



## Exploring the Link between Financial Behavior, Financial Stress, and Online Loans among Urban Workers in Medan

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### ABSTRACT

The rise of online loans and PayLater services in Indonesia has raised concerns about financial vulnerability, especially among middle-income earners. This study aims to examine the relationship between financial behavior, financial stress, and the risk of being entangled in online lending. Using a quantitative approach, data were collected through a questionnaire distributed to 100 respondents, predominantly teachers aged 31–45 with bachelor's degrees. The analysis reveals a significant inverse relationship between financial behavior and financial stress, as well as between financial behavior and susceptibility to online loans. Key indicators such as budgeting, saving habits, and financial control were found to influence outcomes. Despite their stable income and educational background, many respondents lacked essential financial practices such as recording income and expenses, creating budgets, and building emergency funds. This highlights a behavioral gap between financial knowledge and application. The findings emphasize the need for targeted financial literacy programs that promote not only knowledge but also behavioral change. Strengthening responsible financial habits is essential to improving financial resilience and reducing dependence on high-risk digital credit platforms.

**Keywords:** *Financial Behavior; Financial Literacy; Financial Stress; Online Loans; PayLater.*

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### INTRODUCTION

Indonesia's promising economic growth continues to face several challenges. One increasingly pressing issue is the rise of unhealthy financial behaviors, especially the excessive use of online loans (pinjol) and paylater features. These behaviors are largely driven by the high interest rates applied by both legal and illegal lenders. Such interest is often compounded daily, causing debt to escalate quickly. The situation is worsened by hidden charges such as administrative fees, service costs, and penalties, which are typically disclosed only after the funds have been disbursed (Hardayu, Afifah, & Mustaruddin, 2024; Chamidah et al., 2024).

The financial burden is not the only concern. Borrowers also face psychological pressure from unethical collection practices including intimidation, persistent threats, and the misuse of personal data. These practices often lead to broader social consequences such as family financial instability, job loss, and even suicide. As of October 2023, the Financial Services Authority (OJK) recorded 101 licensed online lending platforms in Indonesia. Despite enforcement efforts, illegal lenders continue to operate, indicating the government's limited control over this sector (AFPI, 2023; CNN, 2024).

At the same time, many young professionals in urban areas rely on consumer debt to fulfill lifestyle aspirations. A 2021 survey conducted by OCBC NISP and Nielsen IQ, involving 1,027 Indonesian respondents, found that the financial behavior index among young people stood at only 37.72 out of 100. Although 64 percent of respondents expressed confidence in financial planning, 84 percent did not track their expenses, and only 16 percent had an emergency fund (CNN, 2024). This contrast between belief and behavior highlights a serious financial literacy gap.

One significant reason for poor financial decisions is the influence of cognitive bias. Research in behavioral science has shown that individuals often make irrational or inconsistent choices when dealing with money. Cognitive patterns such as overconfidence, availability bias, loss aversion, and herd mentality can influence financial decisions in ways that are not aligned with long-term well-being (Warta Fiskal, 2024).

**Table 1.** Common Cognitive Biases in the Financial Sector (Warta Fiskal, 2024)

Type of Bias	Explanation	Example
Overconfidence Bias	Overestimating one's knowledge or ability	Excessive trading by overconfident portfolio managers
Heuristic Bias	Using rules of thumb or shortcuts to simplify complex decisions	Dividing investment funds equally without analysis
Representativeness/Availability Bias	Relying on the most vivid or easily recalled information	Avoiding pension plans due to a relative's bad experience
Conservatism/Status Quo/Anchoring Bias	Overvaluing existing assets due to familiarity, inertia, or emotional attachment	Holding onto inherited stocks despite declining value
Loss Aversion Bias	Feeling the pain of loss more than the pleasure of an equivalent gain	A 1% loss evokes the same emotional reaction as a 2% gain
Herd Behavior	Following the actions of the majority rather than individual analysis	Buying stocks during a market bubble due to fear of missing out
Confirmation Bias	Seeking out information that supports pre-existing beliefs and ignoring contrary evidence	Trusting biased sources while rejecting contradictory data

