



Family Environment Impact on Student's Academic Achievement: An Analytical Study

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Abstract:

The main purpose of this study is to determine how family environment impacts on college-going students' academic achievement. Objectives: To investigate the family environment's impact on students' academic achievement according to gender, stream, living area and parental economic status and also investigate the correlation between family environment and academic achievement of students. Sample: For this study, 160 UG college students of the Paschim Medinipur district of West Bengal were selected as a sample; the included 80 students studying science (40 boys and 40 girls) and 80 students studying arts (40 boys and 40 girls). Statistical techniques: All the data were analysed in SPSS-25 software and descriptive and inferential statistics were calculated. Research instruments: The Family Environment Scale was developed by Bhatia & Chadha (1993). The average percentage of marks by UG college students in the previous two semester examinations has been taken as an indicator of the students' academic achievement. Conclusions: There is a strong, statistically significant positive correlation between family environment and academic achievement across the full sample. There is a small but significant negative correlation between Family Environment and Stream. There is a moderate positive correlation between parental economic status and students' academic scores. There is a small to moderate positive correlation between students' locality and academic achievement.

Keywords: Environment, Family Environment, Academic Achievement, College Students..

Introduction:

The word "environment" means "to surround." Human life is always surrounded by the natural environment, social environment, cultural environment, and family environment. The environment is the sum total of living and non-living components surrounding a living body. Douglas & Holland said that "Environment is the sum total of all the external forces, influences, and conditions, which affect the life, nature, behaviour, growth, development, and maturity of all the living organisms." According to Woodworth, "Environment means all the outside factors that have acted on the individual since he began life." C.P. Stone said that "Environment is the sum total of all the stimulations received by an individual from birth till death." Family environment is the combination of good relations, kinship, blood relationship, mutual communication, and emotional bonds between all family members. Elements such as love, trust, cooperation, respect, communication, etc. are present in the family environment. Family environment has both positive and

negative effects on the development of a child's life. A healthy family environment plays an important role in the all-round development of a child. It helps the child to control his impulses. It helps him to adapt well in all social environments. On the other hand, an unhealthy family environment creates unrest, conflict, mental stress, depression, anxiety, phobias, etc. in the child's mind. It creates obstacles in the healthy development of the child. Moos and Moos (1986) said that "Family environment refers to the climate prevailing in the home, which varies from culture to culture, society to society, and family to family." Academic achievement is the success a student achieves in their educational life. Academic achievement plays an important role in a student's future career choice and success in life. According to Good (1973), "Academic achievement is the knowledge attained or skills developed in school subjects, usually designated by test scores or by marks assigned by teachers or by both." Crow and Crow (1969) defined academic achievement "as the extent to which a learner is profiting from instructions in a given area of learning, i.e., achievement is reflected by the extent to which skill and knowledge have been imparted to him."

Brief Review of Related Studies

Praveen, S. & Shafeeq, N. Y. (2019) found that there is a significant difference between gender and place of living according to family environment. Rural male school students have more positive perceptions about their family environment than urban and semi-urban male school students. Semi-urban female school students have more positive perceptions about their family environment than rural and urban female school students. Also found that family environment and academic achievement have a low significant correlation. Pappattu, J. & Vanitha, J. (2017) this study found that there does not exist any relationship between family environment factors and academic achievement in science among secondary school students. Kumar, R. & Lal, R. (2014) their findings show that adolescents who grow up in good family contexts do better academically than children from low-family environments. Mishra, S., & Bamba, V. (2012) Their findings show that children's perceptions of the entire family environment and its four dimensions accomplishment orientation, cognitive stimulation, recreational orientation, and home structure have been proven to significantly and favorably correlate with secondary school students' academic achievement. Parents' perceptions of the total family environment, including its four dimensions accomplishment orientation, cognitive stimulation, recreational orientation, and home structure have been found to significantly and favorably correlate with secondary school students' academic achievement. Additionally, compared to their respective dimensions, the family environment's achievement orientation and cognitive stimulation dimensions were revealed to have a comparatively stronger correlation with academic success.

Statement of the problem

The present problem has been selected through a proper related literature review, which is "Family Environment Impact on Student's Academic Achievement: An Analytical Study."

