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Revisiting Financial Behavior In Traditional Market Traders: The Hidden Role Of Self-Control

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Abstract

This study investigates the role of financial literacy, financial attitude, and self-control in shaping the financial behavior of traditional market traders at Lakessi Market, Pare-pare City, Indonesia. The study addresses a research gap in the financial behavior literature, particularly the limited empirical evidence on self-control as a mediating variable among traditional market traders in Eastern Indonesia. The objective of this research is to examine both the direct and indirect effects of financial literacy and financial attitude on financial behavior through self-control. This study employed a quantitative causal-associative design using a survey method. Data were collected from 286 traders selected through proportionate stratified random sampling from a population of 1,000 traders. Hypotheses were tested using PROCESS Macro Model 4 with 5,000 bootstrap samples in IBM SPSS Statistics 29. Results indicate that financial literacy and financial attitude exert significant positive direct effects on both financial behavior (β = 0.564; β = 0.531) and self-control (β = 0.406; β = 0.388), while self-control significantly influences financial behavior (β = 0.313). Bootstrap mediation analysis confirms partial mediation on both pathways: the indirect effect of financial literacy through self-control is 0.127 (95% CI [0.072, 0.187]) and that of financial attitude is 0.142 (95% CI [0.085, 0.203]). Self-control functions as a complementary mediating bridge rather than a primary pathway. A threshold effect is identified whereby moderate financial literacy suffices to produce meaningful behavioral change. These findings provide evidence-based guidance for policymakers and market authorities to design interventions combining financial literacy training with structural supports for informal economy traders.

Keywords: Financial Literacy; Financial Attitude; Self-Control; Financial Behavior; Traditional Market Traders

INTRODUCTION

The Micro, Small, and Medium Enterprise (MSME) sector constitutes the bedrock of Indonesia's economy. The Ministry of Cooperatives and SMEs (2023) records 65.5 million MSME units contributing more than 61 percent of national GDP, equivalent to IDR 9,580 trillion, while absorbing 97 percent of the national workforce. Within this sector, traditional market traders face the most financially precarious conditions, managing daily cash flows without structured financial record-keeping and without separating business finances from personal finances (Bidasari et al., 2023). Lakessi Market in Pare-pare City, South Sulawesi,

exemplifies this condition. Data from the UPTD Lakessi Market (2023) records approximately 1,000 active traders. In October 2025, the Pare-pare City Government relocated 200 traders to a semi-modern market block, causing the daily revenues of affected traders to plunge from an average of IDR 2.5 million to below IDR 500,000 per day. This reality underscores the fragility of traders' financial resilience in the face of changing business conditions.

This problem is inseparable from low levels of financial literacy. The 2025 National Survey of Financial Literacy and Inclusion (SNLIK), released jointly by the Financial Services Authority (OJK) and the Central Statistics Agency (BPS) on 2 May 2025, recorded a national financial literacy index of 66.46 percent and a financial inclusion index of 80.51 percent, up from 65.43 percent and 75.02 percent in SNLIK 2024 (OJK & BPS, 2025). However, this improvement has been uneven. SNLIK 2025 identified individuals with low educational attainment, rural residents (financial literacy: 59.87 percent), and other workers (financial literacy: 60.17 percent) as the segments with the lowest literacy levels. This profile reflects the majority of traditional market traders who operate informally, suggesting that possessing financial knowledge alone does not automatically translate into sound financial behavior (Lusardi & Mitchell, 2014).

Financial behavior reflects an individual's concrete actions in managing income, expenditure, savings, and debt in a planned manner (Lusardi & Mitchell, 2014). The Theory of Planned Behavior (Ajzen, 1991) explains that behavior is shaped by attitudes, subjective norms, and perceived behavioral control. Financial literacy constitutes the cognitive dimension, while financial attitude forms the affective dimension; together, they drive financial behavior. Fitria et al. (2021) and Wahyuni et al. (2023) demonstrated that both variables exert positive and significant effects on MSME financial behavior, while Mien & Thao (2015) established that financial attitude is the strongest predictor of individual financial management behavior (R^2 = 62.1%). However, these studies have not addressed why individuals who are financially knowledgeable and hold positive financial attitudes nonetheless fail to translate such dispositions into concrete action.

The answer lies in self-control capacity. Self-Regulation Theory (Baumeister, Vohs, & Tice, 2007) posits that self-control is the capacity to override short-term impulses in pursuit of long-term goals. An individual may understand and intend to save, yet still fail if unable to resist impulsive spending. In this context, self-control functions as a bridge between financial intention and concrete financial action. Strömbäck et al. (2017) demonstrated that self-control is a significant predictor of positive financial behavior and financial well-being. Rey-Ares et al. (2021) further established that self-control not only influences financial behavior but also shapes individuals' financial attitudes. Biljanovska & Palligkinis (2018) found that self-control failure is directly correlated with lower household wealth accumulation. Arilia & Lestari (2022) and Mpaata et al. (2023) confirmed that self-control significantly mediates the relationship between financial literacy and financial behavior. These findings collectively affirm self-control as a mediating variable that explains how financial literacy and financial attitude are translated into actual financial behavior.

