Family Environment and Peer Group Influence as Predictors of Academic Stress among Adolescents

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Abstract:

The present study was attempted to find out the predictors of academic stress among adolescents. The study was conducted on a sample of 360 adolescents in Chandigarh. For the collection of data Scale of Academic Stress, Family Environment Scale and Peer Group Influence Inventory were used. For the analysis of data statistical techniques like t-test, Pearson's product moment correlation and stepwise multiple regression were used. The results of the study showed that no significant gender difference was observed on academic stress. But on cohesion (the dimension of family environment) significant gender difference was observed. On peer group influence variable, significant gender differences were observed on health and outer appearance, aggression, substance use and sexual behaviour dimensions. Correlational analysis showed that academic stress was significantly and negatively correlated with cohesion, expressiveness, independence and organization dimensions of family environment. But positive and significant relationship of academic stress was observed with family involvement, health and outer appearance, aggression and sexual behaviour dimensions of peer group influence. Regression analysis demonstrated that cohesion (the dimension of family environment) and aggression (the dimension of peer group influence) were the significant predictors of academic stress and contributed to it independently as well as conjointly. The results indicated a clear role of family environment and peer group influence in the development of academic stress.

Keywords: *Academic stress, Adolescents, Family environment, Peer group influence*

1. Introduction

Technological and societal changes have induced greater competition among students and teachers. The increased accountability, the eroding of the bases of professional authority, the undervaluing of profession, love of coaching or tutoring have led to increased stress. Learning related stress arises from task-demands as these have to be done within time schedules, interpersonal relations, discipline norms and evaluations (Singhal, 2004). In western countries, students from ethnic minority groups, especially those with Asian backgrounds are more likely to be stressed by academic learning than others (Jones & Hattie, 1991; Coney & West, 1979). Females usually report more stress or pressure than the males (Xie, 2007; Zhao & Yuan, 2006). Academic stress is anything that imposes an extra demand on a person's ability to cope, often with something that is new and different in academics (Firman, 1992). In the opinion of Endler, Kantor and Parker (1994), academic stress contribute to major health hazards associated with problems of physical and mental stress related ailments.

Environment always affect the growth and development of adolescents. Family environment and peer group influence are the main aspect of adolescents' environment. The family constituted an interpersonal social system held together by strong bonds of attachment, affection, caring, and yet exercised control, approval and discipline on each other's actions (Harvey & Byrd, 2000; Parke & Buriel, 1998). Peer group influence is the influence that friends exercise on one another or the influence exerted by a much wider category of age-mates (Harre & Lamb, 1983, p. 447). Hansell (1985) showed that peer status has been found to have effects on both physical health and general

feelings of well-being. This showed that the organization, structure and distribution of social status among a peer group can influence adolescent development (Ueno, 2005; Kiesner, 2002).

Some studies have been shown positive correlation between coercive parenting and adolescents' lack of adjustment, distress and problem behaviours (Kim, Hetherington & Reiss, 1999; Steinberg, Lamborn, Darling, Mounts & Dornbusch, 1994; Barnes & Farrell, 1992; Steinberg, Mounts, Lamborn & Dornbusch, 1991). The adolescents from family environments characterized by warmth, caring, communication, understanding and support showed fewer psychological health symptoms (Seiffge-Krenke, 1995). Isolation from peers and family also increased the level of academic stress (Dinh Do, 2007). Rural school location, low school connectedness, perceived academic pressure from peers, perceived poor academic grades, female gender, older age, family problems, expectation by friends and family, and frequent emotional conflicts with teachers and peers were all strongly correlated with academic stress (Sun, Dunne, Hou & Xu, 2013; Fairbrother & Warn, 2003; Ornelas & Kleiner, 2003). Dieu et al. (n.d.) found that academic stress was significantly correlated with area of living, conflict with family, care of mothers, care of fathers, school connectedness, and conflict with teachers at school and conflict with friends. Sharma, Jagriti and Malhotra (2010) demonstrated that family conflict and control were found to be positively correlated with stress but moral religious emphasis and organization in the family were negatively related to stress. Also, it was found that low peer acceptance or rejection in adolescence has been identified as a risk indicator for poor school adjustment, including academic failure (Buhs & Ladd, 2001; Coie, Terry, Lenox, Lochman & Hyman, 1995; Parker & Asher, 1987). However, the literature reviewed in the present study showed that family environment and peer group influence contribute towards the development of academic stress among adolescents but not so much Indian studies are found in the present combination of variables. Thus, the present study aims to find out the associates and predictors of academic stress among adolescents.

