

# Socio-economic Factors and Financial Literacy among Students: Stepwise Regression Approach

Qazi Muhammad Shahab<sup>1</sup>, Muhammad Muzammil<sup>1</sup>, Dr. Sajad Ali<sup>2\*</sup>

BS (Commerce) Student, Muslim College of Commerce & Management, Peshawar, [qazimshahab2002@gmail.com](mailto:qazimshahab2002@gmail.com)

Higher Education Department, Khyber-Pakhtunkhwa, Pakistan  
[sajadali.economist@gmail.com](mailto:sajadali.economist@gmail.com)

**Abstract** Financial literacy has become the need of the hour due to growing financial markets which are flooded with a great variety of innovative financial services and products. It helps in better money management by teaching the skills of budgeting and principles of sound financial planning thereby ensuring the financial well-being of the individuals. Hence, an attempt has been made to investigate the influence of the socio-economic characteristics of university students on their financial literacy in the district of Peshawar by taking a sample of 150 respondents. A stepwise regression approach has been employed to select the suitable socio-economic factors affecting financial literacy level. The parental education, financial education, and income level showed a significant and positive effect on the financial literacy of the students. The finding of research study concluded that parental education, financial education, student's education level, and income level were the most important factors determining students' financial literacy.

**Keywords:** Financial literacy, Socio-economic characteristics, Stepwise Regression Approach, adopted questionnaire

## INTRODUCTION

Financial literacy is increasingly essential in our complex financial landscape, as it equips people with the skills to build a more secure future and contributes to the resilience of communities and the global economy. A solid financial literacy foundation helps people manage their money wisely, make informed decisions, and secure financial stability (Zulkhibri, 2016). Financial literacy equips people with the knowledge to make effective savings, budgeting, investing, and debt management choices. It allows individuals to weigh options critically, understand risks, and avoid financial pitfalls. The Consumer Financial Protection Bureau (CFPB) has highlighted that financially literate individuals are less likely to fall into debt traps and can better manage loan repayments (OECD, 2019). Research shows that those with higher financial literacy are better prepared to make decisions that promote their financial well-being. A study by Lusardi and Mitchell (2014) found that individuals with financial literacy are more likely to engage in sound financial behaviors, such as planning for retirement and managing debt effectively. Countries with higher levels of financial literacy experience greater economic growth and stability (World Bank, 2018).

Financial literacy is particularly significant for students, as it lays the foundation for lifelong financial skills and responsible money management. The benefits of financial literacy for students go beyond personal finance, influencing academic success, career choices, and overall well-being (Sauood and Ali, 2024). As students enter adulthood, they face financial responsibilities such as paying for education, managing living expenses, and possibly beginning work. Financial literacy gives them the skills to budget, save, and avoid debt. According to a study by the Financial Industry Regulatory Authority (FINRA), financially literate young adults are better prepared for financial independence and tend to make smarter financial decisions from an early age (Shim et al., 2019). Research by Lusardi, Mitchell, and Curto (2010) shows that financial literacy is linked to more cautious borrowing behaviors among college students, leading to lower debt levels and fewer financial struggles later in life (Lusardi, Mitchell, & Curto, 2010). Students who understand how to manage money are less likely to experience financial stress, which can negatively impact their academic performance. They are also more likely to pursue internships, further education, or job opportunities with confidence in managing their finances. A survey by Jariwala (2015) revealed that financial stress is a major contributor to poor academic performance among college students, and financial literacy education reduces this stress, thereby promoting academic success. Habits developed in adolescence, such as saving and budgeting, often persist into adulthood. Early financial literacy education encourages students to form good habits that benefit them in the long run. Amagir et al. (2018) found that high school students exposed to financial literacy curricula are more likely to have emergency savings and demonstrate prudent financial behaviors well into adulthood. Financial literacy educates students on various aspects of personal finance, including investing, credit, taxes, and insurance. This awareness helps them recognize and seize financial opportunities and avoid scams and predatory practices. According to Kasman et al. (2018), students with financial literacy skills are more likely to make informed decisions about credit cards and recognize financial fraud.

To suggest an appropriate financial literacy strategy, this study looked into the effects of socioeconomic characteristics and financial education on university students' financial literacy.