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Prior research leaves several important limitations unaddressed. Rey-Ares et al. (2021) did not examine the mediating role of self-control. Siswanti (2020) identified significant mediation effects among financial knowledge, financial attitude, and financial management behavior, but the study population comprised salaried employees. Saputri et al. (2024) positioned self-control as an independent variable and obtained non-significant results, which in fact reinforces the argument that self-control is more appropriately positioned as a mediator. Bidasari et al. (2023) examined financial literacy and MSME performance in South Sulawesi without incorporating financial attitude or self-control. Wahyuni et al. (2023) and Mien & Thao (2015) employed different mediators, namely behavioral intention and locus of control, respectively, rather than self-control. Overall, no prior study has explicitly examined the mediating role of self-control between financial literacy, financial attitude, and financial behavior among traditional market traders in Indonesia, particularly in South Sulawesi.

Based on the foregoing literature review, three research gaps are identified. First, a subject gap: self-control mediation model research has hitherto targeted only college students and formal-sector employees, and has never been applied to traditional market traders. Second, a variable combination gap: the integration of financial literacy and financial attitude as dual predictors with self-control as a mediator has not been tested within a unified model among Indonesian MSMEs. Third, a geographical gap: research on MSME financial behavior in South Sulawesi, particularly at Lakessi Market in Pare-pare City, is extremely limited and has not been addressed by comparable studies.

Traditional market traders represent the most financially vulnerable yet least-studied segment within the MSME sector. SNLIK 2025 data indicate that the financial literacy rate of the informal sector remains in the range of 59–60 percent. The self-control mediation model has never been tested in this segment, particularly in Eastern Indonesia. This study is designed to address all three identified gaps. Theoretically, it integrates the Theory of Planned Behavior (Ajzen, 1991) and Self-Regulation Theory (Baumeister et al., 2007) within a single mediation model in the context of traditional market MSMEs. Practically, its findings provide evidence-based recommendations for the Pare-pare City Trade Office, UPTD Lakessi Market, and the Financial Services Authority (OJK) of South Sulawesi.

LITERATURE REVIEW AND HYPOTHESES

Financial Behavior

Lusardi & Mitchell (2011) define financial behavior as an individual's actions in managing income, expenditure, savings, and investment. Fitria et al. (2021) conceptualize it as the capacity to make financial decisions that support business performance and sustainability. Damayanti et al. (2023) further specify that financial behavior encompasses an individual's ability to prepare budgets, save, and manage debt. According to Lusardi & Mitchell (2011), the dimensions of financial behavior consist of four core aspects: consumption, cash flow management, savings and investment, and credit management. Measurement indicators include the habit of recording routine expenditures, preparing monthly budgets, allocating income for savings and investment, and repaying debts on time

(Lusardi & Mitchell, 2011). These indicators are widely employed in contemporary research on Indonesian MSMEs (Ndruru et al., 2024; Sumani et al., 2022).

Financial Literacy

Chen & Volpe (1998) define financial literacy as an individual's ability to understand and apply basic financial knowledge in making sound financial decisions. Lusardi & Mitchell (2014) conceptualize financial literacy as proficiency in understanding the concepts of interest rates, inflation, and risk diversification. The OECD (2020) further specifies that financial literacy encompasses interrelated financial knowledge, attitudes, and behaviors. According to Chen & Volpe (1998), the dimensions of financial literacy are divided into four aspects: general financial knowledge, savings and borrowing, insurance, and investment. Measurement indicators include an understanding of the concepts of monetary value and interest rates, knowledge of savings and loan products, awareness of the benefits of insurance, and familiarity with investment instruments (Chen & Volpe, 1998). These dimensions and indicators have been validated as relevant to the Indonesian MSME context (Arilia & Lestari, 2022; Bidasari et al., 2023; Fachrurazi et al., 2024).

Financial Attitude

Mien & Thao (2015) define financial attitude as the individual's perspective that shapes habitual patterns of using, saving, and spending money. Pankow (2003) describes financial attitude as the mental state, opinions, and judgments an individual holds with respect to their own finances. Ajzen (1991), within the Theory of Planned Behavior, asserts that attitude is a psychological predisposition that directly determines an individual's intentions and actions. Damayanti et al. (2023) argue that financial attitude governs an individual's long-term financial decision-making. According to Mien & Thao (2015), the dimensions of financial attitude consist of four aspects: daily financial behavior, saving plan, financial management, and future financial ability. Measurement indicators include daily financial habits, regular saving plans, budget management capacity, and preparedness for future financial needs (Mien & Thao, 2015). These indicators are widely adopted in MSME financial behavior research (Nurjanah et al., 2022; Fachrurazi et al., 2024).

