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UNDERSTANDING HOUSEHOLD FOOD SECURITY THROUGH FINANCIAL LITERACY AND SELF-CONTROL: EVIDENCE FROM MILLENNIAL FAMILIES IN URBAN INDONESIA

Annisa Paramaswary Aslam[1], Ayu Kartini Parawansa[2], Regina[3]

[1] Department of Management, Faculty of Economic, Universitas Negeri Makassar

[2] Universitas Muslim Indonesia, [3] Universitas Negeri Makassar

E-mail: [1)] annisa.paramaswary@unm.ac.id , [2)] ayukartini.parawansa@umi.ac.id , [3)]regina@unm.ac.id

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Abstract

Household food security remains a critical challenge for many millennial families, particularly in urban areas where rising food prices, unstable household income, and changing consumption patterns increase financial vulnerability. While previous studies have primarily emphasized economic factors, limited attention has been given to the combined roles of financial literacy and self-control in strengthening household food security. This study aims to examine the effects of financial literacy and self-control on household food security among millennial families in Mattoangin Village, Makassar City. A quantitative research design was employed using a survey of 180 millennial households selected through purposive sampling. Data were analyzed using Partial Least Squares Structural Equation Modeling (PLS-SEM). The results reveal that financial literacy has a positive and significant effect on household food security by improving financial planning and resource allocation. Self-control also exerts a significant positive influence by promoting disciplined spending behavior and reducing impulsive consumption. Furthermore, financial literacy and self-control jointly explain a substantial proportion of household food security. These findings highlight that both financial knowledge and behavioral discipline are essential for enhancing household resilience. The study recommends strengthening community-based financial education and behavioral intervention programs to promote sustainable household food security among urban millennial families.

Keywords: *Financial Literacy; Household Food Security; Millennial Families; Self-Control; Urban Households*

1. INTRODUCTION

Household food security has become one of the most pressing development challenges worldwide, particularly in developing countries where rising food prices, inflation, and economic uncertainty threaten household well-being. According to the Food and Agriculture Organization (FAO), household food security exists when all household members have continuous physical, social, and economic access to sufficient, safe, and nutritious food that meets their dietary needs for an active and healthy life. In Indonesia, despite continuous economic development, many urban households remain vulnerable to food insecurity due to increasing living costs, unstable income, and changing consumption patterns. These challenges are especially evident among millennial families, who are in their productive age and simultaneously face multiple financial obligations, including housing, children's education, healthcare, transportation, and daily consumption.

Millennial families represent a generation with high digital exposure and easy access to financial services. Although digital financial platforms facilitate financial transactions and improve access to financial products, they also encourage impulsive purchasing behavior and excessive consumption. Consequently, many households experience financial pressure despite having relatively adequate income. This condition indicates that household food security depends not only on household income but also on the capability of families to manage financial resources effectively(Aslam et al., 2024, 2025; Musa et al., 2024).

Financial literacy has been widely recognized as a key determinant of household welfare and financial resilience. The OECD defines financial literacy as the combination of financial knowledge, attitudes, and behaviors that enables individuals to make sound financial decisions and achieve financial well-being. Financially literate households are more likely to prepare budgets, monitor expenditures, manage debt, accumulate savings, and allocate resources efficiently toward essential needs, including food consumption.

Previous studies consistently demonstrate the importance of financial literacy in improving household welfare. Lusardi and Mitchell (2014) found that financially literate individuals make better financial decisions and accumulate greater financial assets than those with lower financial knowledge. Similarly, Xiao and Porto (2017) reported that financial literacy positively influences household financial behavior and long-term financial well-being. More recently, Morgan and Long (2020) showed that financial literacy contributes significantly to household financial resilience by improving financial planning and emergency preparedness. These findings suggest that financial literacy enables households to maintain stable food consumption, particularly during periods of economic uncertainty.

However, financial knowledge alone is insufficient to explain household financial decisions. According to Behavioral Life-Cycle Theory, individuals often fail to translate financial knowledge into appropriate behavior because of psychological biases and limited self-regulation. Therefore, self-control has emerged as another important determinant of household financial outcomes. Self-control refers to an individual's ability to regulate emotions, resist impulsive spending, delay gratification, and prioritize long-term financial objectives over immediate desires.

