

The mediating role of locus of control: Financial knowledge and financial attitude on financial management behavior

Besse Nur Fatimah Hefri

Universitas Gadjah Mada, Indonesia

Email: bessenurfatimahhefri523990@mail.ugm.ac.id

ARTICLE INFO

Article History

Received: 14-04-2024

Revised: 28-04-2024

Accepted: 29-04-2024

Keywords

Financial Knowledge;
Financial Attitude;
Locus of Control;
Financial Management
Behavior.

Paper Type: Research paper

ABSTRACT

Purpose-Currently, individual behavior in managing finances, especially in the younger generation, needs attention. The ease of financial access can provide both positive and negative aspects. This study aimed to ascertain how financial knowledge and attitudes through locus of control can influence financial management behavior.

Design/Methodology/Approach-Modeling structural equations using Smart PLS 4.0 are the data processing techniques used in this study. This study examines the impact of the indicators of each of these variables on the objects of students of the Faculty of Economics and Business in Yogyakarta, Indonesia. By distributing questionnaires, the researchers were able to collect data from up to 98 respondents.

Findings-The study's findings suggest that although financial attitudes have a direct impact on financial behavior management, financial knowledge has no direct impact on financial behavior management behavior. Financial attitudes and knowledge have been demonstrated to directly affect locus of control. It has also been demonstrated that locus of control directly affects money management behavior. Furthermore, it has been demonstrated that locus of control mediates the relationship between financial knowledge and financial management behavior, but not the relationship between financial attitudes and financial management conduct.

Research limitations/implications-The findings of this research are expected to be a reference and basis for knowledge, especially for the younger generation, who are expected to understand that to foster good financial management behavior, there are many things that must be considered. This study shows that financial knowledge, financial attitudes, and locus of control are elements that can influence financial management behavior.

Originality/value-There is still very little research on financial management behavior in the younger generation, especially among students of the Faculty of Economics and Business in Yogyakarta, Indonesia. This study revealed factors that allegedly had an impact on the financial management behavior of students of the Faculty of Economics and Business in Yogyakarta, Indonesia.

This is an open access article under the [CC-BY-SA](https://creativecommons.org/licenses/by-sa/4.0/) license.



1. The Introduction

In recent years, financial management has become a serious concern in various organizations (Thi et al., 2015). Today, the younger generation is often perceived as less responsible for their financial management behavior because today's younger generation grew up amid a culture of debt and expensive lifestyles (Alekan et al., 2018). Today's young generation needs basic knowledge about finance, which leads to good financial management behavior (Lusardi, 2019). Financial management behavior is principally a money management activity carried out by individuals in everyday life to achieve welfare (Garg & Singh, 2018). To achieve expected prosperity, individuals need to have expertise in managing their finances so that they can be used to meet their needs. Through good financial management behavior, individuals will also avoid financial difficulties.

Financial management behavior can be influenced by financial knowledge. Financial management behavior is closely related to financial knowledge (Goyal & Kumar, 2021). Financial knowledge is assumed to be an individual's mastery of various aspects of finance, including financial tools and management skills (Potrich et al., 2016). Research conducted by previous researchers shows that financial management behavior is positively influenced by financial knowledge as has been done by Tang and Baker (2016), also Ali et al. (2016). Individuals with good financial knowledge will have an adequate understanding and knowledge of the various financial worlds, ultimately creating good financial management behavior (Lusardi et al., 2017). The better the level of financial knowledge of an individual, the better the quality of his financial decisions (Stolper & Walter, 2017). Thus, in their lives, individuals will always reflect good financial management behavior as well.

Good financial knowledge also forms a good locus of control for a person. Previous research from Brooks and Wheeler (2018) also O'Connor and Kabadayi (2020) showed that financial knowledge has a positive effect on the locus of control. Individuals with good financial knowledge can allocate and take responsibility for their personal finances, thus increasing their locus of control (Thi et al., 2015). A knowledgeable person can maintain good self-control. Good financial knowledge and self-control serve as the foundation for making financial decisions (Lee et al., 2023). The locus of control is a part of an individual's personality. This relates to the ability of individuals to make decisions based on their ability and luck (Ivancevich et al., 2014). In addition, individuals with qualified financial knowledge form a good locus of control and can be proven by more responsible financial behavior. If it is associated with the locus of control, then the individual knows how to compile and plan a financial budget so that it will form better self-control.

