

## UNDERSTANDING STUDENTS' FINANCIAL BEHAVIOR THROUGH LIFESTYLE AND OPEN INNOVATION PERSPECTIVES

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### ABSTRACT

*The prior studies report inconsistent results, indicating a persistent knowledge-behavior gap. Addressing this gap, this study examines the roles of financial attitude and lifestyle as mediating mechanisms linking financial literacy to students' financial behavior, grounded in the Theory of Planned Behavior and an open innovation perspective. The study aims to analyze the direct and indirect effects of financial literacy on financial behavior among university students. Data were collected from 398 students across public and private universities and analyzed using PLS-SEM with SmartPLS 4. Measurement model assessment confirmed adequate reliability and validity, followed by structural model and mediation analyses. The results indicate that financial literacy has significant positive effects on financial attitude, lifestyle, and financial behavior. However, lifestyle emerges as the strongest predictor and the only significant mediator, while financial attitude does not mediate the literacy behavior relationship. These findings demonstrate that financial behavior is shaped more by daily consumption patterns than by attitudinal factors alone. This study contributes by extending TPB within an open innovation and complexity framework, emphasizing lifestyle based mechanisms as a key pathway for transforming financial knowledge into actual behavior.*

## INTRODUCTION

The rapid digitalization of financial services over the past decade has fundamentally transformed the way individuals manage personal finances. The widespread adoption of mobile banking, e-wallets, digital payment platforms, and other financial technologies has reduced transaction costs and increased convenience, speed, and accessibility (Rani, Guru, Santhanam, & Mitra, 2025). While these innovations contribute to financial inclusion and efficiency, they also introduce new challenges by increasing the complexity of financial decision-making. Individuals are now confronted with diverse financial products, promotional mechanisms, and embedded costs that are often opaque and cognitively demanding (Kaur & Sahni, 2025; Pandey, 2024). In this context, financial literacy has become a critical capability for ensuring sound financial decisions and long-term financial well-being.

Financial literacy is commonly defined as a multidimensional construct encompassing financial knowledge, skills, attitudes, and behaviors that enable individuals to make informed financial decisions (Wang & Zou, 2024). International evidence consistently demonstrates that higher levels of financial literacy are associated with improved financial outcomes, such as better saving behavior, lower indebtedness, and enhanced financial resilience (Marconi, Marinucci, & Paladino, 2025; OECD, 2025). However, an important limitation in the literature is the recurring gap between financial knowledge and actual financial behavior. Possessing financial knowledge does not automatically translate into prudent financial actions, particularly in environments characterized by high consumption stimuli and frictionless digital transactions.

University students represent a strategically important population for examining this issue. As individuals in the transitional phase of emerging adulthood, students increasingly exercise autonomy over daily financial decisions while often operating under income constraints (Vaghela, Kapadia, Patel, & Patil, 2023). At the same time, students tend to exhibit high levels of digital engagement and exposure to online consumption environments. This combination creates a vulnerable condition in which financial autonomy expands faster than financial capability, increasing the risk of impulsive spending, insufficient saving, and weak budgeting practices (Isaga, 2025). Financial behaviors developed during this stage are likely to persist into later adulthood, underscoring the importance of understanding their determinants.

The financial decision-making environment faced by students is further shaped by a digital open innovation ecosystem. Open innovation theory emphasizes the rapid diffusion of knowledge and technologies across organizational and social boundaries (Başar, Keskin, Esen, Merter, & Balcıoğlu, 2025). Within the financial domain, this is reflected in the continuous introduction of new FinTech features, user centered designs, and promotional incentives that encourage frequent usage. While these innovations enhance accessibility, they also intensify consumption cues and reduce the salience of financial consequences. Consequently, student financial behavior is influenced not only by internal competencies, such as financial literacy, but also by external structural and contextual forces embedded in digital platforms.

The persistent discrepancy between financial literacy and financial behavior highlights the need for stronger theoretical explanations. The Theory of Planned Behavior

(TPB) offers a robust framework for addressing this issue by positing that behavior is determined by intention, which is shaped by attitude toward the behavior, subjective norms, and perceived behavioral control (Widjaja, Arifin, & Setini, 2020). Within this framework, financial literacy may influence behavior indirectly by shaping favorable financial attitudes and enhancing individuals' perceived ability to control their financial actions (Thanki, Tripathy, & Shah, 2025). Thus, models that treat financial literacy as a purely direct determinant risk overlooking critical psychological and contextual mechanisms.

Financial attitude plays a central role in this process. It reflects an individual's evaluative orientation toward money management practices, including saving, planning, self-discipline, and long-term financial goals. A positive financial attitude aligns closely with TPB's attitudinal component and increases the likelihood that individuals will translate knowledge into consistent financial behavior. Students who perceive financial planning and saving as valuable are more likely to resist consumption pressures and maintain financial discipline, even in digitally intensive environments.

