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Does school environment as perceived by higher secondary students determine their adjustment and study involvement?

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Abstract
The study aimed to find out whether adjustment and study involvement of higher secondary students could be predicted on the basis of their perceived school environment. Stratified random sampling was employed to select a sample of 600 higher secondary students (300girls; 300 boys) aged 16 to 19 years belonging to middle socio-economic status families of Kolkata. Data were collected from the subjects (by administering standardized tools) in groups of about 20 subjects each. School Environment Inventory (Misra, 2002) [14], Adjustment Inventory for School Students (Sinha and Singh, 2007) [19] and Study Involvement Inventory (Bhatnagar, 2004) [3] were used to assess perception of school environment, adjustment and study involvement respectively. Socio-Economic Status Scale (Meenakshi, 2004) [13] was administered to ascertain the socio-economic status of students for controlling it. Mean, Standard Deviation and Multiple Regression Analyses comprised statistical treatment of data. Results indicate that student-perceived school environment significantly predicted their adjustment and study involvement. Thus it is recommended that students (particularly senior ones) must be involved in moulding the school environment so that their adjustment and study involvement are facilitated.

Keywords: Perceived school environment; adjustment; study involvement; higher secondary students

1. Introduction
Adjustment and study involvement of pupils are key variables for parents, educators, administrators and policy makers. Researches have revealed that these variables are substantially linked with or influenced by students' perception of school environment (Bhatnagar, 1980 [2]; Raina and Vats (1986) [16]; Ames and Archer, 1988 [1]; Simons-Morton *et al.,* 1999 [18]; Shi, 2001 [17]; Dorman and Adams, 2004 [7]; Demaray *et al.,* 2005 [6]; Booker, 2006 [4]; Lee, 2008 [12]; Jolly *et al.,* 2009 [9]; Brière *et al.,* 2013 [5] and Gajalakshmi, 2013 [8]).
Studies have generally revealed linkage of school environment as perceived by students with their adjustment. A survey of 4668 adolescents revealed that student-school bonding was positively correlated with their adjustment with school and perceived school-climate but was inversely correlated with student problem-behaviour (Simons-Morton *et al.,* 1999) [18]. Brière *et al.* (2013) [5] conducted a longitudinal study with 5262 adolescents and found student-perceptions of school socio-educational environment to be predictive of their depressive symptoms (indicating emotional maladjustment). A longitudinal study (Demaray *et al.,* 2005) [6] on a sample 82 school students revealed that deficits in perceived classmate support was related to students' emotional symptoms while lack of perceived support from school was related to their educational maladjustment. Shi (2001) [17] studied 8 students of grades 7 through 12 and concluded that pupil-perceived educators' teaching techniques, extents of positive attitude towards students, knowledge of student-culture, student social support, student-socio-economic status and age during admission influenced student adjustment. Jolly *et al.* (2009) [9] reviewed researches and opined that perceived emotional abuse by teachers could damage self-concept of school students hampering their socio emotional and academic adjustment. Raina and Vats (1986) [16] sampled 323 high school students. It was concluded that student-perception of school milieu impacted their satisfaction with schooling, devotion to academics and relation with educators. Kapri *et al.* (2013) [11] however failed to find significant association between perceived creative stimulation at school and academic stress (suggesting educational maladjustment) for 400 underachievers in science of class IX in India.

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Studies have, in general, reported close association of school environment as perceived by students with their study involvement. Bhatnagar (1980) [2] worked with 600 Class X students in India and reported that pupils of private and central schools perceived that their needs were more satisfied by the school than that felt by students of government schools. Hence students of private and central schools manifested more study involvement. Booker (2006) [4] found African-American adolescents' school belongingness to be significantly linked with perceived teacher-support, peer-relations, own motivation, engagement and academic performance. After studying a sample of 2651 secondary school students, Dorman and Adams (2004) [7] revealed that students' perception of improvement in classroom environments were associated with higher levels of academic efficacy. Ames and Archer (1988) [1] worked with 91 boys and 85 girls in grades 8 through 11. Students who perceived an emphasis on mastery goals in the classroom were evidently more study involved – reporting more use of effective strategies, preferring challenging tasks, having more positive attitude towards class and strongly believing that success results from effort. Gajalakshmi (2013) [8] studied 600 high school students. Pupil-perception of more classroom activities, pleasant relationships in class, favourable classroom milieu, presence of qualified educators and teacher-generated motivation emerged as crucial predictors of student-involvement with study of English. But Lee (2008) [12] found student-perceived authoritative socialization style at school to be positively associated with behavioural and emotional engagement with learning but not with cognitive engagement for a sample of 2849 fifteen year old 9th and 10th graders from 141 schools in the U.S.

