

# DETERMINANTS OF FINANCIAL INCLUSION AMONG EARNING STUDENTS

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**Abstract:** As young adults enter the local economy, their integration into formal banking systems becomes critical for long-term economic participation. This study investigates the primary determinants of formal financial inclusion among earning college students, specifically isolating the impact of demographic backgrounds versus the core components of financial literacy (Knowledge, Behavior, and Attitude). Utilising a cross-sectional design, data was collected from 150 earning college students in a district of West Bengal. A two-stage hierarchical multiple regression analysis was employed to test the predictive power of these variables. Initial findings indicate that while socioeconomic factors, such as postgraduate standing, higher income brackets, extended earning experience, and enrollment in quantitative academic streams, provide a significant foundational advantage ( $R^2 = .507$ ), traditional gender barriers are effectively neutralized by independent income. Crucially, the introduction of financial literacy components significantly improved the model's explanatory power ( $\Delta R^2 = .133$ ). The final model revealed that cognitive Financial Knowledge ( $\beta = .396, p < .001$ ) is the single strongest predictor of financial inclusion, completely eclipsing Financial Behavior and Financial Attitude. The findings suggest that while earning an income prompts initial banking access, concrete financial knowledge dictates the depth of inclusion. Institutional strategies must pivot from behavioural marketing toward delivering transparent, factual financial education to bridge the inclusion gap, particularly for non-quantitative students.

**Keywords:** Financial Inclusion, Financial Literacy, Earning Youth, Hierarchical Regression, West Bengal.

## INTRODUCTION

Access and utilisation of financial services, the core components of Financial Inclusion (FI), are essential elements for eradicating poverty and navigating towards economic well-being (Demirgüç-Kunt & Klapper, 2012; Kim et al., 2018). This concept is driven by two primary forces: the supply side, which involves the availability of bank branches, cost of financial services, and regulatory frameworks of financial institutions, and the demand side, which focuses on the utilisation of these services by customers. An effective financial system requires both the forces to function their due role; therefore, nurturing an informed consumer base is just as important as building strong financial infrastructure (Cole et al., 2011). Financial literacy acts as a vital catalyst for fostering financial inclusion by equipping individuals with the skills to save, strategise for the future, and navigate economic shocks (Atkinson & Messy, 2011; Klapper et al., 2013), ultimately assisting broader economic stability and poverty reduction (Furtado, 2018; Honohan, 2004; Jayaratne & Strahan, 1996; Kar et al., 2011). FI has gained significant attention globally, particularly within developing nations (GPFI, 2011). Despite this focus, severe inequalities in accessibility of financial services exist worldwide (Demirgüç-Kunt & Klapper, 2013). Researchers have frequently emphasised on the lack of financial access preventing individuals from participating fully in society. Specifically, Carbo, Gardener, and Molyneux (2007) identified a strong correlation between financial and social exclusion, a perspective further supported by Claessens (2006). Within the Indian context, regional disparities are also noticeable; for instance, Bhanot et al. (2012) drew attention towards the distinct low rates of FI in India's northeastern states. Given the diversity of the country, traditional approaches are insufficient, entailing more innovative and customised models for inclusive growth (Gwalani & Parkhi, 2014). While initiatives like the Pradhan Mantri Jan Dhan Yojana (PMJDY) have significantly expanded the banking infrastructure in India, leading to increased bank account ownership, a gap remains, since many of these rural accounts sit dormant rather than being actively used (Arun & Kamath, 2015). The dynamics of rural financial inclusion are shaped by a complex mix of socioeconomic conditions, institutional barriers, and consumer behaviors. While research on urban environments has identified geographic access, income, and financial literacy as the primary drivers of FI (Das, 2024). Furthermore, studies examining mobile banking adoption reveal significant urban-rural disparity with respect to technological trust and accessibility (Patel et al., 2023), thereby highlighting the critical need for localised, context-specific research.

According to the World Bank's Global Findex Database, 2021, approximately 1.4 billion adults, roughly 24% of the global adult population, lacked access to formal financial products and services, highlighting persistent disparities impacting women and younger demographics (Demirgüç-Kunt et al., 2021). More recent data from the 2025 Global Findex report indicates that while worldwide account ownership grew from 51% in 2011 to 79% in 2025, about 1.3 billion adults are still unbanked, primarily within developing nations and low-income communities (Klapper et al., 2025). A critical demographic disproportionately affected by this ongoing exclusion is the youth. In 2021, only 54% of youth (ages 15–24) held an account with a traditional financial institution or mobile money provider, compared to 68% of adults aged 25 and older (Demirgüç-Kunt et al., 2021). By 2025, this generational divide continues; 81% of older adults owned accounts, while only 69% of youth did. Although this 12-percentage-point gap is a slight improvement from the 17-point divide observed in 2011, the disparity remains remarkably consistent across both high-income and developing economies. Of the 1.3 billion unbanked individuals globally in 2025, an estimated 380 million (29%) fall precisely into the 15–24 age bracket (Klapper et al., 2025). Given these trends, it is essential to investigate the specific barriers faced by youth. Therefore, addressing the research question of how to foster genuine financial inclusion among youth, particularly as they transition into earning and making independent financial decisions, is of utmost importance. This study focuses specifically on

young adults (18-24 years) who have recently transitioned into the workforce, particularly within the Cooch Behar district of West Bengal, as they represent the forthcoming generation of economic leaders.