Lifestyle constitutes another key factor influencing financial behavior (Isaga, 2025). Lifestyle captures patterns of consumption, daily activities, and social interaction shaped by cultural norms, peer influence, and market dynamics (Vaghela et al., 2023). In highly digitalized settings, lifestyle is closely intertwined with technology enabled consumption, such as online shopping, subscription services, and cashless payments. From a TPB perspective, lifestyle affects perceived behavioral control by shaping situational constraints and opportunities. A consumption-oriented lifestyle may weaken self-regulation and increase impulsive financial behavior, even among individuals with adequate financial knowledge.

Empirical studies increasingly suggest that financial literacy does not always exert the strongest direct effect on financial behavior, particularly among younger populations. Attitudinal and contextual variables often emerge as more proximate determinants of financial actions. This evidence underscores the importance of integrating psychological and lifestyle related factors into explanatory models of student financial behavior, especially in rapidly digitalizing economies.

In Indonesia, research on student financial behavior has grown but remains largely concentrated on single institutions or homogeneous samples, limiting generalizability (Khalisharani, Johan, & Sabri, 2022; Kusumawardhani, Mubarakah, Prihatin, & Hartono, 2025; Megananda & Faturohman, 2022; Utami, Pradana, & Hidayat, 2025). South Sumatra Province, particularly Palembang, offers a relevant empirical context due to its accelerating digital transformation and heterogeneous student population across public and private universities. Examining financial behavior in this setting allows for a more comprehensive assessment of how financial literacy, financial attitude, and lifestyle interact within a digitally mediated environment.

Accordingly, this study investigates the effect of financial literacy on financial behavior among university students in South Sumatra by incorporating financial attitude and lifestyle as mediating variables. Grounded in the Theory of Planned Behavior and situated within a digital open innovation context, the study seeks to provide a more nuanced explanation of the mechanisms through which financial literacy is translated into behavior. Methodologically, the use of Partial Least Squares Structural Equation

Modeling (PLS-SEM) enables the examination of complex relationships and mediation effects, offering both predictive and explanatory insights.

Theoretically, this study contributes to the literature by extending TPB based models of financial behavior to include lifestyle dynamics relevant to digital economies. Practically, the findings are expected to inform universities and policymakers that effective financial education interventions should move beyond knowledge transfer and address attitudinal formation and lifestyle-driven consumption pressures to foster sustainable financial behavior among students.

## LITERATURE REVIEW

This study is primarily grounded in the Theory of Planned Behavior (TPB) proposed by (Ajzen, 1991). TPB explains that human behavior results from a decision making process shaped by three principal determinants: attitude toward the behavior, subjective norms, and perceived behavioral control. TPB further asserts that knowledge or intention alone is insufficient to generate actual behavior; behavior is more likely to occur when individuals hold supportive attitudes, perceive relevant social pressures, and believe they possess sufficient control to perform the behavior under real life conditions. This framework has been widely adopted and empirically validated in explaining economic behavior, financial behavior, and technology adoption.

In this study, financial literacy is positioned as an initial cognitive factor that provides individuals with a foundational understanding of financial concepts, risk considerations, and the consequences of financial choices (Sajid, Mushtaq, Murtaza, Yahiaoui, & Pereira, 2024; Widjaja et al., 2020; Carolina Ety Widjayanti & Adawiyah, 2025). Consistent with TPB, however, financial literacy is not treated solely as a direct determinant of behavior; rather, it is conceptualized as shaping individuals' beliefs and evaluations regarding financial management. International evidence indicates that while financial literacy contributes to decision quality, its effect on behavior is frequently indirect and contingent on other psychological mechanisms. This view is also consistent with conceptualizations of financial literacy as part of human capital, whose value is realized when knowledge is internalized and actively used.

A TPB component that is particularly relevant to the present research is financial attitude, which represents students' positive or negative evaluations of financial management practices, such as saving, long term planning, and consumption control. Within the TPB framework, financial attitude corresponds closely to attitude toward the behavior, reflecting the extent to which individuals perceive prudent financial behavior as valuable, beneficial, and worth performing. Empirical studies suggest that financial attitude often exhibits a more consistent association with financial behavior than the direct influence of financial literacy, particularly among young adults and university students. Therefore, financial attitude is positioned as an internal mechanism that bridges financial knowledge and actual financial action.

In addition to internal mechanisms, TPB highlights the role of contextual factors that shape perceived behavioral control. In this study, lifestyle is considered a representation of such external context. Lifestyle reflects students' consumption patterns, preferences, and daily activities formed through social environments, market dynamics, and technological innovation including the convenience of digital transactions and

intensive use of application based platforms. A consumptive lifestyle may weaken perceived self control and increase impulsive decision making, even among individuals with adequate financial literacy. Accordingly, lifestyle is treated as an empirical proxy capturing elements of perceived behavioral control and environmental pressures within the TPB perspective.

