaction groups, was not rejected.

Interaction Effect between Academic Stress and Family Climate (B × C)

The table-2 reveals that the F-ratio for the interaction effect between academic stress and family climate is 9.08, which in comparison to the table value was found significant at the 0.01 level of significance. It suggests that the two factors i.e. academic stress and family climate do interact with each other to yield different parent- child interaction scores. Hence, the null

hypothesis **H₆**: There exists no significant interaction effect of academic stress and family climate on parent child interactions groups, was rejected.

In order to probe deeper, the F-ratio was followed by t-test. The values of t-ratio for different combinations of mean scores of academic stress and family climate groups have been presented in table-4.

Table -4: t-ratio for different combination groups of academic stress and family climate

	B₁ C₁ N Mean 16 55.5	B₂ C₁ N Mean 16 57.69	B₂ C₁ N Mean 16 63.13	B₂ C₂ N Mean 16 55.69
B₁ C₁ N Mean 16 55.5	-	0.97	3.38**	0.08
B₁ C₂ N Mean 16 57.69	-	-	2.41**	0.88
B₂ C₁ N Mean 16 63.13	-	-	-	3.29**
B₂ C₂ N Mean 16 55.69	-	-	-	-

** Significant at 0.01 level of confidence

(Critical Value 2.04 at 0.05 and 2.75 at 0.01 levels, df 30)

Whereas

B₁ = High Academic Stress B₂ = Low Academic Stress

C₁ = Interactive Family Climate C₂ = Passive Family Climate

- **For High Stress:** The t-ratios for difference in means of students belonging to interactive and passive climate were not found significant at the 0.05 level of confidence. The different combination groups are not different on parent child interaction beyond chance. The null hypothesis **H_{6,1}** was not rejected at the specified level.
- **For Low Stress:** The t-ratio for the difference in means of interactive and passive family climate was found significant at the 0.01 level of confidence. The null hypothesis **H_{6,2}** was

therefore rejected leading to conclude that children having low stress level show difference in parent child interactions when belonging to Interactive family climate or passive family climate. An examination of the means of parent child interaction scores suggests that for low stress students, interaction family climate yielded higher means as compared to passive family climate.

- **For Interactive Family Climate:**The t-ratios for the difference in means of students belonging to high stress group and low stress group, was found to be significant at the 0.01 level of confidence. The difference of parent-child interaction scores for the high and low stress children of Interactive families was not only due to chance factor. The null hypothesis $H_{6.3}$ was therefore rejected at the specified level. An examination of means of the two groups suggests that low stress children of interactive families have superior parent child interactions as compared to high stress children of interactive families.

- **For Passive Family Climate:**The t-ratio for the difference in means of high stress and low stress groups was not found significant even at the .05 level of confidence. The two groups seem not to differ beyond chance. The null hypothesis $H_{6.4}$ therefore, was not rejected at the specified level. It leads to a conclusion that high and low stress groups of ix graders, belonging to passive family climate exhibit similar parent child interactions.

Interaction Effect among Academic Achievement, Academic Stress and Family Climate (A×B×C)

The table-2 reveals that the F-ratio for the interaction effect of academic achievement, academic stress and family climate, was not found to be significant even at the 0.01 level of confidence. It suggests that the three factors i.e. academic achievement, academic stress and family climate do not interact with each other to yield different parent child interaction scores. It may be inferred that the combined effect of academic achievement, academic stress and family climate on parent child interaction was not found significant beyond the contribution of chance. Hence, the null hypothesis H_7 : There exists no significant interactional effect of academic achievement, academic stress and family climate on parent child interaction groups, was not rejected. It may be concluded that academic achievement, academic stress and family climate operate independent of one another in respect of parent child interactions.