### SOCIO-DEMOGRAPHIC DETERMINANTS OF FINANCIAL LITERACY

[Sauood and Ali \(2024\)](#) demonstrated that parents' educational attainment and active involvement in financial discussions at home positively impact children's financial literacy. The study suggested that parental involvement helps students learn about budgeting, saving, and the importance of managing money responsibly. Additionally, a study by [Raza and Naz \(2024\)](#) highlighted that parental financial socialization significantly influences college students' financial knowledge and attitudes. [Khawar, and Sarwar \(2021\)](#) found that students who received formal financial education in school scored higher on financial literacy assessments, indicating the importance of curriculum-based financial education in bridging gaps. Moreover, research by [Liaqat, Mahmood, and Ali \(2021\)](#) indicated that schools in lower-income areas are less likely to offer robust financial education, leading to disparities in financial knowledge based on socioeconomic background. Higher-income households often have more access to financial literacy resources, such as educational programs, financial advisors, and exposure to financial institutions ([Morgan, 2021](#)). A study by [Raza et al. \(2023\)](#) found that students from higher-income families benefit from greater access to financial resources, allowing for better financial socialization through discussions, educational tools, and access to financial products. As a result, these students often enter college with a foundational understanding of budgeting and financial planning. Similarly, [Noor, Batool, and Arshad \(2020\)](#) demonstrated that students from higher-income families score higher on financial literacy assessments, highlighting the role of household resources in financial learning. Studies show that financial socialization from parents plays a significant role in developing financial literacy, especially among students from higher-income households. Moreover, [Wagner \(2019\)](#) reported that children from higher-income families receive more comprehensive financial socialization, which strengthens financial knowledge and positively influences attitudes toward saving and spending.

An empirical review of the impact of gender on students' financial literacy reveals notable differences in financial knowledge, confidence, and behavior between male and female students. Research indicates that males generally score higher in financial literacy assessments. Studies show that male students often perform better on financial literacy assessments than female students. [Sauood and Ali \(2024\)](#) found that among young adults, males scored higher on financial literacy tests than females. The study suggested that male students are more likely to have basic financial knowledge on topics like interest rates, inflation, and risk diversification. Similarly, [Herawati and Dewi \(2020\)](#) reported that male college students consistently outperformed female students on financial literacy assessments, especially in areas involving investment and savings. [Cziriak et al. \(2024\)](#) found that female students tend to underestimate their financial knowledge and feel less confident about their financial decision-making abilities. This lack of confidence can affect their willingness to make financial decisions or engage in financial activities, potentially limiting their practical experience with managing finances. Similarly, research by [Pearson and Korankye \(2023\)](#) showed that female students often express greater uncertainty about financial topics, which affects their overall financial literacy scores even when they perform well on individual questions.

Empirical studies suggest that students in urban areas generally exhibit higher financial literacy levels than those in rural areas, largely due to differences in access to resources, exposure to financial products, and educational opportunities. A study by [Bohm et al. \(2023\)](#) found that individuals in rural areas score lower on financial literacy assessments compared to those in urban areas. The study attributed this disparity to reduced access to financial institutions and educational resources, which limits rural students' exposure to financial concepts and products. Another study by [Gianakos et al. \(2023\)](#) confirmed that urban students have higher levels of financial literacy, likely due to better access to schools that offer financial education programs and financial institutions where students can gain practical experience. [Sabri et al. \(2010\)](#) highlighted that urban students are more likely to use financial products such as credit cards and bank accounts, providing them with practical experience that enhances their financial literacy. Conversely, students in rural areas often lack access to such services, limiting their exposure to essential financial concepts and behaviors. This lack of exposure results in lower financial literacy scores and a more limited understanding of financial products among rural students.

### MATERIAL AND METHODS

The primary objective of the research was to determine the key factors affecting financial literacy levels and evaluate the extent of their impact through stepwise regression analysis. This study adopted a cross-sectional research design to examine the influence of education level, income level, parental education, gender, and financial education on financial literacy among private university students ([Ali et al., 2020](#)). Primary data for the study was collected using a structured questionnaire. A sample of 150 respondents was drawn from Sarhad University of Science and Technology and City University of Science and Technology in Peshawar. The data was then analyzed using statistical software version 28.

### Stepwise Regression

The SPSS software was utilized to conduct a stepwise multiple regression analysis on the theoretical model, aiming to evaluate the impact of all independent variables collectively on the dependent variable (Financial Literacy) and determine the most effective predictors in the model. The stepwise multiple regression method starts by identifying the best predictor of the dependent variable and progressively introducing other independent variables to the regression model to determine their additional explanatory power (Hair et al., 2012). If a variable becomes insignificant, it may be eliminated from the model. To assess the fit of the overall model in this study and the extent to which it explains behavioral intention variance, the stepwise multiple regression test was combined with an analysis of variance (ANOVA) test (Hair et al., 2012).