## **Hypotheses Development**

### **Financial Literacy and Financial Attitude**

Within TPB, attitude toward a behavior is a key determinant that bridges knowledge and action. Financial attitude refers to individuals' subjective evaluations of financial management, including long term orientation, prudence, and self control in consumption (Kusumawardhani et al., 2025; Vaghela et al., 2023). Financial literacy is expected to shape financial attitude by improving individuals' understanding of the benefits and risks associated with financial decisions. Empirical evidence suggests that individuals with stronger financial literacy tend to hold more positive financial attitudes, such as a greater tendency to plan for the future and avoid excessive spending. In the context of students living in an open and information rich environment, financial literacy supports a more rational evaluative framework when considering financial choices (Aydin & Akben Selcuk, 2019; Tian, Niu, & Xiao, 2025). Accordingly, financial literacy is expected to positively influence students' financial attitude.

H<sub>1</sub>: Financial literacy has a positive effect on students' financial attitude.

### **Financial Literacy and Lifestyle**

Lifestyle describes individuals' patterns of consumption, activities, and preferences shaped through social interaction, market forces, and technological innovation. In urban and digital contexts, students' lifestyles are frequently influenced by social media, consumption trends, and the convenience of technology based transactions (Barus, Lasniroha, & Bayunitri, 2024; Shehadeh, Ajouz, Abu-ALSondos, Alkhwalid, & Jaber, 2024; Thu, Nguyen Khanh, Khanh, Phuong, & Trung, 2025). Financial literacy may influence lifestyle by increasing awareness of the financial consequences associated with particular lifestyle choices. Several studies suggest that individuals with higher financial literacy tend to adopt more controlled and rational lifestyles. Nevertheless, the literature also notes that in highly innovative markets, the influence of literacy on lifestyle may not always be strong due to external consumption pressures. Hence, the relationship between financial literacy and lifestyle should be tested empirically.

H<sub>2</sub>: Financial literacy has a significant effect on lifestyle.

### **Financial Literacy and Financial Behavior**

Financial literacy reflects an individual's ability to understand basic financial concepts and apply such knowledge in everyday financial decision making. From a TPB perspective, financial literacy functions as a cognitive foundation that shapes beliefs about the consequences of behavior, which may ultimately influence actual behavior. Within an open innovation ecosystem, financial literacy may also be interpreted as a form of individual absorptive capacity, namely students' capability to filter and utilize widely dispersed financial information available through digital platforms and market innovation

(Munikrishnan et al., 2023; Thu et al., 2025). Prior research indicates that students with higher financial literacy tend to demonstrate healthier financial behaviors, including budgeting, saving habits, and improved debt management. In increasingly digitalized markets, financial literacy becomes more critical because it helps individuals avoid impulsive decisions facilitated by frictionless transactions and technology driven innovations. Therefore, financial literacy is expected to contribute positively to students' financial behavior.

H<sub>3</sub>: Financial literacy has a positive effect on students' financial behavior.

### **Financial Attitude and Financial Behavior**

Financial attitude represents individuals' psychological orientation toward money and its management. In TPB, attitude directly affects behavior because it reflects whether individuals perceive a behavior as valuable and worth performing. Students with positive financial attitudes such as valuing planning, discipline, and consumption control are more likely to implement responsible financial behaviors (Aydin & Akben Selcuk, 2019; Owusu, Korankye, Otchere, & Kriese, 2022; Vaghela et al., 2023). Prior studies consistently report that financial attitude is a significant predictor of students' financial behavior, even when the direct influence of financial literacy is relatively weak. In innovation and technology intensive environments that reduce transaction barriers, financial attitude becomes a crucial internal mechanism that restrains consumptive impulses. Therefore, financial attitude is expected to positively affect students' financial behavior.

H<sub>4</sub>: Financial attitude has a positive effect on students' financial behavior.

### **Lifestyle and Financial Behavior**

Lifestyle reflects how individuals allocate financial resources in daily life. A consumptive lifestyle particularly when reinforced by technological innovation and the ease of digital payments, tends to increase spending frequency and weaken financial discipline. From a TPB standpoint, lifestyle may shape perceived behavioral control, namely the extent to which individuals feel capable of controlling their actions (Barus et al., 2024; Lappay et al., 2025; Tan, Xiao, Meng, & Xu, 2025). Empirical evidence indicates that a consumptive lifestyle is negatively associated with healthy financial behavior, especially among students and younger cohorts. Within an open innovation ecosystem where market innovation intensifies consumption, lifestyle becomes a key contextual factor shaping students' financial behavior. Therefore, lifestyle is expected to significantly influence students' financial behavior.

H<sub>5</sub>: Lifestyle has a significant effect on students' financial behavior.

### **The Mediating Role of Financial Attitude**

Consistent with TPB, the effect of knowledge on behavior is frequently indirect and mediated by attitude. Financial attitude serves as an internal mechanism translating financial literacy into a behavioral tendency. Students with adequate financial literacy but a consumptive attitude or shortterm orientation may fail to enact healthy financial behaviors. A growing body of research suggests that financial attitude mediates the relationship between financial literacy and financial behavior, offering an explanation for

the often observed knowledge behavior gap (Aydin & Akben Selcuk, 2019; Vaghela et al., 2023). Thus, financial attitude is expected to play a mediating role in the proposed model.

