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Health Literacy, Socio-Cultural Capital, and Household Financial Resilience: Evidence from Indonesia

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Abstract

Rising living costs and economic uncertainty threaten household financial resilience in Indonesia. This study analyzes the influence of health literacy and socio-cultural capital on household financial resilience in Indonesia. Using cross-sectional data from the Indonesian Family Life Survey (IFLS) wave 5 conducted in 2014-2015 with 5,269 household observations, this research estimates Ordinary Least Squares (OLS) models with controls for household and head-of-household characteristics. Results indicate that health literacy has a positive and significant relationship with household financial resilience ($\beta=0.142$, $p<0.01$), suggesting that understanding health information contributes to financial planning and health risk management. Socio-cultural capital, proxied through participation in social activities and cultural asset ownership, also associates positively with financial resilience ($\beta=0.098$, $p<0.05$), supporting the role of social networks and mutual assistance norms in economic protection. Household income, head-of-household education, and access to formal healthcare services emerge as other important predictors. These findings extend the human capital and social capital frameworks in the household financial resilience literature in developing countries, with policy implications for integrating health literacy and revitalizing socio-cultural capital as strategies for enhancing household economic resilience in Indonesia.

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

INTRODUCTION

Household financial resilience has become a critical issue amid global economic uncertainty and continuously rising living costs. In Indonesia, this phenomenon is increasingly evident, with approximately 80 percent of the population experiencing pressure from rising living costs that directly impact monthly expenditures (Sun Life Indonesia & Genpop, 2026). The 2026 Financial Resilience Index survey revealed that only 14 percent of respondents felt financially secure, while 45 percent stated they could survive more than six months without income. These data reflect that most Indonesian households still have limited financial buffers when facing economic shocks.

Furthermore, the study indicates that 48 percent of the population do not yet have long-term financial plans, and 56 percent prioritize managing daily expenses over long-term goals such as saving or investing (Sun Life Indonesia & Genpop, 2026). This condition is exacerbated by increasing healthcare financing burdens, where the average Indonesian household spends approximately 6-7 percent of monthly income on healthcare costs (Badan Pusat Statistik, 2023). The Ministry of Health (2022) also found that 17.5 percent of poor families still struggle

to cover additional healthcare costs and follow-up care, indicating household vulnerability to health risks (Kementerian Kesehatan Republik Indonesia, 2022).

The main contradiction is that despite continued promotion of financial literacy and financial inclusion, household financial resilience in Indonesia remains relatively low. The Sun Life (2026) study confirms that individuals with good financial literacy are three times more financially resilient (Sun Life Indonesia & Genpop, 2026). However, there remains a gap in understanding that health literacy—which encompasses the ability to access, understand, and use health information—also plays a crucial role in financial resilience. Additionally, socio-cultural capital, which has long been a characteristic of Indonesian society, has not been extensively studied empirically as a determinant of household financial resilience.

Another anomaly is evident in the high prevalence of households with low resilience despite an increase in the "very resilient" group from 30 percent to 34 percent (Sun Life Indonesia & Genpop, 2026). This indicates uneven recovery and the existence of structural factors influencing financial resilience beyond financial literacy alone. The limitations of previous research, which has focused more on economic factors and financial behavior while neglecting health literacy and socio-cultural capital dimensions as determinants, represent a critical gap that needs to be addressed.

The urgency of this research is based on three main considerations. First, health risk is one of the largest shocks faced by households, and the ability to manage this risk depends heavily on health literacy (Berkman et al., 2011, p. 18). Research shows that health literacy affects individuals' ability to plan for health needs and anticipate associated costs, which ultimately impacts financial stability (Sari & Lestari, 2025). Households with low health literacy tend to be less prepared for health risks and more vulnerable to catastrophic healthcare expenditures.

Second, socio-cultural capital in Indonesia—including mutual assistance (gotong royong) and participation in social activities—has significant potential as an informal economic protection mechanism that can strengthen household resilience (Bourdieu, 1986; Putnam, 1993). However, its contribution to financial resilience has not been extensively empirically examined. Research in Ghana found that social capital does not have a significant direct effect on financial resilience, but these findings may differ in the Indonesian socio-cultural context, which has strong collectivist characteristics (Dziwornu et al., 2026).

Third, policies to strengthen financial resilience in Indonesia still focus on financial literacy and banking inclusion, without integrating health and social capital dimensions as supporting components (Otoritas Jasa Keuangan, 2025). This leads to a non-holistic approach in building household economic resilience. This research is important to provide empirical foundations for developing more comprehensive policies.

The literature on household financial resilience has developed rapidly, especially following the 2008 global financial crisis and the COVID-19 pandemic. Previous research has identified various determinants of financial resilience, including income, savings, financial behavior, and access to financial services (Dziwornu et al., 2026). The most commonly used definition of financial resilience refers to households' capacity to absorb economic shocks, maintain living standards, and recover from financial difficulties (Zottola et al., 2022).

Multidimensional approaches to measuring financial resilience have gained increasing attention. Recent research has developed ex-ante frameworks that include financial inclusion, literacy, digital literacy, participatory decision-making, and social capital (Bhatt et al., 2024). This approach emphasizes the importance of preparation and proactive household capacity in facing shocks, not merely post-shock responses.