2. Objectives
For the present study following objectives were framed:
1. To study the gender differences on the variables of academic stress, family environment and peer group influence.
2. To study the relationship of academic stress with family environment and peer group influence among adolescents.
3. To study the predictors of academic stress from the independent variables of family environment and peer group influence among adolescents.

3. Hypotheses
On the behalf of above stated objectives following hypotheses were formulated:
1. There are no significant gender differences on the variables of academic stress, family environment and peer group influence.
2. There is no significant relationship between academic stress and family environment among adolescents.
3. There is no significant relationship between academic stress and peer group influence among adolescents.
4. None of the independent variables of family environment and peer group influence contribute significantly in predicting academic stress among adolescents conjointly as well as independently.

4. Delimitations
The study under investigation was delimited to the following:
1. The study was delimited to XI class students of Government Model Senior Secondary Schools (co-educated) of Chandigarh only.
2. The study was further delimited to the variables of academic stress, family environment and peer group influence.

5. Methodology

5.1 Design of the Study

In the present study descriptive survey method was used to collect the data from adolescents in Chandigarh.

5.2 Sample

The present study was conducted on a sample of 360 adolescents comprised of 180 boy and 180 girl adolescents studying in XI class pursuing science, arts and commerce streams from Government Model Senior Secondary Schools of Chandigarh. Stratified random sampling technique was used for the selection of sample. There was no clinical history of adolescents. Sample distribution is shown below in Figure 1.
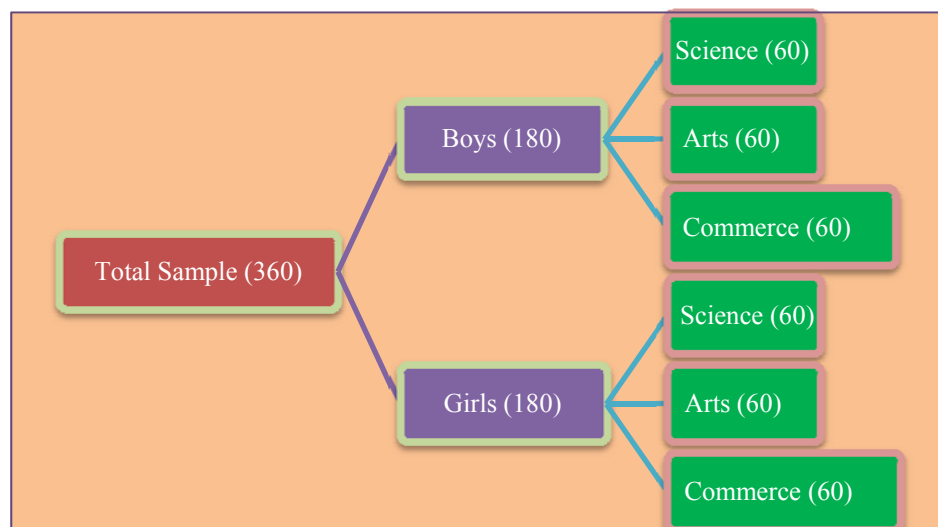

Figure 1: Showing Sample Distribution

5.3 Tools

For the collection of data following tools were used:

5.3.1 Scale of Academic Stress (SAS)

Scale of Academic Stress (Bisht, 1995) was used to measure academic stress among adolescents. It contains a total of 80 items. The scale consisted of item and content validity. The dependability, stability and internal consistency of scale were found to be 0.87, 0.82 and 0.88 respectively.

5.3.2 Family Environment Scale (FES)

The Family Environment Scale (Vohra, 1997) was used to get information about the family environment. It has seven dimensions namely Competitive framework (Cf), Cohesion (Co), Expressiveness (Ex), Independence (In), Moral orientation (Mo), Organization (Or) and Recreational orientation (Ro). It includes 98 statements. Factorial validity coefficients of seven dimensions of Family Environment Scale i.e. Cf, Co, Ex, In, Mo, Or and Ro were found to be 0.84, 0.83, 0.77, 0.82, 0.80, 0.79 and 0.80 respectively. Test-retest reliabilities of seven dimensions are all in acceptable range, varying from a low of 0.78 for Independence to a high of 0.89 for Cohesion. Split-half reliability of seven dimensions varying from 0.81 (Independence) to 0.91 (Cohesion).