Accurately measuring financial literacy and inclusion remains a methodological challenge. In primary data-driven research, the rigorous design of the collection instrument, the gathering of valid responses, and the application of robust analytical software (such as SPSS) are critical for drawing logical inferences. To address these methodological imperatives and ensure data integrity, this study uses the standardised OECD (2022) questionnaire. The research aims to deeply analyse the primary determinants of financial inclusion, evaluating both the socio-demographic characteristics and the foundational financial literacy levels of the respondents. Recognising that specific educational frameworks may inherently shape financial behaviours and attitudes, this study deliberately incorporates equal samples from three primary academic disciplines. This equalised sampling facilitates a direct, unskewed comparison of how distinct academic training impacts financial readiness. The remainder of this paper is structured as follows: Section 2 provides a comprehensive review of the relevant literature. Section 3 details the research methodology and data collection procedures. Section 4 presents the empirical data analysis and results. Finally, Section 5 concludes the study with a discussion of the findings and their broader policy implications.

## LITERATURE REVIEW

The conceptual foundation of financial inclusion extends far beyond mere bank account ownership; it encompasses the active and systemic integration of individuals into the formal economy. According to the Organization for Economic Co-operation and Development's International Network on Financial Education (OECD/INFE), FI is primarily the initiative to ensure that every segment of society has timely, affordable, and sufficient access to a broad spectrum of regulated financial services. Moreover, true inclusion requires promoting the active use of these products through customised and innovative methods, particularly through enhanced financial education and awareness (OECD, 2013). The World Bank has characterised the concept of FI as the sustainable delivery of essential financial products and services tailored to meet the practical, everyday needs of individuals, households, and businesses (Grohmann & Menkhoff, 2018). Beyond mere availability, this framework emphasises that financial services must be appropriate for the user and provided responsibly. Consequently, the broader construct of FI is built upon three critical dimensions: the depth of physical access and active engagement with financial products, the overarching quality of those services, and the financial capability of the consumers utilising them. To truly leverage this access, particularly for emerging demographics like young adults navigating their initial workforce earnings, consumer capability is very significant. Atkinson and Messy (2012) define Financial Literacy (FL) as a comprehensive combination of awareness, knowledge, skills, attitudes, and behaviors necessary to make sound financial decisions and achieve desired economic outcomes. This multifaceted perspective highlights that FL extends far beyond theoretical understanding; it fundamentally requires the practical, behavioural application of that knowledge to navigate real-world financial landscapes effectively. FL is, therefore, broadly understood to encompass three core dimensions: financial knowledge, financial behaviour, and financial attitude. Over the past several decades, the intersection of these dimensions with FI and overall financial well-being has gained substantial scholarly attention. Extensive literature confirms that an individual's financial health and their level of inclusion are heavily influenced by their FL, which acts as the foundational backbone of inclusive financial systems (Khan et al., 2022). For instance, Grohmann and Menkhoff (2018) demonstrated a positive correlation between national FL rates and FI, arguing that enhanced financial comprehension directly empowers individuals to utilise financial services more effectively.

A pioneering eight-country study by Lusardi and Mitchell (2014) revealed strikingly low FL rates; even within developed nations, only about one-third of adults could correctly answer fundamental financial questions, leading to severe consequences for their financial engagement. Similarly, Huston (2010) synthesised data across 143 countries, finding a strong affirmative link between consumer FL and national financial integration. Crucially, Huston observed that this association was most significant in developing nations, suggesting that targeted educational interventions yield the highest impact on inclusion in these regions. This dynamic also extends to specific subgroups within the broader economy, as evidenced by Reddy et al. (2025), who found that FI among MSME owners rises with FL, a relationship further moderated by demographic factors like gender. Zooming in on the youth demographic, a critical focus for early intervention, Lusardi, Mitchell, and Curto (2010) found alarming educational deficits among young Americans. Their research indicated that only 27% of subjects demonstrated an understanding of fundamental concepts like interest rates, inflation, and risk diversification. This knowledge gap leaves youth highly vulnerable as they transition into independent adulthood and face major financial milestones. However, the translation of knowledge into active inclusion is not entirely straightforward. Field experiments in India and Indonesia by Van Rooji, Lusardi, and Alessie (2011) indicated that while financial education stimulates the demand for services, its direct impact on actual long-term usage remains moderate. They posited that supplementary factors, such as institutional trust and transaction costs, are equally vital for bridging the gap between access and utilisation. Consequently, cultivating financial well-being among youth requires a holistic approach. Johnson and Sherraden (2007) argued that theoretical financial education must be paired with tangible access to financial services, providing youth with practical opportunities to exercise their developing skills and fostering a comprehensive framework for FI.