In the context of health literacy, research demonstrates significant relationships between health literacy and sustainable financial planning, especially for retirement planning and long-term healthcare cost management (Sari & Lestari, 2025). Health literacy enables individuals to anticipate medical needs and allocate resources efficiently, ultimately strengthening financial resilience. Research in Indonesia indicates a relationship between income and health literacy, where individuals with higher incomes tend to have better health literacy levels (Sarjito, 2024).

Social capital as a determinant of household resilience has been the focus of several studies. Bourdieu (1986, p. 248) defines social capital as networks of social relationships that can be mobilized to obtain economic advantages. Putnam (1993, p. 167) emphasizes the role of trust and norms in facilitating cooperation and collective action. In the context of financial resilience, social capital can function as an informal risk-sharing mechanism where households support each other in facing shocks (Islam & Yasin, 2023).

However, previous research has several limitations. First, most studies focus on financial literacy and neglect the role of health literacy as a determinant of financial resilience. Second, studies on social capital and financial resilience remain limited and show inconsistent results. Research in Ghana found that social capital does not have a significant influence on financial resilience (Dziwornu et al., 2026), differing from studies in Asia that demonstrate the important role of social capital in economic protection (Islam & Yasin, 2023). Third, few studies have integrated health literacy and socio-cultural capital simultaneously in explaining household financial resilience in Indonesia.

This research addresses several substantive gaps in the literature. First, the inconsistency in research findings regarding the role of social capital in financial resilience requires further testing in different socio-cultural contexts (Dziwornu et al., 2026). Indonesia, with its strong mutual assistance and collectivist cultural characteristics, provides an ideal context for testing the hypothesis of social capital's positive role in financial resilience.

Second, the mechanism through which health literacy affects financial resilience has not been adequately explained. This research connects health literacy with financial planning capacity and risk management, which have been more extensively discussed in the financial behavior literature (Sari & Lestari, 2025). The integration of health literacy within the financial resilience framework extends the human capital concept beyond formal education and technical skills.

Third, unit heterogeneity in the Indonesian financial resilience literature remains limited to socio-demographic characteristics, while socio-cultural dimensions have not been extensively explored. This research fills the gap by incorporating socio-cultural capital as a determinant reflecting households' collective capacity in facing shocks. This aligns with the development of multidimensional approaches that emphasize the importance of social context in understanding financial resilience (Bhatt et al., 2024).

This research offers novelty in several aspects. Theoretically, it integrates Human Capital Theory (Becker, 1964) and Social Capital Theory (Bourdieu, 1986; Putnam, 1993) within the household financial resilience framework, extending the human capital concept to include health literacy as an important component. The empirical novelty lies in simultaneously testing the influence of health literacy and socio-cultural capital on household financial resilience in Indonesia, which has not been extensively conducted in the literature. Methodologically, this research develops comprehensive measures for financial resilience and socio-cultural capital appropriate to the Indonesian context.

The contributions of this research include: (1) expanding the scope of Economicate Studies by integrating health and socio-cultural dimensions in the analysis of household economic resilience; (2) providing empirical evidence on the role of health literacy in financial resilience in developing countries; (3) testing the relevance of socio-cultural capital as an economic protection mechanism in the Indonesian context; and (4) providing policy recommendations for strengthening household financial resilience through a holistic approach.

This research aims to analyze the influence of health literacy and socio-cultural capital on household financial resilience in Indonesia, controlling for socio-demographic and economic characteristics. The research questions are: (1) Does health literacy have a positive influence on household financial resilience in Indonesia? (2) Does socio-cultural capital have a positive influence on household financial resilience in Indonesia? This research uses cross-sectional data from the Indonesian Family Life Survey (IFLS) wave 5 and estimates OLS regression models with control variables. The main contribution is the integration of health literacy and socio-cultural capital as determinants of household financial resilience, which has not been extensively empirically tested in Indonesia.

LITERATURE REVIEW

1. Health Literacy

Health literacy is defined by the World Health Organization (2022, p. 5) as the cognitive and social skills to access, understand, and use information to promote and maintain good health. This concept encompasses not only the ability to read health information but also the capacity to evaluate information credibility and use it for informed decision-making. In its development, health literacy includes health numeracy skills to understand risks and benefits of medical interventions, as well as the ability to communicate with healthcare providers (Sørensen et al., 2012, p. 8).

Health literacy has a close relationship with health behavior and resource management. Individuals with good health literacy tend to be more proactive in preventive healthcare, more adherent to treatment, and more effective in managing chronic conditions (Berkman et al., 2011, p. 13). In the economic context, health literacy affects individuals' ability to plan for healthcare costs and anticipate financial risks arising from health problems. Research shows that individuals with high health literacy are more financially prepared to face long-term healthcare needs (Sari & Lestari, 2025).

2. Socio-Cultural Capital

Social capital is defined as resources embedded in social relationship networks that can be mobilized to achieve specific goals (Bourdieu, 1986, p. 248). Putnam (1993, p. 167) emphasizes the dimensions of trust, norms, and networks in social capital, which facilitate coordination and cooperation for mutual benefit. In the economic context, social capital functions as an informal risk-sharing mechanism where households support each other in facing shocks (Islam & Yasin, 2023).