5.3.3 Peer Group Influence Inventory (PGII)

It was developed by investigator to measure the influence of peer group on adolescents' behaviour. It has six dimensions namely School Involvement (SI), Family Involvement (FI), Health and Outer Appearance (HOA), Aggression (A), Substance Use (SU) and Sexual Behaviour (SB). Test-retest reliability coefficient for SI, FI, HOA, A, SU and SB were found to be 0.76, 0.57, 0.73, 0.77, 0.76 and 0.84 respectively. Also, content validity of the inventory was established.

5.4 Procedure

For the collection of data a prior permission was taken from the school principals. Investigator explained the purpose of present study to adolescents and they were assured that their responses and information given about them will be kept confidential and used for research purpose only. After assurance all the tools were administered to adolescents with a time period of seventy minutes.

5.5 Statistical Techniques to be employed

For the analysis of data statistical techniques like t-test, Pearson's product moment correlation and stepwise multiple regression were used.

6. Results

Analysis and interpretation of results have been done hypothesis-wise which is presented below:

Table 1: *Comparison of Boys (N = 180) and Girls (N =180) on the Variables of Academic Stress, Family Environment and Peer Group Influence*

Variables	Boys		Girls		t-ratio
	Mean	S. D.	Mean	S. D.	
Academic Stress	302.48	41.10	302.42	41.59	0.02
Competitive framework	7.14	1.41	7.03	1.40	0.71
Cohesion	7.52	1.48	7.85	1.40	2.16*
Expressiveness	7.51	1.91	7.46	2.38	0.22
Independence	5.34	1.67	5.55	1.65	1.17
Moral orientation	8.43	.99	8.57	.75	1.50
Organization	7.08	1.58	6.87	1.64	1.28
Recreational orientation	5.23	1.52	5.20	1.58	0.20
School Involvement	12.93	4.81	12.92	5.00	0.02
Family Involvement	4.70	2.12	4.53	2.40	0.70
Health and Outer Appearance	9.50	3.74	8.29	4.30	2.85**
Aggression	4.49	2.55	3.61	2.67	3.23**
Substance use	0.37	0.96	0.12	0.49	3.12**
Sexual Behaviour	5.29	4.41	1.97	2.63	8.67**

** Significant at 0.01 level (t = 2.59), * Significant at 0.05 level (t = 1.97)

Table 1 represents the gender differences on the variables of academic stress, family environment (dimensions-wise) and peer group influence (dimension-wise). From the Table 1 it was found that boys and girls did not show significant difference on the variable of academic stress which demonstrated that both the groups showed similar level of academic stress. On the variable family environment, significant gender differences were observed only on cohesion dimension (t = 2.16, significant at 0.05 level). This demonstrated that in the families of girls (M = 7.85) there was more cohesiveness as compared to boys (M = 7.52). Also, on the variable peer group influence, significant gender differences were exist on health and outer appearance (t = 2.85), aggression (t = 3.23), substance use (t = 3.12) and sexual behaviour (t = 8.67) dimensions. This indicated that boys were more influenced by their peer group regarding health and outer appearance, aggression, substance use behaviour and sexual behaviour. Figure 2 represents the significant gender differences on cohesion (dimension of family environment), health and outer appearance, aggression, substance use and sexual -behaviour (dimensions of peer group influence) as shown below:
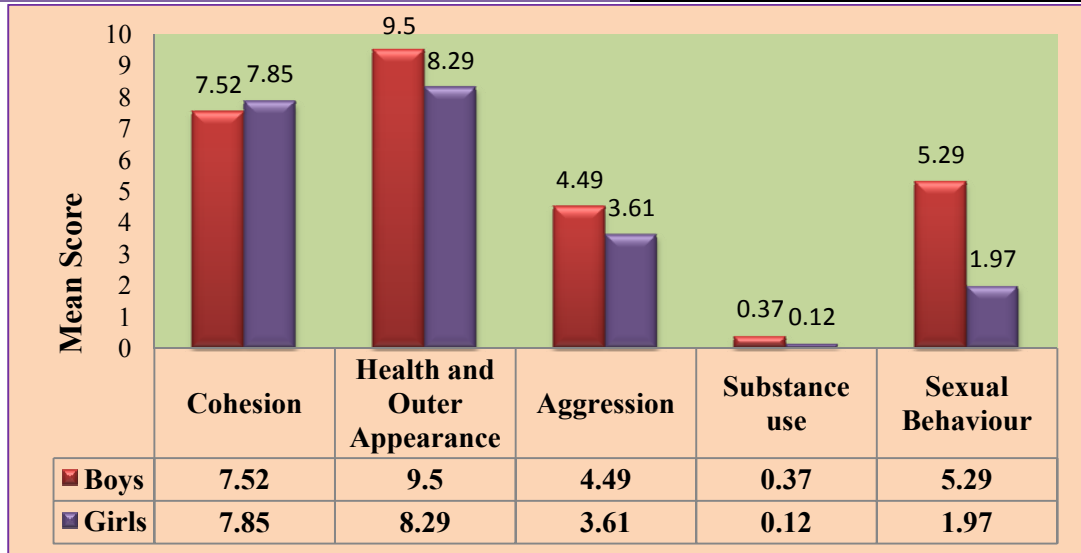
Figure 2: Significant Gender Differences on Cohesion, Health and Outer Appearance, Aggression, Substance Use and Sexual Behaviour Dimensions