Financial management behavior is also influenced by the locus of control. The locus of control describes how far individuals feel about a connection between the actions they perform and the results of those actions (Cowan & Kinley, 2014). Research conducted by Strömbäck et al. (2017) also Siswanti (2020) shows that locus of control has a positive effect on financial management behavior. Individuals with a high locus of control indicate that they are responsible for themselves, are careful in managing their finances, and will ultimately improve financial management behavior (Hampson et al., 2021). In addition, according to Ryu and Ko (2019), a lack of financial activity-related goals can lead to a person's inability to exercise self-control. According to Lührmann et al. (2015) and Cobb-Clark et al. (2021), people who possess a higher locus of control capacity are more likely to consistently pursue long-term objectives, including financial objectives.

Financial management behavior can also be influenced by financial attitudes. Financial attitudes describe states of mind, opinions, and judgments regarding finance (Ameliawati & Setiyani, 2018). Financial attitude refers to an individual's ability to deal with financial problems (Nadeem et al., 2020). Research conducted by Potrich et al. (2015) and Akben-Selcuk (2015) revealed the positive influence of financial attitudes on financial management behavior. Individuals with a good financial attitude trigger a healthy financial mindset and an outlook on future finances. Good financial management behavior can be started first by applying a good financial attitude, so that the better the financial attitude of individuals towards finance, the better the financial management behavior.

Research conducted by Furnham and Cheng (2017) also Dasman et al. (2021) proves that there is a positive relationship between financial attitudes at the locus of control. Individuals with a good financial attitude are encouraged to have a good locus of control. Thus, individuals control themselves to carry out financial activities that are not harmful (Bénabou & Tirole, 2016). Attitude refers to the tendency to approach or avoid social conditions. Furthermore, attitudes are also related to aspects of motivation, feelings, or emotions. The process locus of control explains how self-regulation and control behavior in running life accord with the individual's ability to control behavior, especially in financial management (Soleimani, 2018). Financial attitudes are geared towards individuals' thoughts, income, and judgments about financial practices. Rational and confident individuals affect their self-control in financial matters. Thus, it can be said that one's financial attitude is also a factor that influences the way a person controls himself, especially in financial terms.

This study chose students from the Faculty of Economics and Business in Yogyakarta, Indonesia as the object of research. The first reason for choosing this object is the level of financial literacy index in Yogyakarta, Indonesia based on the results of the National Survey of Financial Literacy and Inclusion in 2023, which shows that in three survey periods, the level of financial literacy has increased, namely in 2016 by 23.40%, in 2019, 31.69% and in 2022 and 47.56%. Second, students of the Faculty of Economics and Business are considered to have studied finance in financial management courses or those related to finance, thus enabling them to have an understanding and knowledge of finance. Third, the researcher tested the extent to which financial knowledge and financial attitude influence financial management behavior by mediating locus of control in students of the Faculty of Economics and Business in Yogyakarta, Indonesia. Fourth, previous research took subjects within the scope of one university, such as the research by Ali et al. (2016) and Mashud et al. (2021), whereas in this study, various universities in Yogyakarta, Indonesia were included.

2. Literature Review and Hypothesis Development

People with an appropriate level of financial literacy can effectively manage their resources and make wise financial choices (Garg & Singh, 2018). Furthermore, having appropriate financial knowledge will enable them to handle their money as much as possible. A solid financial understanding can filter the information required to manage one's finances more easily. Fundamentally, individuals with adequate financial understanding will understand and be aware of the many financial spheres, which will lead to the development of effective methods of financial management (Lusardi et al., 2017). An individual's financial decisions will always be of higher quality and more financially knowledgeable (Stolper & Walter, 2017), ensuring that they consistently exhibit good financial management habits in their daily lives. Similar research results obtained by Nair (2022) and Nazah et al. (2022) prove that financial management behavior is influenced by financial knowledge. **H₁: Financial Knowledge Has a Positive Effect on Financial Management Behavior**