Objectives of the study

- i. To know the family environment's impact on students' academic achievement according to gender.
- ii. To know the family environment's impact on students' academic achievement according to stream.
- iii. To know the family environment's impact on students' academic achievement according to parental economic status.
- iv. To know the family environment's impact on students' academic achievement according to their living area.
- v. To know the correlation between family environment and academic achievement of students.

Hypothesis

- i. There will be no significant difference in the impact of the family environment on academic achievement between male and female students.
- ii. There will be no significant difference in the impact of the family environment on academic achievement between science and arts students.
- iii. There will be no significant difference in the impact of the family environment on academic achievement according to parental economic status.
- iv. There will be no significant difference in the impact of the family environment on academic achievement between rural and semi-urban students.
- v. There will be no significant difference between family environment and academic achievement of students.

Methodology

The investigator used the survey method to examine the impact of the family environment on students' academic achievement.

Sample

In this study, 160 UG college students of the Paschim Medinipur district of West Bengal were chosen as a sample; this included 80 students studying science (40 boys and 40 girls) and 80 students studying arts (40 boys and 40 girls). For this investigation, data was gathered using a random sample approach. The subjects that are chosen must be between the ages of 18 and 21.

Table 01: shows Sample size of different stream and different gender.

Stream		Arts	Science	Total
Gender	Male	40	40	80
	Female	40	40	80
Total		80	80	160

Research tools

The following tools were used to collect data for the present study:

Family Environment Scale:

The Family Environment Scale was developed by Bhatia & Chadha (1993). This Family Environment Scale has a total of 69 items. The reliability of this scale is 0.95.

Academic Achievement:

The average percentage of marks by UG college students in the previous two semester examinations has been taken as an indicator of the academic achievement of the students. The researcher collected the academic achievement of the students through a self-constructed data sheet.

Result & Discussion

The results reveal a very strong positive correlation between family environment and students' academic achievement ($r = 0.913$, $p < 0.01$). This indicates that a supportive family environment is strongly associated with higher academic performance. Additional analyses showed moderate to weak relationships with other factors, such as stream, economic status, and locality.

The analysis compares Academic Score (%) in the current session and Family Environment Score between male and female students ($N = 160$; Female = 80, Male = 80).

Academic Scores (%) in Current Session

Table 02: shows the mean, SD, and SE values of academic scores according to gender

Gender	N	Mean	SD	SE
Female	80	64.90	11.91	1.33
Male	80	65.13	10.48	1.17
Total	160	65.01	11.18	0.88

- **Descriptive Findings:** The mean academic score for females ($M = 64.90$, $SD = 11.91$) and males ($M = 65.13$, $SD = 10.48$) is very close, suggesting minimal difference in academic performance between genders in this sample.
- **Inferential Statistics (One-Way ANOVA):**
 - Between Groups: $SS = 2.025$, $df = 1$, $MS = 2.025$
 - Within Groups: $SS = 19885.950$, $df = 158$, $MS = 125.860$
 - **$F(1,158) = 0.016$, $p = 0.899$**

Since $p > 0.05$, the difference in mean academic scores between male and female students is **not statistically significant**. This implies that gender does not play a significant role in determining academic performance in this dataset.

Family Environment Score

Table 03: shows the mean, SD, and SE values of family environment scores according to gender

Gender	N	Mean	SD	SE
Female	80	22.73	3.67	0.41
Male	80	22.51	3.80	0.43
Total	160	22.62	3.73	0.30

- **Descriptive Findings:**

Female students reported a slightly higher family environment score ($M = 22.73$, $SD = 3.67$) than males ($M = 22.51$, $SD = 3.80$), though the difference is very small.

- **Inferential Statistics (One-Way ANOVA):**

- Between Groups: SS = 1.806, df = 1, MS = 1.806
- Within Groups: SS = 2205.937, df = 158, MS = 13.962
- **F (1,158) = 0.129, p = 0.720**

Since $p > 0.05$, there is **no statistically significant difference** in family environment scores between male and female students. This suggests that both genders experience a relatively similar family environment.

