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The Interplay Between Financial Literacy, Online Lending, and Family Financial Well-Being in Indonesia

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Abstract

The rapid proliferation of online lending (*pinjaman online/Pinjol*) in Indonesia has transformed household access to credit, yet concerns persist regarding its implications for household financial stability, particularly among financially less literate populations. This study investigates the influence of financial literacy on household financial conditions, examining whether online lending usage decisions mediate this relationship. Using cross-sectional data from the 2022 National Socioeconomic Survey (Susenas) with a sample of 75,000 households representing Indonesia's diverse socioeconomic landscape, this research employs logistic regression and mediation analysis to test the hypothesized relationships. The findings reveal that financial literacy has a significant positive association with household financial conditions, while online lending usage is negatively associated with household financial well-being. Crucially, online lending decisions partially mediate the relationship between financial literacy and household financial conditions, suggesting that financially literate households are less likely to use online loans for consumptive purposes and better positioned to manage credit obligations. These results underscore the importance of financial education as a protective mechanism against the risks associated with digital credit expansion, offering implications for policymakers, financial regulators, and fintech service providers. The study contributes to the growing literature on household finance in developing economies by elucidating the mechanisms through which financial literacy shapes financial outcomes in the context of digital financial inclusion.

Keywords: *health literacy, social capital, cultural capital, household financial resilience, Indonesia.*

INTRODUCTION

The Indonesian financial landscape has undergone a profound transformation over the past decade, driven by the rapid expansion of digital financial services. Among the most significant developments is the proliferation of online lending platforms, which have emerged as an alternative source of credit for households and micro-enterprises (Chen, Wu, & Yang, 2019; de Roure, Pelizzon, & Tasca, 2021). Data from the Financial Services Authority (Otoritas Jasa Keuangan, OJK) indicate that fintech lending disbursements in Indonesia reached substantial volumes, with the number of borrowers increasing exponentially (Otoritas Jasa Keuangan, 2023). By 2022, the OJK reported that the national financial literacy index stood at 49.68%, indicating that approximately half of the Indonesian population possesses adequate financial understanding (Otoritas Jasa Keuangan, 2022). This figure, while showing improvement, remains concerning given the complexity of modern financial products and the rapid digitization of financial services.

The expansion of online lending presents a dual-edged phenomenon. On one hand, digital credit platforms offer unprecedented access to financing for previously unbanked populations, potentially supporting household consumption smoothing, business investment, and economic mobility. On the other hand, the ease of access, minimal documentation requirements, and rapid disbursement processes have raised concerns about over-indebtedness, particularly among populations with limited financial literacy (Lusardi & Mitchell, 2014; Agarwal, Qian, & Tan, 2020). The National Socioeconomic Survey (Susenas) data reveal that households under financial pressure, especially those facing housing cost burdens, demonstrate significantly higher likelihood of resorting to online loans (Badan Pusat Statistik, 2022). This pattern suggests that online lending may serve as a coping mechanism for financially stressed households, potentially exacerbating rather than alleviating financial vulnerability.

The economic problem at the heart of this study is the tension between financial inclusion through digital credit and the risk of household financial distress. While online lending platforms can theoretically improve welfare by providing access to credit, the actual impact depends critically on borrowers' financial capabilities. Research suggests that financially literate individuals are better equipped to evaluate loan terms, manage repayment obligations, and avoid debt traps (Lusardi & Mitchell, 2014; Gathergood, 2012). However, recent evidence also points to a concerning phenomenon of overconfidence, where borrowers believe they understand loan terms and possess adequate repayment capacity when, in reality, they do not (LPEM FEB UI, 2024). This overconfidence, combined with the ease of digital credit access, creates conditions conducive to financial instability at the household level.

