

SOCIO-ECONOMIC STATUS OF STUDENTS' ACADEMIC ACHIEVEMENT IN NALBARI DISTRICT: A STATISTICAL ANALYSIS

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1. Introduction

Economic background is one of the most influential factors affecting a student's academic performance. It shapes the quality of education a student receives, the resources available to them, and the kind of support system they have at home. Students from economically privileged families are more likely to have access to private schools, modern technology, and extra academic support, which significantly improve their learning outcomes. The students from wealthier families enjoy access to quality education. They are more likely to attend private or well-funded public schools that offer experienced teachers, smaller class sizes, and better facilities. These students can also afford private tuition or coaching classes that help them keep up with or stay ahead of the curriculum. In contrast, students from low-income families often face multiple barriers that

can negatively affect their education and overall academic progress., students from economically disadvantaged families face many challenges that can hinder their academic performance. These students may have to attend under-resourced public schools with overcrowded classrooms, outdated textbooks, and fewer extracurricular opportunities. At home, they may lack access to basic educational tools like a computer or even a quiet place to study, Many of these students also have to take on household responsibility or work part- time jobs to support their families, leaving them with less time and energy for school work.

2. Literature Review:

A meta-analysis by Sirin (2005) revealed a strong correlation between economic status and academic achievement, particularly in the United States. Children from wealthier families consistently outperform their peers in lower income households in standardized tests, grades, and overall academic attainment.

In developing countries, the relationship remains consistent. For example, a study by Considine and Zappalà (2002) in Australia found that family income and parental education were strong predictors of educational outcomes.

Higher socio-economic background students often have access to private tutoring, computers, internet, and books, which enhance learning (OECD, 2016).

Recent literature emphasizes the intersection of economic background with other variables like race, gender, and geographical location. For instance, Reardon (2011) showed that income-related achievement gaps have widened in the U.S., and these gaps interact with racial and ethnic inequalities.

Various interventions have attempted to close the performance gap. Programs such as free school meals, conditional cash transfers, and early childhood education initiatives (e.g., Head Start in the have shown positive impacts in mitigating the negative effects of poverty on education (Duncan & Murnane, 2011).

3. Objectives of the Study:

The primary objective of the study is to examine the relationship between key Socio-economic factors - especially father's education level, family income and caste and the academic achievement of students at Nalbari College. This Study aims to identify and analyse how these factors shape educational outcomes through the following specific objectives:

1. To examine the association between father's educational qualification and the academic performance of students.
2. To assess the impact of family income on students' academic achievement.
3. To analyse the role of caste in influencing students' academic outcome.
4. To investigate the relationship between caste and family income.

4. Methodology:

4.1: Research Design:

This study adopts a quantitative, cross-sectional, and descriptive research design to examine how various socio-economic factors affect students' academic performance. The focus is on identifying patterns and relationships between demographic characteristics, economic background and academic outcomes among college students.

4.2: Data Collection:

Primary data were collected through a structured questionnaire survey administered to students of Nalbari College. The questionnaire contained closed-ended and multiple-choice questions covering demographic details, parental education and occupation, family income, government welfare scheme benefits, household responsibilities, school and college background, and academic performance (e.g., grades, tuition, and attendance).

Research paper

A total of 90 students participated in the survey. Participants were selected from various departments and streams of Nalbari College. Only those who consented to take part and completed the questionnaire were included in the final sample, the sampling method used in this study can be described as a combination of purposive and convenience sampling.

4.3: Variables and Measurements:

The study included both categorical and continuous variables:

Independent Variables: Gender, caste, type of residence (rural/urban), parental education, occupation, family income, number of household members, government scheme benefits, household appliances, type of school attended, and part-time job status.

Dependent Variables: Academic performance indicators such as GPA, HS marks, tuition attendance, use of college facilities, and scholarship status.

Measurement Scales:

- * Nominal scale for variables like gender, caste, and scholarship received.
- * Ordinal scale for Likert-type responses (e.g., how frequently teachers conduct classes).
- * Interval/ratio scale for variables such as age, household income Tange, average daily expenditure, and GPA.