Although financial education is more accessible than ever, it does not always translate into improved financial behavior. This disconnect can be attributed not only to a lack of financial knowledge but also to internal psychological factors such as impulsivity, lack of self-control, and cognitive biases. For example, Rahayu et al. (2022) found that even among millennials with relatively high levels of digital financial literacy, poor financial behavior was still prevalent, indicating that knowledge alone is insufficient to ensure responsible financial action. Similarly, Denura and Soekarno (2023) emphasized that behavioral biases such as overconfidence and herding play a substantial role in financial decision-making, often leading individuals to act contrary to their own long-term financial interests.

Prior studies have confirmed that individuals who engage in responsible financial behavior, such as budgeting, saving regularly, paying bills on time, and tracking expenses, tend to experience less financial stress and are more resilient to financial disruption. These habits also reduce the likelihood of falling into high-risk traps such as digital credit or online loans. Recent findings in the Indonesian context further support this, showing that responsible financial practices among PayLater users are associated with better financial outcomes and reduced dependence on short-term borrowing (Gunawan, Wahyuni, & Sari, 2023; Berlianti & Suwaidi, 2023).

Based on the issues above, this study aims to investigate the relationship between financial behavior, financial stress, and online lending among urban workers in Medan. The findings are expected to offer both theoretical insight and practical guidance for promoting healthy financial practices, especially in a digital financial environment that is rapidly evolving in Indonesia.

## **THEORY**

Understanding the theoretical framework is essential to examine the relationship between financial behavior, financial stress, and the use of online loans among urban workers. This section elaborates on each of these constructs based on existing literature to provide a conceptual foundation for the study. The following subsections explain the core concepts that underpin the research model.

### ***Financial Behavior***

Financial behavior refers to the way individuals make decisions in managing their finances, including budgeting, saving, spending, and debt management. According to Sahid, Nuris, and Hussin (2023), financial behavior is influenced by a combination of financial knowledge, social environment, and personal self-control. Positive financial behavior is reflected in habits such as timely bill payments, financial planning, expense tracking, and maintaining savings.

In the context of digital finance, Wahyuni (2023) found that the rapid growth of fintech services does not automatically lead to improved financial behavior. Instead, the convenience and speed offered by digital platforms may encourage impulsive consumption and dependence on credit, especially among urban users who are more exposed to digital lifestyles.

### *Financial Stress*

Financial stress refers to the emotional strain experienced when individuals are unable to meet their financial obligations. It can arise not only from low income or growing debt, but also from behavioral issues such as poor financial planning, lack of savings, or insufficient knowledge of available financial tools. Witasari, Safrizal, and Kurniawan (2025) emphasize that financial knowledge and inclusion significantly shape individuals' financial behavior and empower them to make better financial decisions, thereby potentially reducing financial vulnerability and stress.

Additionally, Sawitri (2021) notes that high income alone does not guarantee financial security. Without adequate financial capability, young employees may still experience stress due to lifestyle pressures and poor money management. These findings underscore the importance of improving financial behavior to strengthen personal resilience in the face of financial challenges.

### *Online Loans and Fintech Risks*

The expansion of financial technology, particularly peer-to-peer (P2P) lending, has significantly reshaped the financial services landscape in Indonesia. While fintech offers greater convenience and accelerated access to credit, it also presents significant risks, particularly for individuals with limited financial literacy. The COVID-19 pandemic accelerated the adoption of digital financial platforms, contributing to a growing dependence on online loans and PayLater services (Sugandi, 2021).

Despite regulatory efforts by the Financial Services Authority (OJK), including Regulation No. 77/POJK.01/2016, illegal lending practices persist. These unregistered providers often impose excessive interest rates and adopt unethical debt collection methods, such as intimidation and the unauthorized use of borrowers' personal data (Disemadi, Yusro, & Balqis, 2020). Moreover, limited public understanding of digital financial products—combined with behavioral tendencies such as impulsive spending and poor budgeting—further increases the risk of debt entrapment and prolonged financial instability.

