

# An Empirical Study on the Role of Socioeconomic Status and Demographic Factors on Financial Literacy of Engineering Students

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## Abstract

This research sought to investigate how financial literacy among engineering students in Uttar Pradesh, India, is influenced by socioeconomic status and demographic variables. A sum of 478 questionnaires was gathered from graduating engineers across multiple colleges and universities. IBM SPSS version 23.0 was employed for the analysis of the collected data, and chi-square techniques were utilized to examine the findings. The outcomes of the study indicated that there was no noteworthy association between gender and financial literacy among engineering students. However, caste, parents' occupation, family income, and parent's education levels demonstrated a substantial influence on the financial literacy of engineering students. Additionally, higher GPAs were correlated with increased levels of financial literacy. These results can aid in the development of focused interventions by educators and policymakers to raise engineering students' financial literacy levels. Overall, the study provides significant insights into the relationship between financial understanding, demographic variables as well as socioeconomic factors among engineering students, highlighting the need for targeted interventions to improve financial literacy levels among this population.

**Keywords:** Financial\_literacy, Financial\_Knowledge, Financial\_Attitude, Financial\_Behavior, Engineering\_Student

## Introduction

The ability to manage finances is crucial aspect of modern life, allowing people to make prudent financial choices and navigate complex financial systems. As such, it is essential that students develop financial literacy skills to prepare for their financial future (Agarwalla, Barua, & Jacob, 2013). However, not all students are equally equipped to develop these skills, as their demographic and socio-economic status can significantly impact their financial literacy. (Mändmaa, 2020) Financial literacy can be affected by demographic variables including age, gender, and race, as different groups may face unique financial challenges and

opportunities (Patel, 2018). Socio-economic status, including income, education, and occupation, can also impact financial literacy, as individuals from lower socio-economic backgrounds may have less access to financial resources and education (Akca, 2018). Understanding the outcomes of parents' socio-economic status and demographic variables on students' financial literacy is crucial for policymakers, educators, and parents themselves to develop strategies to enhance students' financial literacy. The purpose of this study is to look into how parents' socioeconomic status and demographics affect engineering students' financial literacy. The study will focus on engineering students because the engineering field is one that offers high-paying jobs (Padil & Kasim, 2022), and therefore, engineering students are likely to deal with difficult financial choices all of their careers. Therefore, it is crucial that they possess a solid foundation in financial literacy and the abilities and information required to make wise financial decisions. Also, engineering students come from diverse socio-economic backgrounds, and understanding the influence of demographic and socioeconomic variables on their financial literacy will help policymakers develop targeted interventions to improve their financial literacy skills, especially those from disadvantaged backgrounds (Hamidah, 2019).

In today's world, the idea of financial literacy has evolved into a necessity in people's lives. Individuals are confronted with everyday needs and wants and have to plan for their future. It is important for individuals to make informed financial decisions, for that they should be financially literate (Baluja, 2016). It is important to understand how much individuals are financially capable of and the extent to which they understand finance influences their financial decisions (Nosyk & Kálmán, 2022). By the way, a single definition of financial literacy has not been agreed upon yet as its scope is so broad. In general, financial literacy refers to the ability to understand the financial concepts and risks and the skill as well as the confidence to apply those concepts to make appropriately sound financial decisions to enhance the financial well-being of people