Self-Control

Biljanovska & Palligkinis (2018) define self-control as an individual's capacity to regulate financial behavior through planning, monitoring, and commitment. Baumeister et al. (2007) describe self-control as the capacity to override short-term impulses and drives in the pursuit of long-term goals. Tangney et al. (2004) further conceptualize self-control as the ability to inhibit dominant responses and redirect them in accordance with desired standards. According to Biljanovska & Palligkinis (2018), the dimensions of self-control consist of three aspects: planning, monitoring, and commitment. Measurement indicators include the ability to formulate forward-looking financial plans, the habit of periodically monitoring expenditures, and consistency in adhering to established financial commitments (Biljanovska & Palligkinis, 2018). Rey-Ares et al. (2021) confirmed that self-control significantly influences both financial behavior and financial attitudes, while Arilia & Lestari (2022), Mpaata et al. (2023), and Saputri et al. (2024) confirmed the relevance of these three indicators within financial research contexts.

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Based on the above studies, a conceptual model is proposed. Details about the conceptual model and its hypotheses as follows:

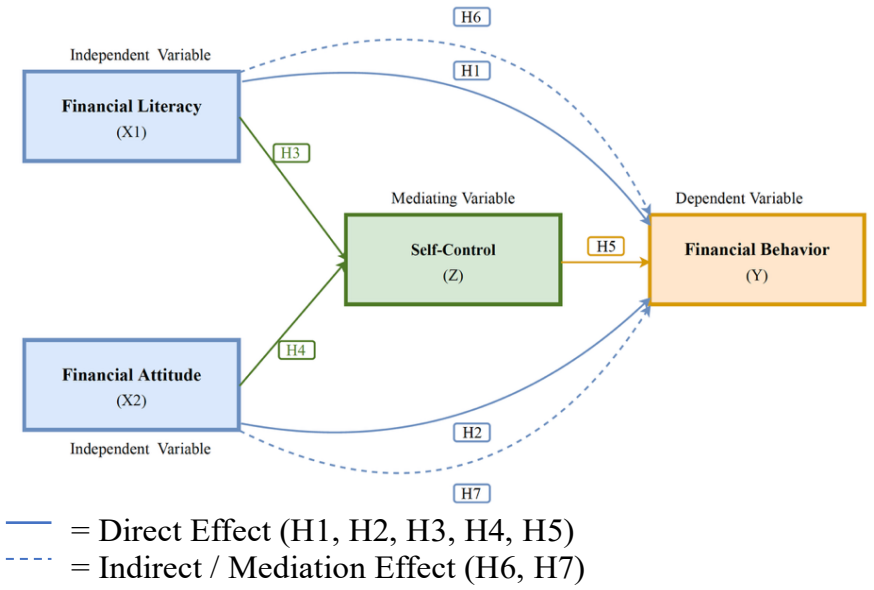

Figure 1. Research Conceptual Framework
Source: Constructed by the researchers (2026)

The conceptual framework of this study is grounded in the integration of two primary theoretical foundations, namely, the Theory of Planned Behavior (Ajzen, 1991) and Self-Regulation Theory (Baumeister et al., 2007). The Theory of Planned Behavior posits that individual behavior is determined by attitudes, subjective norms, and perceived behavioral control. Financial Literacy (X1) represents the cognitive dimension that equips individuals with financial understanding, while Financial Attitude (X2) represents the affective dimension that reflects psychological predispositions toward financial management. Self-Regulation Theory holds that sound financial knowledge and positive financial attitudes do not automatically produce healthy financial behavior without adequate self-regulatory capacity. Accordingly, Self-Control (Z) is positioned as a mediating variable that translates financial literacy and financial attitude into concrete financial actions. The study hypotheses are as follows:

H1: Financial Literacy exerts a positive and significant effect on Financial Behavior.
H2: Financial Attitude exerts a positive and significant effect on Financial Behavior.
H3: Financial Literacy exerts a positive and significant effect on Self-Control.
H4: Financial Attitude exerts a positive and significant effect on Self-Control.
H5: Self-Control exerts a positive and significant effect on Financial Behavior.
H6: Financial Literacy exerts a positive and significant indirect effect on Financial Behavior through Self-Control as a mediating variable.

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H7: Financial Attitude exerts a positive and significant indirect effect on Financial Behavior through Self-Control as a mediating variable

RESEARCH METHODS

This study employed a quantitative approach with a causal-associative research design to examine causal relationships between variables. Data were collected using a survey method with a closed-ended Likert-scale questionnaire. The study population, based on records from the UPTD Lakessi Market, comprised 1,000 registered traders at Lakessi Market, Pare-pare City, South Sulawesi. The population was stratified into two strata based on location: 650 traders in the semi-modern market area and 350 traders in the rear market area.

The sample size was determined using the Slovin formula with a 5% margin of error, yielding 286 respondents. Proportionate stratified random sampling was employed as the sampling technique and presented in Table 1.