The above review reveals a plethora of studies employing correlations; researches on statistical prediction are scarce especially in the Indian context. But the mechanism of influence of perceived school environment on students' adjustment and study involvement needs to be uncovered to initiate more effective remedies. This lacuna necessitated the present study. Perceptions of students particularly those at higher-secondary level are valuable because their cognitive and socio-emotional development render them more discerning (Papalia *et al.,* 2004 [15]; Karthikeyan and Mohideen, 2005 [10]). So the objective of the study is to find out whether higher secondary students' adjustment (in totality and facets thereof) and study involvement could be predicted based on their perception of school environment.

2. Methodology
2.1 Hypotheses
1. Emotional adjustment of higher secondary students can be predicted by dimensions of their perceived school environment.
2. Social adjustment of higher secondary students can be predicted by dimensions of their perceived school environment.
3. Educational adjustment of higher secondary students can be predicted by dimensions of their perceived school environment.
4. Total adjustment of higher secondary students can be predicted by dimensions of their perceived school environment.
5. Study involvement of higher secondary students can be predicted by dimensions of their perceived school environment.

2.2 Operational Definitions of Variables
2.2.1 Perception of School Environment
Psycho-social climate of schools as perceived by pupils. It encompasses quality and quantity of cognitive, emotional and social support available to students in school through teacher-pupil interactions. It has six dimensions- a) Creative Stimulation – Extent of perceived teacher behaviour to provide conditions and opportunities to stimulate students' creative thinking. b) Cognitive Encouragement – Extent of perceived teacher behaviour to stimulate students' cognitive development by encouraging their actions/behaviours. c) Permissiveness – Extent of perceived school climate in which students are provided opportunities to express their views freely and act according to their desires with no interruption from teachers. d) Acceptance – Extent of perception of teachers' unconditional love; teacher recognition of students' rights to expression of feelings, uniqueness and autonomy. e) Rejection – Extent of perceived school climate in which teachers do not recognize students' rights to deviate, act freely and exercise autonomy. f) Control – Extent of perceived autocratic environment of school in which several restrictions are imposed to discipline students (Misra, 2002) [14].

2.2.2 Adjustment
Extent of emotional stability, nature of social interactions and degree of harmony with curricular as well as co-curricular programmes experienced by school students. It has three facets: a) Emotional Adjustment- Extent of stability of emotions. b) Social Adjustment – Nature of social interactions ranging from submissive and retiring to self assertive behaviours. c) Educational Adjustment – Degree of experienced harmony of school students with their curricular and co-curricular activities (Sinha and Singh, 2007) [19].

2.2.3 Study Involvement: Extent of involvement (motivated participation and emotional connectedness) of pupils to their scholastic pursuits (Bhatnagar, 2004) [3].

2.3 Tools
The following standardized tools were used for data collection:
1. School Environment Inventory (Misra, 2002) [14];
2. Adjustment Inventory for School Students (Sinha and Singh, 2007) [19];
3. Study Involvement Inventory (Bhatnagar, 2004) [3];
4. Socio-Economic Status Scale (Meenakshi, 2004) [13]

2.4 Sample
A stratified random sample comprising 600 higher secondary students (300 each of Classes XI and XII) aged between 16 and 19 years and belonging to middle socio-economic status families of Kolkata was selected. 300 were boys and 300 were girls. 200 each belonged to Arts, Commerce and Science streams respectively.

3. Procedure
Standardized tools (sub-section 2.3) were administered on participants for data collection. Of these, the socio-economic status scale was used for assessment and control of extraneous variable of participants' socio-economic status. Data were collected from groups of about 20 students each at a time at schools. After data collection and scoring, descriptive statistics were computed and Multiple Regression Analysis was conducted.