4.4: Statistical Techniques Used:

Data were analysed using MS-Excel and IBM SPSS Statistics software. The following statistical methods were applied to meet the research objectives:

- Descriptive Statistics

Used to summarize socio-economic, demographic and academic characteristics, such as means, percentages, and frequency distributions.

- Chi-Square Test

Applied to identify associations between key socio-economic factors - especially father's education level, family income and caste and the academic achievement also to investigate the relationship between caste and family income

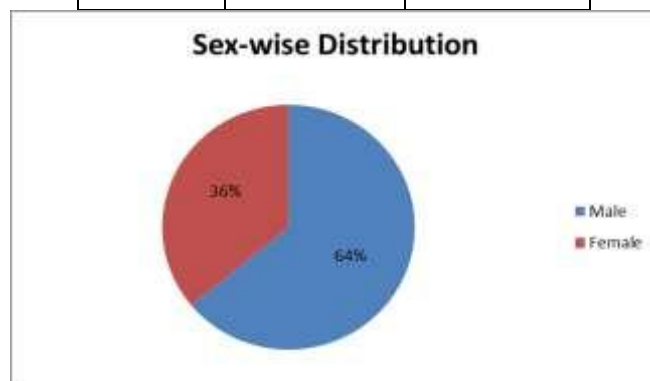
5. Results and Discussion:5.1: Presentation of Data:

This section presents the data collected through the structured questionnaire administered to the students of Nalbari College, The response has been systematically organised into tables and graphs for clarity and ease of interpretation. The aim is to visually and statistically represent the socio- economic characteristics of the respondents and their academic performance. The data are presented under the following headings:

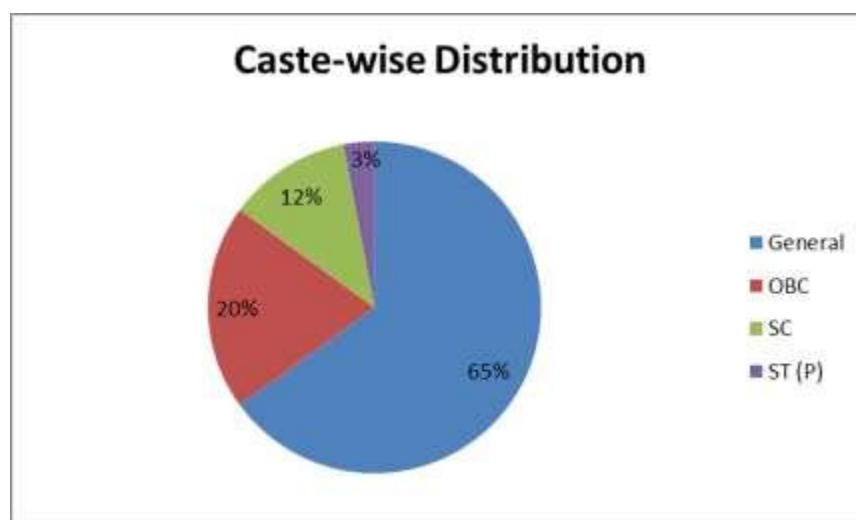
Table 1: Socio-demographic profile of students: (Gender, Caste, BPL)

Table 1: Gender Distribution:

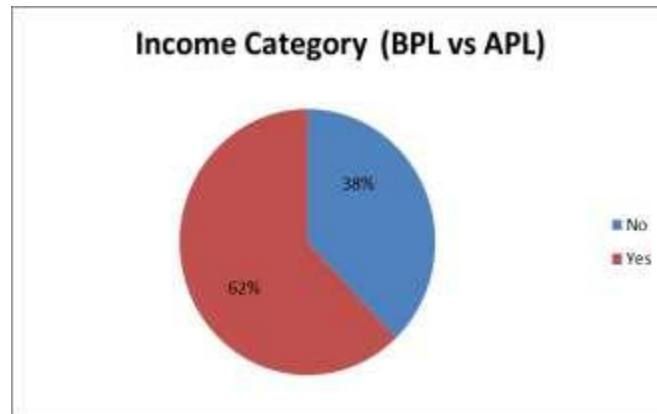
Sex	Frequency	Percentage
Male	58	64.4
Female	32	35.6