H<sub>6</sub>: Financial attitude mediates the effect of financial literacy on financial behavior.

### **The Mediating Role of Lifestyle**

Beyond internal mechanisms, contextual factors may also explain how financial literacy influences behavior. Lifestyle represents environmental pressures and consumption patterns that may strengthen or weaken the application of financial knowledge. In technology driven and digital market contexts, lifestyle often becomes the channel through which financial literacy translates into actual behavior (Jose & Ghosh, 2024; Kakinuma, 2022; C E Widjayanti & Adawiyah, 2025). Prior studies indicate that lifestyle can explain why individuals with adequate financial literacy still exhibit suboptimal financial behavior, particularly in intense digital consumption environments. Consequently, lifestyle is positioned as a contextual mediator in the relationship between financial literacy and students' financial behavior.

H<sub>7</sub>: Lifestyle mediates the effect of financial literacy on financial behavior.

## **RESEARCH METHOD**

This study employs an explanatory quantitative approach with a cross sectional design to test causal relationships among financial literacy, financial attitude, lifestyle, and students' financial behavior. A survey approach is appropriate because the investigated constructs are latent and cannot be directly observed. Data are analyzed using Partial Least Squares Structural Equation Modeling (PLS-SEM) with SmartPLS, which is suitable for prediction oriented research, complex models, and the estimation of both direct and indirect (mediating) effects.

The study population comprises all active students enrolled in public and private universities in Palembang, Indonesia, under the Ministry of Research, Technology and Higher Education, totaling 76,431 students (BPS, 2024). The population covers students across different majors and fields of study, allowing broader generalization to a heterogeneous urban student context. The unit of analysis is the individual student. Sampling is conducted using multistage stratified sampling. In the first stage, the population is grouped by institution type (public vs. private universities) to accommodate institutional differences. In the second stage, stratification is applied based on academic field or major to ensure cross-disciplinary representation. Due to limited access to a complete sampling frame of active students, a controlled quota sampling procedure is used while maintaining proportional representation across public/private institutions and academic fields. The minimum sample size is determined using the Slovin formula with a 5% margin of error; given a population of 76,431 students, the resulting minimum sample size is 398 respondents.

Primary data are collected through a structured questionnaire distributed online. The questionnaire is adapted from relevant prior studies and adjusted to fit the student context. All indicators are measured using a five point Likert scale, ranging from 1 (strongly disagree) to 5 (strongly agree). To reduce common method bias, the study

applies preventive procedures such as ensuring respondent anonymity, clarifying that there are no right or wrong answers, and using neutral wording in the item statements. Before the main survey, the instrument undergoes expert based content validation and a limited pilot test. Data analysis in SmartPLS proceeds in two main steps: evaluation of the measurement model and evaluation of the structural model. In addition, the coefficient of determination ( $R^2$ ), effect size ( $f^2$ ), and indirect effects are used to assess model explanatory power and mediation roles. The study is conducted in accordance with research ethics principles, including informed consent, respondent anonymity, and the use of data exclusively for academic purposes.

### RESEARCH RESULTS AND DISCUSSION

Data were analyzed using Partial Least Squares–Structural Equation Modeling (PLS-SEM) with SmartPLS 4. This approach was selected due to its suitability for analyzing complex models with moderate sample sizes and its strong predictive capability compared to covariance based SEM (Ringle et al., 2023). The analysis was conducted in two main stages. First, the measurement model was evaluated to assess construct validity and reliability. Second, the structural model was examined to test direct and indirect (mediating) relationships among the study variables. Additionally, mediation analysis was performed to evaluate the roles of financial attitude and lifestyle in the relationship between financial literacy and financial behavior. As supplementary analyses, Importance–Performance Map Analysis (IPMA) was used to identify the most influential constructs affecting students’ financial behavior.

**Table 1. Statistic of respondents**

Category	Criteria	n= 398	
		F	Percentage
Gender	Male	170	42.71%
	Female	228	57.29%
Academic Background	Faculty of Economics and Business	184	46.23%
	Non–Faculty of Economics and Business	214	53.77%
Semester Level	Early semesters (1-3)	208	52.26%
	Middle semesters (4-6)	73	18.34%
	Final semesters (7 and above)	117	29.40%

Source: processed data, 2025

Based on Table 1, this study involved 398 student respondents with diverse characteristics in terms of gender, academic background, and semester level. In terms of gender, the sample was dominated by female students (228 respondents, 57.29%), while male students accounted for 170 respondents (42.71%). This distribution is consistent with prior evidence indicating that female students tend to show higher participation in academic surveys, particularly in online questionnaire based studies. Regarding academic background, 184 respondents (46.23%) were from the Faculty of Economics and Business, whereas 214 respondents (53.77%) came from non–Economics and Business faculties, indicating that the sample represents students from diverse academic

disciplines.