4. Result and Discussion

Initially the descriptive statistics i.e. mean and standard deviation or SD values (Table 1) were computed with respect to the dimensions of perceived school environment, adjustment and study involvement. Higher adjustment scores indicate maladjustment while higher study involvement scores indicate more study involvement. Standard deviation values are not very high indicating moderate homogeneity of variance. It suggests that intra-group variability of scores on the variables is not high.

Table 1: Descriptive Statistics (N=600)

	Creative Stimulation	Cognitive Encouragement	Acceptance
Mean	50.14	28.47	25.38
SD	11.62	6.33	6.47
	Permissiveness	Rejection	Control
Mean	21.59	18.53	25.26
SD	6.09	6.02	5.27
	Emotional Adjustment	Social Adjustment	Educational Adjustment
Mean	6.58	6.83	6.82
SD	3.24	2.91	3.45
	Total Adjustment	Study Involvement	
Mean	9.04	50.19	
SD	11.2	6.86	

Multiple Regression Analyses were carried out to find if the adjustment and study involvement of higher secondary students could be predicted by their dimensions of perceived school environment (Table 2; Figures 1 to 5). Each regression was tested for significance at .05 and .01 levels of significance employing One-Way Analyses of Variance.

Table 2: Summarized Results of Regression (N=600)

Dependent Variable: Emotional Adjustment				
	Creative Stimulation	Cognitive Encouragement	Acceptance	Intercept = 6.2
Regression Coefficient	.01	-.06	-.03	R=.25 ($p<.01$)
Standard Error	.02	.03	.03	R^2=.06 (df 6, 593)
	Permissiveness	Rejection	Control	F= 6.39 ($p<.01$)
Regression Coefficient	.03	.1	-.01	
Standard Error	.03	.02	.03	
Dependent Variable: Social Adjustment				
	Creative Stimulation	Cognitive Encouragement	Acceptance	Intercept = 9.16
Regression Coefficient	.04	-.09	.03	R=.24 ($p<.01$)
Standard Error	.02	.03	.03	R^2=.06 (df 6, 593)
	Permissiveness	Rejection	Control	
Regression Coefficient	-.04	.03	-.09	F= 6.24 ($p<.01$)
Standard Error	.03	.02	.03	
Dependent Variable: Educational Adjustment				
	Creative Stimulation	Cognitive Encouragement	Acceptance	Intercept = 9.98
Regression Coefficient	-.02	-.1	-.03	R=.43 ($p<.01$)
Standard Error	.02	.03	.03	R^2=.19 (df 6, 593)
	Permissiveness	Rejection	Control	F=22.90 ($p<.01$)
Regression Coefficient	-.02	.12	-.01	
Standard Error	.03	.02	.03	
Dependent Variable: Total Adjustment				
	Creative Stimulation	Cognitive Encouragement	Acceptance	Intercept = 25.35
Regression Coefficient	.02	-.25	-.03	R=.38 ($p<.01$)
Standard Error	.04	.07	.07	R^2=.14 (df 6, 593)
	Permissiveness	Rejection	Control	F=16.27 ($p<.01$)
Regression Coefficient	-.02	.26	-.12	
Standard Error	.06	.05	.06	
Dependent Variable: Study Involvement				
	Creative Stimulation	Cognitive Encouragement	Acceptance	Intercept = 35.16
Regression Coefficient	.07	.14	.05	R=.44 ($p<.01$)
Standard Error	.04	.06	.07	R^2=.19 (df 6, 593)
	Permissiveness	Rejection	Control	
Regression Coefficient	.13	-.03	.15	F=23.07 ($p<.01$)
Standard Error	.06	.05	.06	