*Table:2 Caste Distribution:*

Caste	Frequency	Percentage
General	58	64.4
OBC	18	20.0
SC	11	12.2
ST (P)	3	3.3

*Table :3 Income Category Distribution:*

Income Category (BPL)	Frequency	Percentage
No	34	37.8
Yes	56	62.2



Cross-tabulation between Socio-economic indicators and Academic performance details:

Table 4: Cross-tabulation Father's Education and Academic performance:

Father's Education	85% And Above	75% And Above	60% And Above	45% And Above
Under Metric	4	2	5	5
Metric Pass	2	9	10	2
HS Pass	0	5	12	1
Graduation	2	4	13	1
Not Answered	0	5	5	3

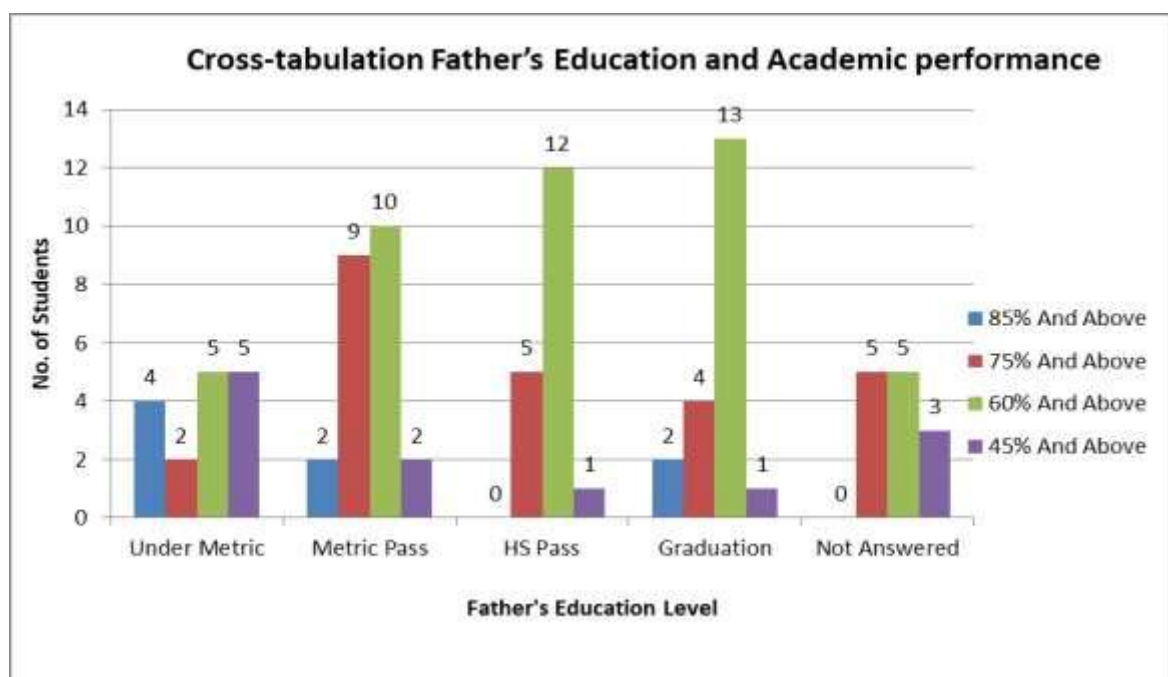
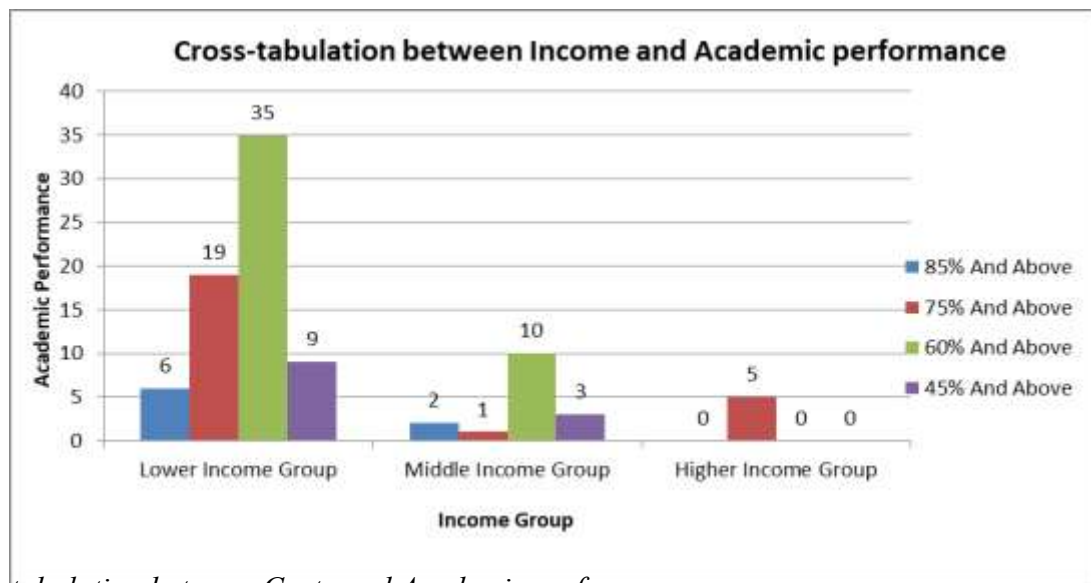