A locus of control can assist someone in thinking and using money more effectively (Haudi, 2023). A higher locus of control results from greater financial literacy. Therefore, more financial literacy leads to greater or locus of control in actions such as funding or deposits, and lower financial literacy results in a lower locus of control. A person's locus of control can be increased by having good financial knowledge, as they can manage and allocate their personal funds (Thi et al., 2015). A well-informed individual should be able to exercise control. Making good decisions about finances will be based on self-control and good financial understanding (Lee et al., 2023). The results of this research are consistent with the results of research conducted by Chujan et al. (2022) and Furrebøe and Nyhus (2022) which states that financial knowledge has an effect on locus of control. **H₂: Financial Knowledge Has a Positive Effect on Locus of Control**

Each person has a locus of control that can affect how they manage their finances. Locus of control plays a crucial role in this situation because it enables people to avoid overspending

and wasteful conduct. Sinaga and Wibowo (2023) explained that an individual's locus of control is indicative of their belief in their capacity to influence the conditions that have the potential to impact their conduct. Therefore, as personal financial management improves, so does locus of control. People with a strong locus of control take personal responsibility, exercise caution while handling money, and eventually work to improve their money management habits (Hampson et al., 2021). Individuals with a stronger locus of control capacity are more likely to pursue long-term goals consistently, including financial ones (Cobb-Clark et al., 2016; Cobb-Clark et al., 2021). On the other hand, when personal financial management declines, so does locus of control. Rosalina et al. (2022) indicate that locus of control has an impact on personal financial management, which is consistent with the findings of the study. **H₃: Locus of Control Has a Positive Effect Financial Management Behavior**

To affect intentions and behavior, an individual must not only control his own behavior, but also control how others see them (Ajzen et al., 2018). In this study, locus of control refers to a goal that ultimately influences financial management behavior, and individual conduct is defined as financial management behavior. People will always use locus of control to make thoughtful decisions. This is in line with the theory that states that an individual's locus of control to exert behavioral control increases with perceived behavioral control. People will practice locus of control to consistently make informed decisions based on their information. Those who have a stronger sense of control over their actions typically possess higher knowledge (Hsia et al., 2014). The relationship between financial knowledge and financial management behavior can be mediated by locus of control, as demonstrated by Aydemir and Aren (2017). Accordingly, those who possess high financial literacy are more adept at managing their locus of control, which ultimately leads to better financial behavior (Asandimitra & Kautsar, 2019). **H₄: Locus of Control as Mediate on The Effect of Financial Knowledge to Financial Management Behavior**

A good financial attitude affects people's perspectives on money, which in turn affects money management. According to Rashid et al. (2022), financial attitudes can lead to financial problems. Therefore, a person's financial management is affected by positive financial attitudes. In other words, when personal financial management has grown, it is correlated with increases in financial attitudes and vice versa when financial attitudes have declined. Previous studies have yielded findings that are consistent with those of Nazah et al. (2022). Another aspect of an individual's financial attitude is their capacity to handle money problems (Nadeem et al., 2020). People with a positive financial attitude will encourage others to have positive financial perceptions and mentalities. A positive financial attitude is the first step toward implementing appropriate financial management behaviors. Hence, better financial management behavior is correlated with better financial attitudes held by people towards finance (Hadita & Wufron, 2022). **H₅: Financial Attitude Has a Positive Effect on Financial Management Behavior**

Financial attitude is a factor that might help people manage their money properly (Rahmawati & Marcella, 2023). Someone who approaches money with reason and confidence influences locus of control. In other words, an individual's locus of control increases with a higher financial attitude and decreases with a lower attitude. Those with a positive perspective on money are also more likely to have a positive locus of control. Therefore, individuals use locus of control to engage in financially harmless activities (Bénabou & Tirole, 2016). The tendency to approach or avoid various social situations is known as an individual's attitude. Additionally, motivation, sentiments, and emotions are related to attitudes. The process locus of control describes how an individual can self-regulate and control behavior to live life according to their capacity for behavior control, particularly when it comes to managing their finances (Soleimani, 2018). This study findings are consistent with those of studies conducted by Mansor et al. (2022) and Jufrizen and Ariza (2022), which found that financial attitudes affect locus of control. **H₆: Financial Attitude Has a Positive Effect on Locus of Control**

Individuals with a good financial attitude tend to have a good locus of control (Dwiastanti, 2017). Individuals exercise self-control to ensure that they undertake financially beneficial activities. A person's financial attitude affects his behavior in controlling finances (Azlan et al., 2015). Everyone needs to have a locus of control because it provides control over all decisions and behaviors. Agustina and Mardiana (2020) show that locus of control can mediate the relationship between financial attitudes and financial management behavior. An individual's financial attitude builds a positive locus of control and ultimately forms good financial management behavior (Mutlu & Ozer, 2019). **H₇: Locus of Control as Mediate on The Effect of Financial Attitude to Financial Management Behavior**