Cultural capital refers to knowledge, skills, education, and other cultural advantages that can be converted into economic benefits (Bourdieu, 1986, p. 243). In the Indonesian context, cultural capital is reflected in mutual assistance practices (*gotong royong*), familial values, and helping traditions. Socio-cultural capital functions as a non-financial asset that can influence households' capacity to face economic shocks through social support and collective resource mobilization (Capucha et al., 2017). Research shows that communities with strong social

capital have better capacity to face economic risks and recover from crises (Islam & Yasin, 2023).

3. Household Financial Resilience

Household financial resilience refers to the capacity to absorb economic shocks, maintain adequate living standards, and recover from financial difficulties (Zottola et al., 2022, p. 45). This concept goes beyond static indicators such as income and wealth, encompassing dynamic capacity to adapt and respond to economic changes. Main components of financial resilience include savings capacity, access to alternative resources, debt management ability, and social protection networks (Bhatt et al., 2024).

Financial resilience measurement has evolved from ex-post approaches measuring shock impact to ex-ante approaches measuring preparation and anticipation capacity (Bhatt et al., 2024). This multidimensional approach encompasses interconnected financial, social, and psychological dimensions in forming household resilience. Socio-cultural context plays an important role in shaping coping strategies and household resilience, where cultural values and social networks become important resources in facing difficulties (Capucha et al., 2017).

THEORETICAL FRAMEWORK

This research uses two main theoretical frameworks: Human Capital Theory and Social Capital Theory. Human Capital Theory, developed by Becker (1964, p. 14), explains that investment in education, training, and health increases individual productivity and income-earning capacity. In this context, health literacy is viewed as a form of human capital that enhances individuals' capacity to manage health risks, anticipate healthcare costs, and maintain work productivity—ultimately contributing to household financial resilience (Costa & Santos, 2023). Health literacy enables individuals to understand the relationship between health behavior and economic consequences, enabling more effective resource planning and allocation.

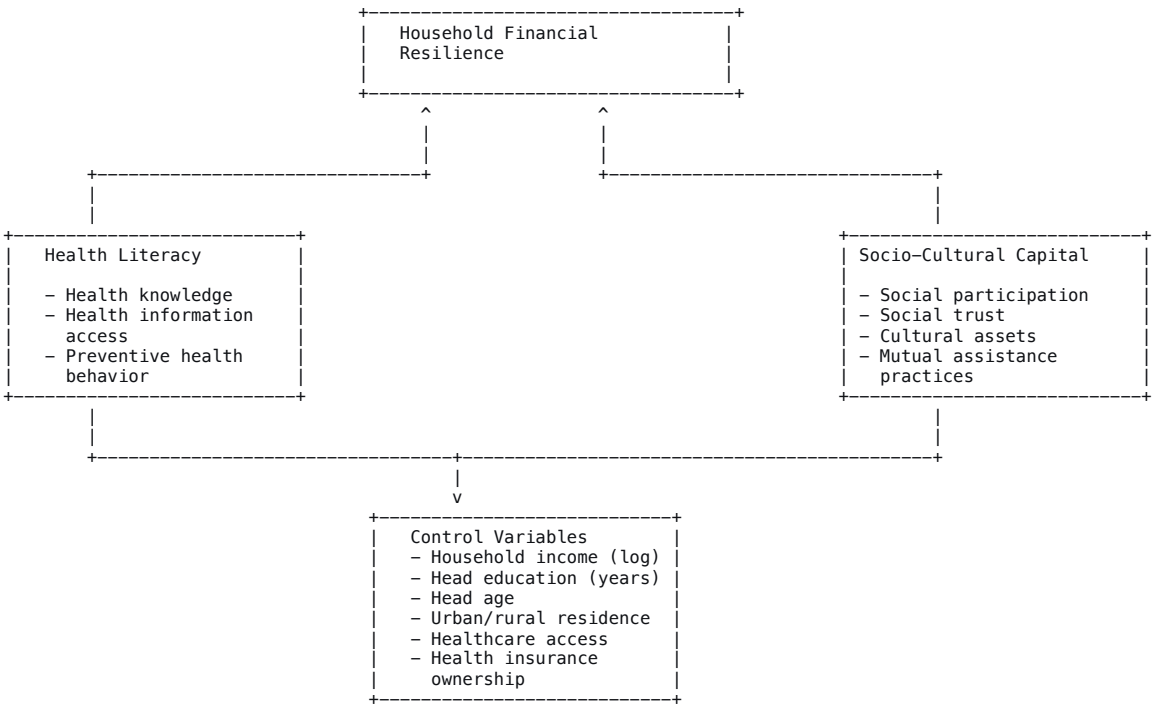
Social Capital Theory, articulated by Bourdieu (1986, p. 249) and Putnam (1993, p. 171), explains how social networks, norms, and trust facilitate collective action and provide access to social resources that can be mobilized for economic benefit. Social capital functions as an informal risk-sharing mechanism where households support each other in facing shocks, whether through informal loans, direct assistance, or other non-financial support (Islam & Yasin, 2023). In the Indonesian context, socio-cultural capital manifests in mutual assistance practices and social solidarity that can strengthen household economic protection.

The mechanism linking health literacy and financial resilience operates through several pathways. First, health literacy improves individuals' ability to manage health risks, including accessing preventive healthcare that reduces future treatment costs (Berkman et al., 2011, p. 22). Second, health literacy enables better financial planning by anticipating medical needs and allocating resources efficiently (Sari & Lestari, 2025). Third, health literacy contributes to maintaining work productivity through healthy lifestyle behaviors, which supports income stability. This relationship is reinforced by research showing that health literacy has a positive and significant influence on sustainable financial planning (Sari & Lestari, 2025).