Overall Interpretation

Table 04: shows the mean and standard deviation (SD) values for the study's variable

Variable	Mean	Std. Deviation	N
Family Environment Score	22.62	3.726	160
Academic Score (%)	65.01	11.184	160
Stream (coded)	1.76	0.431	160
Economic Status (coded)	1.62	0.487	160
Locality (coded)	1.43	0.496	160

Table 05: shows the p-values for the study's variable pair

Variable Pair	Pearson r	Spearman ρ	Significance	Interpretation
Family Environment& Academic Score	0.913**	0.912**	$p < 0.01$	Very strong positive
Family Environment& Stream	-0.180*	-0.182*	$p < 0.05$	Weak negative
Academic Score & Stream	-0.143	-0.146	$p = 0.071$	Weak, not significant
Economic Status & Academic Score	0.598**	0.573**	$p < 0.01$	Moderate positive
Locality & Academic Score	0.280**	0.277**	$p < 0.01$	Weak-moderate positive

Both **academic performance** and **family environment** are statistically comparable between male and female students in the sample.

- The **very high p-values** ($p = 0.899$ for academic scores and $p = 0.720$ for family environment) strongly suggest that **gender is not a differentiating factor** in either domain.
- The small differences in mean values appear to be due to **random variation** rather than a true effect.

Family Environment and Academic Achievement

The strong positive association found in this study aligns with extensive prior research emphasizing the crucial role of the family environment in students' educational outcomes. For instance, **Maccoby and**

Martin (1983) argued that supportive parenting styles characterized by warmth and involvement are linked to positive academic behaviors and higher achievement. Similarly, **Fan and Chen (2001)** in their meta-analysis found that parental involvement and family support are significantly correlated with students' grades and test scores.

In the Indian context, **Singh and Singh (2012)** reported that students from nurturing family environments performed significantly better academically compared to those from neglectful or conflict-ridden homes. The current study reinforces these findings, demonstrating that family environment remains a robust predictor of academic success.

Gender Differences

Although this study found a very strong overall correlation, the analysis did not separate the correlation by gender in detail. However, previous studies (e.g., **Hill & Tyson, 2009**) have indicated that the impact of family support can vary by gender. Girls may benefit more from parental warmth and involvement than boys, especially in societies where gender roles influence educational encouragement. Future research using regression interaction terms could clarify if such moderating effects exist in the current population.

Stream of Study

The study found a small but significant negative correlation between family environment and stream ($r = -0.180, p < 0.05$), suggesting that students in certain streams may perceive slightly different levels of family support. Although the direct link between stream and academic achievement was not significant, **Baker and Stevenson (1986)** noted that family expectations and guidance can shape educational pathways, such as choice of subject streams, which indirectly impact academic performance.

Parental Economic Status

A moderate positive correlation was found between parental economic status and academic achievement ($r = 0.598, p < 0.01$). This aligns with findings by **Coleman et al. (1966)** and later by **Sirin (2005)**, who highlighted socioeconomic status (SES) as a significant predictor of academic outcomes, often mediated by the quality of the home environment. Families with higher economic resources typically provide better learning conditions, supplementary materials, and stability that support academic success.

Locality

The weak-to-moderate positive correlation between locality and academic performance ($r = 0.280, p < 0.01$) suggests that students from urban or semi-urban areas may have slight advantages in academic performance. This is consistent with the work of **Bose and Chakraborty (2005)** who showed that urban students often have better access to educational facilities, parental awareness, and learning resources compared to their rural counterparts.

Implications

The findings reinforce the critical role of a positive family environment in fostering academic achievement. Educational interventions and policies should emphasize parental awareness programs, parenting workshops, and community initiatives that help families create supportive home climates for children's learning.

Limitations

The study was correlational and cross-sectional in design; hence, causality cannot be inferred. Also, while strong correlations were observed, the underlying mechanisms, such as parenting style, communication

patterns, and home learning conditions, were not directly measured. Future research should use multiple regression with interaction terms and possibly longitudinal designs to uncover causal pathways.

Conclusion

In conclusion, the present study confirms that the family environment is a vital determinant of students' academic achievement, consistent with existing literature. While factors like economic status and locality contribute contextually, the nurturing quality of the family stands out as the strongest single predictor.

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