A substantial body of literature establishes income and education as primary determinants of financial access. Cross-national analyses consistently demonstrate a strong correlation between elevated income levels and greater utilisation of banking services in developing economies (Demirgüç-Kunt & Klapper, 2012). Within the Indian context, however, this relationship can be nonlinear; while account ownership predictably rises alongside income, actual usage often stagnates due to a misalignment between consumer needs and available financial products (Inoue, 2019). Furthermore, education emerges as a critical catalyst for engagement. Targeted FL interventions in rural regions, such as Odisha and Karnataka, have significantly boosted account usage and encouraged savings behaviors among female-led households. These outcomes indicate that cognitive barriers, including deficits in numeracy and digital literacy, often impede true inclusion more than mere physical access to institutions (Das, 2024; Nayak et al., 2024; Panakaje et al., 2023). Alongside these cognitive barriers, deep-rooted socio-cultural norms perpetuate severe demographic disparities. Rural Indian

women frequently face exclusion driven by mobility limitations and patriarchal banking practices, such as the requirement of male cosigners for loans. Consequently, female-headed households experience significantly reduced credit access compared to their male counterparts, even when accounting for equivalent asset ownership (Aziz et al., 2022; Baria, 2024). This pattern of systemic marginalisation prominently extends to other vulnerable populations, particularly younger individuals and socially disadvantaged groups navigating geographically challenging or rural terrains (Kandari et al., 2021).

While existing empirical studies comprehensively document the systemic barriers facing broader rural populations and women, there remains a distinct gap in the literature regarding the specific intersection of early-career transitions, demographic nuances, academic background and FL. Although marginalised groups in remote districts face well-documented exclusion, the localised dynamics shaping the FI of young adults entering the workforce require further investigation. Therefore, examining the precise financial literacy levels and inclusion barriers among young adults in the Cooch Behar district of West Bengal addresses this critical research gap, providing the contextual insights necessary to design targeted, effective interventions for this vital demographic.

## RESEARCH METHODOLOGY

To effectively evaluate the underlying demographic and cognitive determinants of Financial Inclusion (FI), this research implemented a purposive sampling strategy. In the initial phase, educational centers situated within the Cooch Behar district of West Bengal were targeted, with an emphasis on college students generating an active independent income. This intentional and purposive selection was a strategic measure designed to capture a varied cross-section of the earning young adults. To achieve statistically valid sample adequacy for predictive modeling, the minimum required sample size was established utilising the standard observation-to-predictor ratio rule for multiple regression analysis, which requires a minimum of 10 to 15 subjects per predictor variable (Green, 1991). With 11 independent variables, comprising eight demographic controls and three financial literacy components in the final hierarchical model, the retained sample size of 150 valid respondents easily exceeded this threshold, ensuring sufficient statistical power and preventing model overfitting. The OECD 2022 questionnaire was employed for data collection and the methodology applied therein was considered for scoring financial inclusion and financial literacy. To evaluate the empirical data, the null hypothesis ( $H_0$ ) for this study posited that there is no statistically significant relationship between an individual's socio-demographic profile, their core Financial Literacy (FL) components, and their level of FI. All quantitative assessments and econometric modeling were executed utilizing IBM SPSS Statistics to ensure analytical precision and robust data management. An independent samples t-test was deployed to measure the variance in continuous FI scores between dichotomous demographic groups. Specifically, this test determined the statistical significance of any inclusion disparities existing strictly between male and female respondents, as well as between undergraduate (UG) and postgraduate (PG) educational levels. Conversely, for independent variables comprising three or more distinct strata, a one-way Analysis of Variance (ANOVA) was administered, supplemented by Welch's robust test for equality of means to account for unequal variances. The ANOVA systematically examined the statistical significance of FI variances across broader demographic dimensions. These multi-categorical variables included the respondents' specific academic stream (Arts, Science, Commerce), income bracket, and duration of earning experience. This dual-test approach ensures that the significance of both binary and complex demographic determinants is captured accurately and mathematically valid.

A two-stage hierarchical multiple linear regression analysis was executed to further isolate and quantify the predictive power of the socio-demographic determinants versus the specific components of FL i.e. Financial Knowledge (FK), Financial Behaviour (FB), and Financial Attitude (FA). This advanced econometric technique allows the study to identify which specific respondent characteristics exert the most significant influence on overall Financial Inclusion, controlling for baseline demographics. For the purpose of this study, the hierarchical multiple regression model is mathematically specified as follows:

Where:

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \dots + \beta_k X_k + \epsilon$$

$Y$  = The dependent variable, defined as the respondent's aggregate FI score.