Empirical evidence supports the role of self-control in promoting better financial management. Strömbäck et al. (2017) found that self-control significantly improves saving behavior and financial well-being by reducing impulsive consumption. Gathergood (2012) also reported that individuals with higher self-control are less likely to experience excessive debt and financial distress. Likewise, Tangney et al. (2004) demonstrated that self-control contributes positively to various life outcomes, including financial responsibility and resource management. These studies indicate that disciplined spending behavior allows households to allocate a greater proportion of their income toward essential expenditures such as food, thereby strengthening household food security.

Although previous studies have independently examined the effects of financial literacy on financial well-being and the influence of self-control on financial behavior, empirical evidence investigating the combined effects of these two variables on household food security remains limited. Most existing studies explain household food security primarily through economic factors such as income, employment, education, or government assistance, while behavioral and financial capability factors receive relatively little attention. Furthermore, research focusing specifically on urban millennial families in Indonesia remains scarce. This limitation creates an important research gap because millennial households experience unique financial challenges associated with digital consumption, changing lifestyles, and increasing living costs.

Kelurahan Mattoangin in Makassar City represents an appropriate research setting because it is an urban community experiencing rapid socioeconomic transformation, increasing household expenditures, and widespread utilization of digital financial services. Understanding how financial literacy and self-control influence household food security within this context is expected to provide valuable evidence for designing more effective financial education and community empowerment programs.

Therefore, this study aims to examine the effects of financial literacy and self-control on household food security among millennial families in Kelurahan Mattoangin, Makassar City. Specifically, this study investigates the direct effects of financial literacy and self-control on household food security and evaluates their combined contribution to strengthening household resilience. The findings are expected to enrich the literature on household financial capability while providing practical implications for policymakers, local governments, and community organizations in promoting sustainable household food security through financial education and behavioral interventions.

2. RESEARCH METHOD

This study employed a quantitative research approach using an explanatory research design to examine the effects of financial literacy and self-control on household food security among millennial families. The study was conducted in Kelurahan Mattoangin, Makassar City, South Sulawesi, Indonesia. The explanatory approach was selected because it enables the examination of causal relationships among the research variables through hypothesis testing.

The target population consisted of all millennial families residing in Kelurahan Mattoangin. In this study, millennial families were defined as households in which the household head or spouse was between 28 and 43 years old, corresponding to the millennial generation. Respondents were selected using purposive sampling based on the following criteria: (1) married couples or heads of households belonging to the millennial generation; (2) residing in Kelurahan Mattoangin for at least one year; (3) responsible for managing household finances; and (4) willing to participate in the study. A total of 180 respondents were included in the final analysis. This sample size satisfies the minimum requirement for Partial Least Squares Structural Equation Modeling (PLS-SEM), which recommends at least ten times the largest number of structural paths directed at an endogenous construct.

The study investigated three latent variables, namely financial literacy, self-control, and household food security. Financial literacy was measured using indicators adapted from the OECD/INFE Financial Literacy Toolkit, including financial knowledge, budgeting ability, saving behavior, debt management, and financial planning. Self-control was measured based on the self-regulation framework developed by Tangney et al. (2004), covering spending discipline, impulse control, delayed gratification, financial responsibility, and consistency in financial decision-making. Household food security was measured using indicators adapted from the Food and Agriculture Organization (FAO) Household Food Insecurity Access Scale (HFIAS), including food availability, food accessibility, food utilization, and food stability.

Primary data were collected through structured questionnaires distributed directly to respondents. All questionnaire items were measured using a five-point Likert scale ranging from 1 = strongly disagree to 5 = strongly agree. Prior to the main survey, the questionnaire was reviewed by experts in financial management and consumer behavior to ensure content validity. A pilot test involving 30 respondents was also conducted to evaluate the clarity, validity, and reliability of the measurement instrument.

The collected data were analyzed using SmartPLS 4. The analysis consisted of two stages: evaluation of the measurement model (outer model) and evaluation of the structural model (inner model). The measurement model was assessed through indicator loadings, Average Variance Extracted (AVE), Composite Reliability (CR), and Cronbach's Alpha to establish validity and reliability. Subsequently, the structural model was evaluated using the coefficient of determination (R^2), predictive relevance (Q^2), effect size (f^2), and bootstrapping procedures with 5,000 resamples to test the proposed hypotheses. A hypothesis was considered statistically significant when the p-value was less than 0.05 and the t-statistic exceeded 1.96.