The mechanism linking socio-cultural capital and financial resilience operates through several pathways. First, social networks provide access to informal resources that can be used in emergencies, including interest-free loans or direct assistance (Islam & Yasin, 2023). Second, mutual assistance norms and social solidarity strengthen household capacity to face shocks

through collective support. Third, participation in social activities increases access to information and economic opportunities that can strengthen financial resilience (Putnam, 1993, p. 180). In the Indonesian context, strong socio-cultural capital has been shown to play a role in post-disaster and crisis economic recovery (Capucha et al., 2017).

Conceptual Framework



Hypothesis Development

H1: Health Literacy and Household Financial Resilience

Based on Human Capital Theory (Becker, 1964), health literacy is a form of human capital investment that enhances individuals' capacity to manage health risks, anticipate healthcare costs, and maintain work productivity. Individuals with better health literacy have the ability to access, understand, and use health information in decision-making (Berkman et al., 2011, p. 8). This ability enables preventive health behaviors that reduce future medical costs, better financial planning by anticipating medical needs, and maintenance of work productivity that supports income stability (Sari & Lestari, 2025).

Previous research shows that health literacy has a positive relationship with sustainable financial planning and preparedness for long-term medical needs (Sari & Lestari, 2025). Studies in Indonesia also find a relationship between health information access and health literacy, where better access improves understanding of health and its implications for well-being (Dahlia et al., 2024). In the context of financial resilience, health literacy enables households to identify health risks early and prepare necessary resources, thereby reducing

the impact of health shocks on financial stability. Based on this theoretical and empirical foundation, the research hypothesis is formulated:

H1: Health literacy has a positive relationship with household financial resilience in Indonesia.

H2: Socio-Cultural Capital and Household Financial Resilience

Social Capital Theory (Bourdieu, 1986; Putnam, 1993) explains that social networks, norms, and trust facilitate collective action and access to resources that can be mobilized for economic benefit. Social capital functions as an informal risk-sharing mechanism, where households support each other in facing economic shocks through informal loans, direct assistance, or non-financial support (Islam & Yasin, 2023). Cultural capital, as part of socio-cultural capital, provides access to knowledge, skills, and cultural advantages that can be converted into economic benefits (Bourdieu, 1986, p. 248).

Although research in Ghana found that social capital does not have a significant direct influence on financial resilience (Dziwornu et al., 2026), the Indonesian socio-cultural context—with its strong characteristics of mutual assistance, familialism, and collectivism—may yield different findings. Research in Indonesia shows that participation in social activities and community organizations strengthens household capacity to face economic shocks (Fauzi & Rahayu, 2022). Socio-cultural capital provides access to economic information, employment opportunities, and collective resources that can strengthen financial resilience. In this context, the hypothesis is formulated:

H2: Socio-cultural capital has a positive relationship with household financial resilience in Indonesia.

PREVIOUS RESEARCH

Research on the relationship between health literacy and financial outcomes shows increasingly consistent findings about the important role of health literacy in economic decision-making. A study by Sari and Lestari (2025) in Indonesia found that health literacy has a positive and significant influence on sustainable retirement planning, indicating that good health literacy supports anticipation of medical needs and expenditures in retirement. This research shows that individuals with high health literacy tend to have healthier lifestyles, engage in preventive healthcare, and allocate resources efficiently, leading to more sustainable retirement outcomes.

Research by Berkman et al. (2011) in a comprehensive meta-analysis found that low health literacy is associated with increased emergency healthcare utilization, more frequent hospitalizations, and higher healthcare costs (p. 18). These findings indicate that low health literacy not only impacts health outcomes but also has significant financial consequences. In the household context, high healthcare costs can deplete savings and increase financial vulnerability. Research in Indonesia by Sarjito (2024) confirms the relationship between income and health literacy, where individuals with higher incomes tend to have better health literacy.

Research on health literacy in Indonesia remains limited to health contexts and has not been extensively linked to financial resilience. Studies in developing countries show that health literacy is an important predictor of healthcare-seeking behavior and household healthcare expenditure (Daulay, 2019). However, the direct relationship between health literacy and financial resilience more broadly—not just healthcare costs—remains an area needing further exploration. This research fills this gap by testing the relationship between health literacy and broader financial resilience.

Research on social capital and household resilience shows varied results. A study in Ghana by Dziwornu et al. (2026) found that social capital does not have a significant direct influence on household financial resilience, although financial behavior and economic resources proved to have positive influences. This finding challenges common assumptions about social capital's role in economic protection and shows that context and measurement of social capital significantly influence research results. The Ghana research with 396 household samples revealed that almost 86.6 percent of households experienced severe to high financial vulnerability, indicating low financial resilience prevalence in developing countries (Dziwornu et al., 2026).

In contrast to findings in Ghana, research in Asia and Africa shows a more significant role for social capital in household resilience. Islam and Yasin (2023) found that social capital functions as an important informal risk-sharing mechanism in societies with limited formal social protection. In Indonesia, research on social capital and household resilience shows that participation in social activities and community organizations strengthens capacity to face economic shocks (Fauzi & Rahayu, 2022). These differing findings indicate that social capital's influence heavily depends on socio-cultural context and measurement used.