$\beta_0$  = The Y-intercept (Constant).

$\beta_1 \dots \beta_k$  = The unstandardized regression coefficients representing the independent variables (demographics and financial literacy components).

$X_1 \dots X_k$  = The independent variables (e.g., Education Level, Academic Stream, Financial Knowledge).

$\epsilon$  = The stochastic error term.

By applying this hierarchical model within SPSS, the research can conclusively establish the precise magnitude and direction of how each demographic factor and cognitive financial trait impacts an earning young financial inclusion.

## RESULTS AND DISCUSSION

### 3.1 T test for Gender-wise Comparison

Table 1. Group Statistics

| Gender  | N  | Mean   | Std. Deviation | Std. Error Mean |
|---------|----|--------|----------------|-----------------|
| FI 1.00 | 83 | 2.9277 | .86649         | .09511          |
| 2.00    | 67 | 3.0149 | .78803         | .09627          |

Source: Author's calculation from field survey

Table 2. Independent Samples Test

|    |                             | Levene's Test for Equality of Variances |      | t-test for Equality of Means |         |                 |                 |                       |   |        |       |
|----|-----------------------------|---|------|------------------------------|---------|-----------------|-----------------|-----------------------|---|--------|-------|
|    |                             | F                                       | Sig. | t                            | df      | Sig. (2-tailed) | Mean Difference | Std. Error Difference | 95% Confidence Interval of the Difference |        |       |
|    |                             |   |      |                              |         |                 |                 |                       |   | Lower  | Upper |
| FI | Equal variances assumed     | 1.529                                   | .218 | -.638                        | 148     | .524            | -.08721         | .13671                | -.35738                                   | .18295 |       |
|    | Equal variances not assumed |   |      | -.644                        | 145.865 | .520            | -.08721         | .13533                | -.35468                                   | .18025 |       |

Source: Author's calculation from field survey

The sample consisted of Male (1) = 83 and Female (2) = 67 respondents as shown in Table 1. An independent-samples t-test was conducted to compare FI scores between male and female earning college students. Levene's test confirmed the assumption of equal variances ( $p = .218$ ). The results indicated that there was no statistically significant difference in FI scores for males ( $M = 2.93$ ,  $SD = 0.87$ ) and females ( $M = 3.01$ ,  $SD = 0.79$ );  $t(148) = -0.638$ ,  $p = .524$ . These findings suggest that among the sampled earning youth, gender does not act as a significant barrier or accelerator to formal financial inclusion.

### 3.2 T test for Education-wise Comparison

Table 3. Group Statistics

| Education | N  | Mean   | Std. Deviation | Std. Error Mean |
|-----------|----|--------|----------------|-----------------|
| FI 1.00   | 90 | 2.6000 | .66704         | .07031          |
| 2.00      | 60 | 3.5167 | .74769         | .09653          |

Source: Author's calculation from field survey

Table 4. Independent Samples Test

|    |                             | Levene's Test for Equality of Variances |      | t-test for Equality of Means |         |                 |                 |                       |   |         |       |
|----|-----------------------------|---|------|------------------------------|---------|-----------------|-----------------|-----------------------|---|---------|-------|
|    |                             | F                                       | Sig. | t                            | df      | Sig. (2-tailed) | Mean Difference | Std. Error Difference | 95% Confidence Interval of the Difference |         |       |
|    |                             |   |      |                              |         |                 |                 |                       |   | Lower   | Upper |
| FI | Equal variances assumed     | 1.315                                   | .253 | -7.854                       | 148     | .000            | -.91667         | .11672                | -1.14731                                  | -.68602 |       |
|    | Equal variances not assumed |   |      | -7.676                       | 116.482 | .000            | -.91667         | .11942                | -1.15318                                  | -.68015 |       |

Source: Author's calculation from field survey

An independent-samples t-test was conducted to compare Financial Inclusion scores between undergraduate (group 1 = 90) and postgraduate (group 2 = 60) earning students. Levene's test (Table 4.) confirmed the assumption of equal variances ( $p = .253$ ). The results prove a statistically significant difference in FI scores, with postgraduates ( $M = 3.52, SD = 0.75$ ) scoring significantly higher than undergraduates ( $M = 2.60, SD = 0.67$ );  $t(148) = -7.85, p < .001$ .

