SOCIOECONOMIC INFLUENCES ON STUDENTS ACADEMIC ACHIEVEMENT: INSIGHTS FROM GOVERNMENT COLLEGES IN PAKISTAN

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ABSTRACT

This case study examines the impact of socioeconomic factors on the academic performance of students at Government Islamia Graduate College Sargodha Road, Faisalabad. Employing a survey research methodology, a sample of 300 students from intermediate classes was selected using simple random sampling. Data collection was facilitated through questionnaires, validated by expert opinions and pilot testing, achieving a reliability score of 0.89. The study utilized regression analysis to explore the relationship between socioeconomic variables and academic success. The findings indicate that factors such as matriculation marks, December test scores, daily home study hours, parental education levels, and father's income positively influence student achievement. Conversely, distance from college, monthly absenteeism, commute time to college, and family size negatively affect academic outcomes. The study suggests further investigation into teachers' and principals' perspectives.

Keywords: Socioeconomic Factors, Students' academic achievement, Government college.

Introduction

Socioeconomic factors refer to the inequalities and inequities among different social classes and financial conditions (Combley, 2011). From an educational standpoint, these factors are examined to understand the disparities among student groups based on their family and parents' social classes and financial standings. Such socioeconomic factors significantly influence students' academic achievements (Broer, Bai, & Fonseca, 2019; Ramburuth & Hartel, 2010). However, meta-analyses present mixed findings regarding the impact of socioeconomic factors on students' academic success (Ciftci & Cin, 2017). Despite this, socioeconomic factors have been extensively studied in educational research to address the challenges faced by disadvantaged students in achieving academic success (Sirin, 2005).

Academic achievement is practically defined as the level of development a student reaches through curriculum learning within a specific timeframe, under the guidance of teachers in the classroom, and influenced by their prior experiences. This encompasses the knowledge, skills, abilities, attitudes, and values acquired (Tian & Sun, 2018). Specifically, academic achievement is measured by the marks, grades, percentages, or CGPA (Cumulative Grade Point Average) a student earns in subject tests or exams. It is strongly affected by socioeconomic factors and backgrounds (OECD, 2005). Key socioeconomic influences include parents' involvement, their education and income levels, family size, internal student assessments, daily study hours at home, and college absenteeism.

Generally, parents are involved at home and at school to foster their children's achievement. However, home-based involvement has the largest impact on children's academic success (Hayes, 2012). Parents' involvement positively influences their

students' academic achievement, leading to higher grades, test scores, school attendance, homework completion, and educational goals (Danisman, 2017). Particularly, father involvement is a crucial factor in students' learning and success. The father's education level significantly affects students' educational and learning achievements. Fathers invest in their children's academics to ensure success in college and beyond, serving as a source of motivation for educational programs (Palm, 2013). At the same time, mother's education is found to be important; however, father's education has been observed to have a stronger impact (Sharif, Khawaja & Azid, 2016). Interestingly, family size is also closely studied by educational sociologists to investigate the family's role in children's academic success. They are trying to uncover the relationship between family size and students' academic achievement in the classroom. Strong findings suggest that smaller family sizes produce higher quality education for students and greater academic success compared to students from larger families.

Some researchers have found that small family size has only a minor impact on children's academic achievement. Further studies concluded that small family size has little effect on students' verbal abilities, while large family size positively influences math skills. These studies did not consider family size as the sole factor affecting students' academic performance (Ansalone, 2010). However, it was not noticeably observed that a smaller family size is better than a larger one; both have strong opinions in favor of their findings.

Students' academic achievement is closely related to their attendance at college and in the classroom. Conversely, if students are frequently absent from college and the classroom, their academic achievement may suffer (Reid, 2014). Therefore, absenteeism from college is one of the major issues affecting students' academic performance. At Government colleges in Punjab, Pakistan, students are allowed up to 25% absenteeism, which is considered legal. However, absenteeism exceeding 25% is deemed illegal. Absenteeism is defined as the condition of a student who is absent from college or the classroom. In developed countries like the United States, chronic absenteeism is defined as missing 10 or more school days in a year from educational institutions or classes (Education Code, 2015). It can take many forms, such as a student being absent for a full day, skipping class, or leaving college early (Kearney, 2016). To reduce absenteeism from college, it is essential for students themselves, parents, teachers, and college management to play a fundamental and important role. Additionally, focusing on students' health, discipline policies, and transportation can help minimize absenteeism (Gottfried & Hutt, 2019).