Table 1. Sample Distribution Stratum

Stratum	Population	Proportion	Sample
Semi-Modern Market Traders	650	65%	186
Rear Market Area Traders	350	35%	100
Total	1.000	100%	286

Source: Processed from UPTD Lakessi Market data (2023)

Each variable was operationalized through specific operational definitions and measurement indicators. All instruments employed a Likert scale for measurement. The operational definitions and measurement indicators for each variable are presented in Table 2.

Data analysis was performed using IBM SPSS Statistics version 29.00. The analytical procedure comprised descriptive statistical analysis and instrument testing, in which instrument validity was assessed using *Pearson Product Moment* correlation at a 5% significance level (Ghozali, 2018) and instrument reliability was assessed using *Cronbach's Alpha* coefficient with a cut-off value of 0.70 (Hair et al., 2019). Hypotheses testing was conducted using PROCESS Macro (v4.3) with a bootstrapping procedure comprising 5,000 resamples. This approach was selected because it produces more accurate estimates than the Sobel test for moderate sample sizes (Hayes, 2022). Mediation is confirmed when the 95% Confidence Interval (CI) does not include zero. If the CI excludes zero and the direct path coefficient (c') is non-significant, full mediation is concluded. If the CI excludes zero but the direct path remains significant, partial mediation is concluded.

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Table 2. Operational Definitions and Measurement Indicators of Variables

Variable	Role	Indicator	Source	Scale
Financial Literacy *(X1_FL)*	Independent Variable	General financial knowledge Savings and borrowing Insurance Investment	Chen & Volpe (1998)	Likert 1-5
Financial Attitude *(X2_FA)*	Independent Variable	Daily financial behavior Saving plan Financial management Future financial ability	Mien & Thao (2015)	Likert 1-5
Self-Control *(Z_SC)*	Mediating Variable	Planning Monitoring Commitment	Biljanovska & Palligkinis (2018)	Likert 1-5
Financial Behavior *(Y_FB)*	Dependent Variable	Consumption Cash flow management Saving and Investment Credit Management	Lusardi & Mitchell (2011)	Likert 1-5

**All items were translated and back-translated to ensure semantic equivalence between Bahasa Indonesia and English, followed by a pilot test on 30 traditional market traders to confirm clarity and relevance.*

Source: Compiled from various literature (2026)

RESULTS

Descriptive Statistics

Table 3 presents the descriptive statistics for all four research variables (n = 286). Financial Literacy yielded a mean of 11.97 (SD = 3.396), marginally below the scale midpoint of 12 (range: 4–20), indicating a moderate literacy level. Financial Attitude produced a mean of 12.04 (SD = 3.350), slightly above the midpoint, reflecting a moderately positive attitude toward financial management. Self-Control obtained a mean of 9.03 (SD = 2.493), virtually at the midpoint of 9 (range: 3–15), suggesting a moderate level of self-regulatory capacity. Financial Behavior recorded a mean of 11.98 (SD = 3.420), consistent with moderate financial management behavior. The uniform standard deviations across variables indicate homogeneous response patterns with no extreme distributional outliers.

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Table 3. Descriptive Statistics of Research Variables

Variable	N	Min	Max	Mean	Std. Deviation
X1_FL	286	4	20	11.97	3.396
X2_FA	286	4	20	12.04	3.350
Z_SC	286	3	15	9.03	2.493
Y_FB	286	4	20	11.98	3.420

Source: Processed using IBM SPSS (2026)
Note. n = 286. Minimum and maximum values reflect summed scores across all items per variable. Theoretical range: X1 = 4–20; X2 = 4–20; Z = 3–15; Y = 4–20.

Validity Test

The validity of each item was assessed using Pearson Product Moment correlation, with an r-table value of 0.116 (n = 286, df = 284, α = .05, two-tailed). Table 4 reports the r-count values for all 15 items across four variables. All items yielded correlation coefficients ranging from .921 to .952, each exceeding the critical threshold at p < .001. Accordingly, all items for Financial Literacy, Financial Attitude, Self-Control, and Financial Behavior are declared valid.

Table 4. Results of Validity Test (Pearson Product Moment Correlation)

Variable	Item	r-count	r-table	Sig.	Status
X1_FL	X1.1	.939	0.116	<.001	**Valid**
	X1.2	.921	0.116	<.001	**Valid**
	X1.3	.944	0.116	<.001	**Valid**
	X1.4	.947	0.116	<.001	**Valid**
X2_FA	X2.1	.940	0.116	<.001	**Valid**
	X2.2	.940	0.116	<.001	**Valid**
	X2.3	.942	0.116	<.001	**Valid**
	X2.4	.930	0.116	<.001	**Valid**
Z_SC	Z1	.943	0.116	<.001	**Valid**
	Z2	.945	0.116	<.001	**Valid**
	Z3	.952	0.116	<.001	**Valid**
Y_FB	Y.1	.945	0.116	<.001	**Valid**
	Y.2	.944	0.116	<.001	**Valid**
	Y.3	.936	0.116	<.001	**Valid**
	Y.4	.948	0.116	<.001	**Valid**

Source: Processed using IBM SPSS (2026)
Note. r-table (n = 286, df = 284, α = .05, two-tailed) = 0.116. All items are valid when r-count > r-table (p < .001).