### 3.3 ANOVA for Stream-wise Comparison

Table 5. Descriptives

FI

|       | N   | Mean   | Std. Deviation | Std. Error | 95% Confidence Interval for Mean |             | Minimum | Maximum |
|-------|-----|--------|----------------|------------|----------------------------------|-------------|---------|---------|
|       |     |        |                |            | Lower Bound                      | Upper Bound |         |         |
| 1.00  | 50  | 2.5000 | .83910         | .11867     | 2.2615                           | 2.7385      | 2.00    | 5.00    |
| 2.00  | 50  | 3.3200 | .93547         | .13230     | 3.0541                           | 3.5859      | 2.00    | 5.00    |
| 3.00  | 50  | 3.0800 | .39590         | .05599     | 2.9675                           | 3.1925      | 3.00    | 5.00    |
| Total | 150 | 2.9667 | .83076         | .06783     | 2.8326                           | 3.1007      | 2.00    | 5.00    |

Source: Author's calculation from field survey

Table 6. Test of Homogeneity of Variances

FI

| Levene Statistic | df1 | df2 | Sig. |
|------------------|-----|-----|------|
| 37.405           | 2   | 147 | .000 |

Source: Author's calculation from field survey

Table 7. Robust Tests of Equality of Means

FI

|       | Statistic <sup>a</sup> | df1 | df2    | Sig. |
|-------|------------------------|-----|--------|------|
| Welch | 12.646                 | 2   | 84.274 | .000 |

a. Asymptotically F distributed.

Source: Author's calculation from field survey

Table 8. Multiple Comparisons

Dependent Variable: FI  
 Games-Howell

| (I) Stream |      | Mean Difference (I-J) | Std. Error | Sig. | 95% Confidence Interval |             |
|------------|------|-----------------------|------------|------|-------------------------|-------------|
|            |      |                       |            |      | Lower Bound             | Upper Bound |
| 1.00       | 2.00 | -.82000*              | .17772     | .000 | -1.2430                 | -.3970      |
|            | 3.00 | -.58000*              | .13121     | .000 | -.8942                  | -.2658      |
| 2.00       | 1.00 | .82000*               | .17772     | .000 | .3970                   | 1.2430      |
|            | 3.00 | .24000                | .14365     | .224 | -.1044                  | .5844       |
| 3.00       | 1.00 | .58000*               | .13121     | .000 | .2658                   | .8942       |
|            | 2.00 | -.24000               | .14365     | .224 | -.5844                  | .1044       |

\*. The mean difference is significant at the 0.05 level.

Source: Author's calculation from field survey

ANOVA was conducted to determine if FI scores differed based on the academic stream. Table 5. indicates the equal distribution of samples among respondents from three academic disciplines. As Levene's test (Table 6.) indicated that the assumption of homogeneity of variances was violated ( $p < .001$ ), a Welch's ANOVA was utilised. The robust test revealed a statistically significant difference in FI scores across the academic streams; Welch's  $F(2, 84.27) = 12.65, p < .001$  (Table 7.). Games-Howell post hoc analysis was performed to determine the exact nature of these differences. The results indicated in Table 8. that Arts students ( $M = 2.50, SD = 0.84$ ) scored significantly lower than both Commerce students ( $M = 3.32, SD = 0.93, p < .001$ ) and Science students ( $M =$

= 3.08, SD = 0.40,  $p < .001$ ). Notably, there was no statistically significant difference in FI between the Commerce and Science students ( $p = .224$ )

### 3.4 ANOVA for Income-wise Comparison

Table 9. Descriptives

FI

|       | N   | Mean   | Std. Deviation | Std. Error | 95% Confidence Interval for Mean |             | Minimum | Maximum |
|-------|-----|--------|----------------|------------|----------------------------------|-------------|---------|---------|
|       |     |        |                |            | Lower Bound                      | Upper Bound |         |         |
| 1.00  | 75  | 2.5467 | .68366         | .07894     | 2.3894                           | 2.7040      | 2.00    | 4.00    |
| 2.00  | 41  | 3.1707 | .62859         | .09817     | 2.9723                           | 3.3691      | 2.00    | 5.00    |
| 3.00  | 34  | 3.6471 | .81212         | .13928     | 3.3637                           | 3.9304      | 2.00    | 5.00    |
| Total | 150 | 2.9667 | .83076         | .06783     | 2.8326                           | 3.1007      | 2.00    | 5.00    |

Source: Author's calculation from field survey

Table 10. Test of Homogeneity of Variances

FI

| Levene Statistic | df1 | df2 | Sig. |
|------------------|-----|-----|------|
| 4.760            | 2   | 147 | .010 |

Source: Author's calculation from field survey

Table 11. Robust Tests of Equality of Means

FI

|       | Statistic <sup>a</sup> | df1 | df2    | Sig. |
|-------|------------------------|-----|--------|------|
| Welch | 27.801                 | 2   | 74.581 | .000 |

a. Asymptotically F distributed.