Table 5: Cross-tabulation between Income and Academic performance:

Income Group	85% And Above	75% And Above	60% And Above	45% And Above
Lower Income Group	6	19	35	9
Middle Income Group	2	1	10	3
Higher Income Group	0	5	0	0

*Table 6: Cross-tabulation between Caste and Academic performance:*

Caste	85% And Above	75% And Above	60% And Above	45% And Above
General	6	19	26	7
OBC	0	5	10	3
SC	2	1	7	1
ST (P)	0	0	2	1

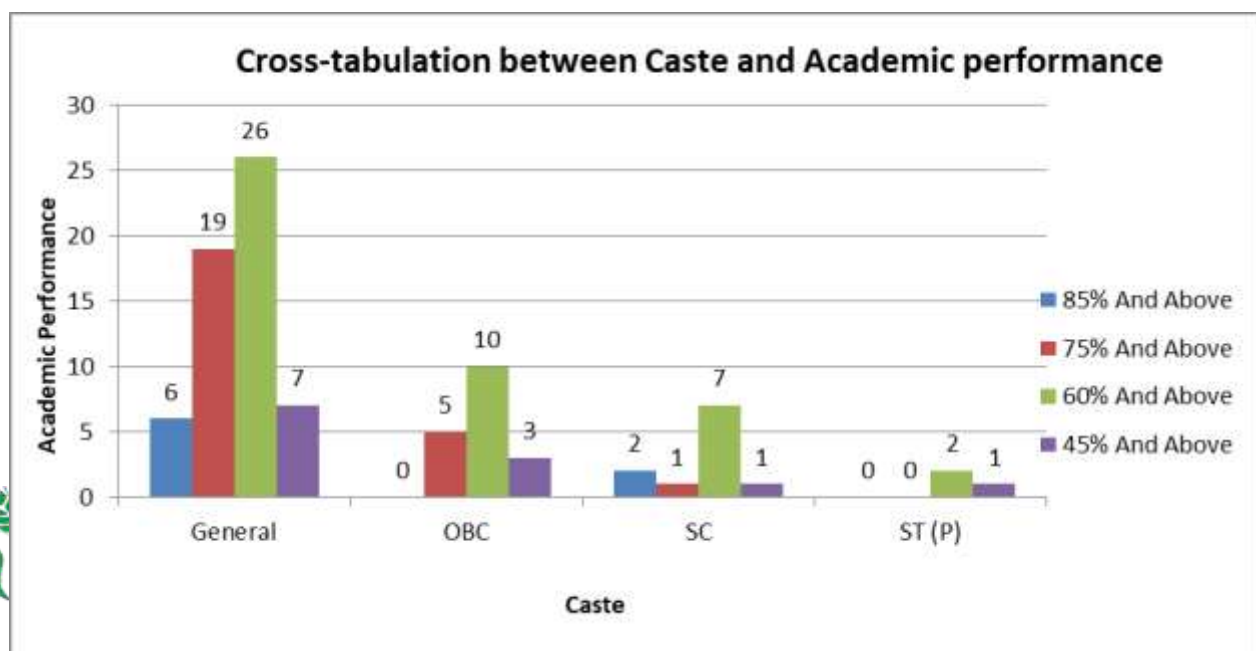
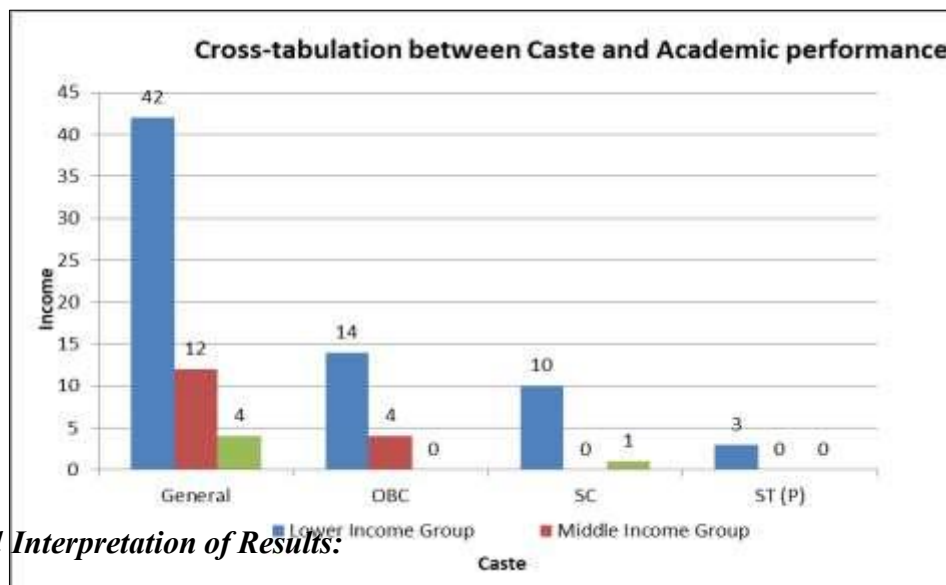