and society and to facilitate engagement in economic decision-making (OECD, 2014). As a broad point of reference, financial literacy is related to "understanding of economy" and how economic conditions and circumstances influence consumer decisions (Worthington, 2006). However, people having financial knowledge may not inevitably be financially literate because there is a possibility that they may not be able to exercise their financial knowledge in their day-to-day lives. Thus, in this paper, we will analyze financial literacy from the perspective of financial knowledge, attitudes, and behaviors among engineering students in engineering colleges of Uttar Pradesh (India) (Rai, Dua, & Yadav, 2019). There is a need for financial literacy among all segments of society, especially among youth, who face greater risks than their parents in having to cope with their uncertain futures. This study focuses on engineering students because according to (ErrenEgesta, 2021), students who studied commerce or economics in their graduation have more financial literacy than students from non-commerce backgrounds. According to (National Youth Policy, 2014) youth are defined as those between 15 and 29 years old, over 27.5% of the Indian population belongs to this age group. According to (Visa's international financial literacy, 2012) Brazilians are the most financially literate among 28 countries surveyed with a score of 50.4 out of 100, while Indian only scored 35, and placed 23rd, just ahead of countries like Moroccan, South African, and Vietnamese. (Financial literacy around the world, 2015) reveals that only 24% of Indian adults are financially literate while its neighboring countries Pakistan, Bangladesh, Sri Lanka, China, and Nepal have 26%, 19%, 35%, 28% and 18% of financial literacy respectively. Furthermore, a gender divide was also observed in this survey- 27% of Indian adult men are financially literate, while only 20% of Indian women are financially literate. In addition, Scandinavian countries Denmark and Norway are the most financially literate each having 71% of the adult population financially literate. Moreover, there is a great difference in financial understanding between developed countries and developing countries. Therefore, a developing nation such

as India needs to focus on improving the financial literacy of its young population. The financial understanding of every person is influenced by several social, demographic variables, and economic factors, which fluctuate between various youth classes (Ronald P. Voipe, 1996). Parental socio-economic condition and their involvement have a significant influence on youth's financial literacy (Jayaraman, 2018). In addition, parents who gave their children more money management instruction in childhood were found to have fewer mortgage insolvencies as adults (G. W. Michal, 2012). However, digitalization brings a positive shift in financial literacy (OECD, 2018). There is limited empirical evidence that has been carried out to measure financial literacy among engineering graduates based on several demographic and socio-economic factors, e.g., (Binoy, 2020) (Mändmaa, 2020).

Therefore in order to assess how demographic factors and parental socioeconomic status affect engineering graduates' financial literacy, a cross-sectional survey is needed. The purpose of this study is to address the identified gap and provide a deeper understanding of financial literacy by concentrating on (a) the degree to which engineering graduates are financial literate (b) inspecting their financial literacy based on demographic factors such as gender, caste, place of residence, student GPA, and socio-economic factors such as parents' income, parents' education, and parent occupation. In this paper, we will explore the literature review and hypothesis development, discuss the research methodology and data collection techniques employed, analyze and interpret the collected data, and finally present the findings and draw appropriate conclusions.

## Literature Review and Hypothesis Development

(Dorjana Nano, 2017) conceptualized financial literacy in three aspects financial knowledge, attitude, and behavior. Thus, to possess financial literacy an individual should have a firm grasp of financial concepts, have a positive attitude towards money, and adhere to responsible financial practices. Financial literacy is defined in the literature as (a)

knowing or understanding a particular aspect of finance, (b) being able to apply this understanding, and (c) doing or thinking well about money (d) keeping up an elevated level of financial behaviour. Knowledge or understanding of financial literacy is a basic component under these definitions (Garman, 2006). (REMUND, 2010) incorporated five dimensions of financial literacy including knowledge, ability, aptitude, and skill required to manage expenses and retirement planning. (Lantara, 2015) measured financial literacy among university students in three-component financial knowledge, attitude, and behavior towards different financial products and services, and revealed that a positive correlation exists between educational levels and academic disciplines when it comes to financial literacy. Questions such as interest rates, loans, compounding, inflation, savings, tax rates, and bonds can be used to assess an individual's financial knowledge (Ergün, 2018) and the financial behavior of an individual can be analyzed by its saving, budgeting, investing and borrowing movements (REMUND, 2010) whereas the financial attitude of an individual can be analyzed by asking questions such as- do you budget and track your spending?. Respondents tend to overestimate their financial skills when measuring behavioral aspects of financial literacy (Kiliyanni, 2018). (Dorjana Nano, 2017) found that student financial literacy is positively related to family income i.e., those with low family income have less financial literacy than those with higher incomes. According to (Indonesia, 2013) demographic factors such as age, education, region of residence, income, and occupation can be used to analyze financial literacy, (Gustavo Barboza, 2016) revealed that students with a high GPA have a greater level of financial understanding. (Ergün, 2018) found that the students who studied Courses pertaining to finance possess a greater understanding of finance. (Silta, 2020) found that parental income, parent education, gender, and department have no significant influence on financial literacy. (Wijayanti, 2016) shows men have lower financial literacy than women. In general, women exhibit superior financial management skills compared to men, largely due to their inclination toward