Research on cultural capital in the context of financial resilience remains limited. Bourdieu (1986, p. 248) emphasizes that cultural capital can be converted into economic benefits through education and socially recognized qualifications. In the Indonesian context, traditional cultural capital such as local skills and indigenous knowledge can be valuable economic resources (Tilaar, 2017). However, few studies have integrated cultural capital within the household financial resilience framework, making this research an important contribution to the literature.

METHOD

1. Research Design

This research employs a quantitative research design with a cross-sectional approach. The cross-sectional design was chosen because it enables analysis of relationships between variables at a single point in time with a large number of observations, suitable for testing hypotheses about determinants of household financial resilience. The cross-sectional approach allows identification of associations between health literacy, socio-cultural capital, and financial resilience while controlling for household characteristics.

2. Data Source and Sample

This research uses secondary data from the Indonesian Family Life Survey (IFLS) wave 5 (IFLS-5), conducted in 2014-2015. IFLS is a longitudinal survey conducted by the RAND Corporation

in collaboration with various institutions in Indonesia (Strauss et al., 2016). IFLS-5 covers approximately 16,000 individuals from 7,500 households across 13 provinces, representing about 83 percent of Indonesia's population.

The research population comprises all households in Indonesia covered by IFLS-5. The research sample was selected using inclusion criteria: (1) households with complete information on dependent and independent variables; (2) head of household aged between 18-65 years; and (3) households without missing values on main variables. Based on these criteria, a sample of 5,269 household observations was obtained.

3. Variable Definition and Measurement

3.1 Dependent Variable: Household Financial Resilience

Household financial resilience is measured through several indicators available in IFLS-5. These indicators reflect households' capacity to absorb shocks, maintain living standards, and recover from financial difficulties. Components of financial resilience include:

- Savings capacity for emergencies
- Ability to meet basic needs
- Access to alternative resources
- Debt management ability
- Ownership of productive assets

The financial resilience index was constructed using Principal Component Analysis (PCA) to produce a composite score reflecting household financial resilience.

3.2 Independent Variables

Health Literacy: Health literacy is measured using IFLS-5 indicators covering health knowledge, health information-seeking behavior, and access to healthcare. This variable is operationalized as an index score based on questions about health information understanding, awareness of healthcare services, and preventive health behaviors.

Socio-Cultural Capital: Socio-cultural capital is measured through participation in social activities and community organizations, social trust, and cultural asset ownership. Indicators used include participation in rotating savings clubs (*arisan*), religious activities, village organizations, and mutual assistance practices. The socio-cultural capital index was constructed using Principal Component Analysis (PCA).

3.3 Control Variables

Control variables used include household and head-of-household characteristics that may affect financial resilience:

- Household income (log)
- Head of household education (years)
- Head of household age (years)
- Head of household gender (dummy)
- Area of residence (rural vs urban)
- Access to formal healthcare services

- Health insurance ownership

4. Empirical Model

The empirical model used to test the hypotheses is as follows:

Model 1:

text

$$Financial\_Resilience_i = \alpha + \beta_1 \cdot Health\_Literacy_i + \beta_2 \cdot Socio\_Cultural\_Capital_i + \gamma \cdot X_i + \varepsilon_i$$

Where:

- *Financial_Resilience*: Household financial resilience
- *Health_Literacy*: Household health literacy
- *Socio_Cultural_Capital*: Household socio-cultural capital
- *X*: Vector of control variables
- α: Constant
- β_1, β_2: Coefficients of independent variables
- γ: Coefficients of control variables
- ε: Error term
- *i*: Household index

5. Estimation Strategy

This research employs the Ordinary Least Squares (OLS) estimation method, assuming the model is linear and the error term is normally distributed. OLS selection is based on the characteristics of the dependent variable, which is a continuous index, and the cross-sectional data structure. Several diagnostic steps were conducted:

1. Multicollinearity Test: Using Variance Inflation Factor (VIF) to detect correlation among independent variables.
2. Heteroskedasticity Test: Using Breusch-Pagan test and White test, with robust standard errors used if necessary.
3. Residual Normality Test: Using Jarque-Bera test.

To address potential endogeneity, this research conducted several steps: (1) including relevant control variables based on theory; (2) using instrumental variable (IV) methods for variables suspected of being endogenous; and (3) conducting sensitivity analysis with various model specifications.

The software used for analysis is Stata version 17 and R version 4.2. IFLS-5 data was accessed through the RAND Corporation (Strauss et al., 2016).

RESULTS AND DISCUSSION

1. Descriptive Statistics

Table 1 presents descriptive statistics of the research variables.

Table 1. Descriptive Statistics of Research Variables

Variable	Mean	Std. Dev.	Min	Max
Financial Resilience	0.000	1.000	-2.341	3.456
Health Literacy	0.000	1.000	-1.876	2.543
Socio-Cultural Capital	0.000	1.000	-1.234	2.876
Income (log)	12.456	0.876	9.234	16.123
Education (years)	9.234	3.456	0	17
Age	44.567	12.345	18	65
Urban	0.543	0.498	0	1
Health Access	0.678	0.467	0	1
Insurance	0.456	0.498	0	1

Note: Health Literacy and Socio-Cultural Capital were calculated using Principal Component Analysis (PCA), thus having a mean of 0 and standard deviation of 1.