Table 7: Cross-tabulation showing relationship between Caste and income:

Caste	Lower Income Group	Middle Income Group	Higher Income Group
General	42	12	4
OBC	14	4	0
SC	10	0	1
ST (P)	3	0	0



5.3 Analysis and Interpretation of Results:

To examine the association between categorical variables such as Father's education, Mother's education, Income, caste, and academic performance and also between Caste and Income Level the Chi-square test was used.

In the following analysis the null and alternative hypothesis, the calculated Chi-square value, degrees of freedom and p-value are presented.

Here, the null hypothesis to be tested is,

H_0 : There is no association between the said categorical variables such as Father's education, Income, caste, and academic performance and also between Caste and Income Level.

H₁: There is association between the said categorical variables such as Father's education, Income, Caste, and Academic Performance and also between Caste and Income Level.

Chi-square Table

Variables	Chi-square value	Degrees of freedom	p-value
Father's education* Academic Performance	21.412	12	.045
Income* Academic Performance	16.772	6	.010
Caste* Academic Performance	8.073	9	.527
Caste* Income Level	5.21	6	.517

5.4 Interpretation of Results:

Father's Education* Academic Performance

Chi-square value =21.412, df= 12, p =.045

There is a statistically significant association between father's education and students' academic performance ($p < .05$). This suggests that academic performance tends to vary depending on the educational level of the father.

Income * Academic Performance

Chi-square value = 16.772, df = 6, p =.010

This is also statistically significant ($p < .05$). It indicates that family income level is associated with academic performance –performance likely differs across different income groups.

Caste * Academic Performance

Chi-square value = 8.073, df= 9, p=.527

The p-value is greater than .05, so the result is not statistically significant. This means there's no evidence of an association between caste and academic performance in this sample.

Caste* Income Level

Chi-square value = 5.21, df = 6, p =.517

This is also not statistically significant. It implies that caste and income level are not significantly associated in this dataset caste does not predict income level or vice versa.

6. Limitation of the Study:

While this study offers valuable insights into the relationship between socio-economic factors and academic performance among students of Nalbari College, it is not without limitations. The study is limited to students of Nalbari College and may not represent the wider student population. Additionally, data is based on self-reported responses, which may be subject to bias or inaccuracies. The sample size may not be large enough to draw strong conclusions for all caste or income groups. Lastly academic performance was evaluated using recent examination results, which may not fully reflect a student's overall academic ability or progress over time.