## **METHOD**

This study employed a quantitative approach using primary data collected through questionnaires. The research involved 100 respondents who are workers domiciled in Medan City. Respondents were selected using random sampling, and data collection was carried out through an online questionnaire distributed via Google Forms.

To evaluate the research variables, a multi-item Likert scale was used to increase the reliability and accuracy of measurement. The questionnaire adopted a five-point Likert scale ranging from "strongly disagree" to "strongly agree." The items were constructed based on relevant literature and adapted to reflect the indicators of each variable.

### *Research Variables*

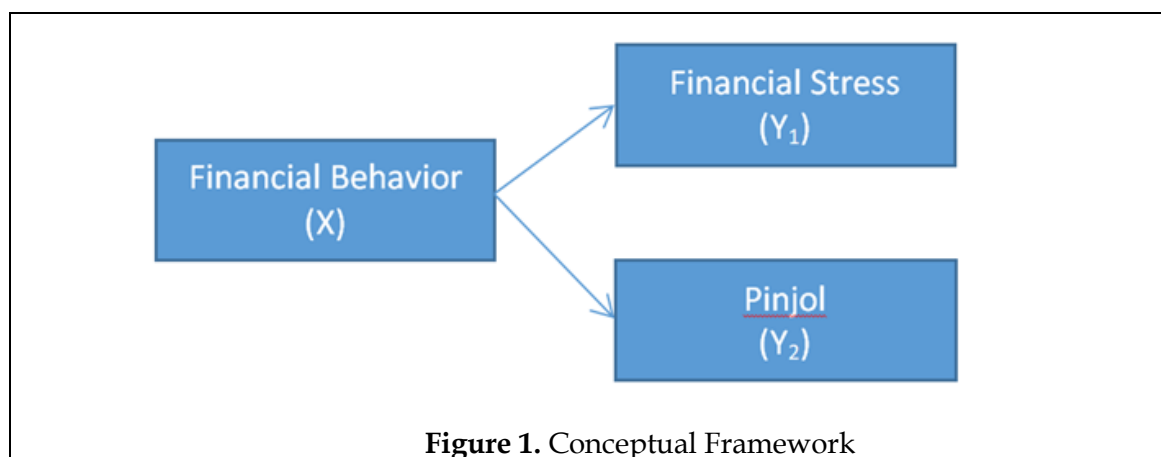
The study investigated two main relationships:

- Independent Variable (X): Financial Behavior

- Dependent Variables (Y1 and Y2): Financial Stress (Y1) and Use of Online Loans (Pinjol) (Y2)

Indicators for financial behavior were adapted from Potrich et al. (2016), including paying bills on time, maintaining financial records, managing expenses, saving habits, and having an emergency fund.

To ensure data quality, respondents were provided with sufficient time to read and answer the questionnaire independently. Trained enumerators were available to clarify questions when needed, without influencing the responses. The conceptual model of this study is illustrated in Figure 1.



**Figure 1.** Conceptual Framework

This model shows that financial behavior (X) is hypothesized to have a direct relationship with financial stress (Y<sub>1</sub>) and with the use of online loans (Y<sub>2</sub>).

#### **Data Analysis Technique**

Data were analyzed using Structural Equation Modeling (SEM) through the Partial Least Squares (PLS) approach, utilizing SmartPLS 4.0 software. SEM-PLS was chosen due to its ability to model complex relationships between latent constructs, particularly in exploratory studies with relatively small sample sizes (Sarstedt & Cheah, 2019).

In addition to SEM, SPSS was used for preliminary statistical analysis, including descriptive statistics, correlation tests, and reliability analysis. Composite reliability and Average Variance Extracted (AVE) were used to test the internal consistency and convergent validity of the constructs. Hypotheses were tested by examining the path coefficient, t-statistics, and p-values, with significance determined at the 0.05 level.

#### **Research Hypotheses**

The hypotheses tested in this study are:

- **H1:** Financial Behavior has a significant relationship with Financial Stress
- **H2:** Financial Behavior has a significant relationship with being entangled in Online Loans (Pinjol)

These hypotheses were formulated to examine how responsible financial behavior can potentially reduce financial stress and the likelihood of using risky financial products such as online loans.