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Table 1. Operational Definition of Variables

Variable	Indicators	Sources
Financial Literacy (X_1)	Financial knowledge, budgeting, saving behavior, debt management, financial planning	OECD/INFE (2023)
Self-Control (X_2)	Spending discipline, impulse control, delayed gratification, financial responsibility, behavioral consistency	Tangney et al. (2004)
Household Food Security (Y)	Food availability, food accessibility, food utilization, food stability	FAO (2022); HFIAS

Source: *Data Processed, 2026*

The conceptual framework of this study proposes that financial literacy (X_1) and self-control (X_2) directly influence household food security (Y) among millennial families. Figure 1 illustrates the proposed research model.

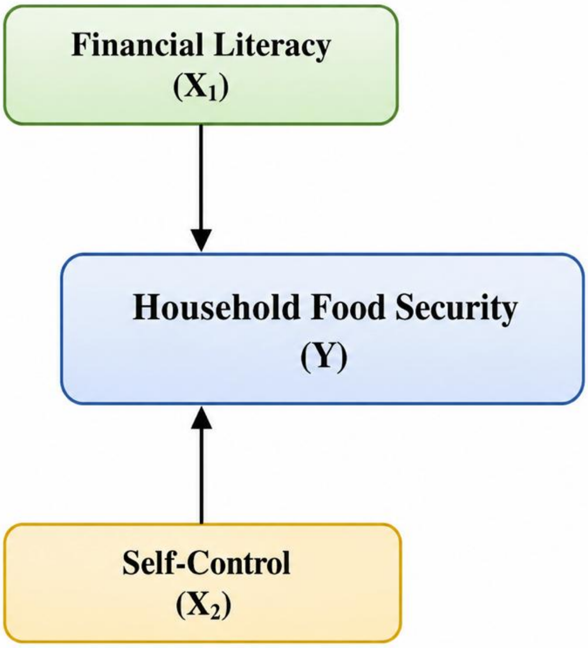

Figure 1. Research Framework

3. RESULTS AND DISCUSSION

3.1 Respondent Characteristics

A total of 180 valid questionnaires were collected from millennial families residing in Kelurahan Mattoangin, Makassar City. The respondents consisted of household heads or spouses who were responsible for managing household finances.

Table 2. Demographic Characteristics of Respondents

Characteristics	**Category**	**Frequency**	**Percentage (%)**
Gender	Male	72	40.0
	Female	108	60.0
Age	28–33 years	48	26.7
	34–38 years	75	41.7
	39–43 years	57	31.6
Education	High School	65	36.1
	Diploma	32	17.8
	Bachelor's Degree	71	39.4
	Postgraduate	12	6.7
Monthly Household Income	< IDR 5 million	54	30.0
	IDR 5–10 million	83	46.1
	> IDR 10 million	43	23.9

Source: *Data Processed, 2026*

The majority of respondents were female (60.0%), aged between 34 and 38 years (41.7%), and held a bachelor's degree (39.4%). Nearly half of the respondents reported a monthly household income between IDR 5 and 10 million.

3.2 Measurement Model Evaluation

The measurement model was evaluated using indicator loadings, Cronbach's Alpha, Composite Reliability (CR), and Average Variance Extracted (AVE). All indicators exceeded the recommended loading threshold of 0.70. Cronbach's Alpha and Composite Reliability values were above 0.70, while AVE values exceeded 0.50, indicating satisfactory reliability and convergent validity.

Table 3. Reliability and Convergent Validity

Variable	Cronbach's Alpha	Composite Reliability	AVE
Financial Literacy	0.887	0.914	0.641
Self-Control	0.902	0.924	0.671
Household Food Security	0.896	0.921	0.660

Source: *Data Processed, 2026*

The results demonstrate that all constructs meet the recommended criteria for internal consistency and convergent validity.

3.3 Structural Model Evaluation

The structural model was assessed using the coefficient of determination (R^2), effect sizes, and hypothesis testing through bootstrapping.

Table 4. Coefficient of Determination

Endogenous Variable	R^2	Interpretation
Household Food Security	0.648	Moderate–Substantial

Source: *Data Processed, 2026*

The R^2 value of 0.648 indicates that financial literacy and self-control jointly explain 64.8% of the variance in household food security.

