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The Effect of Financial Literacy Programs on Household Saving Behavior

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Abstract

Financial literacy plays a critical role in promoting household financial resilience, particularly in rapidly urbanizing economies where individuals face increasingly complex financial decisions. This study aimed to examine the effectiveness of financial literacy programs in improving household saving behavior among urban households in Indonesia and to identify the contextual factors influencing program outcomes. A quasi-experimental mixed-methods approach was employed, involving 150 participating households. Quantitative data were collected through pre- and post-program surveys, while qualitative evidence was obtained from in-depth interviews and focus group discussions. The findings indicate that participation in financial literacy programs substantially improved household saving behavior, with average monthly savings increasing by 55.6% across all participants. Lower-income households experienced the greatest proportional improvements, while qualitative findings revealed enhanced budgeting skills, financial awareness, saving discipline, and confidence in financial decision-making. Nevertheless, limited access to formal financial services remained a significant obstacle preventing participants from fully applying their financial knowledge. The novelty of this study lies in integrating behavioral outcomes with qualitative evidence to demonstrate that the effectiveness of financial literacy programs depends not only on individual financial knowledge but also on supportive institutional and socioeconomic conditions. These findings highlight the importance of combining financial literacy initiatives with financial inclusion policies to strengthen household financial resilience and promote sustainable urban economic development.

INTRODUCTION

Financial literacy has become one of the most influential determinants of household financial well-being in the twenty first century. The rapid expansion of financial markets, digital banking, financial technology, and increasingly sophisticated financial products requires individuals to possess not only basic financial knowledge but also the ability to make informed financial decisions throughout their lives. Financial literacy enables households to manage income efficiently, allocate expenditures appropriately, accumulate savings, reduce financial vulnerability, and prepare for future uncertainties. Numerous international studies have consistently demonstrated that individuals with higher financial literacy exhibit stronger financial capability, better budgeting practices, more responsible borrowing behavior, and greater financial resilience during periods of economic instability (Katnic et al., 2024; Hwang & Park, 2023; Zaimovic et al., 2023; Omowole et al., 2024). Consequently, financial literacy is increasingly recognized not merely as an educational outcome but as an essential component of sustainable economic development and inclusive financial systems.

The significance of financial literacy has become even more evident in rapidly urbanizing countries such as Indonesia. Urban communities are continuously exposed to diverse financial opportunities through commercial banking services, digital payment platforms, investment products, online lending, insurance services, and electronic commerce (Patel et al., 2023; Minarni, 2025; van Zanden, 2023). While these developments improve financial accessibility, they also increase the complexity of household financial decision making. Individuals are expected to evaluate financial risks, manage multiple financial products, and balance present consumption with future financial security (Nurhaedha, 2025; Chairunesia et al., 2025; Prihatmoko, 2025). However, despite continuous improvements in financial inclusion, many Indonesian households continue to demonstrate inadequate financial literacy, resulting in poor saving behavior, excessive consumption, weak financial planning, and limited preparedness for unexpected economic shocks. These conditions indicate that increasing financial access alone cannot guarantee improvements in household financial well-being without simultaneous enhancement of financial knowledge and behavioral competencies (Anson et al., 2024; Sajid et al., 2024; Kuutol et al., 2024).

Household saving behavior represents one of the most important indicators of financial capability because savings provide financial protection against income fluctuations, health emergencies, educational expenses, retirement needs, and other unforeseen circumstances (Sumastuti, 2024; Korzeniowska, 2023). Previous empirical studies have consistently reported that financially literate individuals tend to save more regularly, develop stronger budgeting habits, and demonstrate better long term financial planning than individuals with lower financial literacy (Harahap et al., 2022; Sabri et al., 2021; Sekita et al., 2022; Khan et al., 2022). Furthermore, financial literacy contributes to improved financial confidence, enabling households to evaluate financial products critically and avoid risky financial decisions. Nevertheless, saving behavior cannot be explained solely by financial knowledge because demographic characteristics, household income, education, gender, financial inclusion, institutional support, and accessibility of financial services also influence how households translate financial knowledge into actual financial practices (Belo et al., 2024; Adelaja et al., 2024). Therefore, understanding the effectiveness of financial literacy interventions requires a comprehensive perspective that integrates both individual and structural determinants of financial behavior.