With respect to semester level, the majority of respondents were in the early semesters (1–3), totaling 208 students (52.26%), followed by students in semester 7 and above (117 respondents, 29.40%) and those in semesters 4–6 (73 respondents, 18.34%). This distribution suggests that the sample includes students with varying levels of academic experience, thereby supporting the representativeness and suitability of the data for further analysis in examining students' financial behavior.

**Table 2. Confirmatory Composite Analysis (CCA) Assesment**

Variable	items	FL	CA	CR	AVE	VIF
Financial Literacy	FL1	0.822	0.854	0.856	0.578	2.247
	FL2	0.744				1.903
	FL3	0.788				2.046
	FL4	0.773				2.135
	FL5	0.707				2.214
	FL6	0.723				2.253
Financial Attitude	FA1	0.841	0.866	0.870	0.714	1.996
	FA2	0.816				1.925
	FA3	0.867				2.261
	FA4	0.855				2.128
Lifestyle	LS1	0.818	0.879	0.880	0.580	3.318
	LS2	0.748				2.502
	LS3	0.787				3.195
	LS4	0.785				2.118
	LS5	0.705				1.809
	LS6	0.767				2.097
	LS7	0.714				1.633
Behavioral Finance	BII1	0.816	0.901	0.904	0.718	2.089
	BII3	0.900				3.461
	BII4	0.790				2.130
	BII5	0.874				3.070
	BII6	0.852				2.481

Notes: FL (Factor loading), CA (Cronbach's alpha), CR (Composite reliability), AVE (Average variance extracted), VIF (Variance inflation factor)

Source: processed data, 2025

Table 2 reports the results of the Confirmatory Composite Analysis (CCA) used to evaluate the measurement model. All indicators exhibit satisfactory factor loadings, ranging from 0.705 to 0.900, indicating adequate indicator reliability. Internal consistency reliability is well established, with Cronbach's alpha values between 0.854 and 0.901 and composite reliability values ranging from 0.856 to 0.904, all exceeding the recommended threshold of 0.70. Convergent validity is also confirmed, as the average variance extracted (AVE) values for all constructs exceed 0.50, indicating that each construct explains more than half of the variance of its indicators. Additionally, the

variance inflation factor (VIF) values range from 1.633 to 3.461, suggesting that multicollinearity is not a concern. Overall, these results demonstrate that the measurement model possesses adequate reliability, convergent validity, and collinearity properties, supporting its suitability for subsequent structural model analysis.

**Table 3. Fornell-Larcker Criteria**

Construct	Behavioral Finance	Financial Attitude	Financial Literacy	Lifestyle
Behavioral Finance	<b>0.847</b>			
Financial Attitude	0.204	<b>0.845</b>		
Financial Literacy	0.270	0.685	<b>0.761</b>	
Lifestyle	0.470	0.634	0.708	<b>0.761</b>

Source: processed data, 2025

Table 3 presents the results of the Fornell–Larcker criterion to assess discriminant validity among the study constructs. The results show that the square root of the AVE for each construct (displayed on the diagonal) is higher than its corresponding correlations with other constructs. Specifically, Behavioral Finance (0.847), Financial Attitude (0.845), Financial Literacy (0.761), and Lifestyle (0.761) all exhibit diagonal values that exceed their inter-construct correlations. These findings confirm that each construct is empirically distinct and captures unique variance not explained by other constructs, thereby demonstrating adequate discriminant validity of the measurement model.

**Table 4. Heterotrait-Monotrait (HTMT)**

Construct	Behavioral Finance	Financial Attitude	Financial Literacy	Lifestyle
Behavioral Finance				
Financial Attitude	0.229			
Financial Literacy	0.301	0.794		
Lifestyle	0.529	0.721	0.811	

Source: processed data, 2025

Table 4 reports the results of the Heterotrait–Monotrait (HTMT) ratio used to further assess discriminant validity among the constructs. All HTMT values are below the recommended threshold of 0.90, indicating adequate discriminant validity. Specifically, the HTMT values between Behavioral Finance and Financial Attitude (0.229), Behavioral Finance and Financial Literacy (0.301), and Behavioral Finance and Lifestyle (0.529) are well below the threshold. Similarly, the HTMT values for Financial Attitude–Financial Literacy (0.794), Financial Attitude–Lifestyle (0.721), and Financial Literacy–Lifestyle (0.811) also remain within acceptable limits. These results confirm that the constructs are empirically distinct and that discriminant validity of the measurement model is satisfactorily established.