Thus, the null hypothesis, "There is no significant gender difference on the variable of academic stress" stands accepted. But the null hypothesis, "There are no significant gender differences on the variables of family environment and peer group influence" stands rejected for cohesion dimension of family environment, and health and outer appearance, aggression, substance use, sexual behaviour dimensions of peer group influence.

Table 2: *14X14 Intercorrelation Matrix of the Dependent Variable Academic Stress with Independent Variables of Family Environment and Peer Group Influence for Adolescents (N = 360)*

Var.	AS	Cf	Co	Ex	In	Mo	Or	Ro	SI	FI	HOA	A	SU	SB
AS	1													
Cf	-.029	1												
Co	-.257**	.152**	1											
Ex	-.144**	.145**	.489**	1										
In	-.109*	.134*	.287**	.351**	1									
Mo	-.086	.154**	.173**	.035	.015	1								
Or	-.144**	.231**	.362**	.210**	.027	.242**	1							
Ro	-.070	.176**	.260**	.261**	.208**	.123*	.348**	1						
SI	.076	.006	-.008	.090	.094	-.106*	-.033	.041	1					
FI	.109*	-.035	-.068	.057	-.027	-.063	.062	.040	.383**	1				
HOA	.121*	.088	.007	.076	.042	-.102	.024	.113*	.627**	.420**	1			
A	.206**	-.033	-.190**	-.071	.005	-.153**	-.105*	-.048	.310**	.078	.220**	1		
SU	.014	-.115*	-.128*	-.092	-.032	-.148**	-.062	-.003	-.043	-.105*	.023	.176**	1	
SB	.163**	-.101	-.195**	-.064	-.098	-.233**	-.040	-.069	.281**	.114*	.346**	.531**	.333**	1

** Significant at 0.01 level (r = 0.128), * Significant at 0.05 level (r = 0.098)

Note: Variables (Var.), *Academic Stress (AS), Competitive framework (Cf), Cohesion (Co), Expressiveness (Ex), Independence (In), Moral orientation (Mo), Organization (Or), Recreational orientation (Ro), School Involvement (SI), Family Involvement (FI), Health and Outer Appearance (HOA), Aggression (A), Substance Use (SU), and Sexual Behaviour (SB).*

Table 2 presents the intercorrelation of academic stress (dependent variable) with dimensions of family environment and dimensions of peer group influence. Table 2 demonstrated the significant but

negative relationship of academic stress with cohesion (r = -0.257), expressiveness (r = -0.144), independence (r = -0.109) and organization (r = -0.144) dimensions of family environment. This negative relationship demonstrated that as the cohesiveness, expressiveness, independence and organization in the family increases, the level of academic stress decreases and vice-versa. Thus, the null hypothesis, "There is no significant relationship between academic stress and family environment among adolescents" stands rejected for cohesion, expressiveness, independence and organization dimensions of family environment except competitive framework, moral orientation and recreational orientation dimensions.

Also, positive and significant relationship of academic stress was observed with family involvement (r = 0.109), health and outer appearance (r = 0.121), aggression (r = 0.206) and sexual behaviour (r = 0.163) dimensions of peer group influence. Positive relationship demonstrated that as the influence of peers on adolescents' health and outer appearance, aggressive behaviour, sexual behaviour increases, the level of academic stress also increases among them. Hence, the null hypothesis, "There is no significant relationship between academic stress and peer group influence among adolescents" stands rejected for family involvement, health and outer appearance, aggression and sexual behaviour dimensions of peer group influence except school involvement and substance use dimensions.