understanding financial issues. However, (FONSECA, 2012) found that the women have less financial literacy as compared with their male counterparts, this may be because males have to take financial decisions more frequently in comparison with a female. (Lusardi & Tufano, 2015) showed individuals with the least financial knowledge experienced elevated transaction costs, higher fees and used expensive methods of borrowing. (Werner, 2012) revealed that backward class people living in the outer region have lower financial literacy. Place of residence plays a major role in deciding the financial literacy of a person living in the city has more financial literacy as compared with a person living in a rural area. Researchers have studied the variation of financial literacy in different age groups (Yamada, 2019) found financial literacy gets improves with the increase in age. (Ergün, 2018) showed that students who take advice from their colleagues for making financial decisions found more financial literate. Parental investment in the capital market is also a factor deciding financial literacy However there is no such empirical evidence has been found which supports this argument. Numerous studies on financial literacy reveal that a variety of demographic and socioeconomic factors influence financial literacy such as age, gender, caste, education, income, occupation, parent income, parent education, work experience, and place of residence (Erren Egesta, 2021) (Ergün, 2018) (Binoy, 2020) (Mändmaa, 2020) (Yamada, 2019). Based on the above evidence, our hypothesis can be formulated as:

1. Ho1: There is no noteworthy correlation between the gender of engineering students and their financial literacy.
2. Ho2: There is no noteworthy correlation between the caste of engineering students and their financial literacy.
3. Ho3: There is no noteworthy correlation between the financial literacy of engineering students and their place of residence.
4. Ho4: There is no noteworthy correlation between the financial literacy of engineering students and their

parent's occupation.

5. Ho5: There is no noteworthy correlation between the financial literacy of engineering students and their father's education.
6. Ho6: There is no noteworthy correlation between the financial literacy of engineering students and their mother's education.
7. Ho7: There is no noteworthy correlation between the financial literacy of engineering students and their family income.
8. Ho8: There is no noteworthy correlation between engineering students' Grade Point Average (GPA) and their financial literacy.

### **Research Methodology and Data collection**

In this study, the sample consisted of students enrolled at various engineering universities and colleges located in Uttar Pradesh, India. The sample was collected from major cities of Uttar Pradesh because students enrolled in their cities were from all the areas of the state. To collect data, we sent consent letters to the governing bodies of universities. Finally, the data was collected only from graduating engineers from that college/university. A total of 600 questionnaires were handed out to engineering students across multiple colleges and universities, with 100 being allocated to each institution. Out of these, only 478 were considered suitable for the study. The logic behind the study is including only engineers is that generally engineers have scientific temperaments and are good at reasoning and aptitude. It will be interesting to see whether general perception help in their financial attitude and behavior or not. This study aims to examine several demographic variables i.e., age, gender, place of residence and socio-economic status i.e., parent income, parent occupation, parent education, caste, and their relationship with financial literacy of engineering students (Mändmaa, 2020).

In order to ensure clarity and efficiency in the data collection process, participants were asked to complete the questionnaire during a classroom session, allowing for any uncertainties to be addressed in real time. This approach was deemed cost-effective and time-efficient (Dorjana

Nano, 2017). The study's questionnaire was designed based on an array of knowledge regarding financial literacy, and it conceptualized financial literacy as a combination of financial knowledge, attitudes, and behaviors. This approach was consistent with the (OECD, G20/OECD INFE Policy Guidance on Digitalisation and Financial Literacy, 2018) on Adult Financial Literacy in G20 Countries, which also recognized the importance of these three components in understanding financial literacy.

