Accountancy Business and the Public Interest
ISSN: 1745-7718

Volume: 42
Issue Number: 03

THE FIVE PILLARS OF FINANCIAL LITERACY: EXPLORING THE SYNERGY BETWEEN KNOWLEDGE, ATTITUDES, SKILLS, BEHAVIOR, AND AWARENESS

SHALINI SHIVANANDA[1], SHEKAR BABU[2],

SATYANARAYANA PARAYITAM[3]* and RAMPILLA MAHESH[4]

[1]Department of Commerce and Management, Amrita School of Arts, Humanities and Commerce, Amrita Vishwa Vidyapeetham, Mysuru campus, Mysuru, India.
[2]Professor, Amrita School of Business, Amrita Vishwa Vidyapeetham, Mysuru Campus.
[3]Professor, Department of Management and Marketing, Charlton College of Business University of Massachusetts Dartmouth, 285 Old Westport Road, North Dartmouth, MA.
[4]Department of Finance, Bewell enterprise, Vijayawada, India.
Email: [1]shalinis@my.amrita.edu, [2]Sb@amrita.edu,
[3]sparayitam@umassd.edu (*Corresponding Author), [4]rammahesh333@gmail.com
ORCID: [3]0000-0001-5565-4413

Abstract

Financial literacy is a crucial capability that enables individuals to make informed financial decisions and enhance long-term economic well-being. Drawing on financial capability and behavioral finance perspectives this study examines the determinants of financial literacy among female teachers in higher educational institutions. 392 female teachers were using logistic regression analysis the study evaluates the influence of financial knowledge, financial behavior, financial attitude, financial awareness and financial skills on financial literacy levels. The findings reveal that financial knowledge emerge as the most significant predictors of financial literacy. In specific both conceptual understanding of financial principles and the consistent application of practical financial behaviors exhibit strong positive associations with high financial literacy. Financial skills especially those related to transaction management and financial decision making also play a critical role. However, deficiencies in financial awareness and selected skill dimensions negatively constrain financial literacy outcomes. These results underscore the importance of targeted financial education and skill building interventions tailored to women educators. By providing profession specific evidence from private higher education sector this study contributes to the financial literacy literature by highlighting the behavioral and skill based pathways through which financial capability can be strengthened among women professionals.

Keywords: Financial Literacy, Financial Attitude, Financial Behavior, Financial Awareness, Financial Knowledge, Financial Skill.

1. INTRODUCTION

Financial literacy has increasingly been recognized as a fundamental capability underpinning individual financial stability, resilience and long-term well-being in modern economies (Katnic et al., 2024; Klapper & Lusardi, 2020; Liu et al., 2024; Lone & Bhat, 2024). Financial systems now require individuals to make more decisions about their finances because they are more complex. Therefore, there is a greater amount of responsibility placed on the individual. Thus, the ability to understand financial concepts, evaluate alternatives, and translate knowledge into effective financial behavior has become essential (Hwang & Park, 2023). Accordingly, financial literacy is widely defined as a multidimensional construct encompassing financial awareness, knowledge, skills, attitudes, and behavior that together enable individuals to make sound financial decisions and achieve financial well-being (Atkinson & Messy, 2011; OECD, 2012, 2022). A financially knowledgeable individuals who exhibit positive financial behaviors and attitudes are more likely to engage in prudent saving, investment, and planning practices, thereby strengthening their economic security across the life cycle (Allgood & Walstad, 2016; Atkinson & Messy, 2011; Braunstein & Welch, 2002; Huston, 2012; Lusardi, 2019; Lusardi &

Mitchell, 2009, 2011; Rai et al., 2019; Sekita, 2011; Rooij et al., 2011; Rooij et al., 2012).

Despite its recognized importance, global evidence consistently indicates that financial literacy levels remain low across populations (Cupák et al., 2018; Hasler & Lusardi, 2017; Ingale & Paluri, 2022). Large-scale international surveys reveal persistent deficiencies in financial understanding and behavior, with particularly pronounced gaps among women (Almenberg & Dreber, 2015; Bannier & Neubert, 2016; Cupák et al., 2018; Klapper et al., 2015; Klapper & Lusardi, 2020; Lusardi, 2008; Lusardi et al., 2014; Lusardi & Mitchell, 2011a, 2011b). Across both developed and emerging economies, women exhibit lower financial literacy than men, a disparity that cuts across education levels, income groups, and age cohorts (Bucher-Koenen et al., 2025; Lusardi & Mitchell, 2009; OECD, 2012). This gender gap is especially concerning given women's longer life expectancy, lower lifetime earnings, and greater exposure to financial vulnerability (Apicella et al., 2024; Bucher-Koenen et al., 2017). As a result, women's financial literacy has emerged as a critical policy issue that directly intersects with the United Nations' Sustainable Development Goal 5, which emphasizes gender equality and the empowerment of all women and girls (RBI, 2019). Without adequate financial capability, broader efforts aimed at economic inclusion and gender equity risk remaining incomplete.

The challenge of women's financial literacy is especially salient in Asia, where rapid economic growth and accelerated financial inclusion have transformed financial markets within a short time span (Rosenkranz & Melchor, 2022). Even though there is a greater access to banking, digital payments and financial products, the increase in access to these services has not translated into improved financial capability for women. Even with education and work, women continue with social norms that limit their right to make their own financial decisions and restrict their participation in the financial market (Mishra et al., 2024; Rooij et al., 2012). This disconnect highlights the need to move beyond access-based approaches and examine the behavioral, attitudinal, and skill-based determinants of financial literacy in specific socio-economic contexts.

India presents a particularly compelling case within this broader global and regional landscape. Over the past decade, India has implemented extensive financial inclusion initiatives and digital finance reforms, substantially increasing participation in formal financial systems (Keshavammaiah et al., 2026; OECD, 2022; RBI, 2019). Nevertheless, financial literacy levels remain uneven, with gender disparities continuing to persist (Bucher-Koenen et al., 2025; Bucher-Koenen et al., 2017; Hasler & Lusardi, 2017). Indian women, including those with higher education and stable employment, often exhibit limited confidence, awareness, and engagement in financial decision-making (Ingale & Paluri, 2022; Paluri & Mehra, 2016; Rai et al., 2019). These patterns suggest that formal education and labor market participation do not automatically translate into financial literacy, underscoring the importance of examining occupation-specific and gender-sensitive determinants of financial capability (Bomanwar, 2020; Preston & Wright, 2019; RBI, 2019).

Within India, the state of Karnataka offers a relevant and underexplored context for investigating these dynamics. Karnataka is characterized by high educational attainment, a robust higher education sector, and relatively advanced financial infrastructure. Female teachers in higher educational institutions represent a strategically important group, combining professional stability, educational expertise, and social influence (Butera et al., 2021; Maaranen & Afdal, 2022). As educators, they are positioned not only as economic actors but also as potential agents of financial knowledge dissemination within families and communities (Compen et al., 2023; RBI, 2019). However, professional status alone may not ensure financial literacy. Even among women educators, gaps in practical financial behavior, applied financial

skills, and financial awareness may constrain effective financial decision-making, particularly in an increasingly complex and digitalized financial environment (Bucher-Koenen et al., 2017; Klapper et al., 2015; Lusardi, 2019; RBI, 2019).

Despite their importance, female teachers in private higher educational institutions have received limited empirical attention in financial literacy study, especially in the Indian and sub-national context. Existing studies predominantly focus on households, students, or informal sector workers, offering limited insight into how financial literacy is shaped among women professionals (Agarwalla et al., 2015; Agnew & Harrison, 2015; Arora, 2016; Garg & Singh, 2018; Kawamura et al., 2021; Liu et al., 2024; Lusardi et al., 2010; Philippas & Avdoulas, 2020; Shim et al., 2009; Rooij et al., 2012). Moreover, much of the literature adopts narrow or inconsistent definitions of financial literacy, often emphasizing knowledge or awareness in isolation while neglecting the integrated role of behavior, skills, and attitudes (Arjun & Subramanian, 2024; Huston, 2010; Méndez Prado et al., 2022; Remund, 2010). This limits the ability of policymakers to design targeted interventions aligned with national financial education strategies.