## RESULT

Based on 100 questionnaires distributed by the researcher, the researcher obtained the following respondent data:

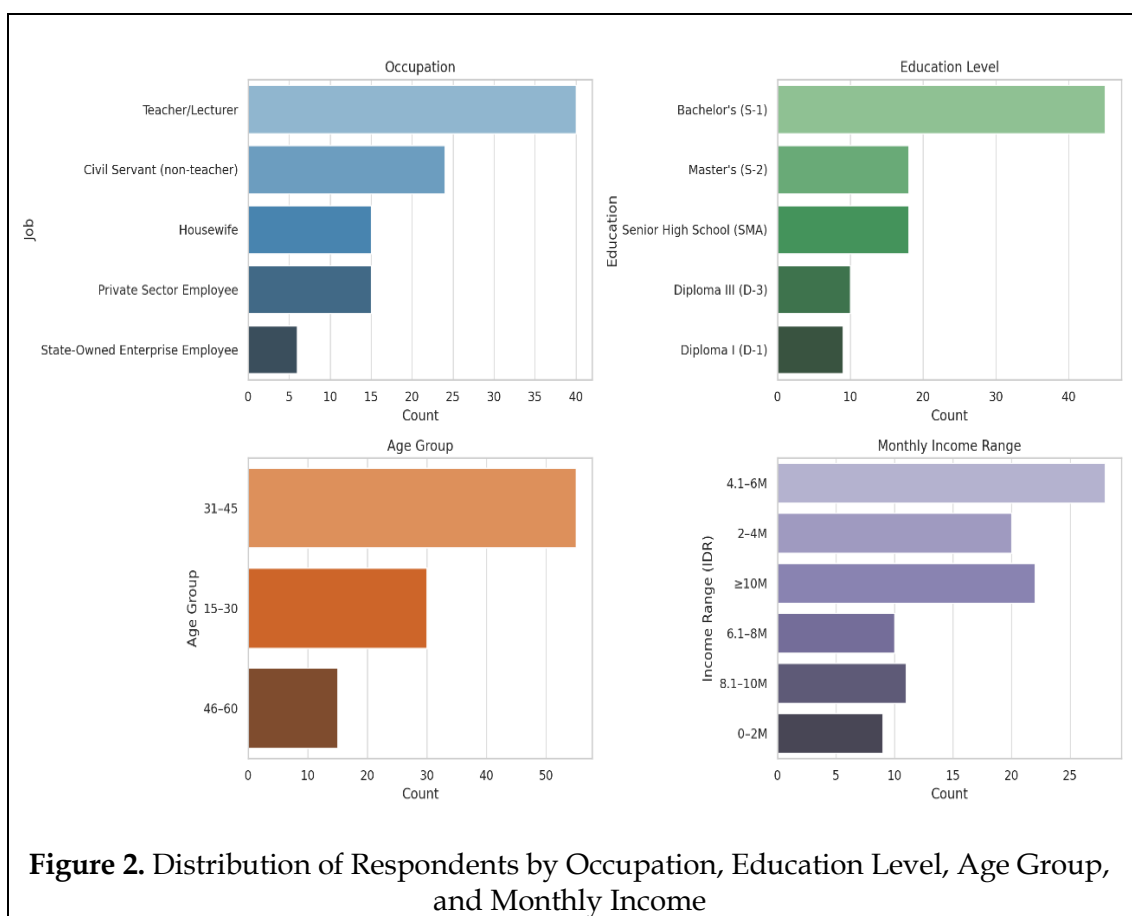
**Table 2.** Respondent Demographic Profile by Occupation, Education Level, Age Group, and Monthly Income