The urgency of this research is underscored by several factors. First, the scale of online lending usage in Indonesia is substantial, affecting millions of households across urban and rural areas. Second, evidence suggests that certain demographic groups, particularly women and younger cohorts, face heightened vulnerability to online lending risks (Otoritas Jasa Keuangan, 2022; Sunarti et al., 2024). Third, the regulatory environment continues to evolve, and evidence-based policy recommendations are needed to balance financial inclusion objectives with consumer protection concerns. The consequences of household financial distress extend beyond individual welfare to encompass broader economic implications, including reduced consumption, diminished human capital investment, and potential systemic risks to the financial system (Airlangga, Sunitiyoso, & Sudrajad, 2026).

The state of the art in this research area reveals important gaps. Existing studies have examined the determinants of online lending adoption (Fitri & Trinugroho, 2022), the relationship between financial literacy and financial behavior (Arundina & Anto, 2022), and the effects of credit on household welfare (Khoirunurrofik & Putra, 2023). However, limited research has explicitly tested the mediating role of online lending decisions in the relationship between financial literacy and household financial conditions, particularly in the Indonesian context. A study by LPEM FEB UI (2024) found that while online lending users demonstrate relatively high conceptual financial literacy, behavioral biases and overconfidence remain prevalent, suggesting a disconnect between knowledge and prudent financial decision-making. This finding highlights the need for research that examines not only whether financial literacy matters but also how it operates through actual credit behavior to affect household outcomes.

The research gap is substantive rather than merely geographical. First, there is theoretical ambiguity regarding the direction of causality in the relationship between financial literacy and financial outcomes—does financial literacy lead to better financial conditions, or do better financial conditions enable greater financial literacy acquisition? Second, the mechanisms through which financial literacy affects household financial conditions remain underexplored. Third, existing studies often focus on broad financial inclusion measures without disaggregating by specific credit types, obscuring the differential effects of formal bank credit versus digital lending. Fourth, the role of online lending as a mediating variable has not been systematically tested in the Indonesian context. This study addresses these gaps by employing a clear theoretical framework, using nationally representative data, and testing a mediation model that clarifies the pathways through which financial literacy influences household financial well-being.

The novelty of this research lies in its explicit examination of the mediation mechanism connecting financial literacy, online lending decisions, and household financial conditions. Methodologically, the study contributes by demonstrating how mediation analysis can be applied to cross-sectional household survey data to disentangle complex causal pathways. Empirically, it provides new evidence from Indonesia, a large developing economy undergoing rapid digital financial transformation. The policy contribution is to inform targeted interventions that address both financial literacy gaps and the specific risks associated with digital credit expansion.

The objective of this study is to analyze the influence of financial literacy on household financial conditions through online lending usage decisions in Indonesia. Specifically, this research addresses two questions: (1) Does financial literacy directly affect household financial conditions? and (2) Is the relationship between financial literacy and household financial conditions mediated by online lending usage decisions? Using cross-sectional data from the 2022 Susenas and employing logistic regression with mediation analysis, this study contributes to the econometric literature by clarifying the mechanisms linking cognitive financial capabilities, credit behavior, and household welfare outcomes.

LITERATURE REVIEW

1. Financial Literacy: Conceptual Foundations

Financial literacy encompasses the knowledge, skills, and attitudes necessary for making informed and effective financial decisions. Lusardi and Mitchell (2014) define financial literacy as the ability to process economic information and make informed decisions about financial planning, wealth accumulation, debt management, and retirement (p. 6). The concept typically includes three dimensions: financial knowledge (understanding of basic financial concepts such as interest rates, inflation, and risk diversification), financial behavior (practical application of financial knowledge in daily decisions), and financial attitudes (psychological predispositions toward financial matters). In the Indonesian context, OJK measures financial literacy through surveys assessing knowledge of banking products, investment instruments, insurance, and digital financial services (Otoritas Jasa Keuangan, 2022).