Indonesia provides a particularly relevant setting for investigating this issue because urbanization has accelerated dramatically during the past decade, creating increasingly heterogeneous socioeconomic conditions across urban households (Patel & Raval, 2024; Mohsin et al., 2025). The availability of formal and informal financial services has expanded considerably, yet financial exclusion remains prevalent among low income populations due to limited financial awareness, inadequate financial education, and restricted access to affordable financial products. Recent studies have reported that many Indonesian households continue to rely on informal saving mechanisms despite the rapid growth of digital financial services, indicating persistent gaps between financial access and financial capability (Makmur, 2024; Surtiari et al., 2024; Telaumbanua et al., 2024). Moreover, structural barriers including minimum balance requirements, limited financial infrastructure, unequal income distribution, and insufficient financial education programs continue to constrain household saving behavior, particularly among economically vulnerable groups (Umeaduma, 2023; Sumastuti, 2024). These empirical conditions highlight the urgent need for effective financial literacy programs capable of promoting sustainable behavioral changes rather than merely increasing financial knowledge.

Financial literacy programs have therefore emerged as one of the primary policy instruments for strengthening household financial capability. Such programs generally provide education regarding budgeting, expenditure management, savings, investment planning, debt management, and financial risk mitigation (Prakoso & Apriliani, 2024; Hidalgo-Mayorga et al., 2025; Aassouli & Ahmed, 2023; Shi et al., 2025). International evidence suggests that well designed financial literacy programs can improve saving behavior, strengthen financial confidence, enhance financial decision making, and encourage more responsible household financial management (Katnic et al., 2024; Jumady et al., 2024; Omowole et al., 2024). Nevertheless, previous findings also indicate that program effectiveness varies substantially across socioeconomic groups. Lower income households often demonstrate larger proportional improvements because they begin with lower baseline financial knowledge, whereas households with higher incomes frequently experience relatively modest behavioral changes due to their existing financial experience. These differences indicate that financial literacy interventions should be evaluated not only according to overall outcomes but also according to participant characteristics and contextual conditions that influence behavioral transformation (de Bruijn et al., 2022; van den Akker, 2025; Birkenmaier et al., 2022).

Despite the growing body of literature on financial literacy, several important research gaps remain. First, many previous studies have predominantly adopted cross sectional survey designs that examine the association between financial literacy and financial behavior at a single point in time, thereby limiting the ability to evaluate causal behavioral changes following financial education interventions (Hwang & Park, 2023; Zaimovic et al., 2023). Second, existing studies frequently emphasize individual financial knowledge while paying limited attention to contextual factors such as financial inclusion, institutional accessibility, and socioeconomic disparities that influence whether households can successfully apply newly acquired financial knowledge (Khan et al., 2022; Adelaja et al., 2024). Third, empirical evidence specifically focusing on urban households in Indonesia remains relatively scarce. Most Indonesian studies investigate students, micro enterprises, rural communities, or general financial management behavior rather than evaluating structured financial literacy programs among diverse urban households (Ratnawati et al., 2023; Jhonson et al., 2023; Worang et al., 2022). Consequently, there remains limited understanding of how financial literacy programs influence household saving behavior within Indonesia's increasingly complex urban financial environment.

Another important limitation concerns research methodology. Quantitative studies provide statistical evidence regarding financial literacy outcomes but often fail to explain the underlying behavioral mechanisms that shape financial decision making. Conversely, qualitative studies offer valuable insights into participants' experiences but generally lack objective measurements of behavioral change. As a result, the integration of quantitative and qualitative evidence remains relatively uncommon within financial literacy research. A mixed methods approach offers substantial advantages because it enables researchers to measure behavioral improvements while simultaneously exploring participants' motivations, perceptions, and structural constraints affecting financial behavior. Such comprehensive evidence is particularly valuable for developing more effective public policies aimed at strengthening financial inclusion and household financial resilience.

Based on these considerations, this study examines the effectiveness of financial literacy programs on household saving behavior among urban households in Indonesia using a quasi-experimental mixed methods design. The study evaluates behavioral changes before and after program participation while simultaneously exploring participants' experiences through interviews and focus group discussions. Unlike previous studies that primarily focus on individual financial knowledge, this research integrates behavioral outcomes with contextual factors including income level, gender, age, and accessibility of formal financial services. The novelty of this study lies in three principal contributions. First, it provides empirical evidence regarding the effectiveness of financial literacy interventions among urban households in Indonesia, an area that remains underrepresented in the existing literature. Second, it adopts an integrated mixed methods framework that combines quantitative behavioral measurement with qualitative exploration of participants' experiences, thereby providing a more comprehensive understanding of program effectiveness. Third, the study demonstrates that sustainable improvements in household saving behavior depend not only on enhanced financial literacy but also on supportive institutional conditions that facilitate financial inclusion. Therefore, this research contributes both theoretically and practically by enriching the international literature on household financial behavior while offering evidence based recommendations for policymakers, financial institutions, and financial education providers seeking to strengthen household financial resilience and promote inclusive economic development.