Source: Author's calculation from field survey

Table 12. Multiple Comparisons

Dependent Variable: FI  
 Games-Howell

| (I) Income | Mean Difference (I-J) | Std. Error | Sig.   | 95% Confidence Interval |             |        |
|------------|-----------------------|------------|--------|-------------------------|-------------|--------|
|            |                       |            |        | Lower Bound             | Upper Bound |        |
| 1.00       | 2.00                  | -.62407*   | .12597 | .000                    | -.9244      | -.3238 |
|            | 3.00                  | -1.10039*  | .16009 | .000                    | -1.4860     | -.7148 |
| 2.00       | 1.00                  | .62407*    | .12597 | .000                    | .3238       | .9244  |
|            | 3.00                  | -.47633*   | .17040 | .019                    | -.8856      | -.0671 |
| 3.00       | 1.00                  | 1.10039*   | .16009 | .000                    | .7148       | 1.4860 |
|            | 2.00                  | .47633*    | .17040 | .019                    | .0671       | .8856  |

\*. The mean difference is significant at the 0.05 level.

Source: Author's calculation from field survey

ANOVA was conducted to determine whether FI scores differed based on the monthly income of the earning college students. In Table 9. group 1 denotes income below Rs. 5000, group 2 is for Rs. 5001-Rs.15000 and group 3 is for income above Rs. 15000. Levene's test as shown in Table 10. violated the assumption of homogeneity of variances ( $p = .010$ ), therefore, Welch's ANOVA was applied. In Table. 11 The robust test revealed a statistically significant difference in FI scores across the income groups; Welch's  $F(2, 74.58) = 27.80, p < .001$ . A Games-Howell post hoc analysis in Table 12. demonstrated that all three income groups differed significantly from one another. Students in the lowest income bracket ( $M = 2.55, SD = 0.68$ ) scored significantly lower in FI than

those in the middle ( $M = 3.17, SD = 0.63, p < .001$ ) and highest ( $M = 3.65, SD = 0.81, p < .001$ ) brackets. Furthermore, students in the middle bracket scored significantly lower than those in the highest income bracket ( $p = .019$ ).

### 3.5 ANOVA for Experience-wise Comparison

Table 13. Descriptives

FI

|       | N   | Mean   | Std. Deviation | Std. Error | 95% Confidence Interval for Mean |             | Minimum | Maximum |
|-------|-----|--------|----------------|------------|----------------------------------|-------------|---------|---------|
|       |     |        |                |            | Lower Bound                      | Upper Bound |         |         |
| 1.00  | 85  | 2.6000 | .71047         | .07706     | 2.4468                           | 2.7532      | 2.00    | 4.00    |
| 2.00  | 51  | 3.3137 | .58276         | .08160     | 3.1498                           | 3.4776      | 2.00    | 5.00    |
| 3.00  | 14  | 3.9286 | .99725         | .26653     | 3.3528                           | 4.5044      | 2.00    | 5.00    |
| Total | 150 | 2.9667 | .83076         | .06783     | 2.8326                           | 3.1007      | 2.00    | 5.00    |

Source: Author's calculation from field survey

Table 14. Test of Homogeneity of Variances

FI

| Levene Statistic | df1 | df2 | Sig. |
|------------------|-----|-----|------|
| 3.337            | 2   | 147 | .038 |

Source: Author's calculation from field survey

Table 15. Robust Tests of Equality of Means

FI

|       | Statistic <sup>a</sup> | df1 | df2    | Sig. |
|-------|------------------------|-----|--------|------|
| Welch | 26.331                 | 2   | 33.555 | .000 |

a. Asymptotically F distributed.

Source: Author's calculation from field survey

Table 16. Multiple Comparisons

Dependent Variable: FI

Games-Howell

| (I) Experience | (J)  | Mean Difference (I-J) | Std. Error | Sig. | 95% Confidence Interval |             |
|----------------|------|-----------------------|------------|------|-------------------------|-------------|
|                |      |                       |            |      | Lower Bound             | Upper Bound |
| 1.00           | 2.00 | -.71373*              | .11224     | .000 | -.9800                  | -.4474      |
|                | 3.00 | -1.32857*             | .27744     | .001 | -2.0480                 | -.6092      |
| 2.00           | 1.00 | .71373*               | .11224     | .000 | .4474                   | .9800       |
|                | 3.00 | -.61485               | .27874     | .102 | -1.3363                 | .1066       |
| 3.00           | 1.00 | 1.32857*              | .27744     | .001 | .6092                   | 2.0480      |
|                | 2.00 | .61485                | .27874     | .102 | -.1066                  | 1.3363      |

\*. The mean difference is significant at the 0.05 level.