Responding to these gaps, the present study adopts the holistic financial literacy framework proposed by the OECD, which conceptualizes financial literacy as a composite of financial knowledge, financial behavior, financial attitude, financial skills, and financial awareness (Kiril, 2020; OECD, 2012). Focusing on female teachers in private higher educational institutions in Karnataka, the study empirically examines how these dimensions influence financial literacy outcomes using robust binary choice models. By identifying both enabling and constraining factors, the study provides context-specific insights into the mechanisms through which women's financial capability is formed. Thereby, it contributes to the financial literacy literature by extending gender focused research to an underexplored professional group and offers policy-relevant evidence to support targeted financial education and skill-building initiatives aligned with India's national financial education strategy and the broader objectives of SDG 5.

1.1 This study is guided by the following research questions (RQs)

RQ1: How does financial attitude shape the level of financial literacy among female teachers in private higher educational institutions?

RQ2: How do day-to-day financial behaviors contribute to the development of financial literacy among female teachers in private higher educational institutions?

RQ3: How does financial knowledge translate into overall financial literacy among female teachers in private higher educational institutions?

RQ4: How does financial awareness influence the financial literacy of female teachers in private higher educational institutions?

RQ5: To what extent do financial skills enhance financial literacy among female teachers in private higher educational institutions?

The remainder of the paper is organized as follows. Section 2 reviews the relevant literature on financial literacy and its five key components and develops the research hypothesis. Section 3 presents the data and research methodology. Section 4 describes the empirical results and discusses the key findings. Finally, section 5 concludes the paper by highlighting the main contributions, practical implications, and avenue for future research.

2. THEORETICAL BACKGROUND AND HYPOTHESES DEVELOPMENT

The theory of planned behavior (TPB) developed by Ajzen (1991) posits that attitudes, subjective norms, and perceived behavioral control create behavioral intentions and allow evident behavior. The TPB implies that an individual who has generally favorable and positive attitudes toward saving, investing, and financial planning will most likely be more inclined to seek and participate in financial information and activities. Moreover, they will acquire financial literacy over time than an individual with a less favorable attitude. The TPB suggests that habitual financial behavior like budgeting, saving, investing will reinforce both the attitude and knowledge base and lead to a positive feedback loop between financial behavior and financial literacy.

2.1 Hypotheses development

2.1.1 Financial attitude (FATT) and financial literacy (FL)

An individual's psychological orientation to money is what defines their financial attitude (Sahi, 2023). This includes how an individual manages their day-to-day finances with respect to saving, spending and budgeting, and their long-term financial planning (Rai et al., 2019; Widjayanti et al., 2025). Financial attitudes reflect how individuals view their financial responsibilities and how willing they are to act in ways that contribute to their financial stability. Financial attitudes, as defined by the theory of planned behavior, are also formed by past actions, beliefs regarding money, and perceived control over one's finances. All three play significant roles in influencing a person's decision-making process (Ajzen, 1991, 2012; Ajzen et al., 2011).

The financial attitudes have a significant effect on financial literacy and related outcomes (Mancebón-Torrubia et al., 2024). However, studies show that women often have more conservative and methodical approaches to managing their personal finances than men despite having lower confidence in their financial decision-making (Baker et al., 2019, 2021; Kadoya & Khan, 2018, 2020). This conservative nature demonstrates that, it is attitudes about money that primarily affect how individuals make their financial decisions (Fenton-O'Creevy & Furnham, 2022; Grable & Lytton, 1999).

Studies suggest that those with more formal education and professional qualifications tend to exhibit proactive approaches to managing their finances thereby allows for improved financial planning and stability (Garg & Singh, 2018). Prior research has established that there exists a significant correlation between financial attitudes, such as how one views money, and financial literacy. Further, that individuals holding positive financial attitudes are likely to seek out new sources of information about managing their finances and will make better informed choices regarding how to manage their finances than those with negative financial attitudes (Goyal & Kumar, 2021; Shim et al., 2009).

From the literature the following hypothesis have been formulated:

H1: Financial attitude has a significant positive impact on the financial literacy levels of female teachers.

2.1.2 Financial behavior and financial literacy

The actions of people in regard to managing their financial resources such as budgeting, saving, borrowing and investing are considered to be the observable aspects of financial behavior. These actions reflect the application of financial literacy and contribute to achieving certain financial outcomes. Having positive financial behaviors like using a budget consistently and

developing saving habits, having a clear understanding of financial securities tends to help the individual achieve positive financial literacy. At the same time having negative financial behaviors like having excessive amounts of credit, or over-relying on credit usually results in financial instability (OECD, 2012, 2022). In particular, even though someone could possess significant financial knowledge, they may still have difficulties with managing their finances and performing in a financially responsible manner (Banthia & Dey, 2022; Goyal & Kumar, 2021). This highlights that there are a variety of contextual factors and demographics that contribute to shaping an individual's financial behaviors (Mawad et al., 2022; Shi et al., 2025).

In addition to these factors, gender differences can complicate this relationship further by adding another level of complexity. As a result of their lower levels of financial literacy, women tend to be less likely to participate in long-term retirement planning and rely on their social networks for financial decision making, which shows gaps in the development of their behaviors (Bucher-Koenen et al., 2025; Lusardi & Mitchell, 2007; Sundarasen et al., 2023). While joint decision-making within households is positively related to financial behavior, this also demonstrates that financial behaviors are embedded socially (Hwang & Park, 2023; Sayinzoga et al., 2016; Warchlewska, 2024).

However, women exhibit a more conservative approach towards their financial decisions, by demonstrating greater caution than men (Sonsino et al., 2023). Although caution can provide a buffer against excessive risk-taking, excessive caution may also result in decision paralysis and lack of engagement, especially when women do not have financial confidence (Baker et al., 2019, 2021). This has been shown through financial education programs, which have produced positive behavioral changes such as increased saving and reduced informal lending, while also reinforcing the development of financial literacy behaviors (Fernandes et al., 2014).

Following hypothesis have formulated based on literature:

H2: Financial behavior has a significant positive impact on the financial literacy levels of female teachers.

2.1.3 Financial knowledge and financial literacy

Cognitive knowledge of finance provides the foundation for financial literacy and is a key to making educated financial decisions (Amagir et al., 2018). Financial knowledge is the understanding of the concepts, products and rules that are involved in learning to manage the money properly. When children are exposed to financial education from an early age, it helps them to develop their financial knowledge, creates positive spending and investing habits, and helps them to limit their impulsiveness (Dhar & Zhu, 2006; Long & Tue, 2024; Lührmann et al., 2015).

Higher levels of financial knowledge are linked to better management of personal finances and better long-term planning (García Mata, 2021; Howlett et al., 2008). For example, women who are financially literate tend to use better methods to plan for their financial future, including retirement (Lusardi & Mitchell, 2008; Pham & Le, 2023; Qian et al., 2024). While women have generally sufficient financial literacy and knowledge to put into practice this knowledge, it is due to external factors such societal and psychological barriers that limit their ability to act on this knowledge (Baker et al., 2021; Robson & Peetz, 2020; Sobieszczyk et al., 2003). The findings above illustrate that while financial literacy and knowledge are necessary to engage in financial behaviors, these behaviors will only occur if supportive attitudes towards finance, skills and ways to reinforce finance related behaviors are present.

The below hypothesis is formulated from literature review:

H3: Financial Knowledge has a significant positive impact on the financial literacy levels of female teachers.

2.1.4 Financial awareness and financial literacy

Financial awareness is an important part of being financially literate and refers to how well an individual understands the financial products, services, and options available to them. It helps people make better decisions regarding budgeting, using credit, investing, and planning for the future (Beal & Delpachitra, 2003; Nga et al., 2010; Remund, 2010; Saini et al., 2025). Financial awareness affects how a person makes decisions about their money and is also a major factor in how a family manages its finances (Saini et al., 2025).

According to empirical evidence, financially aware individuals are more likely to invest in the financial markets and purchase complex financial products like risky assets which will provide them with additional financial opportunities (Okaily et al., 2023; Cardak & Wilkins, 2009). Financial awareness also bridges the gap between what you know theoretically and what you do in practice financially, enabling individuals to take a more proactive approach to managing their finances (Chen & Volpe, 1998; Mason & Wilson, 2000). Understanding the various credit products, investment instruments, and government financial programs allows individuals to make informed and therefore beneficial financial decisions (Basu & Dulleck, 2020; Beal & Delpachitra, 2003; Ventre et al., 2024). Additionally, without financial awareness, even those individuals who possess a high level of financial knowledge can still make poor decisions. This illustrates how prominent and complementary the role of awareness is in relation to the larger framework that exists for financial literacy (Jorgensen & Savla, 2010; Sunderaraman et al., 2020).