Reliability Test

Reliability was assessed using Cronbach's Alpha (α), with a minimum threshold of .70 (Hair et al., 2019). As reported in Table 5, all four variables exceeded this criterion: Financial Literacy (α = .954), Financial Attitude (α = .955), Self-Control (α = .942), and Financial Behavior (α = .959). All corrected item-total correlations ranged from .862 to .906,

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confirming strong internal consistency. All instruments are therefore deemed highly reliable for the main data collection.

Table 5. Results of Reliability Test (Cronbach's Alpha)

Variable	No. of Items	Cronbach's α	Item-Total r (range)	Status
X1_FL	4	**.954**	.862 – .903	**Reliable**
X2_FA	4	**.955**	.876 – .894	**Reliable**
Z_SC	3	**.942**	.874 – .887	**Reliable**
Y_FB	4	**.959**	.885 – .906	**Reliable**

Source: Processed using IBM SPSS (2026)
Note. An instrument is considered reliable if Cronbach's α > .70 (Hair et al., 2019). Item-Total r range denotes the corrected item-total correlation range from the Item-Total Statistics output.

Classical Assumption Tests

The classical assumption tests confirmed that the regression model meets all required criteria. The normality test showed residuals were normally distributed along the diagonal line. The multicollinearity test revealed tolerance values > 0.10 and VIF values < 10 for all variables, indicating no multicollinearity. The Glejser heteroscedasticity test produced significance values > 0.05 for all variables, and the scatterplot showed no systematic pattern in the residual distribution. The model is therefore free from classical assumption violations and suitable for hypothesis testing.

Hypothesis Testing Results

Table 6. Summary of Hypothesis Testing Results

H	Independent Variable	Mediator	Dependent Variable	Coeff. (β)	LLCI	ULCI	p-value	Result
H1	Financial Literacy (X1)	-	Financial Behavior (Y)	0.564	0.465	0.663	0.000	Supported
H2	Financial Attitude (X2)	-	Financial Behavior (Y)	0.531	0.431	0.631	0.000	Supported
H3	Financial Literacy (X1)	-	Self-Control (Z)	0.406	0.335	0.478	0.000	Supported
H4	Financial Attitude (X2)	-	Self-Control (Z)	0.388	0.313	0.462	0.000	Supported
H5	Self-Control (Z)	-	Financial Behavior (Y)	0.313	0.178	0.448	0.000	Supported

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H6 [a]	Financial Literacy (X1)	Self-Control (Z)	Financial Behavior (Y)	0.127	0.072	0.187	-	Supported
H7 [a]	Financial Attitude (X2)	Self-Control (Z)	Financial Behavior (Y)	0.142	0.085	0.203	-	Supported

Source: Processed using IBM SPSS (2026)
Note: [a]For H6 and H7, the LLCI and ULCI columns represent BootLLCI and BootULCI results from mediation analysis with Bootstrap resampling of 5,000 samples (95% Confidence Interval). These confidence intervals do not include zero, indicating a significant mediation effect.

The results obtained from the PROCESS Macro analysis (Hayes, 2022, Model 4) demonstrate that both primary predictors, namely financial literacy and financial attitude exert positive and significant direct effects on the financial behavior of Lakessi Market traders. Financial literacy produces the largest direct-effect coefficient of 0.564 (95% CI [0.465, 0.663]; $p < 0.001$) among all examined predictors, followed by financial attitude with a coefficient of 0.531 (95% CI [0.431, 0.631]; $p < 0.001$). The 0.033 difference between H1 and H2 coefficients indicates that, within the context of traditional market traders, the cognitive component reflecting knowledge of financial concepts marginally outweighs the affective component reflecting attitudes and value orientations toward money. The relatively narrow confidence intervals observed in both hypotheses confirm the stability of these estimates and reinforce the conclusion that financial knowledge and financial attitude function as principal determinants of financial behavior in this population.

The effects of both predictors on self-control are also statistically significant. Financial literacy influences self-control with a coefficient of 0.406 (95% CI [0.335, 0.478]), while financial attitude generates a coefficient of 0.388 (95% CI [0.313, 0.462]), both at $p < 0.001$. The coefficient pattern indicates that financial literacy is marginally more effective than financial attitude in building traders' self-regulatory capacity. This finding can be theoretically explained by the fact that financial knowledge provides a more concrete operational framework for activating self-control, whereas financial attitude is more motivational and abstract in nature. Furthermore, self-control demonstrates a positive and significant effect on financial behavior with a coefficient of 0.313 (95% CI [0.178, 0.448]; $p < 0.001$). It is important to note that this coefficient was obtained within the mediation framework rather than within a full regression model containing all three predictors simultaneously. The wider confidence interval observed in H5 compared to previous hypotheses indicates higher variability in the self-control effect, although the lower bound remaining positive ensures the significance of the finding.