Source: Author's calculation from field survey

ANOVA was further conducted to evaluate the impact of professional experience on FI scores. Levene's test in Table 14. indicated that the assumption of homogeneity of variances was violated ( $p = .038$ ); therefore, a Welch's ANOVA was utilised. The robust test revealed a statistically significant difference in Financial Inclusion scores based on the length of earning experience; Welch's  $F(2, 33.56) = 26.33, p < .001$  (Table 15.). Subsequently, Games-Howell post hoc analysis demonstrated in Table 16. that students with the least earning experience i.e. less than 2 years (Group 1;  $M = 2.60, SD = 0.71$ ) scored significantly lower in Financial Inclusion than students in Group 2, with experience of 2 to 4 years ( $M = 3.31, SD = 0.58, p < .001$ ) and Group 3 or with experience of more

than 4 years ( $M = 3.93, SD = 1.00, p = .001$ ). However, there was no statistically significant difference in scores between Group 2 and Group 3 ( $p = .102$ ).

### 3.6 Hierarchical Multiple Linear Regression

Table 17. Model Summary<sup>c</sup>

| Model | R                 | R Square | Adjusted R Square | Std. Error of the Estimate | Change Statistics |          |     |     |               |               |
|-------|-------------------|----------|-------------------|----------------------------|-------------------|----------|-----|-----|---------------|---------------|
|       |                   |          |                   |                            | R Square Change   | F Change | df1 | df2 | Sig. F Change | Durbin-Watson |
| 1     | .730 <sup>a</sup> | .533     | .507              | .58340                     | .533              | 20.141   | 8   | 141 | .000          |               |
| 2     | .816 <sup>b</sup> | .666     | .639              | .49894                     | .133              | 18.261   | 3   | 138 | .000          | 1.731         |

a. Predictors: (Constant), Experience\_3, Gender\_2, Stream\_3, Education\_2, Income\_2, Experience\_2, Stream\_2, Income\_3

b. Predictors: (Constant), Experience\_3, Gender\_2, Stream\_3, Education\_2, Income\_2, Experience\_2, Stream\_2, Income\_3, FA, FB, FK

c. Dependent Variable: FI

Source: Author's calculation from field survey

Table 18. ANOVA<sup>a</sup>

| Model |            | Sum of Squares | df  | Mean Square | F      | Sig.              |
|-------|------------|----------------|-----|-------------|--------|-------------------|
| 1     | Regression | 54.842         | 8   | 6.855       | 20.141 | .000 <sup>b</sup> |
|       | Residual   | 47.991         | 141 | .340        |        |                   |
|       | Total      | 102.833        | 149 |             |        |                   |
| 2     | Regression | 68.480         | 11  | 6.225       | 25.008 | .000 <sup>c</sup> |
|       | Residual   | 34.353         | 138 | .249        |        |                   |
|       | Total      | 102.833        | 149 |             |        |                   |

a. Dependent Variable: FI

b. Predictors: (Constant), Experience\_3, Gender\_2, Stream\_3, Education\_2, Income\_2, Experience\_2, Stream\_2, Income\_3

c. Predictors: (Constant), Experience\_3, Gender\_2, Stream\_3, Education\_2, Income\_2, Experience\_2, Stream\_2, Income\_3, FA, FB, FK

Source: Author's calculation from field survey

Table 19. Coefficients<sup>a</sup>

| Model |              | Unstandardized Coefficients |            | Standardized Coefficients | t      | Sig. | Collinearity Statistics |       |
|-------|--------------|-----------------------------|------------|---------------------------|--------|------|-------------------------|-------|
|       |              | B                           | Std. Error | Beta                      |        |      | Tolerance               | VIF   |
| 1     | (Constant)   | 2.112                       | .100       |                           | 21.139 | .000 |                         |       |
|       | Gender_2     | .105                        | .097       | .063                      | 1.084  | .280 | .977                    | 1.023 |
|       | Education_2  | .525                        | .110       | .311                      | 4.790  | .000 | .786                    | 1.273 |
|       | Stream_2     | .375                        | .125       | .214                      | 2.989  | .003 | .649                    | 1.542 |
|       | Stream_3     | .303                        | .122       | .173                      | 2.483  | .014 | .685                    | 1.459 |
|       | Income_2     | .267                        | .123       | .144                      | 2.171  | .032 | .755                    | 1.325 |
|       | Income_3     | .469                        | .156       | .237                      | 3.015  | .003 | .534                    | 1.873 |
|       | Experience_2 | .384                        | .113       | .220                      | 3.413  | .001 | .797                    | 1.255 |
|       | Experience_3 | .663                        | .209       | .233                      | 3.168  | .002 | .613                    | 1.631 |
| 2     | (Constant)   | .704                        | .246       |                           | 2.859  | .005 |                         |       |
|       | Gender_2     | .121                        | .085       | .073                      | 1.430  | .155 | .933                    | 1.072 |