Category	Sub-category	Frequency
Occupation	Housewife	15
	State-Owned Enterprise Employee	6
	Teacher/Lecturer	40
	Private Sector Employee	15
	Civil Servant (non-teacher)	24
Education Level	Senior High School (SMA)	18
	Diploma I (D-1)	9
	Diploma III (D-3)	10
	Bachelor's Degree (S-1)	45
	Master's Degree (S-2)	18
Age Group	15-30	30
	31-45	55
	46-60	15
Monthly Income	Rp 0 - Rp 2.000.000	9
	Rp 2.000.000 - Rp 4.000.000	20
	Rp 4.100.000 - Rp 6.000.000	28
	Rp 6.100.000 - Rp 8.000.000	10
	Rp 8.100.000 - Rp 10.000.000	11
	Rp 10.000.000 and above	22

Source: Processing respondent data 2025

Based on the four tables above, it can be concluded that most of the respondents work as teachers or lecturers (40%). In terms of education, the majority hold a bachelor's degree (45%). Regarding age, the largest group falls within the 31-45 years category (55 respondents). Finally, in terms of income, most respondents earn between IDR 4,100,000 and IDR 6,000,000 per month (28 respondents).

A visual summary of respondent characteristics is presented in Figure 2 to further illustrate the distribution based on occupation, education, age, and income level.



### Measurement Model Results

#### a. Convergent validity

Validity tests are used to measure whether a questionnaire is valid or not. A questionnaire is said to be valid if the statements in the questionnaire/indicator can express something that will be measured by the questionnaire. in this study by looking at the convergent validity value. Convergent validity is the extent to which indicators in the same construct correlate positively. Convergent validity can be done by calculating the outer loading factor value of each indicator and the average variance extracted (AVE) value.

**Table 3.** AVE

Variabel	Average Variance Extracted (AVE)
Financial Behavior (X)	0.755
Financial Stress (Y1)	0.657
Online loans <i>Pinjol</i> (Y2)	0.613

Source: Processing SEM PLS 4.0

The table above shows the AVE (Average variance extracted) value of each variable which is greater than 0.5 (Sarstedt, M. 2019) which means it meets one of the criteria of convergent validity. This shows that the measuring variables (manifest variables) of each construction are highly correlated with its construction.



**Table 4.** Loading Factor

Indicator	Financial Behavior	Financial Stress	Pinjol
FB1	0.751		
FB2	0.823		
FB3	0.772		
FB4	0.764		
FB5	0.894		
FB6	0.881		
FB7	0.784		
FB8	0.765		
FS1		0.723	
FS2		0.824	
FS3		0.833	
FS4		0.876	
FS5		0.711	
FS6		0.713	
FS7		0.734	
P1			0.811
P2			0.841
P3			0.815
P4			0.714
P5			0.701

Source: Processing SEM PLS 4.0

The table above shows the loading factor value of each indicator on each variable studied. The loading factor value obtained shows a value above 0.7 which means it meets the criteria of convergent validity.

#### b. Composite Reliability

Composite reliability is used to test the reliability of a construct. The reliability test is met if the composite reliability value is greater than 0.7 (Sarstedt, M. 2019).

**Table 5.** Composite reliability

Variabel	Composite Reliability (rho_a)
Financial Behavior (X)	0.874
Financial Stress (Y1)	0.801
Pinjol (Y2)	0.779

Source: Processing SEM PLS 4.0

Based on the results of the composite reliability calculation, all constructs have a value greater than 0.7. This means that all constructions in the study are reliable.

Based on the two tests above, namely the validity and reliability tests, it can be concluded that all research constructs Exploring the link between Financial Behavior on Financial Stress and online loans among Urban Workers in Medan are valid and reliable, so that all research constructs can be analyzed further to answer research problems.