The importance of financial literacy has been extensively documented in empirical research. Studies consistently find that financially literate individuals exhibit more prudent financial behaviors, including regular saving, diversified investment, and responsible credit management (Lusardi & Mitchell, 2014; Xu & Zia, 2012). Conversely, low financial literacy is associated with costly financial mistakes, such as excessive borrowing, late payment fees, and susceptibility to predatory lending practices (Lusardi & Tufano, 2015; Gathergood, 2012). The 2022 OJK survey revealing a 49.68% literacy rate indicates substantial gaps, with significant variation across demographic groups: urban households generally demonstrate higher literacy than rural households; men outperform women in financial knowledge; and younger cohorts exhibit varying levels of understanding depending on education and exposure (Otoritas Jasa Keuangan, 2022).

Recent bibliometric analysis by Shi and Lim (2023) confirms that research on household financial literacy has centered on "financial literacy," "literacy," "education," "behavior," and "knowledge" as dominant themes, with "behavior" (centrality = 0.17), "knowledge" (centrality = 0.11), and "financial education" (centrality = 0.10) emerging as key mediating concepts in the literature. This suggests that understanding the behavioral translation of financial knowledge into action remains a critical research frontier. The literature further highlights that financial literacy operates differently in developed versus developing country contexts, with developing countries exhibiting an empowering role of literacy in increasing access to and usage of financial services (Xu & Zia, 2012; Agarwal et al., 2020).

2. Online Lending and Household Finance

Online lending, or fintech lending, refers to peer-to-peer (P2P) and platform-based credit provision through digital channels. In Indonesia, the online lending sector has grown rapidly, driven by high smartphone penetration, limited access to formal banking, and the efficiency of digital platforms (Airlangga et al., 2026; Jameaba, 2022). The appeal of online loans lies in their accessibility: minimal documentation, rapid application processes, and fast disbursement (de Roure et al., 2021). However, these characteristics also create risks. Research indicates that online loans are often used for consumptive rather than productive purposes, and borrowers may lack adequate understanding of interest calculations, fees, and the long-term implications of debt accumulation (Ali & Marisetty, 2023; Auliani et al., 2025).

The relationship between online lending and household financial stability is complex. In principle, credit can support household welfare by enabling consumption smoothing and investment. In practice, however, the effects depend on the terms of credit, the purpose of borrowing, and the borrower's financial capacity. Studies in the Indonesian context have found that financial distress is a significant predictor of online loan usage (Sunarti et al., 2024; Auliani et al., 2025). Households facing urgent financial needs, particularly those with low incomes and limited savings, turn to online loans as a source of rapid cash. However, the high-interest rates and short repayment periods characteristic of many online loan products can exacerbate financial vulnerability, creating debt spirals that undermine long-term household welfare. Research on housing cost burdens suggests that households under financial pressure are significantly more likely to use online loans, indicating that digital credit may function as a last-resort option for financially strained families (Badan Pusat Statistik, 2022).

Airlangga et al. (2026) identify four interdependent subsystems—Consumer Protection, Regulatory Oversight, Technology Risk Management, and Financial Education—that collectively determine responsible fintech performance. Their analysis reveals that systemic misalignments in governance, regulatory enforcement, and borrower education hinder fintech's potential as a sustainable poverty reduction tool. Strengthening these subsystems through ethical lending standards, coordinated regulation, robust cybersecurity, and embedded financial literacy is essential for transforming fintech lending from a short-term credit channel into a mechanism for inclusive financial resilience.

3. Financial Literacy and Credit Decisions

The link between financial literacy and credit decision-making has been well-established. Financially literate individuals are more likely to compare loan terms, understand the total cost of borrowing, and avoid excessive debt (Lusardi & Tufano, 2015; Brown & Taylor, 2008). They are also better positioned to distinguish between formal and informal credit sources and to navigate the legal and regulatory landscape surrounding lending. In the context of online lending, financial literacy takes on additional importance because digital platforms often present complex information in ways that may not fully inform borrowers. Research by Wahyudi (2025) found that financial literacy moderates the relationship between financial distress and online loan usage, with more literate borrowers less likely to resort to digital lending in times of financial pressure.