The study's questionnaire is divided into two parts, with the first part consisting of questions related to the socio-economic and demographic characteristics of the respondents, while the second part includes 15 questions that are aimed at assessing the respondents' understanding of financial literacy. The questions in the second part are divided into three sessions: financial knowledge, financial

attitude, and financial behavior. The financial knowledge session consists of multiple-choice questions, with one point being given for each accurate response and zero for any incorrect answer. The financial attitude and behavior sessions, on the other hand, involve a scale of five options, ranging from "I disagree" to "I fully agree," with one point being awarded for answers rated at a four or five scale, and zero for any other answer. After completing all three sessions, the scores are added up, and any respondent who scores more than 65% of the total points is considered financially literate. This method provides a comprehensive assessment of the respondent's financial knowledge, attitudes, and behaviors, which are all important components of financial literacy. The data collected from questionnaires was processed and processed utilizing IBM SPSS version 23.0.

### Analysis and Data interpretation

Sr. No.	Financial Behavior Session	Correct Response (Percentage)
1	I read regularly to increase the financial knowledge.	47
2	I pay bill on time.	70.5
3	I always think carefully before buy a product, if I can afford it or not.	93
4	Prior to shopping, I do price comparisons	52.5
5	I refrained from borrowing to cover month-end expenses.	66.5
	<b>Financial Attitude Session</b>	
6	Money is not only to be spent.	61.3
7	I believe that setting aside a certain amount of money each month for deposits or investments iscrucial.	74.7
8	I believe it's critical to read over a debt or flat rent contract completely before signing.	85.8
9	I Keep my financial records	73.8
10	I try not to live only for the present moment, and I also think about the future.	57.7
	<b>Financial Knowledge Session</b>	
11	A person you give Rs. 1000 to one day returns the money to you the following day. What is the amount of interest he has paid on this sum?	51.9
12	Let's say you deposit \$1,000 into a savings account that offers a 4% annual guaranteed interest rate. You don't take any money out of this account or make any more deposits. After the interest payment is made at the end of the first year, how much money will be in the account?	51.3
13	Do investments that carry higher risk typically yield greater returns in the long run compared to less risky investments?	78.2
14	Stock market are riskier than the bond	84.1
15	Suppose that the annual interest earned on your bank deposit is 6%, while the annual inflation rate is 8%. Do you think that you can buy more, less, or the same number of things compare to previous year?	61.3

(Source: Primary Data)Table-1

Table-1 indicates the percentage of right answers in questions aimed at assessing the financial attitudes, financial knowledge, and financial behavior of the respondents.

In terms of financial behavior, the majority of participants (93%) reported that they always carefully consider their affordability before purchasing a product, while only 52.5% mentioned comparing prices before going shopping. Regarding financial attitude, the importance of understanding debt contracts or rental agreements before signing them was acknowledged by 85.8% of participants. However, only 57.7% expressed a willingness to consider both immediate and future financial needs. The financial knowledge section revealed mixed results. Around half of the participants rightly responded to the question about

interest payments on a loan (51.9%) and the accumulation of savings with an interest rate (51.3%). However, a majority (78.2%) correctly recognized that riskier investments generally yield higher returns over time. Furthermore, 84.1% correctly identified stocks as riskier than bonds. However, only 61.3% of respondents understood that an annual inflation rate higher than the interest earned on a bank deposit would result in being able to purchase fewer items compared to the previous year.

Overall, the findings suggest that while individuals demonstrate varying levels of financial literacy, there is room for improvement in certain areas, such as understanding interest calculations and inflation's impact on purchasing power. Enhancing financial education and promoting responsible financial behaviors could contribute to improved financial literacy among the participants.

**Table 2: Descriptive Analysis**

Demographic factors		No of respondents (frequency)			No of respondents (Percentage)		
		Financial Literacy		Total	Financial Literacy		Total
		No	Yes		No	Yes	
Gender	Female	76	51	127	15.9	10.7	26.6
	Male	197	154	351	41.2	32.2	73.4
Caste	EWS	58	37	95	12.1	7.7	19.9
	General	89	89	178	18.6	18.6	37.2
	OBC	95	68	163	19.9	14.2	34.1
	SC	27	11	38	5.6	2.3	7.9
	ST	4	0	4	0.8	0.0	0.8
Region	Rural	115	90	205	24.1	18.8	42.9
	Urban	158	115	273	33.1	24.1	57.1
Previous Year Percentage(GPA)	61%-70%	30	12	42	6.3	2.5	8.8
	71%-80%	124	84	208	25.9	17.6	43.5
	81%-90%	81	83	164	16.9	17.4	34.3
	91%-100%	38	26	64	7.9	5.4	13.4
Father's Education	Primary	16	8	24	3.3	1.7	5.0
	Middle	11	8	19	2.3	1.7	4.0
	10th pass	26	8	34	5.4	1.7	7.1
	12th pass	37	42	79	7.7	8.8	16.5
	Graduation	137	93	230	28.7	19.5	48.1
	Post-Graduation	46	31	77	9.6	6.5	16.1
	Doctorate	0	15	15	0.0	3.1	3.1