The indirect-effect testing using 5,000 bootstrap resamples confirms the mediating role of self-control on both pathways. The indirect effect of financial literacy on financial behavior through self-control is 0.127, with a 95% bootstrap CI of [0.072, 0.187], and the indirect effect of financial attitude is 0.142, with a 95% bootstrap CI of [0.085, 0.203]. Both confidence intervals exclude zero, statistically confirming mediation on both pathways. The

proportion of the indirect effect relative to the total effect reveals a theoretically meaningful pattern. For financial literacy, the mediating pathway accounts for approximately 18.4% of the total effect (0.127 of 0.691), whereas for financial attitude this proportion reaches 21.1% (0.142 of 0.673). This pattern indicates that financial attitude, being affective and motivational in nature, depends more heavily on self-control as a translational pathway into concrete behavior, while financial literacy, being cognitive in nature, more directly influences behavior without necessarily routing through self-regulatory capacity. The partial mediation confirmed on both pathways strengthens the argument that self-control functions as a volitional variable that complements rather than substitutes for the direct roles of financial literacy and financial attitude in shaping traders' financial behavior.

The direct effect coefficient of financial literacy on financial behavior (0.564) substantially exceeds its indirect effect through self-control (0.127), demonstrating a 4.4-fold magnitude difference. This pattern indicates that financial literacy primarily exerts its influence on financial behavior through a direct, cognitive pathway rather than by first developing self-control capacity. In contrast, financial attitude demonstrates a closer balance between direct and indirect pathways, yet the direct effect still predominates. The direct effect of financial attitude on financial behavior (0.531) still substantially exceeds its indirect effect through self-control (0.142), with a 3.7-fold difference. This indicates that even affective dispositions toward money primarily influence behavior through direct channels rather than necessarily activating self-regulatory mechanisms first. However, the closer ratio of indirect to direct effects (21.1% versus 18.4% for financial literacy) reveals that financial attitude depends somewhat more heavily on self-control as a mediating pathway compared to financial literacy.

DISCUSSION

The Effect of Financial Literacy on Financial Behavior

This finding confirms that financial knowledge directly shapes the day-to-day financial management practices of market traders. The Theory of Planned Behavior (Ajzen, 1991) positions cognition as the primary foundation of behavioral formation: individuals who understand monetary value, savings and credit products, and financial risk possess the capacity for more structured financial decision-making. Lusardi & Mitchell (2014) describe financial literacy as human capital that determines the quality of long-term economic decisions. The SNLIK 2025 data show that financial literacy among informal sector workers remains around 59 to 60 percent. The fact that the direct effect of financial literacy on financial behavior is still significant at this modest level constitutes an unexpected finding. There appears to be a threshold effect whereby functional financial understanding, even at moderate levels, is sufficient to activate meaningful behavioral change. This challenges the assumption that improvements in financial behavior require high literacy levels.

Fitria et al. (2021) and Ndruru et al. (2024) reported consistent findings across different Indonesian MSME populations, reinforcing cross-regional generalizability. The divergence of this pattern from formal-sector studies (e.g., Lusardi & Mitchell, 2014; Siswanti, 2020) may be explained by structural differences in the decision environment. Formal-sector workers operate within institutional frameworks that partially automate financial

management, automatic savings deductions, employer-sponsored retirement plans, formalized credit systems, thereby reducing the marginal behavioral impact of incremental literacy gains. Traditional market traders, by contrast, must manually manage every financial decision without institutional scaffolding, which amplifies the behavioral returns to even modest literacy improvements. Financial education programs for market traders should prioritize practical application over conceptual depth, since even moderate functional knowledge is sufficient to produce better financial behavior outcomes.

The Effect of Financial Attitude on Financial Behavior

Financial attitude operates as the affective dimension within the Theory of Planned Behavior (Ajzen, 1991), functioning as a psychological predisposition that orients individuals toward particular financial choices. Pankow (2003) characterizes financial attitude as the mental state, opinions, and judgments an individual holds toward their own finances, governing how money is used, saved, and invested. Mien & Thao (2015) found financial attitude to be the strongest predictor of individual financial management behavior in the Vietnamese context. However, this study produces a finding that partially diverges from Mien & Thao (2015), the coefficient for financial literacy is slightly larger than that for financial attitude. This divergence is explained by the situational context. The October 2025 relocation of a portion of Lakessi Market traders, which caused a drastic revenue decline, created conditions in which concrete knowledge was more immediately actionable than abstract affective orientation. Under acute economic pressure, the cognitive component tends to be more dominant because it provides more specific behavioral guidance. Kahneman (2011) describes this as the dominance of reflective thinking under high perceived risk conditions. Financial attitude formation programs for traders must be embedded in real situational contexts rather than delivering generic normative messages about saving, so that genuine attitudinal change can emerge organically and prove durable.