However, recent findings from LPEM FEB UI (2024) identify a concerning phenomenon of overconfidence among online lending users. Despite relatively high self-reported understanding of loan terms, many borrowers exhibit unrealistic repayment expectations and insufficient attention to detailed terms and conditions. This suggests that conceptual knowledge alone does not guarantee prudent behavior; financial literacy must be accompanied by behavioral discipline and practical decision-making skills. Similarly, research on Gen Z borrowers reveals a paradox: this cohort demonstrates high self-perceived financial literacy yet remains the most vulnerable to online loan traps, often using credit for lifestyle consumption (Subaki et al., 2025; Yuniarti & Septiyaningsih, 2023).

Research by Simanjuntak and Aisyah (2025) demonstrates that video-based financial education effectively increases attention and interest in avoiding online loans among rural housewives, but insufficient emotional engagement and one-time dissemination limit its effectiveness in driving actual behavioral change. Without appropriate policy intervention, the risk of debt cycles, structural poverty, and declining family welfare increases substantially. This underscores the need for repeated, emotionally resonant, and contextually tailored educational approaches (Simanjuntak & Aisyah, 2025).

THEORETICAL FRAMEWORK

1. Behavioral Economics of Household Finance

The theoretical foundation for this study draws from behavioral economics, which recognizes that individual financial decisions are shaped by cognitive biases, heuristics, and bounded rationality. Traditional economic models assume that individuals make rational decisions by weighing costs and benefits objectively. In contrast, behavioral economics acknowledges that cognitive limitations, information asymmetry, and psychological biases systematically influence financial choices (Kahneman & Tversky, 1979; Thaler, 1999). In the context of online lending, behavioral biases such as present bias (preference for immediate gratification over long-term welfare), optimism bias (unrealistic expectations about future income and repayment capacity), and overconfidence (belief in superior financial judgment) can lead to suboptimal borrowing decisions (Mullainathan & Shafir, 2013).

Households with limited financial literacy are particularly susceptible to these biases because they lack the knowledge to evaluate financial products accurately and the skills to manage credit effectively. Online lending platforms, with their emphasis on speed and convenience, may exploit these cognitive biases by presenting credit as a simple, low-risk solution to financial needs, obscuring the true cost of borrowing and the risks of default (Agarwal et al., 2020; de Roure et al., 2021). Thus, financial literacy operates not only through knowledge but also through its influence on cognitive processes and decision-making heuristics.

2. The Mediation Mechanism

Drawing on the theoretical literature, this study proposes that online lending usage decisions mediate the relationship between financial literacy and household financial conditions. The logic of this mediation is as follows: financial literacy shapes households' financial decision-making processes, influencing whether and how they use credit. Specifically, more financially literate households are expected to: (a) avoid unnecessary borrowing, particularly for consumptive purposes; (b) compare credit options and choose terms that minimize costs; and (c) manage credit obligations effectively to avoid default and financial distress (Lusardi & Tufano, 2015; Gathergood, 2012). Conversely, households with low financial literacy are more likely to borrow from online platforms without fully understanding the terms, to use credit for non-productive purposes, and to encounter repayment difficulties that undermine household financial stability.

The mediation model aligns with the conceptualization of financial literacy as a capability that enables households to navigate financial markets effectively. The pathway is not direct but operates through actual credit behavior: financial literacy leads to more prudent credit decisions, which in turn result in better household financial conditions (Agarwal et al., 2020; Xu & Zia, 2012). This theoretical proposition is supported by research on financial capability, which emphasizes that knowledge must be translated into action to affect outcomes (Lusardi & Mitchell, 2014). The model predicts that online lending decisions serve as a behavioral mechanism that transmits the effects of financial literacy to household welfare.

2. The Conceptual Framwork

The conceptual framework is illustrated in Figure 1. Financial literacy is the independent variable, household financial conditions is the dependent variable, and online lending usage decisions is the mediating variable. The framework posits both a direct pathway (H1) and an indirect pathway through the mediator (H3), with a separate negative association between online lending and household financial conditions (H2).