**Table 5. Cross-loadings Assesment**

<b>Construct</b>	<b>Behavioral Finance</b>	<b>Financial Attitude</b>	<b>Financial Literacy</b>	<b>Lifestyle</b>
BII1	0.816	0.203	0.261	0.397
BII3	0.900	0.155	0.195	0.406
BII4	0.790	0.194	0.238	0.377
BII5	0.874	0.133	0.227	0.405
BII6	0.852	0.187	0.229	0.407
FA1	0.224	0.841	0.581	0.601
FA2	0.070	0.816	0.531	0.476
FA3	0.199	0.867	0.598	0.542
FA4	0.182	0.855	0.600	0.517
FL1	0.230	0.603	0.822	0.573
FL2	0.035	0.530	0.744	0.457
FL3	0.133	0.574	0.788	0.529
FL4	0.102	0.502	0.773	0.511
FL5	0.400	0.460	0.707	0.601
FL6	0.292	0.449	0.723	0.540
LS1	0.396	0.398	0.533	0.818
LS2	0.374	0.392	0.469	0.748
LS3	0.410	0.399	0.473	0.787
LS4	0.342	0.577	0.587	0.785
LS5	0.279	0.587	0.591	0.705
LS6	0.363	0.568	0.589	0.767
LS7	0.342	0.435	0.518	0.714

Source: processed data, 2025

Table 5 presents the results of the cross-loadings assessment used to further evaluate discriminant validity at the indicator level. The results show that each indicator loads highest on its respective construct compared to the other constructs in the model. Specifically, indicators of Behavioral Finance (BII1–BII6) exhibit strong loadings on Behavioral Finance, while showing substantially lower loadings on Financial Attitude, Financial Literacy, and Lifestyle. Similarly, indicators measuring Financial Attitude (FA1–FA4), Financial Literacy (FL1–FL6), and Lifestyle (LS1–LS7) demonstrate the highest loadings on their corresponding constructs, with lower cross-loadings on non-target constructs.

These findings indicate that the measurement items adequately capture their intended latent variables and do not exhibit problematic overlap with other constructs. Consequently, the cross-loadings assessment confirms that discriminant validity at the indicator level is satisfactorily established, supporting the robustness of the measurement model and its suitability for subsequent structural model analysis.

**Table 6. Determinant coefficients and predictive power**

Construct	f-square	R-square
Financial Literacy -> Financial Attitude	0.885	
Financial Literacy -> Lifestyle	1.007	
Financial Literacy -> Behavioral Finance	0.002	
Financial Attitude -> Behavioral Finance	0.011	
Lifestyle -> Behavioral Finance	0.214	
Financial Attitude		0.470
Lifestyle		0.502
Behavioral Finance		0.237

Source: processed data, 2025

Table 6 presents the results of the effect size ( $f^2$ ) and coefficient of determination ( $R^2$ ), which are used to evaluate the explanatory power and predictive relevance of the structural model. The  $f^2$  values indicate that Financial Literacy has a strong effect on Financial Attitude ( $f^2 = 0.885$ ) and Lifestyle ( $f^2 = 1.007$ ), suggesting that financial literacy plays a substantial role in shaping both students' financial attitudes and lifestyles. In contrast, the direct effect of Financial Literacy on Behavioral Finance is negligible ( $f^2 = 0.002$ ), indicating that financial literacy alone contributes very little to explaining financial behavior without intermediary mechanisms.

Regarding other predictors of Behavioral Finance, Lifestyle exhibits a moderate effect size ( $f^2 = 0.214$ ), while Financial Attitude shows a relatively small effect ( $f^2 = 0.011$ ). These findings suggest that contextual factors related to students' lifestyles exert a more meaningful influence on financial behavior compared to attitudinal factors, whereas the influence of financial literacy on behavior is largely indirect.

In terms of predictive power, the  $R^2$  values demonstrate that the model explains 47.0% of the variance in Financial Attitude, 50.2% of the variance in Lifestyle, and 23.7% of the variance in Behavioral Finance. According to PLS-SEM guidelines, these values indicate moderate explanatory power for Financial Attitude and Lifestyle, and acceptable explanatory power for Behavioral Finance. Overall, the results confirm that the proposed model possesses adequate predictive capability and that the influence of financial literacy on financial behavior is primarily transmitted through mediating variables rather than through a direct path.

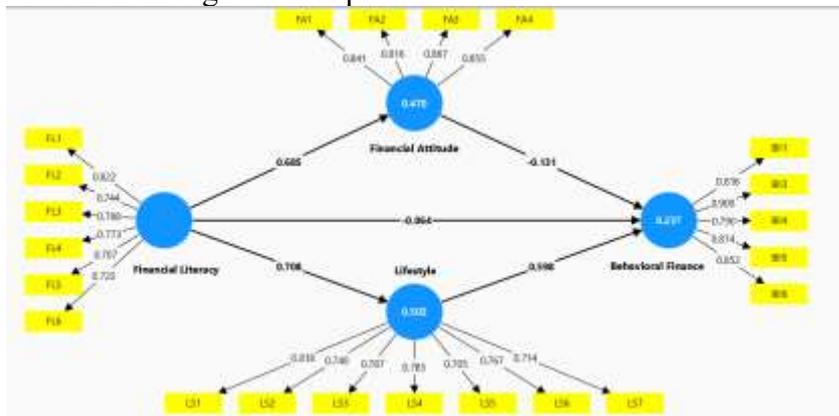


Figure 1. Measurement Model

Figure 1 illustrates the estimated measurement and structural model resulting from the PLS-SEM analysis, including the standardized path coefficients, factor loadings, and coefficients of determination ( $R^2$ ) for each endogenous construct. The model visualizes the relationships among financial literacy, financial attitude, lifestyle, and behavioral finance, as well as the measurement properties of their respective indicators.