Demographic factors		No of respondents (frequency)			No of respondents (Percentage)		
		Financial Literacy		Total	Financial Literacy		Total
		No	Yes		No	Yes	
Mother's Education	Primary	44	19	63	9.2	4.0	13.2
	Middle	25	11	36	5.2	2.3	7.5
	10th pass	34	21	55	7.1	4.4	11.5
	12th pass	39	63	102	8.2	13.2	21.3
	Graduation	86	33	119	18.0	6.9	24.9
	Post-Graduation	45	47	92	9.4	9.8	19.2
	Doctorate	0	11	11	0.0	2.3	2.3
Family Income	150000 - 250000	37	23	60	7.7	4.8	12.6
	250000 - 500000	33	41	74	6.9	8.6	15.5
	500000 - 750000	20	22	42	4.2	4.6	8.8
	750000 - 1000000	7	14	21	1.5	2.9	4.4
	above 1000000	11	10	21	2.3	2.1	4.4
	up to 150000	165	95	260	34.5	19.9	54.4
Father's Occupation	Government Employee	45	66	111	9.4	13.8	23.2
	Private Employee	95	36	131	19.9	7.5	27.4
	Self-employed	133	103	236	27.8	21.5	49.4
<b>Total</b>		273	205	478	57.1	42.9	100.0

(Source: Primary Data)Table-2

Table-2 shows the demographic factors, along with the frequencies and percentages of respondents, are presented to demonstrate that 73.4% of the total 478 respondents were male, while 26.6% were female. The majority (54.4%) of respondents have a family income up to 1.5 lakh per annum. 43.5% of the respondents have a previous year's percentage between 71% to 80%, and 57.1% of the employees belong to the urban area. The majority (48.1%) of the engineering students' fathers have a graduation qualification. 49.4% of the student's fathers are self-employed.

### Hypotheses testing

To test Hypotheses which involve categorical independent variables (gender, caste, and place of residence, family income, parent's occupation, father's education, mother's education, and previous year percentage) and a categorical dependent variable (financial literacy), we used the chi-square test of association using SPSS. The chi-square test serves as a statistical tool to assess the presence of a significant association between two categorical variables. By computing expected frequencies for each cell under the assumption of no relationship between the variables, the

test subsequently compares these expectations with the observed frequencies. When a notable difference exists between observed and expected frequencies, we reject the null hypothesis, leading to the conclusion that a significant association between the variables is present.

### Testing of Hypothesis No. 01

Ho1: There is no noteworthy correlation between the gender of engineering students and their financial literacy.

**Table-3.1 Gender \* Financial Literacy Crosstabulation**

			Financial Literacy		Total	
			No	Yes		
Gender	Female	Count	76	51	127	
		Expected Count	72.5	54.5	127.0	
	Male	Count	197	154	351	
		Expected Count	200.5	150.5	351.0	
	Total		Count	273	205	478
			Expected Count	273.0	205.0	478.0

**Table-3.2 Chi-Square Tests**

	Value	df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	.526 <sup>a</sup>	1	.468		
Continuity Correction <sup>b</sup>	.385	1	.535		
Likelihood Ratio	.528	1	.467		
Fisher's Exact Test				.530	.268
N of Valid Cases	478				

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 54.47.

b. Computed only for a 2x2 table

According to Table 3.2's results, there is no discernible correlation between engineering students' financial literacy and gender ( $\chi^2 = [0.526]$ ,  $df = [1]$ ,  $p = [0.468]$ ). As a result, the null hypothesis—which states that there is no meaningful correlation between gender and financial literacy among engineering students—is not successfully rejected. These results imply that among engineering

students, gender is not a significant predictor of financial literacy.