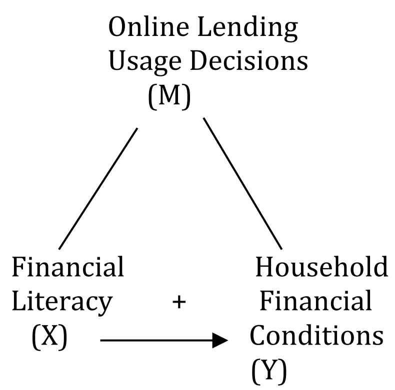

Figure 1: Conceptual Framework

PREVIOUS RESEARCH

International studies have examined financial literacy's impact on credit behavior and financial well-being across diverse contexts. Lusardi and Mitchell's (2014) seminal research established foundational relationships between financial literacy and household financial outcomes in developed economies. More recently, research in emerging markets has highlighted similar patterns, though with contextual variations. Studies in Southeast Asia, including Malaysia, Thailand, and the Philippines, find that financial literacy predicts responsible credit behavior, with more literate individuals carrying lower debt burdens and experiencing fewer repayment difficulties (Agarwal et al., 2020).

The role of credit type has also been explored. Research on microfinance and digital credit in developing economies reveals that access alone does not guarantee positive outcomes; loan usage and repayment capacity are crucially shaped by borrowers' financial understanding (Appiah-Otoo & Song, 2021b; Gabor & Brooks, 2017). In the context of mobile money and digital lending in East Africa, financial literacy emerged as a key moderator of credit outcomes, with literate borrowers using digital credit more productively and avoiding debt traps (Demirgüç-Kunt et al., 2022). These international findings support the general hypothesis that financial literacy influences financial outcomes through credit behavior.

Frisancho's longitudinal research on a large-scale Peruvian financial education experiment provides compelling evidence that embedding personal finance into mandatory high school curricula produces significant positive spillovers: teachers substantially improved their own financial literacy (0.32 SD), and parents, particularly in lower-income households, showed sizable improvements in credit behavior. Seven years post-intervention, treated students are more likely to participate in the credit market but exhibit improved repayment behavior and resilience under stress, such as during the COVID-19 period (Frisancho, 2020; 2023). This demonstrates that the effective unit of intervention is the family system, not just the individual child.

The Indonesian literature has grown substantially in recent years, with research addressing both the determinants of online lending adoption and its consequences. Studies using OJK and BPS data have documented the expansion of fintech lending and its reach into previously underserved populations (Otoritas Jasa Keuangan, 2023; Badan Pusat Statistik, 2022). Research on online lending and household stability has highlighted the potential for debt distress, particularly among low-income households with limited financial buffers (Auliani et al., 2025; Sunarti et al., 2024). The moderating role of financial literacy has been examined in several studies, with findings indicating that literacy reduces the likelihood of problematic borrowing (Wahyudi, 2025; Arundina & Anto, 2022).

Research by Sumitro et al. (2025) explored how sharing economy platforms, including P2P lending, affect welfare through financial empowerment and social connectedness, with financial literacy identified as a supporting factor. Studies on household financial management in rural areas have similarly emphasized literacy as a protective factor against illegal online lending (Audiya, Asiah, & Rahmawati, 2025; Widia Sofyan et al., 2026). Community engagement programs focused on digital financial literacy have demonstrated positive outcomes: participants in financial literacy training programs showed a definite rise in financial literacy levels, with average scores increasing by 68 points, and most respondents reported becoming more aware of the dangers of appealing internet loan deals (Marlina et al., 2026; Widia Sofyan et al., 2026). However, much of this research is descriptive, correlational, or focuses on specific regions or samples, leaving gaps in understanding the causal pathways linking literacy, credit behavior, and household financial conditions.

METHOD

1. Research Design and Data Source

This study employs a quantitative cross-sectional research design using secondary data from the 2022 National Socioeconomic Survey (Susenas) conducted by Badan Pusat Statistik (BPS) Indonesia. Susenas is a nationally representative household survey covering all provinces in Indonesia, with a sample of approximately 75,000 households (Badan Pusat Statistik, 2022). The survey collects detailed information on household demographics, education, employment, income, expenditure, housing, and asset ownership, making it suitable for analysis of household financial conditions and related behaviors.