From a theoretical standpoint, the contextual dominance of the cognitive over the affective component in this study supports a situational weighting hypothesis within the Theory of Planned Behavior. Ajzen's (1991) original formulation treats attitude and behavioral intention as relatively coequal antecedents of behavior. However, under conditions of acute resource scarcity as experienced by Lakessi Market traders following the October 2025 relocation, the theory's predictive architecture appears to shift, with knowledge-based behavioral beliefs (a cognitive construct) becoming more salient than evaluative attitudes (an affective construct). This study therefore proposes that the relative influence of attitude versus cognitive knowledge on financial behavior is moderated by the severity of economic stress, with cognitive components becoming increasingly dominant as economic uncertainty intensifies. This contextual modification of TPB represents a theoretically meaningful contribution to the behavioral finance literature in informal economy settings, and distinguishes this study's findings from those obtained in stable formal-sector environments where attitude and cognition exert more balanced influence on behavioral outcomes.

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The Effect of Financial Literacy on Self-Control

The finding that financial literacy positively affects self-control aligns with Baumeister et al.'s (2007) strength model, which holds that self-regulatory capacity is reinforced by cognitive resources. Strack & Deutsch (2004), through the Reflective-Impulsive Model, explain that the reflective system, strengthened by knowledge, inhibits impulsive drives undermining long-term financial plans. Thaler & Shefrin (1981) further model individuals as having two competing roles, a long-term planner and an impulsive doer, with financial literacy strengthening the former. Arilia & Lestari (2022) and Mpaata et al. (2023) empirically confirmed this relationship across populations, while the larger coefficient for financial literacy relative to financial attitude suggests that concrete knowledge is more effective at building self-regulatory capacity.

This pathway operates through three cognitive sub-processes. First, *planning*: financial literacy enables construction of explicit financial goals, savings targets, expenditure ceilings, and debt schedules, against which impulsive spending is evaluated in real time, activating inhibitory control (Gollwitzer, 1999). Second, *monitoring*: continuous tracking of income flows and expenditure functions as a feedback mechanism strengthening executive self-regulation, particularly critical for traders with irregular income. Third, *evaluation*: retrospective appraisal of financial decisions builds dispositional self-regulation through reinforcement learning (Bandura, 1991). Training programs should therefore be structured around these three sub-processes rather than treating financial literacy as an undifferentiated input.

In informal market contexts, however, this pathway is moderated by structural uncertainty. Income volatility and absent formal credit instruments create conditions where self-control failures may reflect rational responses to genuine scarcity rather than dispositional deficits (Mullainathan & Shafir, 2013). Cognitive bandwidth consumed by immediate financial threats reduces residual self-regulatory capacity, meaning financial literacy alone may be insufficient under acute market disruption. Programs combining literacy training with structural instruments, commitment savings, micro-insurance, and emergency funds are therefore likely to yield more durable outcomes than cognitive training alone.

The Effect of Financial Attitude on Self Control

This finding aligns with *Self-Determination Theory* (Deci & Ryan, 2000), which holds that intrinsic motivation, represented here by a positive attitude toward financial management, is a prerequisite for sustained self-regulation. Individuals who internally value financial stability and long-term planning are more likely to maintain commitment to their financial decisions even when confronted with short-term temptations. Rey-Ares et al. (2021) investigated the reverse direction, finding that self-control influences financial attitudes among millennials. This study confirms the opposite: a positive financial attitude precedes and shapes self-control capacity. This divergence likely reflects population differences; the millennials studied by Rey-Ares et al. (2021) had considerably higher formal educational attainment than traditional market traders. Among groups with limited formal education, attitude as a value orientation may function as the primary entry point toward self-control

before cognitive capacity further develops. For UPTD Lakessi Market and the Pare-pare City Trade Office, attitude-targeted interventions, such as emergency fund or children's education savings campaigns, hold potential as leverage points for building sustained self-control capacity among traders.

The Effect of Self-Control on Financial Behavior

Effective self-control enables traders to bridge the *intention-behavior gap*, a condition in which an individual holds sound financial intentions yet fails to translate them into concrete action due to impulsive drives or short-term consumption temptations. Hofmann et al. (2009) explain that under pressure or uncertainty, the impulsive system tends to override the reflective system; trained self-control becomes a critical counterbalancing mechanism. Strömbäck et al. (2017) established self-control as a significant predictor of positive financial behavior and financial well-being, while Biljanovska & Palligkinis (2018) confirmed that self-control failure correlates directly with lower household wealth accumulation. Practically, Thaler (1999) proposes concrete behavioral mechanisms, including commitment devices such as *envelope budgeting* and *mental accounting*, to help traders bridge the gap between financial intention and action. The wider confidence interval observed for self-control signals heterogeneity within the trader population, providing the empirical basis for recommending segmented rather than one-size-fits-all intervention programs.