METHODS

Research Design

This study employed a quasi-experimental mixed-methods research design to examine the effectiveness of financial literacy programs in improving household saving behavior among urban households in Indonesia. The mixed-methods approach was selected because it enables researchers to combine the strengths of quantitative and qualitative methods, thereby providing a more comprehensive understanding of both measurable behavioral changes and participants' experiences throughout the intervention process. According to Creswell (2018), mixed-methods research is particularly appropriate when quantitative findings require qualitative explanations to better understand the mechanisms underlying observed outcomes. Meanwhile, the quasi-experimental design allows the evaluation of intervention effects under natural conditions where random assignment is impractical. In this study, quantitative data were collected before and after participation in financial literacy programs, while qualitative interviews and focus group discussions (FGDs) were conducted to explore participants' perceptions, behavioral changes, and challenges encountered after the intervention.

Research Setting and Participants

The research was conducted in several urban areas in Indonesia where government agencies, financial institutions, and community organizations regularly organize financial literacy programs. Urban communities were selected because they experience increasingly complex financial environments characterized by rapid financial technology adoption, diverse banking products, and greater exposure to formal financial services. Nevertheless, many households continue to demonstrate relatively low financial literacy and inadequate saving behavior despite improved financial access.

The unit of analysis consisted of households participating in financial literacy programs. A total of 150 urban households participated in the study. Participants were selected using stratified purposive sampling to ensure adequate representation across different income levels, age groups, gender, educational backgrounds, and residential areas. This sampling strategy allowed the study to capture socioeconomic diversity while facilitating comparison among participant groups. Where feasible, a comparison group with similar demographic characteristics but without participation in the financial literacy program was also identified to strengthen the assessment of program effectiveness. The demographic profile included households with monthly incomes below IDR 3 million, between IDR 3 and 5 million, and above IDR 5 million, thereby enabling the analysis of differential program impacts across economic strata.

Data Collection Procedures

Data collection was conducted using both quantitative and qualitative techniques. Quantitative data were obtained through structured questionnaires administered at two stages, namely before the implementation of the financial literacy program (pre-test) and after participants completed the program (post-test). The questionnaire measured household saving behavior, budgeting practices, financial planning, and financial literacy levels. Saving behavior was assessed through indicators such as average monthly savings, saving ratio, budgeting discipline, expenditure management, and financial decision-making confidence. Financial literacy was measured using multiple indicators covering knowledge of interest rates, inflation, investment, risk diversification, and basic financial management principles.

To complement the survey findings, qualitative data were collected through semi-structured in-depth interviews and focus group discussions (FGDs) involving selected participants. These qualitative techniques enabled the researchers to explore participants' experiences in applying financial knowledge, perceived program benefits, motivations for saving, barriers to financial inclusion, and contextual factors influencing behavioral change. The integration of quantitative and qualitative evidence provided a richer interpretation of the effectiveness of financial literacy interventions than either method alone.

Research Instruments

The primary quantitative instrument was a structured questionnaire developed based on internationally recognized financial literacy frameworks and previous empirical studies concerning household financial behavior. The questionnaire consisted of four sections, including demographic characteristics, financial literacy knowledge, household financial management practices, and saving behavior. Responses were measured using a combination of multiple-choice questions and five-point Likert scale items ranging from 1 (strongly disagree) to 5 (strongly agree).

Qualitative data were collected using interview and FGD guides designed to encourage participants to discuss their financial experiences openly. The interview protocol explored changes in saving habits, budgeting practices, financial confidence, perceived usefulness of the financial literacy program, and remaining challenges in accessing formal financial services. This combination of standardized questionnaires and flexible qualitative interviews enhanced the depth and credibility of the research findings.

Table 1. Summary of Research Instruments

Instrument	Variable Measured	Purpose
Structured Questionnaire	Financial literacy, saving behavior, budgeting, financial confidence	Quantitative measurement before and after intervention
Interview Guide	Personal experiences and behavioral changes	Explore participants' perceptions
Focus Group Discussion Guide	Program effectiveness and implementation barriers	Validate and enrich quantitative findings

Table 1 summarizes the instruments employed in this study. The structured questionnaire generated measurable indicators of behavioral change, while interviews and FGDs provided contextual explanations regarding participants' financial experiences and challenges following the intervention.