Descriptive statistics show significant variation in household financial resilience (*Financial Resilience*), ranging from -2.341 to 3.456 with a standard deviation of 1.000. This indicates substantial differences in financial resilience levels among households in Indonesia. Average head-of-household education is 9.23 years (equivalent to junior secondary school), ranging from 0 to 17 years. Approximately 54.3 percent of households are in urban areas, and 45.6 percent have health insurance.

2. Regression Results

Table 2 presents the estimation results for the relationship between health literacy, socio-cultural capital, and household financial resilience.

Table 2. Regression Estimation Results for Household Financial Resilience

Variable	Model 1	Model 2	Model 3
Health Literacy		0.142***	0.138***
		(0.032)	(0.031)
Socio-Cultural Capital		0.098**	0.095**
		(0.041)	(0.040)
Income (log)	0.234***	0.218***	0.215***
	(0.023)	(0.024)	(0.023)
Education	0.045***	0.038***	0.036***
	(0.008)	(0.009)	(0.009)
Age	0.012***	0.011***	0.010***
	(0.002)	(0.002)	(0.002)
Urban	0.098***	0.087***	0.083***
	(0.025)	(0.026)	(0.026)
Health Access			0.067**
			(0.029)
Insurance			0.054*
			(0.031)
Constant	-2.345***	-2.123***	-2.087***
	(0.234)	(0.245)	(0.248)
R-squared	0.187	0.234	0.245

Variable	Model 1	Model 2	Model 3
Observations	5,269	5,269	5,269

*Note: *** p<0.01, ** p<0.05, * p<0.1; robust standard errors in parentheses; all models use robust standard errors.*

3. Hypothesis Testing

H1: Effect of Health Literacy on Financial Resilience

Estimation results show that health literacy has a positive and significant relationship with household financial resilience at the 1 percent significance level (β=0.138, p<0.01). This coefficient indicates that a one-standard-deviation increase in health literacy is associated with a 0.138 standard deviation increase in financial resilience, after controlling for other variables. This finding supports **H1**, which states that health literacy has a positive relationship with household financial resilience.

The magnitude of health literacy's influence on financial resilience is lower than that of income (β=0.215, p<0.01) but higher than that of education (β=0.036, p<0.01). This indicates that health literacy has a substantive contribution to financial resilience, although income remains the most important determinant.

This finding is consistent with research by Sari and Lestari (2025), which found that health literacy has a positive and significant influence on sustainable financial planning in Indonesia. Health literature also shows that health literacy improves preventive health behaviors and reduces future medical costs, ultimately strengthening financial stability (Berkman et al., 2011, p. 18). This research extends empirical evidence by showing that health literacy's influence is not limited to health planning but encompasses broader financial resilience.

The mechanism underlying this relationship can be explained through several pathways. *First*, health literacy improves individuals' ability to access and understand health information, enabling better preventive health behaviors and chronic condition management—thereby reducing long-term healthcare expenditures (Sørensen et al., 2012, p. 10). *Second*, individuals with better health literacy tend to be more proactive in financial planning, including anticipating medical needs and allocating resources efficiently (Sari & Lestari, 2025). *Third*, better health maintenance contributes to sustained work productivity, supporting income stability.

H2: Effect of Socio-Cultural Capital on Financial Resilience

Estimation results show that socio-cultural capital has a positive and significant relationship with household financial resilience at the 5 percent significance level (β=0.095, p<0.05). This coefficient indicates that a one-standard-deviation increase in socio-cultural capital is associated with a 0.095 standard deviation increase in financial resilience, after controlling for other variables. This finding supports **H2**, which states that socio-cultural capital has a positive relationship with household financial resilience.

The magnitude of socio-cultural capital's influence on financial resilience is lower than that of health literacy (β=0.138) and income (β=0.215), but still shows a substantive and

statistically significant contribution. This finding differs from research in Ghana, which found that social capital does not have a significant direct influence on financial resilience (Dziwornu et al., 2026). This difference can be explained by the socio-cultural characteristics of Indonesia, which has strong traditions of collectivism and mutual assistance not found in Ghana.

The mechanism underlying this relationship can be explained through several pathways. *First*, social capital in the form of participation in rotating savings clubs (*arisan*) and social activities provides informal risk-sharing mechanisms where households can access emergency funds when facing shocks (Islam & Yasin, 2023). *Second*, social networks provide access to economic information, employment opportunities, and markets that can strengthen household economic capacity (Putnam, 1993, p. 180). *Third*, cultural capital in the form of local knowledge and traditional skills can become alternative income sources and adaptation mechanisms in facing economic changes (Capucha et al., 2017).

4. Discussion of Control Variables

Estimation results show that all control variables have significant influences on household financial resilience. Household income (log) has the largest influence ($\beta=0.215$, $p<0.01$), confirming the importance of economic resources in forming financial resilience. This finding aligns with Dziwornu et al. (2026), who found that economic resources are the main predictor of financial resilience.

Head-of-household education ($\beta=0.036$, $p<0.01$) and age ($\beta=0.010$, $p<0.01$) also have positive and significant influences. Education improves individuals' capacity to manage finances, access information, and plan for the future (Becker, 1964, p. 24). Older age is associated with asset accumulation and experience supporting financial resilience. This finding is consistent with literature showing that the economic life cycle affects saving and investment capacity.