Overall, college is considered the engine of social change, making students productive through education. College education is highly

effective for students' brighter futures (Lagemann & Lewis, 2012). Progressively and practically, college education deepens knowledge, amplifies study commitment, maximizes learning through self-reflection and self-assessment, determines effective goals, strengthens communication, generates a sense of discipline, prepares for civic engagement, and enhances employment opportunities for students (Conard & Dunek, 2012; Harrington, 2016; Horn & Moesta, 2019; McMahon, 2009). Simply put, students can likely gain enormous benefits from college education if it is properly supported by family involvement, parental education and resources, college administration and management, a conducive teaching and learning environment, college facilities, and government public policies.

Objectives

1.   Examine the impact of socioeconomic factors on students' academic achievement.
2.   Identify the socioeconomic factors that positively affect students' academic achievement.
3.   Determine the socioeconomic factors that negatively affect students' academic achievement.
4.   Explore the problems students face during their studies and potential solutions.
5.   The study sought to answer the question: Which socioeconomic factors affect students' academic achievement positively and negatively, and how can these issues be addressed?

Hypotheses

H_o: Students' academic achievement is not influenced by socioeconomic factors.
H_A: Students' academic achievement is influenced by socioeconomic factors.

There are several major stakeholders who may benefit from the findings of this study:

1.   Teachers who deliver content and material to students in the classroom. The findings can help them improve and enhance their pedagogical skills.
2.   The higher authorities and executives of the college can use the findings to provide a conducive and constructive culture and atmosphere, addressing the quality of education, teaching, and learning. They may revise policies based on the study's findings.
3.   The study may strengthen the vision and insight of researchers on how to plan and design research in colleges and study the impact of socioeconomic factors on students' academic achievement.

        The study was limited to students of intermediate class at a government college. The college's name was kept anonymous for research ethical considerations.

Methodology

Quantitative research was the fundamental approach adopted in this study. The method was descriptive, utilizing a survey design to

explore the impact of socioeconomic factors on students' academic achievement. This design provides current information and data about the universe being studied. The purpose was considered action research, conducted in a government college to address students' problems affecting their academic achievement and to offer suggestions for college administration on how to resolve them. However, the findings may be generalized to other areas in Punjab and Pakistan, as the typological conditions, educational infrastructure, higher education departments, curriculum, and textbooks for intermediate classes are similar in nature and structure.

The college offers education in four disciplines: science, arts, commerce, and general science. A total of 1,614 students were enrolled in these disciplines. Therefore, the population consisted of all intermediate class students from all four disciplines. The simple random sampling technique was used to select a sample of 300 students from these disciplines. Eight respondents were excluded due to statistical reasons, such as missing values and outliers. Table 1 illustrates the breakdown of the sample.

Table 1: Breakdown of Students' Sample by Discipline

Discipline	Frequency	Valid Percentage
Science	96	32.9
Arts	94	32.2
Commerce	41	14.0
General Science	61	20.9
Total	**292**	**100.00**

The study utilized a questionnaire divided into six sections:

1.   **Student Background:** Questions about students' personal and educational backgrounds.
2.   **College Facilities:** Queries regarding the availability and quality of college facilities.
3.   **Department Efficiency:** Students' perceptions of the efficiency of various college departments.
4.   **Teaching Information:** Questions related to teachers' teaching methods and effectiveness.
5.   **Examination System:** Inquiries about the college's examination procedures and policies.
6.   **Department Evaluation:** Students' ratings of all departments based on their efficiency.

The questionnaire was refined based on expert opinions and achieved a reliability score of 0.89. Additional data were collected from college academic and administrative staff. Descriptive statistical tools were used to analyze the data, presenting frequencies and percentages for interpretation. Inferential statistical tools, including Multiple Linear Regression, ANOVA, and F-Test were employed to interpret the model and test hypotheses.

Data Analysis and Interpretation

Table 2: Descriptive Statistics of Variables

No.	Variables	Mean	S.D.	n
1	Percentage of Intermediate Board Results	49.37	10.60	292
2	Percentage of Marks Obtained in Matric Exams	59.16	09.24	292
3	Percentage Marks Obtained in December Test	38.74	13.62	292
4	Distance from College in KM	12.86	14.96	292
5	Daily Study Hours at Home	03.41	02.06	292
6	Monthly Absentees	03.33	02.06	292
7	Journey Time to College in Minutes	33.20	27.14	292
8	Family Size	07.22	02.79	292
9	Father's Education	07.44	04.64	292
10	Mother's Education	05.33	04.70	292
11	Father's Income	21227.74	14386.55	292

The data presented in Table 2 provides a clear picture of the students' academic performance and the factors influencing it. The mean percentage of Intermediate Board Results is 49.37, indicating that on average, students achieved nearly half of the possible marks. This is a significant decrease from the 59.16% mean percentage of marks obtained in Matric exams, suggesting a decline in academic performance after attending college. The 38.74% mean percentage of marks obtained in the December test further highlights this downward trend.