Based on previous research the following hypothesis have been articulated:

H4: Financial awareness has a significant positive impact on the financial literacy levels of female teachers.

2.1.5 Financial skill and financial literacy

The ability of a person to apply their understanding of finance to real life is called their financial skill, which is one part of being financially literate (Masllorens & Dotras, 2022; Lusardi, 2015; Rooij et al., 2012). While knowledge about finance gives people the ability to understand finance, having financial skills allows them to turn that knowledge into making good financial decisions and behaving in a financially sound way. People from different demographics exhibit wide ranging variations in their level of financial skills (Silinskas et al., 2023; Nguyen et al., 2022). There is still a persistent discrepancy between the financial skill level of male and female demographics, with women generally having disadvantages in the area of finance from less access to resources and less confidence (Cupák et al., 2018; Haag & Brahm, 2025).

The necessity of having financial skills became apparent through the global economic crisis. During that time period, it was very evident that so many individuals had difficulty managing their debt, understanding complex financial products, and making sound decisions about investments, which caused a number of individuals to be financially vulnerable (Li, 2020; Lusardi, 2015a; Lusardi & Mitchell, 2011b, 2011a). Individuals with higher levels of financial skills are more likely to participate in activities designed to prepare for retirement, avoid making costly financial mistakes, and maintain financial stability as they age (Białowolski et al., 2020; Lusardi et al., 2014; Lusardi & Mitchell, 2014).

There is evidence that financial education can increase a person's ability to save money but research suggests that developing the ability to use financial skills effectively is more important when it comes to successfully managing finances (Bover et al., 2024; Hamid & Loke, 2021; Lusardi & Mitchell, 2009). There are different types of individual characteristics they are education level, income level, and type of employment that may have a large effect on the developing financial skills and understanding financial literacy for any given individual (Balasubramnian & Sargent, 2020; Nguyen et al., 2022; Zaimovic et al., 2023). Therefore, there is a need for propose skill building strategies that will provide specific financial education to a specific segment of the population (Lusardi & Mitchell, 2011b, 2011a).

Based on previous research the subsequent hypothesis has been formulated:

H5: Financial Skill has a significant positive impact on the financial literacy levels of female teachers.

3. METHOD

3.1 Sample

This study employed a cross-sectional research design alongside quantitative analysis to examine the association between financial literacy and its components among women teachers in private higher educational institutions situated in India. The data at a specific point in time to investigate the hypotheses formulated in this study. The selection of women teachers in private higher educational institutions for this study is based on existing evidence suggesting that they exhibit lower financial literacy compared to their male counterparts, according to the Reserve Bank of India (RBI, 2019).

The population for this study comprises women teachers in private higher educational institutions situated in India. However, there is no precise data regarding the population of women teachers, which remains unknown. This study determined a minimum sample size of 384 (Cochran & Cochran, 1977). A total of 392 women teachers participated in this study, providing valuable responses. The current work achieved this by administering a questionnaire both physically and digitally to boost participation.

3.2 Sampling Design and Sampling Procedures

Researchers Creswell & Creswell (2009), point out that sampling is the most important consideration when conducting any survey. The sampling design and the procedures adopted to interview the sample must be diligently selected. In this research, stratified and simple random sampling was employed.

Stratified sampling design was employed to select major areas located in the northern, eastern, central, and western regions of Karnataka, and from each area, were randomly selected to participate in the study. This resulted into a total sample of 392 Women teachers in private higher educational institutions were selected for this study.

3.3 Measurement and operationalization of variables

Once the definition of a construct has been made, then the researcher should translate the theoretical definition into measurement criteria regarding the variable being studied, allowing assignment of numerical values to it.

Financial literacy: previously, (Atkinson & Messy (2011); Lusardi & Mitchell (2009) had adopted knowledge and skills as a measure of financial literacy. However, recently Holzmann (2010) defined the concept of financial literacy as including its functional components and the

transition over time from knowledge to skills to attitude and to behavior. That being put into perspective, for this study, the various components proposed in the study were knowledge, skills, attitudes, awareness and behaviors that would be used in measuring financial literacy. Items measuring financial behavior, attitudes, awareness, and skills were scored on a five-point Likert scale, ranging from 5-point strongly agree to 1-point strongly disagree. Correct answers for questions pertaining to financial literacy and knowledge were labelled with a "1" whereas incorrect ones were labelled with a "0". Financial literacy items are noted in the measures section of the questionnaire in Annexure I.

3.4 Data Collection instrument

The research study is used as a purely quantitative study that applies a semi-structured questionnaire for collecting responses from the selected sample for the study. The questionnaire has been shaped, following guidelines provided by Churchill & Iacobucci (2004) consisting of nine steps: specifying what information should be sought, determining the type of questionnaire and the methods of its administration, determining the content of individual items, determining the response format, determining the wording of each question, determining the sequence of questions, determining the physical layout and characteristics of the questionnaire, re-examining steps 1-7, and conducting a pre-test of the questionnaire.

Items used in the formulation of the questionnaire were adopted from previous studies published in internationally referred journals, as they had been tested for their validity and reliability. Financial literacy questions have been taken from (Klapper & Lusardi, 2020). Financial knowledge questions are taken from OECD (2022). Financial behavior from (Potrich et al., 2018). Financial attitude questions from (Potrich et al., 2018). Financial skill questions from (Bongomin et al., 2018) and financial awareness from (Lone & Bhat, 2024). The questionnaire was pre-tested and all the items were subjected to tests for both validity and reliability. The results from the pilot study disclosed the presence of valid items for all constructs, with α coefficients that ranged from 0.902 to 0.907 for the financial literacy components and for the other variables, respectively, hence being worthy of the study. Data for the main study were collected over 19 months (March 2024 to October, 2025) from a total of 392 women teachers selected for the study.

4. ANALYSIS AND RESULTS

Binary logistic regression analysis was employed using SPSS to examine the impact of the five core components of financial literacy they are financial attitude, financial behavior, financial knowledge, financial skills and financial awareness on multiple financial literacy outcome indicators (FL1 to FL5). Logistic regression was selected due to the dichotomous nature of the dependent variables and its suitability for estimating the likelihood of financial literacy outcomes based on individual level predictors.

4.1 Model fit and Descriptive overview

The table 1 displays the coefficients (beta values) and p-values from a binary logistic regression of financial literacy in five areas. The five financial literacy models had adequate to excellent goodness of fit. For example, the Nagelkerke R^2 ranges from 11.9% for the FL1model to 45.2% for the FL3. The Omnibus Tests of Model Coefficients produced significant chi-square values for all five models (all $p<0.01$), indicating that the full model is a better predictor than the null model. Model -2 Log Likelihoods were adequate (FL1 to FL5 were 387, 462, 348, 449, and 464, respectively).

Table 1: Results of logistic regression

Variables	FL1		FL2		FL3		FL4		FL5	
	β	'p' value	β	'p' value	β	'p' value	β	'p' value	β	'p' value
FB	-0.027	0.886	0.090	0.589	0.255	0.220	-0.074	0.653	0.201	0.246
FATT	0.030	0.894	**-0.421***	0.034	0.189	0.422	0.321	0.106	-0.035	0.861
FSKILLS	0.247	0.380	0.054	0.826	-0.035	0.903	-0.323	0.183	**-0.673****	0.007
FAWARE	-0.383	0.247	0.455	0.113	0.525	0.124	0.071	0.803	0.210	0.460
FK1	**0.984*****	0.002	-0.081	0.794	**1.065***	0.017	**0.623***	0.045	**0.754***	0.030
FK2	0.385	0.215	**0.803****	0.002	**2.287*****	0.001	**1.048*****	0.001	**0.690****	0.006
FK3	-0.367	0.328	0.674	0.072	0.799	0.147	0.446	0.230	0.506	0.231
FK4	-0.205	0.463	0.453	0.061	0.318	0.269	**0.955*****	0.001	0.297	0.234
FK5	**0.680****	0.015	**0.902*****	0.001	-0.071	0.809	-0.002	0.994	0.460	0.063
FK6	0.251	0.426	**0.600***	0.050	0.265	0.492	0.074	0.805	-0.125	0.694
FK7	0.063	0.820	**0.588***	0.020	0.001	0.998	-0.134	0.596	0.674	0.013
-2 Log likelihood	387.98		461.35		348.29		449.27		464.46	
Cox & Snell R Square	0.078		0.188		0.327		0.182		0.148	
Nagelkerke R Square	0.119		0.251		0.452		0.243		0.203	

Source: The authors

4.2 Hypothesis Testing

4.2.1 Hypothesis 1 - Financial attitude

There are coefficients for all of FLs except for the FL2, which does show a statistically significant coefficient (β=-0.421, p=0.034). Financial Attitude (FATT) has a negative relationship with FL2 meaning that an increase in the FATT score decreases the log-odds of meeting investment and savings literacy criteria. This finding contradicts the positive hypothesis (H1) and therefore H1 is rejected.