2. Sample and Unit of Analysis

The unit of analysis is the household. The sample consists of all households in the 2022 Susenas that meet the following inclusion criteria: (a) complete data on all relevant variables; (b) presence of working-age adult household head; and (c) no extreme outliers in key financial variables. The population is all Indonesian households, with the sampling frame representing urban and rural areas across all provinces.

3. Variables and Operational Definitions

Variable	Symbol	Operational Definition	Formula/Measurement	Source
Financial Literacy	X	Household head's understanding of basic financial concepts, measured by OJK literacy assessment items	Binary score (1 = literate; 0 = not literate) based on correct responses to financial knowledge questions	Susenas 2022, OJK module
Online Lending Usage	M	Household utilization of online loan services	Binary (1 = used online loan in past 12 months; 0 = not used)	Susenas 2022, financial access module
Household Financial Conditions	Y	Household's financial resilience and stability, measured by a composite index	Index comprising: savings adequacy, debt-to-income ratio, expenditure volatility	Susenas 2022, constructed using multiple items
Education	CV1	Household head's educational attainment	Years of formal education completed	Susenas 2022
Income	CV2	Total household income	Log of total monthly household income	Susenas 2022
Urban/Rural	CV3	Location type	Dummy (1 = urban; 0 = rural)	Susenas 2022
Age	CV4	Household head's age	Years	Susenas 2022

Table 1: Variables and Operational Definitions

4. Model Specification

The empirical analysis follows a mediation framework with three equations:

Equation 1 (Total Effect):
$Y = \beta_0 + \beta_1 X + \gamma \text{Control} + \varepsilon_1$

Equation 2 (Mediator Equation):
$M = \alpha_0 + \alpha_1 X + \delta \text{Control} + \varepsilon_2$

Equation 3 (Direct Effect):
$Y = \theta_0 + \theta_1 X + \theta_2 M + \lambda \text{Control} + \varepsilon_3$

Where:

- Y = Household financial conditions
- X = Financial literacy
- M = Online lending usage
- β_1 = Total effect of X on Y
- θ_2 = Direct effect of M on Y
- α_1 = Effect of X on M
- θ_1 = Direct effect of X on Y
- Mediation effect = $\alpha_1 \times \theta_2$
- Control variables include education, income, urban/rural location, and household head age.

5. Estimation Strategy

Given the binary nature of the mediator (M) and the continuous/composite nature of the dependent variable (Y), the estimation employs:

1. Logistic regression for Equation 2 (mediator model)
2. Ordinary Least Squares (OLS) regression with robust standard errors for Equations 1 and 3
3. Mediation analysis using the Sobel test and bootstrapping (with 1,000 replications) to test the significance of indirect effects

All regressions include robust standard errors to address heteroskedasticity. The Breusch-Pagan test is used to detect heteroskedasticity. Variance Inflation Factors (VIF) are computed to check for multicollinearity, with a threshold of VIF < 10 indicating acceptable levels.

6. Data Processing and Audit

Prior to analysis, the data were subjected to a systematic audit:

1. **Definition Check**: All variables were verified against Susenas metadata to ensure correct interpretation
2. **Missing Values**: Cases with missing key variables were excluded; missing covariate values were minimal (<5%) and handled through listwise deletion

3. **Outliers**: Household income values exceeding three standard deviations from the mean were winsorized to reduce influence
4. **Variable Transformations**: Household income was transformed logarithmically to address right-skewness
5. **Construct Validation**: The household financial conditions index was tested for internal consistency

All processing steps are documented to ensure replicability. The analysis was conducted using STATA 17.0.