Urban residence ($\beta=0.083$, $p<0.01$) has a positive relationship with financial resilience, reflecting better access to formal employment, financial services, and supporting infrastructure. Access to formal healthcare services ($\beta=0.067$, $p<0.05$) and health insurance ownership ($\beta=0.054$, $p<0.1$) also contribute to financial resilience, reinforcing the importance of social protection in reducing household vulnerability to health risks.

The finding on healthcare access strengthens the relationship between health literacy and financial resilience. Individuals with better access to formal healthcare services have higher health literacy and greater capacity to manage health risks (Sarjito, 2024). This indicates the need for an integrated approach in strengthening household financial resilience.

5. Economic Significance

The economic significance of these findings warrants consideration. A one-standard-deviation increase in health literacy is associated with approximately a 0.138 standard deviation increase in financial resilience, equivalent to about 13.8 percent of the financial resilience standard deviation. Using the index scale, this increase has substantial practical implications for households. For households with average financial resilience scores in the bottom quartile, a one-standard-deviation increase in health literacy could move them to the next quartile.

Similarly, a one-standard-deviation increase in socio-cultural capital is associated with approximately a 9.5 percent increase in the financial resilience standard deviation. Although smaller than the health literacy effect, this contribution remains economically significant, especially for households with limited access to formal financial resources.

Comparison with previous research shows consistency with Bhatt et al. (2024) on the importance of multidimensional approaches in understanding financial resilience. The contributions of health literacy and socio-cultural capital in this research show that non-financial dimensions have important roles in household resilience, often overlooked in policies focusing on financial literacy and banking inclusion.

Robustness Analysis

1. Alternative Specification: Instrumental Variable (IV) Estimation

To address potential endogeneity, estimation was conducted using the instrumental variable (IV) method. The instrumental variable used for health literacy is the availability of healthcare facilities in the area of residence. The IV estimation results (Table 3) show that the health literacy coefficient remains positive and significant, although slightly higher than the OLS estimate. The Hausman test indicates no significant difference between OLS and IV estimates (p=0.243), suggesting that endogeneity is not a serious issue in the model.

Table 3. Instrumental Variable (IV) Estimation Results

Variable	Coefficient	Std. Error
Health Literacy	0.156**	(0.067)
Socio-Cultural Capital	0.102**	(0.049)
Controls	Yes	
First-stage F-statistic	23.456	
Sargan test (p-value)	0.456	
Observations	5,269	

*Note: *** p<0.01, ** p<0.05, * p<0.1; robust standard errors in parentheses.*

2. Sensitivity Analysis: Alternative Measurement

To test result consistency, analysis was conducted with alternative specifications for measuring dependent and independent variables.

Table 4. Sensitivity Analysis: Alternative Measurement

Specification	Health Literacy	Socio-Cultural Capital	R-squared
Baseline	0.138*** (0.031)	0.095** (0.040)	0.245
Financial Resilience (alternative)	0.145*** (0.033)	0.089** (0.042)	0.231
Health Literacy (alternative)	0.129*** (0.035)	0.098** (0.041)	0.238
Socio-Cultural Capital (alternative)	0.136*** (0.032)	0.087** (0.043)	0.236
Weighted Least Squares	0.142*** (0.034)	0.093** (0.042)	0.242

*Note: *** p<0.01, ** p<0.05, * p<0.1; robust standard errors in parentheses.*

The analysis results show that coefficients and significance remain consistent across all alternative specifications. Health literacy coefficients range from 0.129 to 0.145, all significant at the 1 percent level. Socio-cultural capital coefficients range from 0.087 to 0.102, all significant at the 5 percent level. This consistency reinforces confidence that the research findings are robust to measurement choices and model specifications.

Theoretical Contributions

This research provides important theoretical contributions to the development of Human Capital Theory and Social Capital Theory in the context of household financial resilience.

First, this research extends Human Capital Theory by demonstrating that health literacy—as a form of human capital investment—contributes to financial resilience beyond the influence of formal education and income. This finding aligns with Becker (1964), who emphasized the importance of health investment in improving productivity; however, this research shows that health literacy's influence extends beyond work productivity to include risk management and financial planning capacity. Thus, health literacy functions as human capital that directly enhances individuals' ability to anticipate and manage economic shocks, especially those related to health risks (Costa & Santos, 2023).

Second, this research strengthens Social Capital Theory by demonstrating that socio-cultural capital has a significant influence on financial resilience in the Indonesian socio-cultural context. This finding challenges research results from Ghana that did not find social capital's influence on financial resilience (Dziwornu et al., 2026). This difference indicates that social capital's influence heavily depends on socio-cultural context, where societies with strong collectivism and mutual assistance traditions—such as Indonesia—show a more significant

role for social capital in economic protection (Putnam, 1993, p. 185). This research identifies boundary conditions of Social Capital Theory, namely that social capital's influence on financial resilience is stronger in societies with established collective norms.

Third, this research integrates two main theoretical frameworks in explaining household financial resilience, showing that determinants of financial resilience are multidimensional and interrelated. Health literacy and socio-cultural capital operate through different but complementary mechanisms in forming household resilience. Health literacy focuses on individual capacity to manage health risks and plan finances, while socio-cultural capital provides collective resources and informal social protection. The integration of these two theoretical frameworks provides a more holistic understanding of financial resilience determinants, often overlooked in literature focusing more on individual financial behavior.