### c. Hypothesis Test Results

H1: Financial Behavior has a relationship with Financial Stress

H2: Financial Behavior has a relationship with caught in Online Loans (Pinjol)

**Tabel 6.** Path coefficient-Mean, STDev, T value P value

Variabel	Original sample (O)	Sample mean (M)	Standard Deviation (STDEV)	T statistics ( O/ STDEV )	P value
Financial Behavior (X) - > Financial Stress (Y1)	-0.871	0.0781	0.0308	2.981	0.014
Financial Behavior (X) - > Pinjol (Y2)	-0.978	-0.0483	0.0198	2.089	0.029

*Sumber: Processing SEM PLS 4.0*

Hypothesis testing is a stage in testing the problems built in the research by comparing the reality with the temporary assumptions of the research. Hypothesis testing is based on the results of data processing using SEM PLS 4.0 by looking at the results of the path coefficient calculation and the significance of the structural path parameter coefficient. In addition, the Sobel test is used to prove the existence of a mediation effect on the existing structural path by looking at the significance value of the parameter coefficient. The research hypothesis is accepted if the significance of the structural path coefficient (p value) <0.05. The research hypothesis is rejected if the significance of the structural path coefficient (p value) > 0.05. In this case, the accepted hypotheses are X-Y1 and X-Y2. According to (Gozali and Latan 2015) t statistic > 1.96. The original sample has a positive value, meaning the direction of the relationship between X and Y is positive. The original sample has a negative value, meaning the direction of the relationship between X and Y is negative.

Before the revision, this study showed an insignificant relationship, but it turned out that the researcher had made an error in selecting the analysis method. After realizing the error, the researcher revised the study by changing the analysis method used, resulting in more accurate results that ultimately revealed the relationship between the variables.

**H1 is accepted:** The results of the study show a significant relationship between Financial Behavior (X) and Financial Stress (Y1). The direction of the relationship can be seen from the Original Sample number value in Bootstrapping of -0.871, which is inversely proportional. Meanwhile, the t-statistic value of Financial Behavior (X) on Financial Stress (Y1) is 2.981, which means it is greater than the t-table of 1.96, meaning it has a significant effect. In addition, the resulting p-value of the study, which is 0.014, is smaller than the predetermined standard (<0.05), meaning the hypothesis is accepted. The interpretation of this study shows an inverse relationship between variable X and variable Y1, namely the higher a person's understanding of Financial Behavior, the lower their level of financial stress.

**H2 is accepted:** The results of the study show a significant relationship between Financial Behavior (X) and online loans (Y2). The direction of the relationship can be

seen from the Original Sample value in Bootstrapping of -0.978, which is inversely proportional. Meanwhile, the t-statistic value of Financial Behavior (X) on online loans (Y2) is 2.089, which is greater than the t-table of 1.96, meaning it has a significant effect. In addition, the resulting research p-value, which is 0.029, is also smaller than the predetermined standard ( $<0.05$ ). The interpretation of this finding shows an inverse relationship between variable X and variable Y2, namely the higher a person's understanding of Financial Behavior (X), the lower the risk of someone being entangled in online loans.

## DISCUSSION

### *H1: The Relationship between Financial Behavior and Financial Stress*

The results of this study indicate a significant negative relationship between financial behavior and financial stress. The t-value obtained (2.981) exceeds the threshold of 1.96, and the p-value (0.014) is less than 0.05, confirming the significance of this relationship. The original sample coefficient of -0.871 shows that as financial behavior improves, the level of financial stress decreases.

Among the financial behavior indicators, the most influential are financial control and saving habits. This finding aligns with Siswanti (2020), who highlights that inadequate financial planning and poor self-control often lead to irresponsible financial behavior, which in turn increases the risk of financial stress. Setiawati et al. (2025) also emphasize that individuals who demonstrate responsible financial behavior tend to manage their resources more effectively, reducing the likelihood of financial distress.

### *H2: The Relationship between Financial Behavior and Online Loans (Pinjol)*

Similarly, a significant inverse relationship was found between financial behavior and the likelihood of being entangled in online loans. The t-value (2.089) and p-value (0.029) support the acceptance of this hypothesis, with the path coefficient of -0.978 indicating a strong negative association. Respondents with higher levels of financial behavior are less likely to rely on quick-access credit such as online loans.

The indicators that had the most influence in this context were financial management and the ability to create and follow a spending budget. Respondents who possessed these skills showed greater caution when dealing with digital lending platforms. The ease of access to online credit is often accompanied by hidden risks, including excessive interest rates and unethical collection practices, which may harm borrowers emotionally and financially. Similar patterns were observed by Elkarima et al. (2024), who found that digital borrowers with stronger financial literacy and inclusion were better equipped to evaluate loan terms and avoid exploitative lending conditions.