4.2.2 Hypothesis 2 - Financial behavior

Financial Behavior (FB) has no statistically significant relationship with any of the 5 dimensions of financial literacy (FL). This means there is no statistically significant association between FB and FL1 (β = -0.027, p = 0.886), FL2 (β = 0.090, p = 0.589), FL3 (β = 0.255, p = 0.220), FL4 (β = -0.074, p = 0.653), FL5 (β = 0.201, p = 0.246). The same pattern of non-significance occurs throughout all FL dimensions with p-values greater than 0.20 for even the smallest of effects, therefore, H2 has not been supported.

4.2.3 Hypothesis 3 - Financial knowledge

The collection of financial knowledge sub-dimensions has overall demonstrated the strongest and most reliable predictor for all five categories of financial literacy providing solid support for Hypothesis 3. The established pattern of the different levels of significance are as follows: FK1 acts as a significant positive predictor for FL1 (β = 0.984, p = 0.002), FL3 (β = 1.065, p = 0.017), FL4 (β = 0.623, p = 0.045), and FL5 (β = 0.754, p = 0.030), FK2 an extremely significant positive predictor for FL2 (β = 0.803, p = 0.002), FL3 (β = 2.287, p < 0.001), FL4 (β = 1.048, p = 0.001), and FL5 (β = 0.690, p = 0.006), yet FK2 had the single largest coefficient for FL3 of any predictor found within this entire model matrix. FK4 a significant positive predictor only for FL4 (β = 0.955, p = 0.001) demonstrating perfect domain alignment. FK5 significantly correlates to FL1 (β = 0.680, p = 0.015) & FL2 (β = 0.902, p = 0.001). FK6 significantly correlates to FL2 (β = 0.600, p = 0.050). FK7 significantly correlates to FL2 (β = 0.588, p = 0.020) & FL5 (β = 0.674, p = 0.013). FK3 failed to achieve any of the previous levels of significance across any of the financial literacy sub-dimensions.

4.2.4 Hypothesis 4 - Financial skill

The only statistically significant finding was related to Financial Skills (FSKILLS) and FL5, which produced a negative result (coefficient of -0.673, p=0.007). In addition to FL5, there was

no statistically significant finding regarding Financial Literacy (FL), specifically for FL1 (0.247, p=0.380), FL2 (0.054, p=0.826), FL3 (-0.035, p=0.903), and FL4 (-0.323, p=0.183). The results of the study do not support H4 and the only statistically significant result was contrary to the hypothesized positive relationship between variables.

4.2.5 Hypothesis 5 - Financial skill

The results indicate that in none of the five models (FL1, FL2, FL3, FL4 and FL5), was Financial Awareness (FAWARE) statistically significant: FL1 ($\beta = -0.383$, $p = 0.247$), FL2 ($\beta = 0.455$, $p = 0.113$), FL3 ($\beta = 0.525$, $p = 0.124$), FL4 ($\beta = 0.071$, $p = 0.803$), FL5 ($\beta = 0.210$, $p = 0.460$). Therefore, H5 is not supported. Table 2 summarizes the results of the hypothesis testing.

Table 2: Hypothesis Testing

Hypothesis	Predictor	Predicted Direction	Outcome	Key Findings
H1	FATT	Positive	Rejected (partial)	Significant negative effect on FL2 ($\beta = -0.421$, $p = 0.034$); no effect on FL1, FL3, FL4, FL5
H2	FB	Positive	Not supported	No significant effect across any of the five FL dimensions
H3	FK (FK1–FK7)	Positive	Supported	FK1, FK2, FK4, FK5, FK6, FK7 significant across FL dimensions; consistent positive effects
H4	FSKILLS	Positive	Rejected (partial)	Significant negative effect on FL5 ($\beta = -0.673$, $p = 0.007$); no effect on FL1–FL4
H5	FAWARE	Positive	Not supported	No significant effect across any of the five FL dimensions

Source: The authors

4.3 Determinants of FL

4.3.1 Determinants of FL1

FK1 and FK5 are key indicators of financial literacy level 1 (FL1) that have a statistical relationship (but not statistical significance) with each other. Specifically, FK1 has a high degree of association with FL1 ($\beta = .984$, $p < .01$) indicating that individuals who possess this particular type of financial knowledge will typically have a higher level of FL1. Likewise, FK5 has a statistically significant relationship with FL1 ($\beta = .680$, p 0.05).

On the other hand, FK2, FK3, FK4, and FK6 do not demonstrate a statistically significant relationship with FL1. Therefore, this indicates that the financial knowledge indicators independently convey more information about individuals than the behaviours or attitudes related to those indicators in determining the value of FL1.

Nagelkerke $R^2 = 0.119$ indicates that the model accounts for a relatively small amount of variance in FL1. Even though financial knowledge is a valuable predictor of FL1 there will be other driving factors affecting this outcome.

4.3.2 Determinants of FL2

Financial attitude has appeared as a powerful predictor of financial literacy second dimension (FL2), exhibiting a negative coefficient ($\beta = -0.421$, $p < 0.05$). Stronger financial attitude does not necessarily translate into FL2 competency elements; therefore, this negative relationship may suggest the existence of a possible attitude-practice gap, in which positive financial

management attitudes do not necessarily imply a use of effective knowledge. In addition, FK2 ($\beta = 0.803$, $p < 0.01$), FK5 ($\beta = 0.902$, $p < 0.01$), FK6 ($\beta = 0.600$, $p = 0.05$), and FK7 ($\beta = 0.588$, $p < 0.05$) significantly predict FL2. These financially knowledgeable elements display a positive statistically significant relationship to FL2 competency elements. Therefore, financial literacy dimensions are highly influenced by specific knowledge competencies rather than general behaviours.

The model explains more variability in FL2 than in FL1 as expressed in Nagelkerke R^2 of 0.251; hence 25% of the variance of FL2 is attributed to the measured factors within the model.

4.3.3 Determinants of FL3

In FL3's findings, FK1 and FK2 were able to statistically predict the results for this dimension. FK1 was found to have a significant positive effect on FK1 ($\beta = 1.065$, $p < 0.05$). FK2 associations with FK3 ($\beta = 2.287$, $p < 0.01$) were found to be even more significant than FK1.

Results indicate that those with higher levels of conceptual financial literacy have a higher likelihood of achieving the competencies in this dimension. However, there are no statistically significant relationships between financial behaviour, financial attitude, financial skills, and financial awareness; therefore, the main predictors of FL3 are knowledge based competencies.

The explanatory power of the model is relatively strong, demonstrating an Nagelkerke R^2 value of 0.452, meaning that approximately 45% of the variance in FL3 is accounted for by the predictors in the model.

4.3.4 Determinants of FL4

Financial Knowledge Indicators FK1 ($\beta = 0.623$, $p < 0.05$) and FK2 ($\beta = 1.048$, $p < 0.01$) are strong predictors of FL4. Moreover, FK4 has a significant positive relationship ($\beta = 0.955$, $p < 0.01$) with FL4. All other Financial Behaviour, Financial Attitude, Financial Skills and Financial Awareness were not significantly predictive of FL4, and therefore further support that objective financial knowledge indicators are the strongest predictors of financial literacy outcomes. The Nagelkerke R^2 value of 0.243 suggests moderate explanatory power of this model as it represents approximately 24% of the variation in FL4.

4.3.5 Determinants of FL5

The last model (FL5) shows that financial skill negatively influence performance by -0.673; $p < 0.01$. This means people with higher perceptions of financial skills may not actually perform as well as those with less confidence in their skills on this measure of financial literacy. One reason is self reported financial skills do not always predict how competent they actually are in terms of their financial skills and confirm the difference between perceived and actual financial capabilities.