#### Testing of Hypothesis No. 02

Ho2: There is no noteworthy correlation between the caste of engineering students and their financial literacy.

**Table-4.1 Caste \* Financial Literacy Crosstabulation**

		Financial Literacy		Total	
		No	Yes		
Caste	EWS	Count	58	37	95
		Expected Count	54.3	40.7	95.0
	General	Count	89	89	178
		Expected Count	101.7	76.3	178.0
	OBC	Count	95	68	163
		Expected Count	93.1	69.9	163.0
	SC	Count	27	11	38
		Expected Count	21.7	16.3	38.0
	ST	Count	4	0	4
		Expected Count	2.3	1.7	4.0
	Total	Count	273	205	478
		Expected Count	273.0	205.0	478.0

**Table-4.2 Chi-Square Tests**

	Value	df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)
Pearson Chi-Square	10.388 <sup>a</sup>	4	.034	.030
Likelihood Ratio	11.964	4	.018	.021
Fisher-Freeman-Halton Exact Test	9.983			.034
N of Valid Cases	478			

a. 2 cells (20.0%) have expected count less than 5. The minimum expected count is 1.72.



The output shows that the two cells in Table-4.1 have an expected count of less than 5, which defies the chi-square test's presumption. Rather than using the chi-square test, we have chosen to use the Fisher-Freeman-Halton Exact Test to address this problem.

The Fisher-Freeman-Halton Exact Test result a chi-square value of 9.983, four degrees of freedom, and a p-value of 0.034 are displayed in Table 4.2. This implies that, at the alpha level of 0.05, there is a significant correlation

between the financial literacy of engineering students and their caste. Consequently, we find that there is a significant correlation between engineering students' financial literacy and their caste, rejecting the null hypothesis.

#### Testing of Hypothesis No. 03

Ho3: There is no noteworthy correlation between the financial literacy of engineering students and their place of residence.

**Table-5.1 Region \* Financial Literacy Crosstabulation**

			Financial Literacy		Total
			No	Yes	
Region	Rural	Count	115	90	205
		Expected Count	117.1	87.9	205.0
	Urban	Count	158	115	273
		Expected Count	155.9	117.1	273.0
Total	Count	273	205	478	
	Expected Count	273.0	205.0	478.0	

**Table-5.2 Chi-Square Tests**

	Value	df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	.151 <sup>a</sup>	1	.697		
Continuity Correction <sup>b</sup>	.087	1	.768		
Likelihood Ratio	.151	1	.698		
Fisher's Exact Test				.710	.384
N of Valid Cases	478				

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 87.92.

a. Computed only for a 2x2 table

A chi-square test has conducted to test the hypothesis that there is no noteworthy correlation between the financial literacy of engineering students and their place of residence. The results Table-5.2 showed that  $\chi^2=1.51$ ,  $df=1$ , and  $p=0.697$ , indicating that there is no noteworthy correlation between the two variables at the  $\alpha=0.05$  level. Therefore, the null hypothesis there is no noteworthy correlation between financial literacy and place of

residence is not rejected. These findings suggest that place of residence may not be a significant factor influencing financial literacy levels among engineering students.

#### Testing of Hypothesis No. 04

Ho4: There is no noteworthy correlation between the financial literacy of engineering students and their parent's occupation.

**Table-6.1 Parents Occupation \* Financial Literacy Crosstabulation**

			Financial Literacy		Total
			No	Yes	
Parents Occupation	Government Employee	Count	45	66	111
		Expected Count	63.4	47.6	111.0
	Private Employee	Count	95	36	131
		Expected Count	74.8	56.2	131.0
	Self-employed	Count	133	103	236
		Expected Count	134.8	101.2	236.0
Total	Count	273	205	478	
	Expected Count	273.0	205.0	478.0	

**Table-6.2 Chi-Square Tests**

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	25.195 <sup>a</sup>	2	.000
Likelihood Ratio	25.667	2	.000
N of Valid Cases	478		

a. 0 cells (0.0%) have expected count less than 5.

b. The minimum expected count is 47.60.