This finding reveals a critical disconnect between financial knowledge and actual behavior, particularly among respondents with stable socioeconomic backgrounds. According to Sara (2022), knowledge of good finance is a basic need for every individual. The benefit of having financial knowledge is that individuals can have good financial planning and avoid financial problems. High financial knowledge will increase good financial behavior, while low financial knowledge will lead to wrong financial behavior.

Of the 100 questionnaires distributed, respondents were predominantly teachers with bachelor's degrees aged 31-45, with an average income of Rp 4,100,000-Rp

6,000,000. This means they are in the middle-income bracket. They should be wiser in managing their finances, avoiding consumer debt, continually striving to increase their savings, and avoiding a lifestyle characterized by spending more than they earn. Although none of the respondents were ensnared in online loans, they still haven't made the effort to record income and expenses, create a budget, and maintain an emergency fund. This finding reflects broader patterns of inadequate financial practices, particularly among working adults, despite sufficient education and income. As highlighted by Lating et al. (2025), the absence of basic financial record-keeping is a common issue among small business actors and urban earners, limiting their ability to manage risks and plan for emergencies. Similarly, Mareta (2024) found that young adults often lack discipline in budgeting and saving, even when they possess moderate financial knowledge. Those behavioral gaps reinforce the theoretical implications of the study. From both theoretical and contextual perspectives, the significance of financial behavior becomes even more evident in shaping financial well-being.

These findings are consistent with theoretical frameworks that position financial behavior as a critical factor in personal financial outcomes. The behavioral finance perspective explains that psychological and behavioral tendencies play a central role in shaping how individuals manage their finances. As highlighted by Joo and Grable (2004) and Britt et al. (2015), proactive financial behaviors such as budgeting, saving, and expense tracking serve as buffers against stress and financial instability.

From a contextual standpoint, the study's relevance is evident in the current financial environment of urban Indonesia, particularly in cities like Medan. The rise of digital financial services, especially peer-to-peer lending, has increased access to credit, but this has also introduced new vulnerabilities for those lacking adequate financial literacy. Individuals with poor financial behavior may fall victim to aggressive marketing, instant loan approvals, and manipulative repayment structures offered by online lending platforms.

Considering these findings, it becomes essential to strengthen financial literacy programs that not only increase knowledge but also promote behavioral change. Enhancing financial behavior through education and mentoring may help individuals resist impulsive borrowing and develop healthier financial habits. This is crucial for supporting financial resilience at both the individual and community levels.

## CONCLUSION

This study concludes that financial behavior plays a significant role in influencing both financial stress and the likelihood of being entangled in online loans among urban workers in Medan. The statistical findings reveal a negative and significant relationship between financial behavior and financial stress, as well as between financial behavior and online lending. Individuals who exhibit proactive financial habits, such as timely bill payment, regular saving, maintaining a financial record, and having an emergency fund, tend to experience lower levels of financial stress and are less likely to rely on online loans.

These findings align with behavioral finance theories, which emphasize that financial decisions are not merely driven by knowledge but also by psychological tendencies and behavioral patterns. The results also demonstrate that even among

middle-income respondents with adequate educational backgrounds, gaps in actual financial behavior remain. This highlights the importance of not only increasing financial knowledge but also translating it into consistent financial actions.

In the context of Indonesia's growing digital financial landscape, the ease of access to online loans demands stronger financial literacy interventions. Efforts should focus not only on raising awareness but also on reshaping attitudes and behaviors related to money management. Building financial resilience requires equipping individuals with the capacity to assess risks, plan their finances, and resist impulsive borrowing, particularly in urban areas where financial products are widely promoted but not always well understood.

Future studies are encouraged to expand the geographic scope and explore additional variables such as financial capability, intergenerational financial habits, and the influence of the "sandwich generation" phenomenon. Such research will further enrich the understanding of how financial behavior interacts with various socio-economic and psychological factors in an increasingly digital financial environment.

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