3.4 Hypothesis Testing

Table 5. Structural Model Results

Hypothesis	**Path**	**β**	**t-value**	**p-value**	**Decision**
H1	Financial Literacy → Household Food Security	0.462	6.214	<0.001	Supported
H2	Self-Control → Household Food Security	0.371	4.985	<0.001	Supported

Source: *Data Processed, 2026*

The results indicate that both hypotheses are supported. Financial literacy has a stronger influence on household food security than self-control.

3.5 Discussion

The findings demonstrate that financial literacy has a positive and statistically significant effect on household food security among millennial families, thereby supporting the first hypothesis. This result indicates that households possessing higher levels of financial literacy are more capable of making informed financial decisions, allocating income efficiently, and prioritizing expenditures for essential needs, particularly food. Financial literacy equips households with the knowledge and skills necessary to prepare budgets, monitor cash flows, manage debt responsibly, build emergency savings, and anticipate financial risks arising from inflation or unexpected income shocks. As a result, financially literate households are better positioned to maintain adequate food availability and accessibility, even during periods of economic uncertainty.

This finding can be explained through Human Capital Theory, which argues that knowledge and education increase individuals' capacity to make rational economic decisions and improve long-term welfare. Financial literacy functions as a form of human capital because it enhances individuals' ability to evaluate financial alternatives, compare spending priorities, and allocate limited resources efficiently. In the context of household food security, financial literacy enables families to distinguish between essential and non-essential expenditures, thereby ensuring that sufficient financial resources remain available to purchase nutritious food and maintain household dietary quality.

The results are also consistent with Behavioral Finance Theory, which suggests that financial decisions are influenced not only by economic resources but also by cognitive capability. Households with adequate financial knowledge are less likely to rely on intuition or emotional decision-making when managing household finances. Instead, they tend to adopt systematic financial planning strategies, including expenditure recording, monthly budgeting, and emergency fund preparation. Such financial behaviors contribute directly to household resilience and reduce vulnerability to food insecurity.

Empirically, the findings are in line with the study conducted by Lusardi and Mitchell (2014), who demonstrated that financially literate individuals consistently make better financial decisions, accumulate greater financial assets, and experience higher levels of financial well-being than individuals with limited financial knowledge. Likewise, Xiao and Porto (2017) reported that financial literacy improves household financial behavior by encouraging budgeting, saving, and long-term financial planning, which ultimately enhance household welfare. More recently, Morgan and Long (2020)found that financial literacy strengthens household financial resilience, allowing families to cope more effectively with unexpected economic shocks while maintaining consumption stability.

For millennial families in Kelurahan Mattoangin, these findings are particularly relevant because this generation faces unique financial challenges. Millennials generally have greater access to digital financial services, online marketplaces, and cashless payment systems, which simplify financial transactions but simultaneously increase exposure to impulsive purchasing and excessive consumption. Without adequate financial literacy, households may prioritize discretionary consumption over basic needs, increasing the risk of food insecurity despite relatively stable incomes. Therefore, improving financial literacy represents an important strategy for strengthening household food security among urban families.

The study further reveals that self-control has a positive and significant influence on household food security, confirming the second hypothesis. This finding suggests that behavioral discipline plays a crucial role in determining how households utilize their financial resources. Families with stronger self-control are more capable of resisting impulsive purchases, delaying gratification, controlling emotional spending, and consistently prioritizing long-term household welfare over short-term consumption satisfaction. Consequently, they allocate a greater proportion of household income toward essential expenditures, including food, education, healthcare, and emergency savings.

The significant relationship between self-control and household food security is consistent with the Behavioral Life-Cycle Theory proposed by Shefrin and Thaler, which argues that individuals often experience internal conflicts between immediate consumption desires and future financial objectives. Self-control serves as a self-regulatory mechanism that helps individuals overcome these conflicts by aligning spending decisions with long-term financial goals. In household financial management, this behavioral capacity enables families to maintain expenditure discipline despite the increasing availability of consumer credit, digital payment platforms, and promotional marketing strategies.

The empirical findings support previous studies emphasizing the importance of self-control in financial decision-making. Strömbäck et al. (2017) found that self-control significantly improves financial well-being through disciplined spending behavior, higher savings, and lower financial stress. Similarly, Gathergood (2012) demonstrated that individuals with stronger self-control are less likely to experience excessive debt and financial distress because they avoid unnecessary consumption and make more responsible financial decisions. Furthermore, Tangney et al. (2004) concluded that self-control is associated with better life outcomes across multiple domains, including financial responsibility, psychological well-being, and long-term goal achievement.