FK1 ($\beta = 0.754$; $p < 0.05$), FK2 ($\beta = 0.690$; $p < 0.01$), FK7 ($\beta = 0.674$; $p < 0.05$) have positive statistically reliable relationships with FL5. Thus, these results confirm the significant component of financial knowledge on financial literacy performance. This moderate model (Nagelkerke $R^2 = 0.203$) explains approximately 20% of the variability of FL5.

5. DISCUSSION

The results show that financial knowledge indicators have the highest correlation with many dimensions of financial literacy while behavior and attitude have both lower and inconsistent correlations.

Based on these strong correlations between the financial knowledge variables, it is clear that objective knowledge forms the foundation of financial literacy. The more an individual understands financial concepts or how finance works, the more likely that individual will have an ability to make competent financial decisions.

5.1 Theoretical contributions

In several ways, this research adds to the financial literacy and behavioral finance literature. First, this research expands the Theory of Planned Behavior's application to financial literacy by providing an empirical analysis of attitude and behavior relative to objective measures of knowledge. Second, this empirical research provides evidence that the different dimensions of financial literacy are influenced by different types of knowledge. Financial literacy is not a unitary construct and that very specific indicators of knowledge can play a major role in predicting multiple literacy outcomes. The fact that financial literacy has multiple dimensions enhances the understanding of the concept and reinforces the need to assess its components.

Second, this empirical research provides evidence that the different dimensions of financial literacy are influenced by different types of knowledge. Financial literacy is not a unitary construct and that very specific indicators of knowledge can play a major role in predicting multiple literacy outcomes. The fact that financial literacy has multiple dimensions enhances our understanding of the concept and reinforces the need to assess its components.

5.2 Practical implications

The results of this study have implications for policy-makers, educators, and financial institutions working to improve financial literacy. First, there is a need to strengthen financial knowledge through targeted financial education initiatives, such as educational programs that focus on core financial concepts, including budgeting, saving, risk management and investing. Educational programs that provide participants with a thorough understanding of these core concepts will lead to improved financial literacy and better decision-making.

Second, the limited effect of behavioral and attitudinal factors suggests that simply running awareness campaigns may not be sufficient to increase financial literacy. While it is important to promote positive financial attitudes, effective programs should consist of a combination of behavioral interventions and structured financial education designed to develop an understanding of concepts related to financial literacy.

Finally, policy makers and educators have to consider developing policies that incorporate financial literacy modules into formal education and professional development programs. Integrating these types of programs into existing formal education and professional development will allow individuals to develop the knowledge and skills they need to manage their finances effectively. By ensuring that working professionals and educators have strong financial knowledge, there may be positive spill-over effects from financially knowledgeable individuals to others in their household and community.

5.3 Limitations and suggestions for future research

Even though this study has made a contribution, there are limitations to the findings that should be mentioned. One main limitation is that the analysis has been done using only a few features of behavior and knowledge related to financial literacy. There are many other potential predictors of financial literacy, including demographic factors, socio-economic status, psychological variables, and the influence of institutions that are not included in this model.

Another limitation of this study is that it uses cross-sectional data, which prohibits making any causal statements about the relationship of the variables with one another. Longitudinal studies would allow researchers to learn more about how financial attitudes, behaviours, and knowledge change and develop over time and the impact those changes have on financial literacy development.

Lastly, there may be a gap between what an individual believes they can do with money and their actual level of financial literacy based on the results of this study. Further research could use financial self-efficacy, perceived financial control, and overconfidence in making financial decisions/purchases to examine the connection between perceived versus actual financial capability.

Further research can also be conducted to investigate financial literacy in different occupational sectors, socio-economic environments, and geographic areas to provide a better understanding of how contextual factors influence an individual's financial capability. Research conducted in these areas will assist in developing targeted financial literacy education policies that will be most effective in helping individuals achieve better financial well-being.

5.4 Conclusion

The purpose of this research is to investigate what affects the five dimensions of financial literacy (FL1 – FL5) using logistic regression analysis. The study found that variables reflecting financial knowledge had the greatest influence on all of the models, especially FK1, FK2, FK4, FK5, FK7, which had strong positive correlations with all of the financial literacy dimensions measured. Thus, objective financial knowledge is a key determinant of financial literacy outcomes. On the other hand, the broader financial capability components of financial behaviour, financial attitude, financial skill, and financial awareness had little or no impact on financial literacy. The presence of negative relationships for financial attitude and financial skill suggests that there may be a disconnect between perceived financial capabilities and actual financial knowledge.

This study demonstrates that strengthening financial knowledge through structured financial education programs is essential in improving financial literacy, which in turn enhances the ability to make informed financial decisions. Future research should include additional aspects of behaviours and psychological factors in order to better explain variation in levels of financial literacy.

References

1) Agarwalla, S. K., Barua, S. K., Jacob, J., & Varma, J. R. (2015). Financial Literacy among Working Young in Urban India. *World Development*, *67*, 101–109. https://doi.org/10.1016/j.worlddev.2014.10.004

2) Agnew, S., & Harrison, N. (2015). Financial literacy and student attitudes to debt: A cross national study examining the influence of gender on personal finance concepts. *Journal of Retailing and Consumer Services*, *25*, 122–129. https://doi.org/10.1016/j.jretconser.2015.04.006

3) Ajzen, I. (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Processes*, *50*(2), 179–211. https://doi.org/10.1016/0749-5978(91)90020-T

4) Ajzen, I. (2012). The Theory of Planned Behavior. In P. Van Lange, A. Kruglanski, & E. Higgins, *Handbook of Theories of Social Psychology: Volume 1* (pp. 438–459). SAGE Publications Ltd. https://doi.org/10.4135/9781446249215.n22

5) Ajzen, I., Joyce, N., Sheikh, S., & Cote, N. G. (2011). Knowledge and the Prediction of Behavior: The Role of Information Accuracy in the Theory of Planned Behavior. *Basic and Applied Social Psychology*, *33*(2), 101–117. https://doi.org/10.1080/01973533.2011.568834

6) Allgood, S., & Walstad, W. B. (2016). THE EFFECTS OF PERCEIVED AND ACTUAL FINANCIAL LITERACY ON FINANCIAL BEHAVIORS. *Economic Inquiry*, *54*(1), 675–697. https://doi.org/10.1111/ecin.12255

7) Almenberg, J., & Dreber, A. (2015). Gender, stock market participation and financial literacy. *Economics Letters*, *137*, 140–142. https://doi.org/10.1016/j.econlet.2015.10.009

8) Al-Okaily, M., Alqudah, H., Al-Qudah, A. A., Al-Qadi, N. S., Elrehail, H., & Al-Okaily, A. (2023). Does financial awareness increase the acceptance rate for financial inclusion? An empirical examination in the era of digital transformation. *Kybernetes*, *52*(11), 4876–4896. https://doi.org/10.1108/K-08-2021-0710

9) Amagir, A., Groot, W., Maassen Van Den Brink, H., & Wilschut, A. (2018). A review of financial-literacy education programs for children and adolescents. *Citizenship, Social and Economics Education*, *17*(1), 56–80. https://doi.org/10.1177/2047173417719555

10) Apicella, G., De Giorgi, E., Di Lorenzo, E., & Sibillo, M. (2024). Gender-inclusive financial and demographic literacy: Monetizing the gender mortality gap. *Applied Stochastic Models in Business and Industry*, *40*(4), 1082–1104. https://doi.org/10.1002/asmb.2876

11) Arjun, T. P., & Subramanian, R. (2024). Defining and measuring financial literacy in the Indian context: A systematic literature review. *Managerial Finance*, *50*(7), 1247–1269. https://doi.org/10.1108/MF-08-2022-0358

12) Arora, A. (2016). Assessment of financial literacy among working Indian women. *Business Analyst*, *36*(2), 219–237.