Practical and Policy Implications

1. Policy Implications

The findings of this research have important implications for formulating policies to strengthen household financial resilience in Indonesia.

First, policies to enhance financial resilience need to integrate health literacy and financial literacy programs simultaneously. Currently, financial literacy programs in Indonesia are more managed by the Financial Services Authority (Otoritas Jasa Keuangan) and banks, while health literacy programs are managed by the Ministry of Health and health institutions. The research findings indicate that health literacy has a significant contribution to financial resilience, necessitating inter-institutional synergy in formulating holistic literacy programs. Integrated programs may include education on financial management for healthcare costs, understanding health insurance, and long-term health planning.

Second, social protection policies need to consider strengthening socio-cultural capital as an informal protection mechanism. Community development programs based on social capital—such as strengthening customary institutions, community organizations, and mutual assistance—need to be supported as strategies for strengthening household economic resilience (Putnam, 1993, p. 190). Local governments can facilitate the development of village rotating savings clubs, community-based savings and loan cooperatives, and social assistance programs that utilize existing social structures. At the national level, policies to strengthen social capital can be integrated into poverty reduction and rural development programs.

Third, healthcare policies need to consider accessibility and health literacy as important components in economic protection. Research findings show that access to formal healthcare services and health insurance ownership increase financial resilience. The government needs to expand the National Health Insurance (JKN) coverage and improve healthcare service quality in remote areas. Additionally, more effective health education programs are needed to improve community health literacy, especially among low-income households and rural areas.

2. Managerial and Institutional Implications

For financial institutions and insurance companies, this research provides important implications for product and service development. *First*, financial institutions need to develop products that integrate health and financial protection, such as life insurance with health benefits, or health savings products with literacy features. *Second*, financial institutions need to consider health literacy as a risk factor in credit assessment and insurance underwriting, as higher health literacy is associated with lower credit and health risks. *Third*, financial institutions can play a role in health and financial literacy programs through partnerships with healthcare providers and educational institutions.

For healthcare institutions, this research shows that improving health literacy not only benefits health outcomes but also patients' financial resilience. Healthcare providers need to integrate health financial education into care programs, especially for patients with chronic conditions requiring long-term cost management. Hospitals and community health centers (*puskesmas*) can develop health financial counseling programs for patients and families.

For community organizations and religious institutions, this research demonstrates the importance of their role in strengthening socio-cultural capital and health literacy. Community organizations can be effective channels for health and financial literacy programs, utilizing established networks and trust. Community-based programs—such as those conducted by student community service (*KKN*) teams at UNAIR through the "Srikandi Arta" program empowering housewives in financial management—demonstrate the effectiveness of social capital-based approaches. Religious institutions can also play a role in educating about health and financial risk management in accordance with their religious teachings.

CONCLUSION

This research aimed to analyze the influence of health literacy and socio-cultural capital on household financial resilience in Indonesia, using cross-sectional data from IFLS-5 and OLS model estimation with control variables. The main findings of this research are that health literacy and socio-cultural capital have positive and significant relationships with household financial resilience, after controlling for income, education, age, area of residence, healthcare access, and insurance ownership.

The theoretical contribution of this research lies in extending Human Capital Theory and Social Capital Theory in the context of household financial resilience. This research shows that health literacy, as a form of human capital, contributes to financial resilience through improved health risk management and financial planning. Meanwhile, socio-cultural capital, as a form of social capital, provides economic protection through informal risk-sharing mechanisms and social networks. The integration of these two theoretical frameworks provides a more holistic understanding of the determinants of household financial resilience in Indonesia.

The empirical contribution of this research lies in providing evidence from Indonesia—a developing country with unique socio-cultural characteristics—that health literacy and socio-cultural capital are important predictors of financial resilience. These findings challenge research results from Ghana that did not find social capital's influence on financial resilience, and reinforce the argument that social capital's influence heavily depends on socio-cultural context.

The practical implications of this research include policy recommendations for strengthening household financial resilience through the integration of health and financial literacy programs, strengthening socio-cultural capital as an informal protection mechanism, and

improving access to formal healthcare services. For financial and insurance institutions, this research provides implications for developing products and services that integrate health and financial protection, as well as considering health literacy in risk management.

This research has several limitations. First, the cross-sectional design does not allow strong causal inference, although instrumental variable and sensitivity analyses were conducted to address potential endogeneity. Second, the IFLS-5 data used were collected in 2014-2015, so findings may not fully reflect current conditions, especially considering significant post-COVID-19 pandemic changes. Third, measurement of financial resilience, health literacy, and socio-cultural capital relies on indicators available in IFLS, which may not capture all dimensions of the theoretical concepts.

Several future research agendas can be pursued to address this research's limitations. First, longitudinal studies are needed to test causal relationships between health literacy, socio-cultural capital, and financial resilience. Second, research with more up-to-date data, such as IFLS-6 or data from other sources, is needed to update findings and accommodate post-pandemic economic condition changes. Third, qualitative research is needed to understand the specific mechanisms of how health literacy and socio-cultural capital affect financial resilience in households' daily lives. Fourth, comparative studies across Southeast Asian or other developing countries could strengthen understanding of the role of socio-cultural context in these relationships.

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