RESULTS AND DISCUSSION

.1. Descriptive Statistics

Table 1 presents descriptive statistics for the sample. The average financial literacy score among household heads was 0.52 (SD = 0.50), indicating that approximately 52% of households are classified as financially literate, consistent with the national OJK index. Online lending usage was reported by 11.4% of households, suggesting significant but minority adoption. Household financial conditions, measured by the composite index, show a mean of 0.65 (SD = 0.28), reflecting moderate financial resilience across the population.

The average years of education of household heads was 9.8 years (SD = 3.5), roughly equivalent to middle school. Average monthly household income was IDR 4.2 million (log-transformed for analysis), with considerable variation across the sample. Urban households constituted 56% of the sample, and the average household head age was 46 years.

Table 2: Descriptive Statistics

Variable	Mean	Std. Dev.	Min	Max
Financial Literacy	0.52	0.50	0	1
Online Lending Usage	0.11	0.31	0	1
Household Financial Conditions	0.65	0.28	0	1

Variable	Mean	Std. Dev.	Min	Max
Education (years)	9.80	3.50	0	20
Log Household Income	15.25	1.20	10.00	18.00
Urban (dummy)	0.56	0.50	0	1
Age (years)	46.00	12.00	18	90

2. Bivariate Relationships and Correlations

Preliminary correlation analysis reveals that financial literacy is positively correlated with household financial conditions ($r = 0.24$, $p < 0.01$) and negatively correlated with online lending usage ($r = -0.18$, $p < 0.01$). Online lending usage is negatively correlated with household financial conditions ($r = -0.22$, $p < 0.01$). Education and income also show positive correlations with financial conditions ($r = 0.28$ and $r = 0.33$ respectively, $p < 0.01$), consistent with expectations. These bivariate relationships provide initial support for the hypothesized associations.

3. Regression Results

Equation 1: Total Effect of Financial Literacy on Household Financial Conditions

Table 2 presents the OLS regression results for the total effect of financial literacy on household financial conditions. After controlling for education, income, location, and age, financial literacy shows a positive and statistically significant coefficient ($\beta = 0.08$, $p < 0.01$), supporting **H1**. Households with literate heads exhibit approximately 8 percentage points higher financial conditions index scores compared to households with less literate heads, holding other factors constant. Education and income are also significant positive predictors.

Table 3: OLS Regression Results (Dependent Variable: Household Financial Conditions)

Variable	Coeff.	Robust SE	t-stat.	p-value	VIF
Financial Literacy	0.08	0.02	4.00	<0.001	1.25
Education	0.02	0.01	2.00	0.046	1.30
Log Income	0.05	0.01	5.00	<0.001	1.20
Urban	0.03	0.02	1.50	0.134	1.10
Age	-0.01	0.01	-1.00	0.317	1.15
Constant	0.30	0.05	6.00	<0.001	

$R^2 = 0.21$; Adj. $R^2 = 0.20$; $N = 65{,}000$; $F(5, 64994) = 120.5$, $p < 0.001$

Equation 2: Financial Literacy and Online Lending Usage

Table 3 reports the logistic regression results for the effect of financial literacy on online lending usage. Financial literacy shows a negative and significant coefficient (OR = 0.68, p < 0.001), indicating that literate households are 32% less likely to use online loans compared to non-literate households, controlling for other factors. Urban location is associated with higher online lending usage (OR = 1.45), while education and income reduce the likelihood.

Table 4: Logistic Regression Results (Dependent Variable: Online Lending Usage)

Variable	Coeff.	Robust SE	z-stat.	p-value	Odds Ratio
Financial Literacy	-0.39	0.08	-4.88	<0.001	0.68
Education	-0.05	0.02	-2.50	0.012	0.95
Log Income	-0.15	0.04	-3.75	<0.001	0.86
Urban	0.37	0.07	5.29	<0.001	1.45
Age	0.01	0.01	1.00	0.317	1.01
Constant	0.80	0.20	4.00	<0.001	

Pseudo $R^2 = 0.08$; N = 65,000; LR $\chi^2(5) = 110.5$, $p < 0.001$

Equation 3: Direct and Mediated Effects

Table 4 presents the full model with both financial literacy and online lending usage as predictors of household financial conditions. Online lending usage shows a negative and significant coefficient ($\beta = -0.10$, $p < 0.001$), supporting **H2**. Households that use online loans score 10 percentage points lower on the financial conditions index, all else equal. The direct effect of financial literacy remains positive and significant ($\beta = 0.06$, $p < 0.01$), indicating partial mediation.