13) Atkinson, A., & Messy, F.-A. (2011). Assessing financial literacy in 12 countries: An OECD/INFE international pilot exercise. *Journal of Pension Economics and Finance*, *10*(4), 657–665. https://doi.org/10.1017/S1474747211000539

14) Baker, H. K., Kumar, S., Goyal, N., & Gaur, V. (2019). How financial literacy and demographic variables relate to behavioral biases. *Managerial Finance*, *45*(1), 124–146. https://doi.org/10.1108/MF-01-2018-0003

15) Baker, H. K., Tomar, S., Kumar, S., & Verma, D. (2021). Are Indian professional women financially literate and prepared for retirement? *Journal of Consumer Affairs*, *55*(4), 1416–1441. https://doi.org/10.1111/joca.12332

16) Balasubramnian, B., & Sargent, C. S. (2020). Impact of inflated perceptions of financial literacy on financial decision making. *Journal of Economic Psychology*, *80*, 102306. https://doi.org/10.1016/j.joep.2020.102306

17) Bannier, C. E., & Neubert, M. (2016). Gender differences in financial risk taking: The role of financial literacy and risk tolerance. *Economics Letters*, *145*, 130–135. https://doi.org/10.1016/j.econlet.2016.05.033

18) Banthia, D., & Dey, S. K. (2022). Impact of Financial Knowledge, Financial Attitude and Financial Behaviour on Financial Literacy: Structural Equitation Modeling Approach. *Universal Journal of Accounting and Finance*, *10*(1), 327–337. https://doi.org/10.13189/ujaf.2022.100133

19) Basu, A. K., & Dulleck, U. (2020). Why do (some) consumers purchase complex financial products? An experimental study on investment in hybrid securities. *Economic Analysis and Policy*, *67*, 203–220. https://doi.org/10.1016/j.eap.2020.07.005

20) Beal, D. J., & Delpachitra, S. B. (2003). Financial literacy among Australian University students, *Economic Papers: A Journal of Applied Economics and Policy*, *22*(1), 65–78. https://doi.org/10.1111/j.1759-3441.2003.tb00337.x

21) Białowolski, P., Cwynar, A., Cwynar, W., & Węziak-Białowolska, D. (2020). Consumer debt attitudes: The role of gender, debt knowledge and skills. *International Journal of Consumer Studies*, *44*(3), 191–205. https://doi.org/10.1111/ijcs.12558

22) Bomanwar, P. (2020). *NATIONAL Strategy for financial education (2020-25*. https://policycommons.net/artifacts/3865659/national-strategy-for-financial-education-2020-25/4671612/

23) Bongomin, G. O. C., Munene, J. C., Ntayi, J. M., & Malinga, C. A. (2018). Nexus between financial literacy and financial inclusion: Examining the moderating role of cognition from a developing country perspective. *International Journal of Bank Marketing*, *36*(7), 1190–1212. https://doi.org/10.1108/IJBM-08-2017-0175

24) Bover, O., Hospido, L., & Villanueva, E. (2024). The Impact of High School Financial Education on Financial Knowledge and Saving Choices: Evidence from a Randomized Trial in Spain. *Journal of Human Resources*, 0720-11049R2. https://doi.org/10.3368/jhr.0720-11049R2

25) Braunstein, S., & Welch, C. (2002). Financial literacy: An overview of practice, research, and policy. *Fed. Res. Bull.*, *88*, 445.

26) Bucher-Koenen, T., Alessie, R., Lusardi, A., & Van Rooij, M. (2025). Fearless Woman: Financial Literacy, Confidence, and Stock Market Participation. *Management Science*, *71*(9), 7414–7430. https://doi.org/10.1287/mnsc.2023.00425

27) Bucher-Koenen, T., Lusardi, A., Alessie, R., & Van Rooij, M. (2017). How Financially Literate Are Women? An Overview and New Insights. *Journal of Consumer Affairs*, *51*(2), 255–283. https://doi.org/10.1111/joca.12121

28) Butera, F., Batruch, A., Autin, F., Mugny, G., Quiamzade, A., & Pulfrey, C. (2021). Teaching as Social Influence: Empowering Teachers to Become Agents of Social Change. *Social Issues and Policy Review*, *15*(1), 323–355. https://doi.org/10.1111/sipr.12072

29) Cardak, B. A., & Wilkins, R. (2009). The determinants of household risky asset holdings: Australian evidence on background risk and other factors. *Journal of Banking & Finance*, *33*(5), 850–860.

30) Chen, H., & Volpe, R. P. (1998). An Analysis of Personal Financial Literacy Among College Students. *Financial Services Review*, *7*(2), 107–128. https://doi.org/10.1016/S1057-0810(99)80006-7

31) Churchill, G. A., & Iacobucci, D. (2004). *Marketing research: Methodological foundations* (Vol. 199). Dryden Press New York. https://www.academia.edu/download/30354987/mr_syllabus_2006.pdf

32) Cochran, W. G., & Cochran, W. G. (1977). *Sampling techniques* (3. ed). Wiley.

33) Compen, B., De Witte, K., Declercq, K., & Schelfhout, W. (2023). Improving students' financial literacy by training teachers using an online professional development module. *Education Economics*, *31*(1), 77–101. https://doi.org/10.1080/09645292.2022.2035322

34) Creswell, J. W., & Creswell, J. D. (2009). *Research design: Qualitative, quantitative, and mixed methods approaches*. Sage publications.

35) Cupák, A., Fessler, P., Schneebaum, A., & Silgoner, M. (2018). Decomposing gender gaps in financial literacy: New international evidence. *Economics Letters*, *168*, 102–106. https://doi.org/10.1016/j.econlet.2018.04.004

36) Dhar, R., & Zhu, N. (2006). Up Close and Personal: Investor Sophistication and the Disposition Effect. *Management Science*, *52*(5), 726–740. https://doi.org/10.1287/mnsc.1040.0473

37) Fenton-O'Creevy, M., & Furnham, A. (2022). Money attitudes, financial capabilities, and impulsiveness as predictors of wealth accumulation. *PLOS ONE*, *17*(11), e0278047. https://doi.org/10.1371/journal.pone.0278047

38) Fernandes, D., Lynch, J. G., & Netemeyer, R. G. (2014). Financial Literacy, Financial Education, and Downstream Financial Behaviors. *Management Science*, *60*(8), 1861–1883. https://doi.org/10.1287/mnsc.2013.1849

39) García Mata, O. (2021). The effect of financial literacy and gender on retirement planning among young adults. *International Journal of Bank Marketing*, *39*(7), 1068–1090. https://doi.org/10.1108/IJBM-10-2020-0518

40) Garg, N., & Singh, S. (2018). Financial literacy among youth. *International Journal of Social Economics*, *45*(1), 173–186. https://doi.org/10.1108/IJSE-11-2016-0303

41) Goyal, K., & Kumar, S. (2021). Financial literacy: A systematic review and bibliometric analysis. *International Journal of Consumer Studies*, *45*(1), 80–105. https://doi.org/10.1111/ijcs.12605

42) Grable, J., & Lytton, R. H. (1999). Financial risk tolerance revisited: The development of a risk assessment instrument. *Financial Services Review*, *8*(3). https://doi.org/10.1016/S1057-0810(99)00041-4

43) Haag, L., & Brahm, T. (2025). The Gender Gap in Economic and Financial Literacy: A Review and Research Agenda. *International Journal of Consumer Studies*, *49*(2), e70031. https://doi.org/10.1111/ijcs.70031

44) Hamid, F. S., & Loke, Y. J. (2021). Financial literacy, money management skill and credit card repayments. *International Journal of Consumer Studies*, *45*(2), 235–247. https://doi.org/10.1111/ijcs.12614

45) Hasler, A., & Lusardi, A. (2017). The gender gap in financial literacy: A global perspective. *Global Financial Literacy Excellence Center, The George Washington University School of Business*, 2–16.