Data Analysis

Quantitative data were analyzed using descriptive statistical techniques to summarize participant characteristics and examine changes in household saving behavior following participation in the financial literacy program. Frequencies, percentages, means, and percentage changes were calculated to describe the demographic profile of participants and compare household savings before and after the financial literacy intervention. Descriptive statistics were also employed to present participants' evaluations of the financial literacy program across several dimensions, including budgeting knowledge, saving practices, financial decision-making confidence, and access to formal financial services. This approach enabled the researchers to identify general patterns of behavioral change and variations across different income groups, age categories, and gender compositions.

Qualitative data obtained from semi-structured interviews and focus group discussions were analyzed using thematic analysis following the procedures proposed by Braun and Clarke (2006). Interview transcripts were read repeatedly to achieve familiarity with the data before meaningful statements were systematically coded. Similar codes were subsequently grouped into broader themes representing participants' experiences, perceived program benefits, behavioral changes, financial management practices, and barriers to implementing financial literacy in everyday life. The identified themes were then interpreted alongside the quantitative findings to provide a comprehensive understanding of how financial literacy programs influenced household saving behavior. Finally, methodological triangulation was employed by integrating quantitative and qualitative evidence, thereby strengthening the credibility, consistency, and overall interpretation of the research findings.

Validity, Reliability, and Research Ethics

Prior to data collection, the questionnaire underwent pilot testing involving a small group of respondents with characteristics similar to those of the target population to assess clarity, readability, and content appropriateness. Instrument reliability was evaluated using Cronbach's Alpha, with coefficients of 0.70 or higher considered acceptable for internal consistency (Hair et al., 2022). Content validity was established through expert review involving academics specializing in financial literacy and household economics, while construct validity was assessed through item correlation analysis.

To enhance the trustworthiness of the qualitative findings, credibility was established through methodological triangulation, prolonged engagement during interviews, and participant validation of interview summaries. Ethical considerations were strictly observed throughout the research process. All participants received information regarding the objectives of the study before providing written informed consent. Confidentiality and anonymity were maintained by removing all personal identifiers from the dataset, and participation remained entirely voluntary. Ethical procedures complied with internationally accepted standards for research involving human participants, ensuring respect for participants' privacy, autonomy, and confidentiality.

RESULTS AND DISCUSSION

This section presents the empirical findings obtained from the quasi-experimental mixed-methods study evaluating the effectiveness of financial literacy programs on household saving behavior among urban households in Indonesia. The results are organized into several thematic subsections to provide a systematic presentation of the quantitative and qualitative evidence. The first subsection describes the demographic profile of the participating households, establishing the socioeconomic context in which the intervention was implemented. The second subsection reports changes in household saving behavior before and after participation in the financial literacy program. Subsequent sections present participants' perceptions of the program, demographic differences in program outcomes, and factors influencing the effectiveness of financial literacy interventions. Collectively, these findings provide comprehensive evidence regarding behavioral changes, financial capability, and contextual factors affecting household saving practices in urban Indonesia.

Participant Characteristics

A total of 150 urban households participated in this study, representing diverse socioeconomic backgrounds and demographic characteristics. The sample was intentionally designed to include participants from different income categories, educational backgrounds, gender compositions, and age groups in order to examine whether financial literacy programs produced comparable outcomes across heterogeneous urban populations. Such diversity enhances the representativeness of the study by reflecting the complexity of financial conditions experienced by urban households in Indonesia.

Table 1. Demographic Characteristics of Participants

Characteristic	Number of Households	Percentage (%)
Male-headed household	85	56.7
Female-headed household	65	43.3
Average age (years)	38	–
High school education or above	112	74.7
Monthly income < IDR 3 million	50	33.3
Monthly income IDR 3–5 million	70	46.7
Monthly income > IDR 5 million	30	20.0

Source: Primary survey data, 2025

As presented in Table 1, male-headed households constituted 56.7% of the sample, while female-headed households accounted for 43.3%. This relatively balanced gender distribution enabled comparisons of behavioral changes across different household leadership structures. The average participant age was 38 years, indicating that most respondents belonged to the economically productive age group, where financial decisions related to family expenditure, savings, education, and long-term financial planning become increasingly important.

Educational attainment was relatively high among respondents, with 74.7% having completed at least senior high school education. This educational profile suggests that the majority of participants possessed sufficient educational backgrounds to understand the instructional materials delivered during the financial literacy program. Nevertheless, educational attainment alone did not necessarily imply adequate financial capability, thereby justifying the implementation of structured financial literacy interventions.

The distribution of household income illustrates considerable socioeconomic variation within the sample. Approximately one-third of participants (33.3%) reported monthly household incomes below IDR 3 million, nearly half (46.7%) earned between IDR 3 million and IDR 5 million, while only 20.0% reported monthly incomes exceeding IDR 5 million. This balanced distribution across income groups enabled the study to evaluate whether financial literacy interventions generated different outcomes according to households' economic conditions.