The uncertainty inherent in informal market environments significantly modifies the self-control–financial behavior relationship and warrants explicit theoretical treatment. Unlike formal-sector workers who benefit from relatively predictable income streams and institutionally structured expenditure obligations, traditional market traders operate within revenue environments characterized by day-to-day volatility, seasonal demand fluctuations, and vulnerability to exogenous disruptions such as market relocations, commodity price shocks, or weather events. Under such conditions, the behavioral efficacy of self-control is inherently context-contingent: the same level of self-control capacity that produces positive financial behavior under income stability may be overwhelmed by the pressures generated by acute income shocks. This implies that the path coefficient from self-control to financial behavior in informal economy contexts is moderated by the degree of market uncertainty, a boundary condition that is structurally absent from most formal-sector studies and that the existing mediation literature has not adequately theorized. The wider confidence interval observed for self-control in this study's model partially reflects this heterogeneity, as traders experiencing different levels of income volatility exhibit differential responsiveness to their self-control capacity. This finding supports segmented intervention programs, whereby traders operating under high income volatility may require structural supports, commitment savings schemes, emergency fund access alongside self-control training, whereas traders with more stable revenues may benefit more directly from behavioral self-regulation programs alone.

Self-Control as a Mediator of the Relationship Between Financial Literacy and Financial Behavior

The confirmation of partial mediation on this pathway provides empirical support for the argument that financial literacy operates through two mechanistically distinct channels.

The first is a direct channel: financial knowledge is cognitively translated into more structured behavior without requiring the intermediation of self-regulatory processes. The second is an indirect channel: financial knowledge builds self-control capacity, which in turn reinforces financial behavior. Siswanti (2020) identified a significant mediation effect of self-control between financial knowledge and financial management behavior among formal-sector employees, while Arilia & Lestari (2022) and Mpaata et al. (2023) confirmed mediation across different populations. This study extends those findings to traditional market traders operating within informal economic ecosystems, producing stronger cross-contextual evidence.

A comparative examination of direct and indirect pathways reveals crucial insights into the mechanisms by which financial literacy shapes financial behavior. The substantially larger magnitude of the direct effect of financial literacy on financial behavior relative to its indirect effect through self-control indicates that financial knowledge operates primarily through direct cognitive pathways, by understanding and applying financial principles, with self-control serving only as a secondary translational mechanism. The predominance of the direct effect reflects the nature of financial literacy as a cognitive competency that directly enables sound financial decision-making, whereas the more modest indirect effect suggests that while knowledge does activate self-regulatory processes, this pathway contributes relatively marginally to the overall influence (Hayes, 2022).

Self-Control as a Mediator of the Relationship Between Financial Attitude and Financial Behavior

Partial mediation is also confirmed on the financial attitude pathway, yet with a slightly larger proportion of the indirect effect compared to the financial literacy pathway. This pattern implies that affective orientation toward finance, being more abstract and motivational than cognitive knowledge, depends somewhat more heavily on self-control as a translational bridge toward concrete action. Wahyuni et al. (2023) used behavioral intention as the mediator between financial attitude and financial behavior; this study demonstrates that self-control functions as a more volitional and concrete bridge, particularly in the uncertain environment of informal markets. Mien & Thao (2015) employed locus of control as the mediator, and these cross-study differences in mediator choice reinforce the argument that the appropriate mediating construct is highly context-dependent.

In contrast, financial attitude demonstrates a closer balance between direct and indirect pathways, yet the direct effect still predominates. The smaller magnitude difference between direct and indirect effects on the financial attitude pathway, relative to the financial literacy pathway, reflects the inherent nature of attitudes as evaluative, emotion-based orientations that may require greater volitional effort, namely self-control, to translate into concrete action. Cognitive knowledge, by contrast, can more directly prompt behavioral responses without such psychological intermediation. The empirical evidence thus confirms that both primary predictors operate principally through direct mechanisms in shaping financial behavior, with self-control functioning as a complementary rather than primary pathway for behavioral influence in the context of traditional market traders (Hayes, 2022).

CONCLUSIONS

This study establishes that financial literacy and financial attitude are significant determinants of financial behavior among traditional market traders, operating both through direct pathways and indirectly through self-control as a partial mediator. The findings reveal that cognitive knowledge exerts a marginally stronger direct influence than affective attitude, a pattern explained by the acute economic pressure faced by traders following market relocation, wherein concrete knowledge proves more immediately actionable than abstract value orientation. Self-control functions as a complementary bridge that amplifies, but does not replace the direct behavioral influence of both predictors.

Theoretically, this study extends the integration of the Theory of Planned Behavior and Self-Regulation Theory to the informal economy context of traditional market traders, a population previously absent from the self-control mediation literature. A threshold effect is identified whereby moderate financial literacy suffices to produce meaningful behavioral change, challenging the assumption that high literacy levels are a prerequisite for behavioral improvement. Practically, findings provide evidence-based direction for policymakers and market authorities to design interventions combining literacy training with structural financial supports.

This study is limited by its cross-sectional design, single-market scope, and reliance on self-reported data. Future research should adopt longitudinal approaches, expand to multiple markets across Eastern Indonesia, and examine income volatility as a moderating variable alongside additional mediators such as financial self-efficacy.

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