46) Holzmann, R. (2010). Bringing Financial Literacy and Education to Low and Middle Income Countries: The Need to Review, Adjust, and Extend Current Wisdom. *SSRN Electronic Journal*. https://doi.org/10.2139/ssrn.1663134

47) Howlett, E., Kees, J., & Kemp, E. (2008). The Role of Self-Regulation, Future Orientation, and Financial Knowledge in Long-Term Financial Decisions. *Journal of Consumer Affairs*, *42*(2), 223–242. https://doi.org/10.1111/j.1745-6606.2008.00106.x

48) Huston, S. J. (2010). Measuring Financial Literacy. *Journal of Consumer Affairs*, *44*(2), 296–316. https://doi.org/10.1111/j.1745-6606.2010.01170.x

49) Huston, S. J. (2012). Financial literacy and the cost of borrowing. *International Journal of Consumer Studies*, *36*(5), 566–572. https://doi.org/10.1111/j.1470-6431.2012.01122.x

50) Hwang, H., & Park, H. I. (2023). The relationships of financial literacy with both financial behavior and financial well-being: Meta-analyses based on the selective literature review. *Journal of Consumer Affairs*, *57*(1), 222–244. https://doi.org/10.1111/joca.12497

51) Ingale, K. K., & Paluri, R. A. (2022). Financial literacy and financial behaviour: A bibliometric analysis. *Review of Behavioral Finance*, *14*(1), 130–154. https://doi.org/10.1108/RBF-06-2020-0141

52) Jorgensen, B. L., & Savla, J. (2010). Financial Literacy of Young Adults: The Importance of Parental Socialization. *Family Relations*, *59*(4), 465–478. https://doi.org/10.1111/j.1741-3729.2010.00616.x

53) Kadoya, Y., & Khan, M. S. R. (2018). Can financial literacy reduce anxiety about life in old age? *Journal of Risk Research*, *21*(12), 1533–1550. https://doi.org/10.1080/13669877.2017.1313760

54) Kadoya, Y., & Khan, M. S. R. (2020). Financial Literacy in Japan: New Evidence Using Financial Knowledge, Behavior, and Attitude. *Sustainability*, *12*(9), 3683. https://doi.org/10.3390/su12093683

55) Katnic, I., Katnic, M., Orlandic, M., Radunovic, M., & Mugosa, I. (2024). Understanding the Role of Financial Literacy in Enhancing Economic Stability and Resilience in Montenegro: A Data-Driven Approach. *Sustainability*, *16*(24), 11065. https://doi.org/10.3390/su162411065

56) Kawamura, T., Mori, T., Motonishi, T., & Ogawa, K. (2021). Is Financial Literacy Dangerous? Financial Literacy, Behavioral Factors, and Financial Choices of Households. *Journal of the Japanese and International Economies*, *60*, 101131. https://doi.org/10.1016/j.jjie.2021.101131

57) Keshavammaiah, P. H., Kannan, B., Parayitam, S., & Papenhausen, C. K. (2026). Digital Financial Literacy and Economic Sustainability in Homestay Businesses in India: A Three-Way Interaction Model. *Journal of Risk and Financial Management*, *19*(2), 95. https://doi.org/10.3390/jrfm19020095

58) Kiril, K. (2020). *OECD/INFE 2020 International Survey of Adult Financial Literacy*.

59) Klapper, L., & Lusardi, A. (2020). Financial literacy and financial resilience: Evidence from around the world. *Financial Management*, *49*(3), 589–614. https://doi.org/10.1111/fima.12283

60) Klapper, L., Lusardi, A., & Van Oudheusden, P. (2015). Financial literacy around the world. *World Bank. Washington DC: World Bank*, *2*, 218–237.

61) Li, X. (2020). When financial literacy meets textual analysis: A conceptual review. *Journal of Behavioral and Experimental Finance*, *28*, 100402. https://doi.org/10.1016/j.jbef.2020.100402

62) Liu, T., Fan, M., Li, Y., & Yue, P. (2024). Financial literacy and household financial resilience. *Finance Research Letters*, *63*, 105378. https://doi.org/10.1016/j.frl.2024.105378

63) Llados-Masllorens, J., & Ruiz-Dotras, E. (2022). Are women's entrepreneurial intentions and motivations influenced by financial skills? *International Journal of Gender and Entrepreneurship*, *14*(1), 69–94. https://doi.org/10.1108/IJGE-01-2021-0017

64) Lone, U. M., & Bhat, S. A. (2024). Impact of financial literacy on financial well-being: A mediational role of financial self-efficacy. *Journal of Financial Services Marketing*, *29*(1), 122–137. https://doi.org/10.1057/s41264-022-00183-8

65) Long, T. Q., & Tue, N. D. (2024). Financial Knowledge and Short- and Long-Term Financial Behavior Across Gender and Generations: Evidence from Japan. *Sage Open*, *14*(4), 21582440241295846. https://doi.org/10.1177/21582440241295846

66) Lührmann, M., Serra-Garcia, M., & Winter, J. (2015). Teaching teenagers in finance: Does it work? *Journal of Banking & Finance*, *54*, 160–174.

67) Lusardi, A. (2008). *Financial literacy: An essential tool for informed consumer choice?* National Bureau of Economic Research. https://www.nber.org/papers/w14084

68) Lusardi, A. (2015a). Financial literacy: Do people know the *ABCs* of finance? *Public Understanding of Science*, *24*(3), 260–271. https://doi.org/10.1177/0963662514564516

69) Lusardi, A. (2015b). Financial Literacy Skills for the 21st Century: Evidence from PISA. *Journal of Consumer Affairs*, *49*(3), 639–659. https://doi.org/10.1111/joca.12099

70) Lusardi, A. (2019). Financial literacy and the need for financial education: Evidence and implications. *Swiss Journal of Economics and Statistics*, *155*(1), 1. https://doi.org/10.1186/s41937-019-0027-5

71) Lusardi, A., & Mitchell, O. S. (2007). Financial literacy and retirement planning: New evidence from the Rand American Life Panel. *Michigan Retirement Research Center Research Paper No. WP*, *157*. https://papers.ssrn.com/sol3/papers.cfm?abstract_id=1095869

72) Lusardi, A., & Mitchell, O. S. (2008). Planning and Financial Literacy: How Do Women Fare? *American Economic Review*, *98*(2), 413–417. https://doi.org/10.1257/aer.98.2.413

73) Lusardi, A., & Mitchell, O. S. (2009). Financial literacy: Evidence and implications for financial education. *Trends and Issues*, 1–10.

74) Lusardi, A., & Mitchell, O. S. (2011a). *Financial Literacy and Planning: Implications for Retirement Wellbeing* (Working Paper No. 17078). National Bureau of Economic Research. https://doi.org/10.3386/w17078

75) Lusardi, A., & Mitchell, O. S. (2011b). Financial literacy around the world: An overview. *Journal of Pension Economics and Finance*, *10*(4), 497–508. https://doi.org/10.1017/S1474747211000448

76) Lusardi, A., & Mitchell, O. S. (2014). The Economic Importance of Financial Literacy: Theory and Evidence. *Journal of Economic Literature*, *52*(1), 5–44. https://doi.org/10.1257/jel.52.1.5

77) Lusardi, A., Mitchell, O. S., & Curto, V. (2010). Financial Literacy among the Young. *Journal of Consumer Affairs*, *44*(2), 358–380. https://doi.org/10.1111/j.1745-6606.2010.01173.x

78) Lusardi, A., Mitchell, O. S., & Curto, V. (2014). Financial literacy and financial sophistication in the older population. *Journal of Pension Economics and Finance*, *13*(4), 347–366. https://doi.org/10.1017/S1474747214000031

79) Maaranen, K., & Afdal, H. W. (2022). Exploring Teachers' Professional Space Using the Cases of Finland, Norway and the US. *Scandinavian Journal of Educational Research*, *66*(1), 134–149. https://doi.org/10.1080/00313831.2020.1851760

80) Maheshwari, H., Samantaray, A. K., Panigrahi, R. R., & Jena, L. K. (2025). Financial literacy in predicting investment decisions: Do attitude and overconfidence influence? *International Journal of Social Economics*, *52*(2), 220–235. https://doi.org/10.1108/IJSE-05-2023-0370

81) Mancebón-Torrubia, M. J., Ximénez-de-Embún, D. P., & Álvarez-Farizo, B. (2024). The drivers of adult financial literacy: Exploring the role of attitudes towards finance. *European Journal of Education*, *59*(4), e12712. https://doi.org/10.1111/ejed.12712

82) MASON, C.L.J, & WILSON, R.M.S. (2000, November). *Conceptualising nancial literacy*. Business School Research Series.