Table 3: *Stepwise Multiple Regression Equations for Dependent Variable Academic Stress with Independent Variables of Family Environment and Peer Group Influence for Adolescents (N = 360)*

Model	R	R^2	Adjusted R^2	Std. Error of the Estimate	Change Statistics				
					R^2 Change	F Change	df_1	df_2	β-value
1	0.257[a]	0.066	0.063	39.959	0.066	25.31**	1	358	-0.257
2	0.303[b]	0.092	0.087	39.461	0.026	10.09**	1	357	0.163
a. Predictors: (Constant), Cohesion b. Predictors: (Constant), Cohesion, Aggression c. Dependent Variable: Academic Stress									

*** Significant at 0.01 level (F = 6.70), * Significant at 0.05 level (F = 3.86)*

Table 3 presents the stepwise multiple regression equation for dependent variable academic stress and independent variables of family environment and peer group influence. At the first step, cohesion (dimension of family environment) was entered for prediction of academic stress. The variance contributed by cohesion was 6.3% and F-value was found to be 25.31 which is significant at 0.01 level and showed that cohesion was significant predictor of academic stress and contributed to it independently. Also, β-value for cohesion was found to be -0.257, which showed negative relationship of cohesion with academic stress i.e. higher cohesiveness in the family leads to low level of academic stress and vice-versa.

At the second step, aggression (dimension of peer group influence) was entered with cohesion for prediction. The variance contributed by aggression was 2.6% of the total variance (8.7%). The F-value and β-value for this step was 10.09 (significant at 0.01 level) and 0.163 respectively. This showed that aggression was significant predictor of academic stress and contributed to it independently and β-value showed positive relationship of aggression with academic stress i.e. high influence of peers on adolescents' aggressive behaviour increased their level of academic stress. Thus, cohesion and aggression were the significant predictors of academic stress and contributed to it independently as well as conjointly.

Hence, the null hypothesis, "None of the independent variables of family environment and peer group influence contribute significantly in predicting academic stress among adolescents conjointly as well

as independently" stands rejected for cohesion (dimension of family environment) and aggression (dimension of peer group influence).

7. Discussion

Result of the current study showed that significant gender difference was found on cohesion dimension of family environment. Tung and Dhillon (2006) reported the similar result i.e. in the families of girls there was more cohesiveness than the boys. Topen (2012) provided support to the result of current study i.e. peer group of boys influenced them more to become sexual active as compared to girls. Also, results of correlation analysis showed that academic stress was significantly correlated with family environment. Similar results have been shown by Sun et al. (2013), Sharma et al. (2010), Fairbrother and Warn (2003), Ornelas and Kleiner (2003). The results demonstrated the significant relationship exist between academic stress and peer group influence among adolescents. The similar trend has been reported by Buhs and Ladd (2001), Coie et al. (1995), Parker and Asher (1987).

8. Main Findings

- No significant gender difference was observed on the variable of academic stress.
- Significant gender difference was found only on cohesion dimension of family environment favoured by girls over boys.
- Significant gender differences were exist on health and outer appearance, aggression, substance use and sexual behaviour dimensions of peer group influence with preponderance of boys over girls.
- Academic stress was significantly and negatively correlated with cohesion, expressiveness, independence and organization dimensions of family environment.
- Positive and significant relationship of academic stress was observed with family involvement, health and outer appearance, aggression and sexual behaviour dimensions of peer group influence.
- Cohesion (the dimension of family environment) and aggression (the dimension of peer group influence) were the significant predictors of academic stress and contributed to it independently as well as conjointly.

9. Conclusion

The results of the present study demonstrated that family environment and peer group influence play significant role in the development of academic stress. High cohesiveness, expressiveness, independence and organization in families lead to lower level of academic stress among adolescents. But high influence of peers on adolescents' behaviour regarding family involvement, health and outer appearance, aggression and sex increases academic stress among them. It is suggested that parents should regular check the activities of their wards and their peers to know how they are influencing each other. Also, family environment and school environment should be more congenial. There should be lesser burden of academics on adolescents. Findings of the study have important implications for all those who play more assertive role in the overall development of adolescents' i.e. family members, teachers, school administrators, counselors and psychologists.

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