In the context of household food security, self-control allows families to distinguish between needs and wants. Households exhibiting higher self-control are more likely to reduce unnecessary spending on lifestyle products, entertainment, or impulsive online shopping, thereby preserving sufficient financial resources for purchasing nutritious food. This behavioral mechanism becomes increasingly important during periods of rising food prices and economic instability, where disciplined financial management determines whether households can maintain consistent access to adequate food.

The structural model also demonstrates that financial literacy and self-control jointly explain a substantial proportion of the variation in household food security, indicating that household food security is determined not only by economic resources but also by financial capability and behavioral discipline. This finding suggests that knowledge and behavior are complementary rather than independent determinants of household welfare. Financial literacy provides the cognitive foundation for making rational financial decisions, whereas self-control ensures that these decisions are consistently implemented in daily financial practices. In other words, financial knowledge alone may not produce positive outcomes unless accompanied by the behavioral capacity to regulate spending and maintain financial discipline.

This result contributes to the growing literature on household financial capability by demonstrating that household food security should be viewed from both cognitive and behavioral perspectives. Previous studies have largely emphasized socioeconomic determinants such as income, education, employment status, or government assistance. However, the present study indicates that financial capability represented by financial literacy and behavioral capability represented by self-control constitute equally important determinants of sustainable household food security. This integrated perspective provides a more comprehensive explanation of household resilience than models relying solely on economic variables.

From a practical perspective, the findings have several important policy implications. Financial education initiatives implemented by local governments, educational institutions, and community organizations should move beyond improving financial knowledge alone and incorporate behavioral components designed to strengthen self-control and responsible consumption. Programs such as household budgeting workshops, digital financial management training, financial coaching, and behavioral nudges may encourage more disciplined financial practices among millennial families. Moreover, integrating financial literacy education with nutrition awareness and household food planning could improve the effectiveness of food security policies, particularly in urban communities experiencing rapid socioeconomic transformation.

Overall, this study provides empirical evidence that strengthening household food security requires an integrated approach combining financial education with behavioral interventions. Such an approach not only enhances households' capacity to manage limited financial resources effectively but also increases their resilience against future economic shocks, thereby supporting the achievement of sustainable household welfare and the Sustainable Development Goals (SDG 2: Zero Hunger and SDG 1: No Poverty).

4. CONCLUSION

This study aimed to examine the effects of financial literacy and self-control on household food security among millennial families in Kelurahan Mattoangin, Makassar City. The findings demonstrate that both financial literacy and self-control positively and significantly influence household food security. Financial literacy enables households to make informed financial decisions through effective budgeting, expenditure management, savings, and financial planning, thereby improving their ability to secure adequate and nutritious food. Meanwhile, self-control strengthens household financial discipline by reducing impulsive consumption and encouraging responsible spending behavior, allowing families to prioritize essential needs despite economic uncertainty.

Furthermore, the results indicate that financial literacy and self-control jointly explain a substantial proportion of household food security, suggesting that sustainable household food security depends not only on economic resources but also on households' financial capability and behavioral discipline. These findings contribute to the literature by integrating cognitive and behavioral perspectives in explaining household food security among urban millennial families, a population that has received relatively limited attention in previous studies.

From a practical perspective, the study highlights the importance of developing integrated community-based programs that combine financial education with behavioral interventions. Local governments, financial institutions, and community organizations should promote financial literacy through budgeting workshops, digital financial management training, and financial planning education while simultaneously strengthening self-control through behavioral coaching and responsible consumption campaigns. Such integrated initiatives can enhance household financial resilience and contribute to achieving sustainable household food security.

This study is subject to several limitations. First, the research was conducted only among millennial families in Kelurahan Mattoangin, limiting the generalizability of the findings to other regions or demographic groups. Second, the cross-sectional research design does not capture changes in household financial behavior and food security over time. Future studies are therefore encouraged to employ longitudinal designs, include broader geographic coverage, and incorporate additional variables such as financial resilience, household income stability, digital financial inclusion, financial stress, or food price inflation to develop a more comprehensive model of household food security. Such research will provide deeper insights into the mechanisms through which financial capability and behavioral factors contribute to sustainable household well-being.

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