83) Mawad, J. L., Athari, S. A., Khalife, D., & Mawad, N. (2022). Examining the Impact of Financial Literacy, Financial Self-Control, and Demographic Determinants on Individual Financial Performance and Behavior: An Insight from the Lebanese Crisis Period. *Sustainability*, *14*(22), 15129. https://doi.org/10.3390/su142215129

84) Méndez Prado, S. M., Zambrano Franco, M. J., Zambrano Zapata, S. G., Chiluiza García, K. M., Everaert, P., & Valcke, M. (2022). A Systematic Review of Financial Literacy Research in Latin America and The Caribbean. *Sustainability*, *14*(7), 3814. https://doi.org/10.3390/su14073814

85) Mishra, D., Agarwal, N., Sharahiley, S., & Kandpal, V. (2024). Digital Financial Literacy and Its Impact on Financial Decision-Making of Women: Evidence from India. *Journal of Risk and Financial Management*, *17*(10), 468. https://doi.org/10.3390/jrfm17100468

86) Nga, J. K. H., Yong, L. H. L., & Sellappan, R. D. (2010). A study of financial awareness among youths. *Young Consumers*, *11*(4), 277–290. https://doi.org/10.1108/17473611011093916

87) OECD. (2012). *Measuring Financial Literacy: Results of the OECD / International Network on Financial Education (INFE) Pilot Study* (OECD Working Papers on Finance, Insurance and Private Pensions No. 15; OECD Working Papers on Finance, Insurance and Private Pensions, Vol. 15). https://doi.org/10.1787/5k9csfs90fr4-en

88) OECD. (2022). *OECD/INFE Toolkit for Measuring Financial Literacy and Financial Inclusion 2022*. OECD. https://doi.org/10.1787/cbc4114f-en

89) Paluri, R. A., & Mehra, S. (2016). Financial attitude based segmentation of women in India: An exploratory study. *International Journal of Bank Marketing*, *34*(5), 670–689. https://doi.org/10.1108/IJBM-05-2015-0073

90) Pham, K. D., & Le, V. L. T. (2023). Nexus between Financial Education, Literacy, and Financial Behavior: Insights from Vietnamese Young Generations. *Sustainability*, *15*(20), 14854. https://doi.org/10.3390/su152014854

91) Philippas, N. D., & Avdoulas, C. (2020). Financial literacy and financial well-being among generation-Z university students: Evidence from Greece. *The European Journal of Finance*, *26*(4–5), 360–381. https://doi.org/10.1080/1351847X.2019.1701512

92) Potrich, A. C. G., Vieira, K. M., & Kirch, G. (2018). How well do women do when it comes to financial literacy? Proposition of an indicator and analysis of gender differences. *Journal of Behavioral and Experimental Finance*, *17*, 28–41. https://doi.org/10.1016/j.jbef.2017.12.005

93) Preston, A. C., & Wright, R. E. (2019). Understanding the Gender Gap in Financial Literacy: Evidence from Australia. *Economic Record*, *95*(S1), 1–29. https://doi.org/10.1111/1475-4932.12472

94) Qian, Y., Tan, W., & Wu, J. (2024). Household financial literacy and retirement planning in rural China. *International Review of Financial Analysis*, *93*, 103130. https://doi.org/10.1016/j.irfa.2024.103130

95) Rai, K., Dua, S., & Yadav, M. (2019). Association of Financial Attitude, Financial Behaviour and Financial Knowledge Towards Financial Literacy: A Structural Equation Modeling Approach. *FIIB Business Review*, *8*(1), 51–60. https://doi.org/10.1177/2319714519826651

96) RBI, O., SEBI, IRDAI, PFRDA. (2019). *National strategy for financial education 2020-2025*.

97) Remund, D. L. (2010). Financial Literacy Explicated: The Case for a Clearer Definition in an Increasingly Complex Economy. *Journal of Consumer Affairs*, *44*(2), 276–295. https://doi.org/10.1111/j.1745-6606.2010.01169.x

98) Robson, J., & Peetz, J. (2020). Gender differences in financial knowledge, attitudes, and behaviors: Accounting for socioeconomic disparities and psychological traits. *Journal of Consumer Affairs*, *54*(3), 813–835. https://doi.org/10.1111/joca.12304

99) Rosenkranz, P., & Melchor, M. (2022). Asia's financial interconnectedness: Evolution, implications, and insights from past crises. *Economic Analysis and Policy*, *76*, 685–707. https://doi.org/10.1016/j.eap.2022.08.024

100) Sahi, S. K. (2023). Understanding gender differences in money attitudes: Biological and psychological gender perspective. *International Journal of Bank Marketing*, *41*(3), 619–640. https://doi.org/10.1108/IJBM-08-2022-0352

101) Saini, S., Sharma, T., & Parayitam, S. (2025). Financial awareness, investment strategies and investor satisfaction: A multilayered empirical model testing in the Indian context. *South Asian Journal of Business Studies*, *14*(1), 31–53. https://doi.org/10.1108/SAJBS-02-2023-0039

102) Sayinzoga, A., Bulte, E. H., & Lensink, R. (2016). Financial Literacy and Financial Behaviour: Experimental Evidence from Rural Rwanda. *The Economic Journal*, *126*(594), 1571–1599. https://doi.org/10.1111/ecoj.12217

103) Sekita, S. (2011). Financial literacy and retirement planning in Japan. *Journal of Pension Economics and Finance*, *10*(4), 637–656. https://doi.org/10.1017/S1474747211000527

104) Shi, W., Ali, M., & Leong, C.-M. (2025). Dynamics of personal financial management: A bibliometric and systematic review on financial literacy, financial capability and financial behavior. *International Journal of Bank Marketing*, *43*(1), 125–165. https://doi.org/10.1108/IJBM-06-2023-0359

105) Shim, S., Xiao, J. J., Barber, B. L., & Lyons, A. C. (2009). Pathways to life success: A conceptual model of financial well-being for young adults. *Journal of Applied Developmental Psychology*, *30*(6), 708–723. https://doi.org/10.1016/j.appdev.2009.02.003

106) Silinskas, G., Ahonen, A. K., & Wilska, T. (2023). School and family environments promote adolescents' financial confidence: Indirect paths to financial literacy skills in Finnish PISA 2018. *Journal of Consumer Affairs*, *57*(1), 593–618. https://doi.org/10.1111/joca.12513

107) Sobieszczyk, T., Knodel, J., & Chayovan, N. (2003). Gender and wellbeing among older people: Evidence from Thailand. *Ageing and Society*, *23*(6), 701–735. https://doi.org/10.1017/S0144686X03001429

108) Sonsino, D., Shifrin, M., & Lahav, E. (2023). Gender differences in the stability of trust and risk-taking. *Journal of Trust Research*, *13*(2), 223–251. https://doi.org/10.1080/21515581.2023.2199023

109) Sundarasen, S., Rajagopalan, U., Kanapathy, M., & Kamaludin, K. (2023). Women's financial literacy: A bibliometric study on current research and future directions. *Heliyon*, *9*(12), e21379. https://doi.org/10.1016/j.heliyon.2023.e21379

110) Sunderaraman, P., Chapman, S., Barker, M. S., & Cosentino, S. (2020). Self-awareness for financial decision-making abilities in healthy adults. *PLOS ONE*, *15*(7), e0235558. https://doi.org/10.1371/journal.pone.0235558

111) Van Nguyen, H., Ha, G. H., Nguyen, D. N., Doan, A. H., & Phan, H. T. (2022). Understanding financial literacy and associated factors among adult population in a low-middle income country. *Heliyon*, *8*(6), e09638. https://doi.org/10.1016/j.heliyon.2022.e09638

112) Van Rooij, M. C. J., Lusardi, A., & Alessie, R. J. M. (2012). Financial Literacy, Retirement Planning and Household Wealth. *The Economic Journal*, *122*(560), 449–478. https://doi.org/10.1111/j.1468-0297.2012.02501.x

113) Van Rooij, M., Lusardi, A., & Alessie, R. (2011). Financial literacy and stock market participation. *Journal of Financial Economics*, *101*(2), 449–472. https://doi.org/10.1016/j.jfineco.2011.03.006

114) Ventre, V., Martino, R., & Muñoz Torrecillas, M. J. (2024). Relationship between an inconsistent degree of financial literacy and inconsistent decision-making in intertemporal choices. *Heliyon*, *10*(5), e27253. https://doi.org/10.1016/j.heliyon.2024.e27253

115) Warchlewska, A. (2024). Interdisciplinary Approach to Consumer Financial Behavior: Developing a Conceptual Framework. *International Journal of Consumer Studies*, *48*(6), e13091. https://doi.org/10.1111/ijcs.13091

116) Widjayanti, C. E., Adawiyah, W. R., & Sudarto. (2025). Financial literacy innovation is mediated by financial attitudes and lifestyles on financial behavior in MSME players. *Journal of Innovation and Entrepreneurship*, *14*(1), 57. https://doi.org/10.1186/s13731-025-00525-5

117) Zaimovic, A., Torlakovic, A., Arnaut-Berilo, A., Zaimovic, T., Dedovic, L., & Nuhic Meskovic, M. (2023). Mapping Financial Literacy: A Systematic Literature Review of Determinants and Recent Trends. *Sustainability*, *15*(12), 9358. https://doi.org/10.3390/su15129358