7. Conclusion:7.1: Summery of Key Findings:

The findings of the study suggest that parental education and family income are important factors influencing students' academic performance. This implies that students from more educated or financially stable backgrounds may have better academic outcomes. On the other hand, caste did not show a significant relationship with either academic performance indicating that in this sample, caste did not play a major role in shaping educational or economic differences.

7.2: Challenges Faced:

While doing this project, several challenges were encountered. Some students were not comfortable sharing personal details like their family income, their marks, father's education level or occupation which made it hard to collect complete information. Time was also a problem as it was not very easy to find all the students and collect the data on time. Additionally, organizing and analysing the data using statistical tools like SPSS needs careful attention and technical proficiency. Even with these difficulties every effort was made to maintain the quality and reliability of the project.

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A PROJECT ON THE IMPA CT OF SOCIO-ECONOMIC STATUS ON STUD ENT
ACADEMIC ACHIEVEMENT OF NALBARI COLLEGE"

A. Demographic Information:

1. Name:.....

2. Age:.....

3. Gender: MALE FEMALE

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4. Caste: GEN OBC SC ST(P) STH)

5. Address:.....

Rural Urban Semi-Urban

B. Socio-Economic Status:

6. Father's Education: Occupation:

7. Mother's Education: Occupation:

8. Other source of income:

9. How many people live in your household?:.....

10. Number of dependent persons in your family:.....

11. What is your family's average yearly income?:

Below 60 thousand 60 thousand-1.2 Lakh 1.2 Lakh- 2 Lakh

2 Lakh- 5 Lakh 5 Lakh- 8 Lakh 8 Lakh- 12 Lakh

Above 12 Lakh

12. Do you belong to BPL category? Yes No

13. Do you have Ration Card?: Yes No

14. Does your family have access to any govt. scheme? :

Yes No

If Yes, name of the scheme:

Orunodoi

PMAY(Pradhan Mantri Awas Yojana)

Assam Arogya Nidhi(AAN)

MNREGA Card

Atal Amrit Abhiyan

Ayushman Card

PM Ujjwala Yojana (PMUY)

Others:

15. Type of house

a) Building b) Semi-Pakka c) Kaccha d) other:

16. Other household appliances you have:

a) TV b) Bike c) Refrigerator d) Washing Machine e) Car
f) AC g) Laptop/Desktop h) Internet Facility

Others:

C. Academic Information:

17. Stream (Current):.....

18. Semester (Current):.....

19. Subject:.....

20. HS Stream.....

21. What kind of institutions did you go to? :

i) School: Govt. Private

ii) HS: Govt. Private

22. Did you take any tuitions in:

i) School: Yes No

ii) HS: Yes No

23. Results:

i) HS:

85% and above 75% and above 60% and above 45% and above
below 45%

ii) Last Semester (GPA):

Research paper

Less than 4.0

4.1-5.0

5.1-6.0

6.1-7.0

7.1-8.0

8.1-9.0

9.1-10

24. Average number of classes takes place in a week:.....

25. How frequently do your teachers conduct classes?

Regularly

Often

Sometimes

Never

26. Attendance in a week:.....

27. How do you commute to college? :

Public Transportation

Walking

Cycling

Biking

Car

Other:.....

28. Average daily expenditure:

i) Communication:

ii) Launch:

29. Do you have any significant financial responsibilities at home:

Yes

No

30. Are you involved in any part time/full time job? :

Yes

No

31. Have you received any govt. scholarship?:

Yes

No

If Yes,

Ishan Uday Scholarship

National Scholarship

Inspire Fellowship

Anundoram Borooah Cash Award Scheme (ARBAS)

Assam Pragyan Bharati Scooty Scheme

SC Scholarship

Minority Scholarship

Other:.....

32. What are your academic goals after graduation? :

Higher Studies

Competitive Exams

JOB

Business

Others.....

33. Does your college have any of the following facilities?:

Research paper

Library Internet Facility

Extra Academic support for Competitive Exam

Playground NCC NSS

34, Do you think socio-economic status plays a significant role in students' academic achievement?

Yes No