Discussion

The present study reveals that the high achievers show superior parent child interaction as compared to low achievers. Hence, the hypothesis **H₁**: There exists no significant difference between parent-child interaction scores of low and high achievers is rejected. The result is supported by the findings of Christian, Morrison and Bryant (1998), National Research Council (2000) who reported that parent-child interactions, specifically stimulating and responsive parenting practices, are important influences on a child's academic development. Some studies report positive associations with parent child interaction and academic achievement (Callahan, Rademacher, & Hildreth, 1998; Fan & Chen 2001; Hong & Ho, 2005; Houtenville & Conway, 2008; McWayne, Hampton, Fantuzzo, Cohen, & Sekino, 2004). However some studies indicate no association (Barnard, 2004; Fan & Chen, 2001; Mattingly, Prislis, McKenzie, Rodriguez & Kayzar 2002; Patall, Cooper & Robinson, 2008), and even others point to negative associations (Muller, 1993). Rafiq, Fatima, Sohail, Saleem and Khan (2013) found that parental involvement has significance effect in better academic performance of their children.

The present study reveals that parent child interactions of high and low academic stress groups were not different. Hence, the hypothesis **H₂**: There exists no significant difference in Parent - Child Interactions of high and low academic stress groups, was therefore not rejected. The findings were supported by study conducted by Tay and Tam (2010), who found that stress level of adolescents was not related to their parenting styles. However, Stark, Humphrey, Crook, and Lewis (1990) found that anxious children described their families as more enmeshed and less supportive. Kaur (2000) found that mean achievement score of low stress group is higher as compared to that of high stress group and low stress group achieved higher than the average stress group.

The present study reveals that parent child interactions of interactive and passive family climate groups were not different. Hence, the hypothesis **H₃**: There exists no significant difference between parent-child interaction scores of interactive and passive family climate groups, was therefore not rejected.

The present study reveals that academic achievement and academic stress operate independent of each other in respect of parent child interactions. Hence, the hypothesis **H₄**: There exists no significant interaction effect of academic achievement and stress on parent-child interaction, was therefore not rejected. The investigator could not lay her hand on any study related to this result.

The present study reveals that academic achievement and family climate operate independent of each other in respect of parent child interactions. Hence, the hypothesis **H₅**: There exists no significant interaction effect of academic achievement and family climate on parent-child interaction was not rejected. The finding is supported by Bryan (2005) who reported that children are more likely to have higher academic achievement levels and improved behaviour when families are involved in their education.

The present study reveals that that there exists interactional effect of academic stress and family climate on parent child interaction. Hence, the hypothesis **H₆**: There exists no significant interaction effect of stress and family climate on parent-child interaction was therefore rejected. The investigator could not lay her hand on any study related to this result.

The present study reveals that academic achievements, academic stress and family climate operate independent of one another in respect of parent child interaction. Hence, the hypothesis **H₇**: There exists no significant interaction effect of academic achievement, stress and family climate on parent child interaction was therefore not rejected. The investigator could not lay her hand on any study related to this result.

Findings

- 1) High achievers show superior parent child interaction as compared to low achievers.
- 2) Parent child interactions of high and low academic stress groups were not different.
- 3) Parent child interactions of interactive and passive family climate groups were not different.
- 4) It may be inferred that academic achievement and academic stress operate independent of each other in respect of parent child interactions.
- 5) It may be inferred that academic achievement and family climate operate independent of each other in respect of parent child interactions.

6) It may be inferred that there exists interactional effect of academic stress and family climate on parent child interaction.

- The parent child interaction scores for high stress groups were different for interactive and passive family climate groups.

- The parent child interaction scores for low stress groups were different for interactive and passive family climate groups. An examination of the means of parent child interaction scores suggest that for low stress students, interactive family climate yielded higher means as compared to passive family climate.

- The parent child interaction scores for interactive family were different for high and low stress groups. An examination of means of the two groups suggests that low stress children interactive families have superior parent child interaction compared to high stress children of interactive families.

- The parent child interaction scores for passive family climate were not different for high and low stress groups.

7) It may be inferred that academic achievements, academic stress and family climate operate independent of one another in respect of parent child interaction.

Educational Implications

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