**Table 7. The results of direct path hypotheses**

Direct Hypothesis	Original sample (O)	P values	Decision
H <sub>1</sub> . Financial Literacy -> Financial Attitude	0.685	0.000	Supported
H <sub>2</sub> . Financial Literacy -> Lifestyle	0.708	0.000	Supported
H <sub>3</sub> . Financial Literacy -> Behavioral Finance	0.270	0.000	Supported
H <sub>4</sub> . Financial Attitude -> Behavioral Finance	-0.131	0.049	Supported
H <sub>5</sub> . Lifestyle -> Behavioral Finance	0.598	0.000	Supported

Source: processed data, 2025

Table 7 reports the results of the direct path hypothesis testing. The findings indicate that financial literacy has a positive and significant effect on financial attitude ( $\beta = 0.685$ ,  $p < 0.001$ ) and lifestyle ( $\beta = 0.708$ ,  $p < 0.001$ ), supporting H<sub>1</sub> and H<sub>2</sub>. In addition, financial literacy also shows a positive and significant direct effect on behavioral finance ( $\beta = 0.270$ ,  $p < 0.001$ ), thereby supporting H<sub>3</sub>. These results suggest that higher levels of financial literacy are associated with more favorable financial attitudes, healthier lifestyles, and improved financial behavior among students.

Furthermore, financial attitude has a significant but negative effect on behavioral finance ( $\beta = -0.131$ ,  $p = 0.049$ ), indicating that attitude alone does not necessarily translate into better financial behavior without supportive contextual factors. In contrast, lifestyle exhibits a strong positive effect on behavioral finance ( $\beta = 0.598$ ,  $p < 0.001$ ), supporting H<sub>5</sub> and highlighting lifestyle as a key determinant of students' financial behavior. Overall, all direct hypotheses in the model are empirically supported, confirming the robustness of the proposed structural relationships.

**Table 8. Mediating path result**

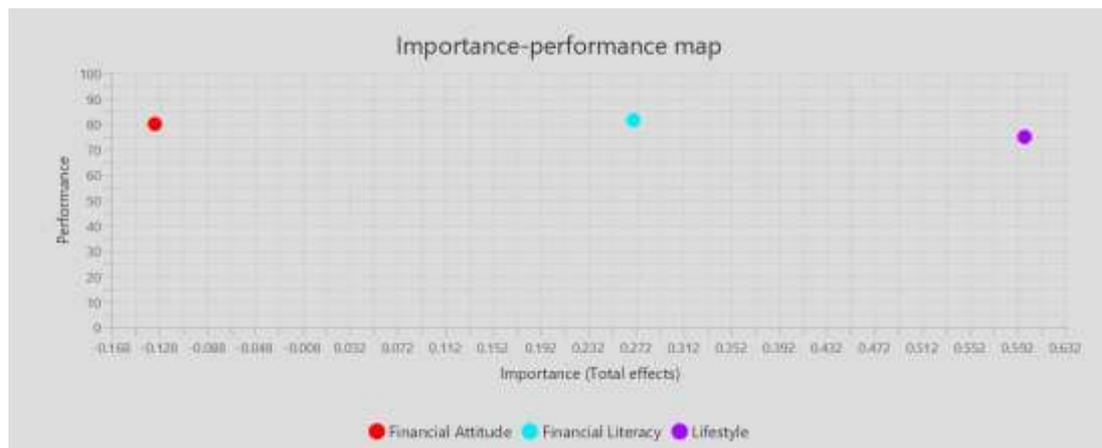
Mediating Hypothesis	Original sample (O)	P values	Decision
H <sub>6</sub> . Financial Literacy -> Financial Attitude -> Behavioral Finance	-0.090	0.056	Not Supported
H <sub>7</sub> . Financial Literacy -> Lifestyle -> Behavioral Finance	0.424	0.000	Supported

Source: processed data, 2025

Table 8 presents the results of the mediating path analysis. The findings indicate that financial attitude does not mediate the relationship between financial literacy and behavioral finance ( $\beta = -0.090$ ,  $p = 0.056$ ), as the indirect effect is not statistically significant. Therefore, H<sub>6</sub> is not supported, suggesting that although financial literacy significantly influences financial attitude, this attitudinal change does not sufficiently

translate into improved financial behavior when considered as a mediating mechanism.

In contrast, lifestyle is found to significantly mediate the relationship between financial literacy and behavioral finance ( $\beta = 0.424, p < 0.001$ ), supporting H7. This result indicates that financial literacy affects students' financial behavior primarily through its influence on lifestyle-related patterns, such as consumption habits and daily financial practices. Overall, these findings highlight the importance of contextual and behavioral mechanisms, rather than attitudinal factors alone in explaining how financial literacy is transformed into actual financial behavior.