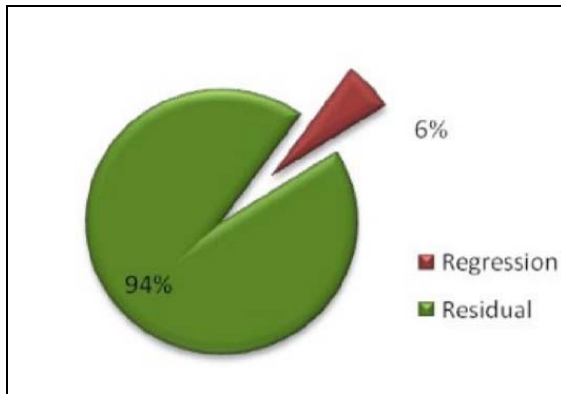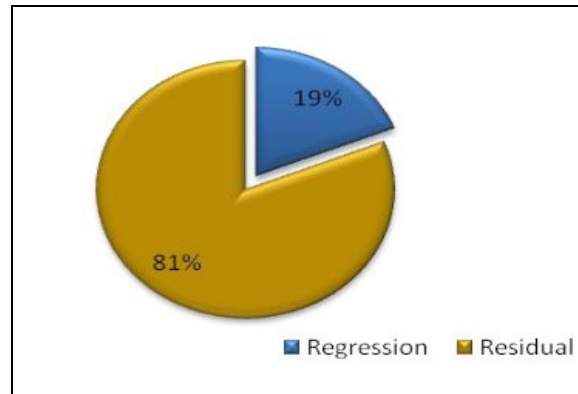**Fig 1:** Partition of Total Variance: Regression for Emotional Adjustment Scores (N=600)

Fig 2: Partition of Total Variance: Regression for Social Adjustment Scores (N=600)

Fig 3: Partition of Total Variance: Regression for Educational Adjustment Scores (N=600)

Fig 4: Partition of Total Variance: Regression for Total Adjustment Scores (N=600)

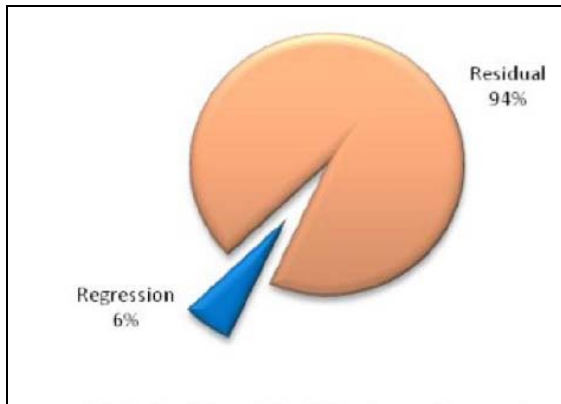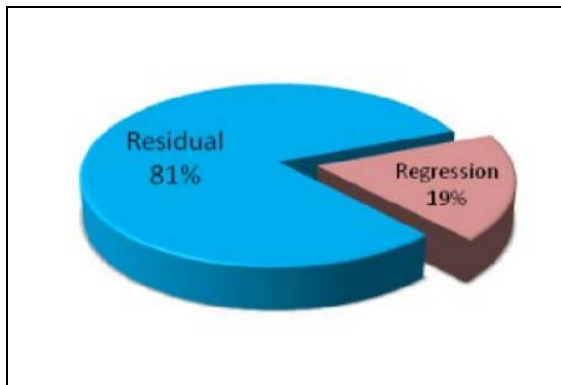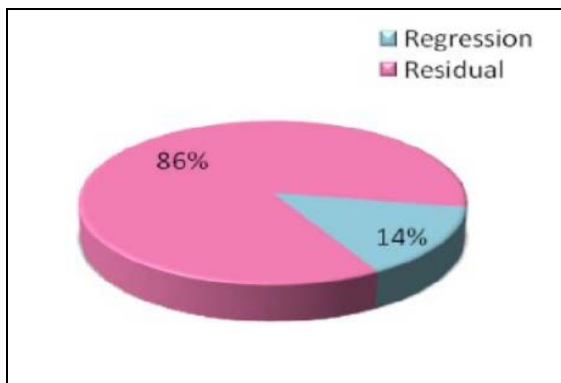**Fig 5:** Partition of Total Variance: Regression for Study Involvement Scores (N=600)