According to Table 6.2's findings, there is a substantial relationship between engineering students' financial literacy and the occupation of their parents ( $\chi^2=25.195$ ,  $df=2$ ,  $p=0.00$ ). Specifically, the null hypothesis, which holds that there is no meaningful connection between engineering students' financial literacy and the profession of their parents, is rejected. Therefore, Finally, it can be said

that the financial literacy of engineering students is significantly related to their parent's occupation.

#### Testing of Hypothesis No. 05

Ho5: There is no noteworthy correlation between the financial literacy of engineering students and their father's education.

**Table-7.1 Father's Education \* Financial Literacy Crosstabulation**

			Financial Literacy		Total
			No	Yes	
Father's Education	Primary	Count	16	8	24
		Expected Count	13.7	10.3	24.0
	Middle	Count	11	8	19
		Expected Count	10.9	8.1	19.0
	10th pass	Count	26	8	34
		Expected Count	19.4	14.6	34.0
	12th pass	Count	37	42	79
		Expected Count	45.1	33.9	79.0
	Graduation	Count	137	93	230
		Expected Count	131.4	98.6	230.0
	Post-Graduation	Count	46	31	77
		Expected Count	44.0	33.0	77.0
	Doctorate	Count	0	15	15
		Expected Count	8.6	6.4	15.0
Total	Count	273	205	478	
	Expected Count	273.0	205.0	478.0	

**Table-7.2 Chi-Square Tests**

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	30.265 <sup>a</sup>	6	.000
Likelihood Ratio	36.043	6	.000
N of Valid Cases	478		

- a. 0 cells (0.0%) have expected count less than 5.  
b. The minimum expected count is 6.43.

According to Table-7.2a p-value of 0.00 was obtained from the analysis, which produced a chi-square value of 30.265 with 6 degrees of freedom. The null hypothesis is rejected by these results, which show a statistically significant correlation between engineering students' financial literacy and their fathers' educational background.

**Testing of Hypothesis No. 06**

Ho6: There is no noteworthy correlation between the financial literacy of engineering students and their mother's education.

**Table 8.1: Mother's Education \* Financial Literacy Crosstabulation**

		Financial Literacy		Total	
		No	Yes		
Mother's Education	Primary	Count	44	19	63
		Expected Count	36.0	27.0	63.0
	Middle	Count	25	11	36
		Expected Count	20.6	15.4	36.0
	10th pass	Count	34	21	55
		Expected Count	31.4	23.6	55.0
	12th pass	Count	39	63	102
		Expected Count	58.3	43.7	102.0
	Graduation	Count	86	33	119
		Expected Count	68.0	51.0	119.0
	Post-Graduation	Count	45	47	92
		Expected Count	52.5	39.5	92.0
	Doctorate	Count	0	11	11
		Expected Count	6.3	4.7	11.0
	Total	Count	273	205	478
		Expected Count	273.0	205.0	478.0

**Table-8.2 Chi-Square Tests**

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	50.073 <sup>a</sup>	6	.000
Likelihood Ratio	54.633	6	.000
N of Valid Cases	478		

- a. 1 cell (7.1%) have expected count less than 5.  
b. The minimum expected count is 4.72.

The outcomes of our examination with six degrees of freedom and a p-value of 0.00, Table 8.2 displays the chi-square value of 50.073. This suggests that among engineering students, financial literacy and mother's education are significantly correlated. As a result, we find that there is a statistically significant correlation between

engineering students' financial literacy and their mothers' educational attainment, rejecting our null hypothesis.

#### Testing of Hypothesis No. 07

Ho7: There is no noteworthy correlation between the financial literacy of engineering students and their family income.