The demographic composition demonstrates that the study successfully captured heterogeneous urban households representing various financial capacities and socioeconomic circumstances. Such variation provides an appropriate basis for assessing the effectiveness of financial literacy programs across multiple population segments rather than focusing exclusively on a single demographic group. Consequently, subsequent analyses may reveal whether program effectiveness differs according to participants' socioeconomic characteristics.

Changes in Household Saving Behavior Following the Financial Literacy Program

The principal objective of this study was to examine whether participation in financial literacy programs resulted in measurable improvements in household saving behavior. To achieve this objective, participants completed structured surveys before and after the intervention, allowing comparisons of average monthly savings across different income categories. The analysis demonstrates consistent improvements in household savings following program participation, although the magnitude of improvement varied according to household income.

Table 2. Changes in Average Monthly Household Savings

Income Group	Pre-test (IDR '000)	Post-test (IDR '000)	Percentage Change
< IDR 3 million	200	320	+60.0%
IDR 3–5 million	450	670	+48.9%
> IDR 5 million	800	1,100	+37.5%
Overall Average	450	700	+55.6%

Source: Primary survey data, 2025

Table 2 demonstrates substantial increases in average monthly household savings following participation in the financial literacy program. Across all participants, average monthly savings increased from IDR 450,000 before the intervention to IDR 700,000 after program completion, representing an overall increase of 55.6%. This finding indicates that participation in the financial literacy program was associated with considerable improvements in household saving practices regardless of income category.

The largest proportional increase occurred among households earning less than IDR 3 million per month, where average savings increased from IDR 200,000 to IDR 320,000, corresponding to a 60% improvement. Although this group continued to exhibit the lowest absolute savings after the intervention, the substantial proportional increase suggests that financially vulnerable households experienced considerable behavioral changes following participation in the program. The relatively low baseline savings before the intervention may have provided greater opportunities for behavioral improvement once participants acquired practical knowledge regarding budgeting and financial management.

Households within the middle-income category (IDR 3–5 million) also demonstrated notable improvement. Average monthly savings increased from IDR 450,000 before participation to IDR 670,000 after completing the financial literacy program, representing an increase of 48.9%. This finding indicates that financial education remained beneficial even among households with relatively greater financial resources, suggesting that improved financial knowledge can strengthen existing financial management practices rather than merely correcting poor financial behavior.

Among households earning more than IDR 5 million per month, average savings increased from IDR 800,000 to IDR 1,100,000, equivalent to a 37.5% increase. Although this group recorded the highest absolute savings before and after the intervention, it exhibited the smallest proportional improvement compared with lower-income groups. This pattern may indicate that households with stronger initial financial conditions already possessed relatively established saving habits prior to program participation, thereby reducing the magnitude of observable behavioral change.

Perceived Benefits and Challenges of the Financial Literacy Program

Beyond the measurable improvements in household savings, this study also explored participants' perceptions regarding the benefits and limitations of the financial literacy program. Quantitative ratings obtained through structured questionnaires were complemented by qualitative evidence from in-depth interviews and focus group discussions (FGDs), allowing a more comprehensive assessment of how participants experienced the intervention. While survey results demonstrated generally positive evaluations across multiple dimensions of financial capability, qualitative findings provided valuable insights into the practical challenges that continued to influence financial behavior after program completion.

Table 3. Participants' Evaluation of the Financial Literacy Program

Dimension	Mean Score
Understanding of Budgeting	4.3
Knowledge of Savings Options	4.1
Confidence in Financial Decision-Making	3.9
Access to Formal Financial Services	3.5

Source: Primary survey data, 2025

As presented in Table 3, participants expressed highly positive perceptions regarding the educational content delivered during the program. The highest mean score (4.3) was recorded for understanding of budgeting, indicating that respondents believed the program substantially improved their ability to organize household income and expenditures. Budget planning emerged as one of the most immediately applicable competencies because participants reported greater awareness of expenditure prioritization, financial goal setting, and routine monitoring of household finances.

The second highest rating (4.1) concerned knowledge of savings options, suggesting that participants acquired broader understanding of available saving instruments and strategies. Many respondents indicated that prior to participating in the program they possessed only limited knowledge regarding formal saving mechanisms and financial products. Exposure to practical financial education expanded their awareness of savings planning and encouraged more deliberate financial decision making.