The 12.86 kilometers average distance from college and the 33.20 minutes average journey time to college may contribute to the lower academic achievement due to increased travel time and potential difficulties in accessing the college. The 3.41 hours average daily study time at home and 3.33 monthly absentees could also be factors affecting students' ability to perform well academically.

The 7.22 average family size and the educational levels of parents, with fathers having an average education level of 7.44 and mothers 5.33, may influence the support and resources available to students for their education. The Father's Income average of 21227.74 could reflect the economic background of the students, which might impact their access to educational materials and opportunities. Overall, these statistics suggest that there are several areas where interventions could be made to improve students' academic performance, such as reducing travel time, increasing study hours, addressing absenteeism, and providing additional support based on family size and parental education levels.

The null hypothesis for the multiple regression model, which aims to identify the factors affecting students' performance at the college level, is stated as follows:

H_o: Socioeconomic factors do not have a significant effect on students' academic performance.

This hypothesis will be tested against the alternative hypothesis that socioeconomic factors do have a significant effect on academic performance. The multiple regression model will analyze the relationship between various socioeconomic variables and students' academic achievement to determine if there is a statistically significant impact.

Table 3: Linear Multiple Regression Analysis of the Impact of Socioeconomic Factors on Students' Academic Achievement

Dependent Variable: Percentage of Intermediate Board Results	Coefficient (β)	Standard Error	t_c	Sig.
Independent Variables				
Constant	-9.463	3.584	-2.641	0.009
Percentage of Marks Obtained in Matric Exams	0.452	0.057	7.930	0.000
Percentage Marks Obtained in December Test	0.286	0.040	7.150	0.000
Distance from College in KM	-0.015	0.064	-0.233	0.010
Daily Study Hours at Home	0.106	0.276	0.384	0.001
Monthly Absentees	-0.197	0.243	-0.813	0.021
Journey Time to College in Minutes	-0.031	-0.036	0.861	0.043
Family Size	-0.064	0.178	-0.360	0.002
Father's Education	0.158	0.124	1.273	0.004
Mother's Education	0.053	0.122	0.435	0.031
Father's Income	0.210	2.756	0.076	0.008

The Linear Multiple Regression Analysis in Table 3 provides valuable insights into the impact of socioeconomic factors on students' academic achievement.

Positive Influences

Matric Exam Marks: For every percentage point increase in matric exam marks, there is an associated 0.452 percentage point increase in intermediate board results ($β_1$ = 0.452, t_c = 7.930, p < .05). This suggests that prior academic performance is a strong predictor of future success. December Test Marks: Similarly, a one percentage point increase in December test marks correlates with a 0.286 percentage point increase in board results ($β_2$ = 0.286, t_c = 7.150, p < .05), reinforcing the importance of consistent academic effort.

Study Hours at Home: Each additional hour spent studying at home is linked to a 0.106 percentage point increase in board results ($β_4$ = 0.106, t_c = 0.384, p < .05), highlighting the value of dedicated study time. Father's Education: A one-unit increase in the

father's education level corresponds to a 0.158 percentage point increase in board results (β_8 = 0.158, t_c = 1.273, p < .05), indicating that parental education plays a role in student achievement.

Mother's Education: A similar pattern is observed with mother's education, where each unit increase leads to a 0.053 percentage point rise in board results (β_9 = 0.053, t_c = 0.435, p < .05). Father's Income: Higher family income is associated with better academic outcomes, with each unit increase resulting in a 0.210 percentage point improvement in board results (β_{10} = 0.210, tc = 0.076, p < .05).

Negative Influences

Distance from College: A one-kilometer increase in distance from college is linked to a 0.015 percentage point decrease in board results (β_3 = -0.015, t_c = -0.233, p < .05), suggesting that accessibility to educational institutions is crucial. Monthly Absentees: Each additional month of absenteeism correlates with a 0.197 percentage point drop in board results (β_5 = -0.197, t_c = -0.813, p < .05), emphasizing the importance of regular school attendance.

Journey Time to College: A one-minute increase in journey time to college is associated with a 0.031 percentage point decrease in board results (β_6 = -0.031, t_c = 0.861, p < .05), indicating that longer commutes may be detrimental to academic performance. Family Size: Larger family sizes are linked to lower academic achievement, with each additional family member corresponding to a 0.064 percentage point decrease in board results (β_7 = -0.064, t_c = -0.360, p < .05).