## RESULTS AND DISCUSSION

### Socio-economic Characteristics of Respondents

Table-01 presents the demographic characteristics of the respondents in the study. Results indicate that the majority of respondents (90 out of 150) hold a BS degree, followed by 50 with an MS degree, and only 10 with a Ph.D. Out of the total number of respondents (150), 73% are male and 27% are female. The income level of the respondents indicates that the majority of the respondents (50 out of 150) fall within the 50,000 to 100,000 income bracket, followed by 40 respondents in the 100,000 to 150,000 range, and fewer respondents in the lower (30) and higher income level groups. The educational background of the respondents' parents is categorized into three groups that are below HSSC, BA/BSc, and above BA/BSc. The majority of respondents (80) have parents with a BA/BSc degree, followed by those with parents who have higher education than a BA (40), and the smallest group has parents with education below HSSC (30). In the case of parents' financial education, a larger portion (90 respondents) has parents with some form of financial education, while a smaller portion (60 respondents) has parents without financial education. This may reflect the financial literacy or awareness levels among the respondents' families.

**Table -01: Socio-economic Characteristics of Respondents**

| Education level    | Frequency  | Percentage    |
|--------------------|------------|---------------|
| BS                 | 90         | 60.0          |
| MS                 | 50         | 33.33         |
| Ph.D               | 10         | 06.67         |
| <b>Total</b>       | <b>150</b> | <b>100.00</b> |
| Income level       |            |               |
| 40000 - 50000      | 30         | 20.0          |
| 50000 - 100000     | 50         | 33.33         |
| 100000 - 150000    | 40         | 26.67         |
| Above 150000       | 30         | 20.00         |
| <b>Total</b>       | <b>150</b> | <b>100.0</b>  |
| Parental Education |            |               |
| Below HSSC         | 30         | 20.00         |
| BA/B.Sc            | 80         | 53.33         |
| Above BA/B.S       | 40         | 26.67         |
| <b>Total</b>       | <b>200</b> | <b>100.0</b>  |
| Gender             |            |               |
| Male               | 110        | 73.33         |
| Female             | 40         | 26.67         |
| <b>Total</b>       | <b>150</b> | <b>100.0</b>  |
| Parents Fin. Edu.  |            |               |
| Yes                | 90         | 60.0          |
| No                 | 60         | 40.0          |
| <b>Total</b>       | <b>150</b> | <b>100.0</b>  |

Source: author's calculations

### Results of Stepwise Regression

Table -02, Model Summary, and Table - 03. ANOVA presents two models for predicting financial literacy. The first model involves a single independent variable, financial education while the second model consists of financial education and Income level. Both tables indicate a statistically significant regression relationship between financial education and financial literacy ( $F(1,148) = (381.16, p < .001)$ ), with an adjusted  $R^2$  of 0.712. This means that financial education can explain 71.2% of the variance in financial literacy. In the second model, Income level support was added as an independent variable, which increased the adjusted  $R^2$  from 0.712 to 0.762. This implies that financial education and Income level support can explain 76.2% of the variance in financial literacy.

**Table – 02: Model Summary**

| Model Summary | Change statistics |
|---------------|-------------------|
|---------------|-------------------|

| Models  | R     | R-Sq. | Adj. R <sup>2</sup> | Std.Error<br>estimate | of R-Sq.<br>Change | F-change | df-1 | df-2 | Sig.  |
|---------|-------|-------|---------------------|-----------------------|--------------------|----------|------|------|-------|
| Model-1 | 0.845 | 0.714 | 0.712               | 0.458                 | 0.714              | 381.16   | 1    | 148  | 0.000 |
| Model-2 | 0.873 | 0.762 | 0.760               | 0.399                 | 0.048              | 53.32    | 2    | 147  | 0.001 |

a. Predictors: (Constant), Financial Education

b. Predictors: (Constant), Financial Education, Income level.

c. Dependent Variable: Financial Literacy.

**Table – 03: ANOVA**

| Models |            | Sum of Sq. | d.f | MS     | F-value | Sig.               |
|--------|------------|------------|-----|--------|---------|--------------------|
| 1      | Regression | 48.789     | 1   | 48.789 | 381.16  | 0.001 <sup>a</sup> |
|        | Residual   | 18.923     | 148 | 0.128  |         |                    |
|        | Total      | 67.712     | 149 |        |         |                    |
| 2      | Regression | 70.345     | 2   | 35.172 | 221.20  | 0.000 <sup>b</sup> |
|        | Residual   | 23.448     | 147 | 0.159  |         |                    |
|        | Total      | 93.793     | 149 |        |         |                    |

a. Predictors: (Constant), Financial Education

b. Predictors: (Constant), Financial Education, Income level.

c. Dependent Variable: Financial Literacy.