Participants also reported improvements in financial decision-making confidence, which received an average score of 3.9. Although slightly lower than the previous indicators, this result suggests that the intervention strengthened participants' confidence in evaluating financial alternatives, making spending decisions, and planning future financial activities. Increased confidence is particularly important because behavioral change depends not only on knowledge acquisition but also on individuals' willingness to apply newly acquired knowledge consistently.

The lowest score (3.5) was observed for access to formal financial services. Although participants acknowledged improvements in financial knowledge, many indicated that structural constraints continued to limit their ability to implement what they had learned. These findings demonstrate that improvements in financial capability alone may not automatically translate into optimal financial behavior when institutional barriers remain unresolved. Consequently, financial education should be accompanied by broader initiatives promoting financial inclusion and expanding access to affordable financial services.

Qualitative evidence further enriched these findings by illustrating how participants interpreted the benefits of the intervention within their daily financial lives. Interview responses consistently highlighted improvements in financial awareness, budgeting discipline, and saving routines. Participants frequently reported becoming more conscious of unnecessary expenditures and more committed to setting aside regular savings before allocating income to discretionary consumption. These narratives reinforce the quantitative evidence indicating positive behavioral adaptation following participation in the financial literacy program.

Table 4. Summary of Qualitative Findings

Theme	**Main Findings**
Improvement in Financial Knowledge	Increased understanding of budgeting, savings options, and financial planning
Perceived Benefits	Greater confidence in managing household finances and emergency savings
Challenges in Saving	Limited banking access, minimum balance requirements, and limited financial products
Gendered Impact	Female-headed households prioritized family welfare and children's education
Age Differences	Younger participants adapted more quickly to new saving practices
Behavioral Changes	Development of regular saving routines and participation in informal savings groups
Structural Barriers	Limited financial infrastructure constrained implementation of financial knowledge

Source: Interview and Focus Group Discussion data, 2025

The qualitative findings presented in Table 4 reveal several recurring themes describing participants' experiences after completing the financial literacy program. The first major theme concerned improved financial knowledge. Respondents consistently reported better understanding of budgeting principles, household expenditure management, financial planning, and the importance of emergency savings. Many participants described the program as their first opportunity to receive structured financial education, enabling them to recognize weaknesses in their previous financial practices.

Another dominant theme involved the perceived benefits of the program. Participants reported greater confidence when making financial decisions, including determining expenditure priorities, separating essential and non-essential spending, and planning future financial goals. Several respondents explained that they had begun monitoring household expenses more systematically after participating in the program, resulting in greater financial discipline and improved awareness of daily spending patterns.

Despite these positive outcomes, interviews also identified several persistent barriers affecting household saving behavior. Limited accessibility to formal financial institutions remained one of the most frequently reported challenges. Participants described difficulties opening bank accounts, maintaining minimum account balances, and accessing financial products specifically designed for lower-income households. These institutional constraints limited opportunities for applying newly acquired financial knowledge, particularly among economically vulnerable families.

Behavioral changes were nevertheless evident across many households. Participants reported establishing regular saving routines, allocating fixed proportions of monthly income to savings, reducing unnecessary expenditures, and participating in community-based informal savings groups. These behavioral adjustments indicate that the financial literacy program extended beyond knowledge acquisition by encouraging practical financial habits that could potentially support long-term household financial resilience.

Gender and Age Differences in Program Impact

The study also examined whether financial literacy programs produced different outcomes across demographic groups. Analysis of interview data suggested that both male-headed and female-headed households benefited from the intervention, although the application of financial knowledge differed according to household priorities.

Female-headed households frequently emphasized allocating savings toward children's education, healthcare, and long-term family welfare. In contrast, male-headed households more commonly associated improved financial management with income allocation, debt reduction, and future investment planning. Although both groups demonstrated positive behavioral changes, these differences illustrate that financial literacy may influence household decision making according to existing family responsibilities and financial priorities.

Age also appeared to influence adaptation to the financial literacy program. Younger participants generally reported greater willingness to adopt new budgeting practices, digital financial applications, and structured saving routines. They were more receptive to modifying financial habits and experimenting with different financial management strategies introduced during the intervention. Conversely, older participants tended to maintain previously established financial routines, adopting only selected recommendations from the program. While behavioral improvements remained evident across all age categories, younger participants demonstrated relatively greater flexibility in incorporating financial literacy into their daily financial practices.

Factors Influencing Program Effectiveness

The effectiveness of the financial literacy program was influenced by several socioeconomic and institutional factors. Income level emerged as one of the most important determinants of behavioral improvement. As reported earlier, lower-income households demonstrated the greatest proportional increases in savings following participation in the program. This pattern suggests that households with lower initial financial capability possessed greater opportunities for behavioral improvement after receiving structured financial education.