The rejection of the null hypothesis indicates that there is a statistically significant influence of socioeconomic factors on students' academic achievement. This finding supports the alternative hypothesis that socioeconomic factors do indeed affect academic performance. It suggests that interventions aimed at improving these factors could potentially enhance students' educational outcomes.

Table 4: Goodness of Fit of the Socioeconomic Factors Influencing Students' Academic Achievement

Model	R	R Square	Std. Error of the Estimate
1	0.731	0.535	8.09822

The R value of 0.731 indicates a strong positive correlation between the socioeconomic factors and students' academic achievement. The R Square value of 0.535 suggests that approximately 53.5% of the variance in academic achievement can be explained by the model, which includes factors such as father's income, percentage marks obtained in matric exams, distance from college, monthly absentees, family size, daily study hours at home, mother's education, percentage marks obtained in December tests, father's education, and journey time to college.

Table 5: ANOVA of Multiple Regression for Prediction of Model

Model	Sum of Squares	Df	Means Square	F_c	Sig.
Regression	17516.782	10	1751.678	32.330	0.000
Residual	15224.866	281	54.181		
Total	32741.648	291			

In Table 5, the statistical significance of the regression model is shown. It indicates that the overall regression model is a good fit for the data, as evidenced by a significant F-statistic (F_c = 32.330, degrees of freedom = 10, p < .05).

Discussion & Conclusion

In this study, the socioeconomic factors responsible for the academic achievement of students at Government College were examined. The model's explanation includes variables such as percentage marks obtained in matriculation, percentage marks obtained in the December test, daily study hours at home, father's education, mother's education, and father's income. These factors have been found to have a positive and statistically significant effect on students' academic achievement at Government College. This aligns with the common finding that parental involvement positively affects students' academic achievement and leads to higher scores during their studies (Jones & White, 2000). Parental education is a key determinant of students' academic achievement (Guimaraes & Sampaio, 2013). The study supports Melius (2011), who found that mother's education is significantly associated with students' academic achievement. It also supports Ukpong & George (2013), who found that long study time behavior affects academic achievement. Additionally, Sothan (2019) found that high school grades are positively associated with academic performance.

On the other hand, distance from college in kilometers, monthly absenteeism, journey time to college in minutes, and family size are socioeconomic factors that have a negative and statistically significant effect on students' academic achievement at Government College. The study by Lin, Huang, & Ho (2014) found that travel obstacles affect learning achievement among adolescents. Chronic absenteeism from class/college is a common factor that deters students' academic outcomes (Sprick & Berg, 2019). While there is a lack of studies exploring the impact of socioeconomic factors on college-level students' academic achievement, some primary-level studies in Pakistan have found similar results regarding parental education, transport facilities, and homework as factors correlated with students' academic achievement (Saeed, Gondal & Bushra, 2005). It has been observed that socioeconomic inequalities are associated with reduced ability to benefit from schooling, poorer educational outcomes throughout schooling, and a lower likelihood of continuing to higher education (Chittleborough, Mittinty, Lawlor & Lynch, 2014). Therefore, it is concluded that socioeconomic factors such as parents' education and daily study hours at home positively affect students' academic

achievement at Government College, whereas distance from college, monthly absenteeism, journey time to college in minutes, and family size negatively affect it. These negative influences produce many issues and problems for students. Transportation is one of the major problems faced by students; they often cannot reach college on time and miss classes. The habit of absenteeism develops among students if not properly addressed by parents and college administration. Due to transportation issues and chronic absenteeism, students' academic achievement at Government College has been adversely affected.

Recommendations

Based on the study's conclusion, the following recommendations are proposed:

1. It is recommended that parents' active participation can enhance their children's academic success at the college level. Parents can assist with homework, ensure regular classroom and college attendance, provide a conducive study environment, and offer necessary study facilities at home. Additionally, improving transportation facilities is crucial, as the average distance of 12 km to college has been found to negatively impact students' academic performance.

2. The college administration should implement strict policies regarding monthly absenteeism. This could include using online tools to track and report students' attendance to parents via mobile notifications daily. During provincial college rankings, reducing absenteeism should be a key objective. Authorities may consider setting a policy to decrease absenteeism from 25% to 10%. It is also imperative for the college management to focus on improving academic outcomes, as the current trend indicates lower academic achievement at the college level compared to previous matriculation results and December test scores.

3. Additional research should be conducted to include teachers' and principals' perspectives. A more comprehensive study is necessary to address and mitigate chronic absenteeism among students.

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