**Figure 2. Importance Performance Map Analysis**

Figure 2 presents the Importance–Performance Map Analysis (IPMA) for the determinants of behavioral finance. The horizontal axis represents importance, measured by the total effects of each construct on behavioral finance, while the vertical axis indicates performance, reflecting the average latent variable scores. The results show that Lifestyle exhibits the highest importance with a relatively high performance level, indicating that lifestyle is the most influential construct in explaining students' financial behavior and currently performs well. Financial Literacy also demonstrates a moderate to high level of importance combined with high performance, suggesting that improvements in financial literacy can further enhance behavioral finance, although its current performance is already strong. In contrast, Financial Attitude displays low importance and comparatively lower performance, implying that interventions focusing solely on attitudinal change may yield limited improvements in financial behavior. Overall, the IPMA results highlight lifestyle and financial literacy as priority areas for policy and educational interventions aimed at improving students' financial behavior.

## Discussion

This study examined the relationships between financial literacy, financial attitude, lifestyle, and students' financial behavior within a higher education context characterized by technological openness and market complexity. Overall, the findings indicate that financial literacy influences financial behavior through both direct and indirect mechanisms, with lifestyle emerging as the most influential pathway.

The results show that financial literacy has a positive and significant effect on

financial attitude and lifestyle, supporting  $H_1$  and  $H_2$ . These findings are consistent with the Theory of Planned Behavior (TPB), which suggests that cognitive resources shape evaluative judgments and contextual decision making. In an open innovation environment where financial information and digital tools are widely accessible, students with higher financial literacy are better equipped to develop prudent financial attitudes and adopt more financially conscious lifestyles. The direct effect of financial literacy on financial behavior is also positive and significant ( $H_3$ ), although the effect size is relatively small. This result highlights the presence of a knowledge behavior gap, indicating that financial literacy alone is insufficient to fully explain financial behavior. In line with TPB, knowledge must be supported by favorable psychological and contextual conditions to translate into consistent behavior.

Interestingly, financial attitude has a significant but negative effect on financial behavior ( $H_4$ ). This counterintuitive finding suggests that positive attitudes toward financial management do not necessarily lead to improved behavior, possibly due to constraints such as peer influence, limited income, or the ease of digital spending. This underscores the limitation of attitudinal factors in complex and technology driven consumption environments. In contrast, lifestyle shows a strong and positive effect on financial behavior ( $H_5$ ), confirming its central role in shaping daily financial practices. This finding is reinforced by the IPMA results, which identify lifestyle as the most important determinant of students' financial behavior. From an open innovation perspective, lifestyle captures how individuals interact with innovation driven markets, emphasizing the importance of consumption routines and habits over attitudinal intentions.

The mediation analysis further reveals that financial attitude does not mediate the relationship between financial literacy and financial behavior ( $H_6$  not supported), whereas lifestyle serves as a significant mediator ( $H_7$  supported). This indicates that financial literacy influences financial behavior primarily by shaping students' lifestyles rather than through attitudinal change. Overall, these findings suggest that behavioral change is more effectively achieved through lifestyle related mechanisms than through attitudes alone. Taken together, the results extend TPB by demonstrating that, in open and complex financial ecosystems, contextual factors such as lifestyle play a more decisive role in transforming financial knowledge into actual behavior. While financial literacy remains a necessary foundation, interventions aimed at improving students' financial behavior should prioritize lifestyle oriented and practice based approaches to achieve more sustainable outcomes.

## CONCLUSION

This study investigated the effects of financial literacy on students' financial behavior, with financial attitude and lifestyle as mediating variables, within a higher education context characterized by technological openness and market complexity. The findings indicate that financial literacy positively influences financial attitude, lifestyle, and financial behavior. However, the direct effect of financial literacy on financial behavior is relatively weak, confirming the presence of a knowledge behavior gap. Importantly, lifestyle emerges as the strongest determinant and the only significant

mediator linking financial literacy to financial behavior, while financial attitude does not function as an effective mediating mechanism. These results suggest that students' financial behavior is shaped more by daily consumption patterns and routines than by attitudinal evaluations alone.

From a theoretical perspective, this study extends the Theory of Planned Behavior (TPB) by demonstrating that, in open and technology driven financial ecosystems, contextual factors such as lifestyle play a more decisive role than attitudes in translating knowledge into behavior. Practically, the findings imply that universities and policymakers should complement financial literacy programs with behavior oriented and lifestyle based interventions, such as promoting responsible digital spending habits, budgeting practices, and awareness of consumption patterns. Such integrated approaches are more likely to produce sustainable improvements in students' financial behavior.

This study has several limitations. First, its cross sectional design restricts causal inference over time. Second, the empirical setting is limited to students in a single urban context, which may constrain the generalizability of the findings. Future studies should adopt longitudinal or experimental designs to capture changes in financial behavior over time and to strengthen causal interpretation. Additionally, incorporating technology related variables, such as fintech usage, digital payment intensity, or user innovativeness, would further enhance alignment with open innovation research. Comparative studies across different regions or countries are also recommended to examine the robustness of the proposed model in diverse institutional and cultural contexts.

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