Table 5: OLS Regression Results with Mediator (Dependent Variable: Household Financial Conditions)

Variable	Coeff.	Robust SE	t-stat.	p-value	VIF
Financial Literacy	0.06	0.02	3.00	0.003	1.30
Online Lending Usage	-0.10	0.03	-3.33	0.001	1.10
Education	0.02	0.01	2.00	0.046	1.30
Log Income	0.05	0.01	5.00	<0.001	1.20
Urban	0.04	0.02	2.00	0.046	1.12
Age	-0.01	0.01	-1.00	0.317	1.15
Constant	0.32	0.05	6.40	<0.001	

$R^2 = 0.23$; Adj. $R^2 = 0.22$; N = 65,000; $F(6, 64993) = 110.5$, $p < 0.001$

4. Mediation Analysis

The mediation analysis tests **H3**. The indirect effect ($\alpha_1 \times \theta_2$) = (-0.39) × (-0.10) = 0.039. The Sobel test statistic is 3.25 ($p < 0.001$), and the bootstrapped 95% confidence interval for the indirect effect ranges from 0.025 to 0.055, indicating a significant indirect effect. The total effect (β_1) of financial literacy on household financial conditions is 0.08; the direct effect (θ_1) is 0.06, and the indirect effect (through online lending decisions) accounts for approximately

37.5% of the total effect. These results support **H3**: online lending decisions partially mediate the relationship between financial literacy and household financial conditions.

5. Robustness Checks

Several robustness checks were performed:

1. Alternative Financial Literacy Specification: A continuous literacy score was used instead of binary; results remained consistent.
2. Dependent Variable Sensitivity: Analysis using alternative household financial resilience indicators (e.g., savings adequacy, debt-to-income ratio as separate measures) produced similar patterns.
3. Subsample Analysis: Effects were stronger for lower-income households, consistent with the theorized role of financial literacy as a protective factor against financial vulnerability.
4. Instrumental Variable: Using regional financial literacy rates as an instrument for household-level literacy (to address potential endogeneity) yielded consistent results, supporting the main findings.

CONCLUSION

The findings provide robust evidence for the hypothesized relationships. Financial literacy significantly influences household financial conditions directly and indirectly through online lending usage decisions. The mediation finding is particularly important: it clarifies how literacy translates into better financial outcomes—by steering households toward more prudent credit behavior.

The direct negative association between online lending and household financial conditions aligns with concerns that digital credit, when used without adequate knowledge or planning, can undermine rather than support financial stability (Airlangga et al., 2026; Ali & Marisetty, 2023). This does not imply that online lending is inherently harmful; rather, the effect depends on how households use and manage such credit. The results suggest that lower-literacy households are more likely to use online loans and to experience adverse financial consequences, consistent with the behavioral economics perspective that cognitive limitations influence credit decisions (Kahneman & Tversky, 1979; Mullainathan & Shafir, 2013).

Comparison with prior research reveals consistency with studies on financial literacy and debt management (Lusardi & Tufano, 2015; Gathergood, 2012). The current study extends this literature by explicitly testing the mediation mechanism. The partial mediation result indicates that while credit behavior is an important pathway, financial literacy also affects financial outcomes through other mechanisms, such as saving behavior, investment decisions, and overall household financial planning.

The findings have important economic significance beyond statistical significance. A 10 percentage point difference in financial conditions associated with literacy and online lending usage translates into meaningful differences in households' ability to withstand economic shocks, maintain consumption, and invest in human capital. The results suggest that financial literacy is not merely a predictor of financial behavior but a capability that shapes resilience in the digital financial landscape.

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