However, although proportional improvements were substantial, lower-income households continued to record smaller absolute savings than wealthier households. This finding indicates that financial education alone cannot completely overcome financial limitations associated with income inequality. Economic capacity continues to determine the amount households are able to save despite improvements in financial management skills. Access to financial services constituted another important determinant of program effectiveness. Participants repeatedly emphasized that improved financial knowledge was not always accompanied by adequate access to affordable financial products. Limited banking infrastructure, administrative requirements, minimum deposit regulations, and the scarcity of low-cost financial services reduced participants' opportunities to translate financial literacy into sustained financial behavior. These findings suggest that educational interventions should be integrated with broader financial inclusion policies to maximize long-term program effectiveness.

The findings of this study provide compelling evidence that financial literacy programs play a significant role in improving household saving behavior among urban households in Indonesia. Rather than merely increasing financial knowledge, the intervention facilitated meaningful behavioral changes reflected in improved budgeting practices, higher saving discipline, and greater confidence in financial decision-making. These findings reinforce the growing consensus that financial literacy should be viewed as a behavioral capability rather than simply a cognitive competency. In contemporary financial environments characterized by expanding digital financial services, increasing consumer credit availability, and more complex investment products, households require practical financial skills to make informed decisions and maintain long-term financial resilience. The present findings therefore contribute to the broader literature by demonstrating that structured financial education can effectively transform financial knowledge into sustainable financial practices when delivered through contextually appropriate learning interventions.

One of the most important findings concerns the substantial improvement in household saving behavior following participation in the financial literacy program. Although the Results section demonstrated a considerable increase in average monthly savings across all income categories, the significance of this finding extends beyond the numerical improvement itself. Saving behavior represents one of the strongest indicators of household financial capability because it reflects an individual's capacity to regulate consumption, prepare for financial uncertainty, and accumulate resources for future needs. According to recent international evidence, financially literate individuals generally exhibit stronger financial resilience because they are better able to balance immediate consumption with long-term financial objectives (Hwang & Park, 2023; Katnic et al., 2024; Zaimovic et al., 2023). The present study supports these observations by demonstrating that financial education contributes not only to increased savings but also to the development of more disciplined financial behaviors that are essential for sustainable household welfare.

The findings are also consistent with recent studies conducted across both developed and developing economies that report positive relationships between financial literacy interventions and household financial outcomes. Omowole et al. (2024) argued that community-based financial literacy programs improve budgeting capability and financial confidence among economically vulnerable populations. Similarly, Belo et al. (2024) found that financial literacy significantly mediates the relationship between income conditions and saving behavior by enabling households to allocate financial resources more efficiently. Comparable conclusions were reported by Adelaja et al. (2024), who emphasized that financial education should be accompanied by improved financial inclusion to maximize household financial resilience. The consistency between the present findings and previous international research strengthens the external validity of the study while confirming that financial literacy remains an effective policy instrument across different socioeconomic contexts.

Despite these similarities, the present study also contributes several distinctive insights. Previous investigations have frequently focused on the statistical association between financial literacy and financial behavior using cross-sectional survey designs. While these studies establish significant relationships, they provide limited evidence regarding the behavioral mechanisms through which financial literacy interventions influence saving practices over time. By combining quantitative measurements with qualitative interviews and focus group discussions, the present study provides richer explanations regarding how participants gradually incorporated budgeting routines, expenditure monitoring, and systematic saving practices into their everyday financial activities. This mixed-methods perspective extends existing literature by demonstrating that behavioral change involves continuous adaptation rather than immediate knowledge acquisition alone. Consequently, financial literacy should be understood as an ongoing behavioral learning process rather than a single educational outcome.

Another noteworthy finding concerns the differential effectiveness of financial literacy programs across socioeconomic groups. Lower-income households demonstrated the greatest proportional improvements in saving behavior following participation in the intervention. This observation supports the baseline capability theory frequently discussed in financial capability research, which proposes that individuals with relatively limited initial financial knowledge possess greater opportunities for behavioral improvement after receiving structured financial education (Sabri et al., 2021; Sekita et al., 2022). Similar findings have recently been reported by Khan et al. (2022), who concluded that financial literacy interventions generate greater marginal benefits among financially vulnerable populations because educational programs address fundamental deficiencies in financial knowledge and planning. The present study therefore confirms that financial literacy programs may contribute to reducing financial vulnerability, although they cannot completely eliminate broader structural inequalities related to household income.