Table 2 shows that predictors (dimensions of perceived school environment viz. creative stimulation, cognitive encouragement, acceptance, permissiveness, rejection and control) bear significant relations with dependent variables – students' emotional adjustment (R=.25; $p<.01$); social adjustment (R=.24; $p<.01$); educational adjustment (R=.43; $p<.01$); aggregate adjustment (R=.38; $p<.01$) and study involvement (R=.44; $p<.01$) respectively. R^2 values reveal that 6% variance each in students' emotional adjustment and social adjustment scores can be accounted for by the above dimensions of school environment. 19% variance in students' educational adjustment scores can be explained by select predictors. 14% variance in total adjustment scores of students can be attributed to dimensions of perceived school environment mentioned above. 19% variance in pupils' study involvement scores can be accounted for by select predictors. Significant F-values indicate that students' emotional adjustment (F=6.39; $p<.01$); social adjustment (F=6.24; $p<.01$); educational adjustment (F=22.90; $p<.01$); total adjustment (F=16.27; $p<.01$); and study involvement (F=23.07; $p<.01$) can be significantly predicted by perceived creative stimulation, cognitive encouragement, acceptance, permissiveness, rejection and control at school. So the hypotheses (sub-section 2.1) are supported. These findings agree with those of Bhatnagar (1980) [2], Raina and Vats (1986) [16]; Ames and Archer (1988) [1], Simons-Morton et al. (1999) [18], Shi (2001) [17], Dorman and Adams (2004) [7], Demaray et al. (2005) [6], Booker (2006) [4], Lee (2008) [12], Jolly et al. (2009) [9], Brière et al. (2013) [5] and Gajalakshmi (2013) [8]. Magnitudes and signs on regression coefficients indicate that extent of perceived rejection at school is the chief determinant of sampled higher secondary students' emotional adjustment; rejection results in emotional maladjustment. Perceived cognitive encouragement; and control are leading predictors of participants' social adjustment. Social assertiveness seems to be aided by perception of considerable cognitive encouragement and control at school. Perceived rejection at school is prime determinant of participants' educational and total adjustments; experienced rejection apparently leads to academic and overall maladjustment of sampled pupils. Besides, perceived cognitive encouragement at school decisively facilitates participants' holistic adjustment. Pupil-perceived control and cognitive encouragement at school evidently foster their study involvement. Standard error values are modest indicating substantial precision of prediction.

5. Conclusion

Results suggest that pupil-perceived stimulation of their originality, encouragement of development of knowledge, freedom to express personal opinions, unconditional affection from teachers and even importance of discipline at school are conducive to students' emotional stability, social assertiveness, engagement with academic and co-curricular activities, holistic adjustment as well as scholarly pursuits. But perceived denial of autonomy (i.e. rejection) at school apparently impairs emotional, social, educational and aggregate adjustment as well as study involvement of students. Thus imposition of discipline at school is regarded positively by pupils but rejection of self-determination at school is not. This is plausibly because the participating students are late adolescents with relatively developed cognition, sense of identity and an urge for esteem (Bhatnagar, 1980 [2]; Raina and Vats (1986) [16]; Ames and Archer, 1988 [1]; Simons-Morton *et al.,* 1999 [18]; Shi, 2001 [17]; Misra, 2002 [14]; Bhatnagar, 2004 [3]; Dorman and Adams, 2004 [7]; Papalia *et al.,* 2004 [15]; Demaray *et al.,* 2005 [6]; Karthikeyan and Mohideen, 2005 [10]; Booker, 2006 [4]; Sinha and Singh, 2007 [19]; Jolly *et al.,* 2009 [9]; Brière *et al.,* 2013 [5]; and Gajalakshmi, 2013 [8]).

6. Recommendations

In general, adjustment and study involvement of sampled higher secondary students are evidently predicted by dimensions of perceived school environment (viz. creative stimulation, cognitive encouragement, acceptance, permissiveness, rejection and control). Often authority figures plan and control the characteristics of school environment. Students' opinions on this matter are rarely sought. However, findings of the present research indicate that pupil-perceived school environment is an important determinant of their adjustment and study involvement. So students, at least the senior ones, must be involved in structuring the school environment so that their adjustment and study involvement are fostered.

7. References

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