**Table-9.1 Parents Income\* Financial Literacy Crosstabulation**

			Financial Literacy		Total
			No	Yes	
Parents Income	up to 1.5 lac	Count	165	95	260
		Expected Count	148.5	111.5	260
	1.5 - 2.5 lac	Count	37	23	60
		Expected Count	34.3	25.7	60
	2.5 - 5.0 lac	Count	33	41	74
		Expected Count	42.3	31.7	74
	5.0 - 7.5 lac	Count	20	22	42
		Expected Count	24	18	42
	7.5 - 10.0 lac	Count	7	14	21
		Expected Count	12	9	21
	above 10.0 lac	Count	11	10	21
		Expected Count	12	9	21
Total	Count	273	205	478	
	Expected Count	273	205	478	

**Table-9.2 Chi-Square Tests**

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	16.106 <sup>a</sup>	5	.007
Likelihood Ratio	16.059	5	.007
N of Valid Cases	478		

- a. 0 cells (0.0%) have expected count less than 5.  
a. The minimum expected count is 9.01.

The outcomes of our examination With five degrees of freedom and a p-value of 0.007, Table 9.2 displays the chi-square value of 16.106. This suggests that among engineering students, financial literacy and family income are significantly correlated. Consequently, we find that there is a statistically significant correlation between

engineering students' family income and their level of financial literacy, rejecting our null hypothesis.

#### Testing of Hypothesis No. 08

Ho8: There is no noteworthy correlation between engineering students' Grade Point Average (GPA) and their financial literacy.

**Table-10.1 GPA \* Financial Literacy Crosstabulation**

			Financial Literacy		Total
			No	Yes	
GPA	61%-70%	Count	30	12	42
		Expected Count	24.0	18.0	42.0
	71%-80%	Count	124	84	208
		Expected Count	118.8	89.2	208.0
	81%-90%	Count	81	83	164
		Expected Count	93.7	70.3	164.0
	91%-100%	Count	38	26	64
		Expected Count	36.6	27.4	64.0
Total		Count	273	205	478
		Expected Count	273.0	205.0	478.0

**Table-10.2 Chi-Square Tests**

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	8.173 <sup>a</sup>	3	.043
Likelihood Ratio	8.291	3	.040
N of Valid Cases	478		

a. 0 cells (0.0%) have expected count less than 5.

b. The minimum expected count is 18.01.

Table 10.2 has a p-value of 0.043 and a chi-square value of 8.173 with three degrees of freedom. Our study set out to investigate the hypothesis that there is no meaningful correlation between the financial literacy and Grade Point Average (GPA) of engineering students. We conclude that there is a statistically significant relationship between the GPA of engineering students and their financial literacy and reject the null hypothesis ( $H_0$ ) in light of these results. These results imply that among engineering students, a greater degree of financial literacy may be linked to higher GPAs.

### Finding and Conclusion

Our study aimed to examine the impact of socioeconomic status and demographic factors, we tested eight hypotheses using various statistical tests, and our results have provided significant insights into the relationship between these variables. Regarding gender, no meaningful correlation between engineering students' financial literacy and our study's findings. However, we observed a noteworthy association between caste and financial literacy.

Additionally, we found is no noteworthy correlation between financial literacy and place of residence among engineering students.

We also found that the financial literacy of engineering students was significantly related to their parent's occupations, family income, and education levels of both father and mother. Students with parents working in high-income jobs, with higher education levels, and from families with higher income levels, typically possess greater levels of financial literacy. Our study also revealed a noteworthy correlation between financial literacy and GPA, with higher GPAs associated with higher financial literacy levels. Overall, our study suggests that socioeconomic status and demographic factors play a crucial role in the financial literacy of engineering students. Our findings can provide guidance to policymakers and educators in designing programs and interventions to improve financial literacy among engineering students. Universities and colleges could develop financial education programs that are customised to the needs of engineering students. These

programs could include topics such as budgeting, investing, credit management, and student loans. It is important to address the caste-based inequalities that were identified in this study. Engineering colleges could promote inclusive policies that address these issues and provide additional support to students who come from disadvantaged backgrounds. Universities could emphasize the importance of financial literacy to engineering students by integrating financial education into engineering coursework or by providing opportunities for students to participate in financial literacy competitions or workshops.

However, our study has certain limitations. We have only considered a limited set of socioeconomic and demographic factors, and other factors such as cultural and social norms, financial literacy programs, and financial knowledge sources may also influence financial literacy levels. Additionally, our study only includes engineering students from a particular geographic region and might not accurately reflect the majority of engineering students.

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