In Model - 01, as shown in Table - 04. Coefficients, Financial education has a statistically significant regression coefficient ( $\beta = 0.745$ , P - value < 0.000), indicating that if all other variables are held constant, a one-unit increase in Financial education leads to a 0.818-unit increase in financial literacy. In Model -02, Financial education has a statistically significant regression coefficient ( $\beta = 0.632$ , P-value <0.000), indicating that if all other variables are held constant, a one-unit increase in Financial education leads to a 0.632 unit increase in financial literacy. Additionally, Income level has a statistically significant regression coefficient ( $\beta = 0.563$ , P-value < .002), implying that if all other variables are held constant, a one-unit increase in Income level results in a 0.541 unit increase in financial literacy.

**Table – 04: Coefficients**

| Model | variables           | Coefficients | Std.Error | t-value | Sig.  | VIF   |
|-------|---------------------|--------------|-----------|---------|-------|-------|
| 1     | Constant            | 0.845        | 0.734     | 1.345   |       |       |
|       | Financial Education | 0.745        | 0.543     | 2.543   | 0.000 | 1.000 |
| 2     | Constant            | 0.764        | 0.467     | 1.546   |       |       |
|       | Financial Education | 0.632        | 0.581     | 1.532   | 0.000 | 1.453 |
|       | Income level        | 0.563        | 0.470     | 3.512   | 0.002 | 1.623 |

a. Dependent Variable: Financial literacy.

As presented in Table - 05, the excluded variables did not display any statistical significance in the model, despite demonstrating statistical significance when utilizing simple linear regression. This finding suggests that the excluded variables were unable to compete with Financial Education and Income level in the regression model. Therefore, Financial Education and Income level were considered the strongest predictors in this theoretical model, with Financial Education being the most robust predictor. Excluded Variables indicate that the variance inflation factor (VIF) for all independent variables is below the suggested cutoff of 5, as recommended by Hair et al. (2010). Thus, the assumption of multicollinearity is rejected in this study.

**Table - 05. Excluded Variables**

| Model | Variables          | beta   | t-value | Sig.  | Tolerance | VIF   |
|-------|--------------------|--------|---------|-------|-----------|-------|
| 1     | Income level       | 0.432  | 3.643   | 0.001 | 0.765     | 1.307 |
|       | Education level    | 0.349  | 1.278   | 0.130 | 0.803     | 1.245 |
|       | parental education | 0.034  | 2.456   | 0.176 | 0.671     | 1.490 |
|       | gender             | 0.0356 | 1.345   | 0.107 | 0.659     | 1.517 |
| 2     | Education level    | 0.342  | 2.456   | 0.076 | 0.782     | 1.312 |
|       | parental education | 0.024  | 1.560   | 0.132 | 0.674     | 1.484 |
|       | gender             | 0.045  | 2.340   | 0.167 | 0.851     | 1.175 |

a. Dependent Variable: Financial literacy

b. Predictors in the Model: (Constant), Financial Education.

c. Predictors in the Model: (Constant), Financial Education, Income Level

### CONCLUSIONS AND RECOMMENDATIONS

The stepwise regression results highlight that financial education and income level are the most significant factors influencing financial literacy among university students. The analysis confirms that financial education is a crucial determinant of financial literacy. This suggests that students exposed to structured financial education (through courses, workshops, or training) are more likely to develop better financial knowledge and skills. The positive relationship between income level and financial literacy underscores the role of financial resources in shaping financial awareness. Students from higher-income families may have greater exposure to financial tools and resources, which contributes to better financial literacy. Other variables like gender, parental education, and education level, while traditionally considered relevant, do not have independent explanatory power when the primary factors are accounted for. This underscores the need for targeted interventions focusing on financial education and income-related support to enhance financial literacy effectively.

### Implication:

- Enhancing access to financial education for all students, regardless of their socioeconomic background, could significantly improve overall financial literacy.
- Students from lower socioeconomic backgrounds may lack exposure to financial concepts due to limited resources or opportunities. Universities should implement mandatory, comprehensive financial literacy programs to level the playing field.
- Governments and institutions must address disparities caused by socioeconomic factors. Policies should focus on providing equal access to financial education, particularly for disadvantaged students.
- Socioeconomic factors like income inequality can create barriers to financial literacy, perpetuating cycles of financial exclusion. Targeted efforts to improve financial literacy can help students from low-income backgrounds achieve economic mobility.
- Targeted initiatives for students from lower-income families could help bridge gaps in financial literacy caused by economic disparities.
- Students from lower-income families often face financial stress, impacting their academic performance and mental health. Improving financial literacy can alleviate these pressures by teaching effective money management.

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