|              |       |      |       |        |      |      |       |
|--------------|-------|------|-------|--------|------|------|-------|
| Education_2  | .435  | .095 | .257  | 4.581  | .000 | .766 | 1.305 |
| Stream_2     | .303  | .108 | .172  | 2.799  | .006 | .639 | 1.566 |
| Stream_3     | .276  | .106 | .157  | 2.618  | .010 | .671 | 1.491 |
| Income_2     | .176  | .106 | .095  | 1.659  | .099 | .742 | 1.347 |
| Income_3     | .363  | .134 | .184  | 2.703  | .008 | .525 | 1.906 |
| Experience_2 | .331  | .099 | .189  | 3.355  | .001 | .760 | 1.317 |
| Experience_3 | .423  | .183 | .149  | 2.316  | .022 | .586 | 1.705 |
| FK           | .313  | .046 | .396  | 6.858  | .000 | .727 | 1.375 |
| FB           | .014  | .034 | .023  | .407   | .684 | .755 | 1.324 |
| FA           | -.055 | .049 | -.058 | -1.124 | .263 | .897 | 1.115 |

a. Dependent Variable: FI

Source: Author's calculation from field survey

A two-stage hierarchical multiple regression was conducted to determine the relative contribution of demographic factors and financial literacy components in predicting the formal FI of earning college students. Prior to interpreting the results, several assumptions were evaluated. Inspection of the normal P-P plot and the scatterplot of standardized residuals confirmed that the assumptions of normality, linearity, and homoscedasticity were met. Additionally, the data met the assumption of independent errors (Durbin-Watson = 1.73), and collinearity diagnostics indicated no issues with multicollinearity, as all Variance Inflation Factor (VIF) values were well below the standard threshold of 10.0 (ranging from 1.02 to 1.90).

Demographic variables (Gender, Education, Academic Stream, Income, and Earning Experience) were entered at Stage 1 of the regression to control for baseline socioeconomic characteristics. This initial model was statistically significant,  $F(8, 141) = 20.14$ ,  $p < .001$ , and explained 50.7% of the variance in financial inclusion (Adjusted  $R^2 = .507$ ). Within this model, holding a postgraduate degree ( $p < .001$ ), studying in the Commerce or Science streams ( $p = .006$  and  $p = .014$ , respectively), earning a higher income ( $p = .003$ ), and having longer earning experience ( $p = .001$ ,  $p = .002$ ) were all significant positive predictors of financial inclusion.

The three cognitive components of financial literacy—Financial Knowledge (FK), Financial Behavior (FB), and Financial Attitude (FA)—were introduced at Stage 2. The addition of these variables resulted in a statistically significant increase in the model's explanatory power,  $\Delta R^2 = .133$ ,  $\Delta F(3, 138) = 18.26$ ,  $p < .001$ . The final, comprehensive model was highly significant,  $F(11, 138) = 25.00$ ,  $p < .001$ , explaining 63.9% of the total variance in financial inclusion (Adjusted  $R^2 = .639$ ).

An examination of the final model's standardized coefficients revealed that Financial Knowledge (FK) was the single strongest predictor of financial inclusion ( $\beta = .396$ ,  $t = 6.85$ ,  $p < .001$ ). While key demographic advantages such as Education ( $\beta = .257$ ,  $p < .001$ ), Experience ( $\beta = .189$ ,  $p = .001$ ), and top-tier Income ( $\beta = .184$ ,  $p = .008$ ) retained their significance, neither Financial Behavior ( $p = .684$ ) nor Financial Attitude ( $p = .263$ ) emerged as significant predictors. These findings indicate that while socioeconomic demographics establish a baseline for banking access, possessing hard, cognitive financial knowledge acts as the dominant catalyst for the financial inclusion of earning youth.

## CONCLUSION

This study explored the primary drivers of FI among earning college students, testing the relative impact of demographic backgrounds against the core components of FL. The findings reveal that while socioeconomic and educational factors, specifically postgraduate standing, higher income brackets, extended earning experience, and quantitative academic streams (Commerce and Science), provide a foundational head start in the banking system, cognitive understanding acts as the ultimate catalyst. Crucially, Financial Knowledge emerged as the single most powerful predictor of financial inclusion, fundamentally eclipsing both Financial Behavior and Financial Attitude. Moreover, the data demonstrated that traditional gender barriers are effectively neutralized once youth secure an independent income. Ultimately, earning money forces initial entry into the financial system, but possessing concrete financial knowledge dictates the depth of a student's inclusion. Since students from non-quantitative disciplines showed relatively low inclusion, educational bodies must integrate mandatory, practical financial literacy modules across all disciplines, particularly for the vulnerable group. A primary limitation of this study is its localised, cross-sectional design (N = 150) within a single district, which may not generalise to non-earning students or differing economic zones. Future research should apply this hierarchical model across broader geographic regions to track how financial knowledge impacts inclusion as students transition into full-time professional employment.

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