Nevertheless, the present findings also reveal important differences from several previous studies. Some recent investigations have argued that financial literacy alone has relatively modest effects on financial behavior because economic constraints frequently prevent households from applying newly acquired knowledge (Umeaduma, 2023; Makmur, 2024). The current study partially supports this argument. While participants demonstrated clear improvements in saving behavior and financial awareness, qualitative findings consistently identified limited access to formal financial institutions as one of the principal barriers preventing optimal implementation of financial knowledge. Difficulties related to banking accessibility, minimum account balance requirements, administrative procedures, and the limited availability of affordable financial products continued to constrain participants' financial decisions despite improved financial capability. This indicates that financial education and financial inclusion should not be treated as independent policy interventions but rather as complementary components of a comprehensive household financial empowerment strategy.

The interaction between financial literacy and financial inclusion identified in this study provides an important theoretical contribution to the literature on household financial capability. Traditional financial literacy models generally emphasize individual knowledge, attitudes, and behaviors as primary determinants of financial outcomes. However, the present findings suggest that financial behavior is equally influenced by institutional conditions that determine whether households are able to apply their financial knowledge effectively. This perspective aligns with recent developments in Financial Capability Theory, which emphasizes that financial capability results from the interaction between personal competencies and enabling institutional environments (Xiao & O'Neill, 2023; Zaimovic et al., 2023). Accordingly, improving financial literacy without expanding financial accessibility may produce only partial behavioral improvements because structural barriers continue to restrict household financial choices.

The qualitative findings further strengthen this interpretation by illustrating how participants perceived financial literacy as a practical life skill rather than merely academic knowledge. Many respondents described changes in household budgeting practices, increased awareness of emergency savings, and greater confidence when making financial decisions. These behavioral adjustments suggest that financial education encouraged participants to adopt new financial routines that gradually became integrated into their everyday lives. Such findings correspond with behavioral economics perspectives, which argue that repeated financial practices gradually reinforce self-control, financial discipline, and long-term planning (Thaler, 2021; OECD, 2023). Therefore, the effectiveness of financial literacy interventions should be evaluated not only through immediate financial outcomes but also through the sustainability of newly established financial habits.

From a practical perspective, the findings offer several important implications for policymakers, financial institutions, and educational organizations. Government agencies responsible for financial inclusion should consider integrating financial literacy initiatives with broader economic empowerment programs targeting low-income urban households. Financial institutions should develop accessible financial products characterized by lower administrative costs, simplified account opening procedures, and flexible saving mechanisms appropriate for economically vulnerable populations. Educational institutions and community organizations should also expand financial literacy curricula beyond basic financial knowledge by incorporating practical simulations, behavioral coaching, and digital financial management skills. Such integrated interventions are likely to generate stronger and more sustainable improvements in household financial resilience than educational programs implemented in isolation.

CONCLUSION

This study confirms that financial literacy programs are effective in improving household saving behavior among urban households in Indonesia. The findings demonstrate significant improvements in budgeting capability, financial awareness, saving discipline, and financial decision-making following participation in the program. Average household savings increased substantially across all income groups, with lower-income households experiencing the greatest proportional gains, indicating that financial education can generate meaningful behavioral changes even among economically vulnerable populations. Furthermore, qualitative evidence revealed that participants adopted more structured financial management practices, including routine budgeting, regular saving habits, and greater confidence in managing household finances. However, the study also demonstrates that financial literacy alone cannot fully optimize household financial outcomes when institutional barriers, particularly limited access to formal financial services, continue to constrain the practical application of financial knowledge.

From a theoretical perspective, this study contributes to the literature by reinforcing the view that household financial behavior is shaped by the interaction between individual financial capability and the broader financial ecosystem. The findings extend existing knowledge by showing that financial literacy interventions achieve greater effectiveness when accompanied by supportive financial inclusion and accessible financial infrastructure. Practically, the results provide important implications for governments, financial institutions, and financial education providers to design integrated policies that combine financial education with affordable financial products, inclusive banking services, and community-based financial support programs. Such integrated approaches are expected to produce more sustainable improvements in household financial resilience and inclusive economic development. Despite these contributions, several limitations should be acknowledged. The study focused exclusively on urban households and evaluated behavioral changes within a relatively short post-intervention period, limiting the generalizability of the findings to rural populations and the assessment of long-term behavioral sustainability. Future research should employ longitudinal designs involving larger and more geographically diverse samples, compare urban and rural settings, and investigate the roles of digital financial literacy, financial technology adoption, and behavioral interventions in sustaining long-term household saving behavior. Such investigations would provide a more comprehensive understanding of how financial literacy contributes to financial resilience across different socioeconomic contexts.

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