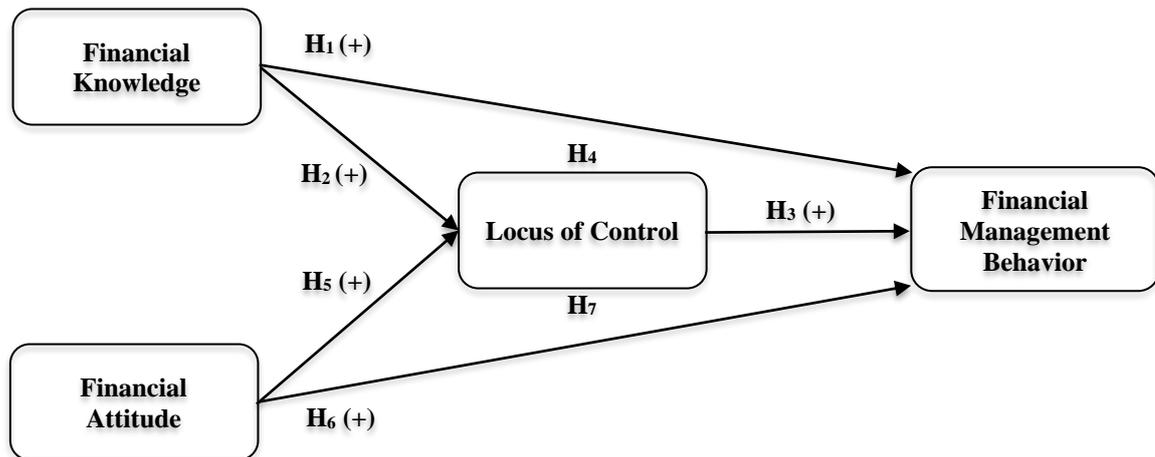


Figure 1. Research Framework

Figure 1 illustrates the framework of this study. This study seeks to prove the mediating role of locus of control on the effect of financial knowledge and attitude on financial management behavior.

3. Research Methodology

In this study, a purposive sampling method was used. The reason researchers use this purposive sampling method is that the population is quite large, so the sample of research material obtained is selected according to certain criteria set by the researcher. The sample in the study is students who meet the criteria of being registered as active students at the Faculty of Economics and Business at universities in Yogyakarta, Indonesia, and have taken courses related to financial management, financial behavior, and financial knowledge.

This study used primary data obtained from direct sources without second-party interpretation or screening (Cooper & Schindler, 2014). The data collection technique used in this study was a questionnaire. Data collection is carried out online through Google Forms and contains statements about financial management behavior, financial knowledge, financial attitudes, locus of control, and financial management behavior, which will later be generated as quantitative data (in the form of numbers) and then processed by researchers. The measures used to measure the indicators of variables used a Likert scale with five levels of answer preference. Financial knowledge variables consist of eight indicators developed by Perry and Morris (2005), financial attitude variables consist of nine indicators developed by Rajna and Anthony (2011), locus of control variables consisting of eight indicators developed by Rotter (1966), and financial management behavior variables consisting of seven indicators developed by Dew and Xiao (2011).

Data testing in this study uses Smart PLS 4.0 statistical tools, which are preceded by validity, reliability, and hypothesis testing. Convergent validity testing shows the relationship between the reflective items and their latent variables. The outer model measurement used in this study is based on the loading factor value of each indicator. According to Henseler et al. (2009),

an indicator can be removed from the research model if it has a loading factor value below 0.4, and the indicator is declared good if it has a loading factor value above 0.7. Next is reliability testing, which is used to test the reliability value between the indicators of the construct that forms it. A variable is said to be good if the composite reliability value is above 0.7, and the value of Cronbach's alpha is suggested above 0.6 (Hair et al., 2014). Finally, hypothesis testing was used to test the influence between variables, both directly and indirectly (mediation). The requirement for a hypothesis to be accepted is a p-value of less than 0.05 (Chin, 2013).

4. Result and Discussion

Validity Test

Table 1 show the results of validity testing using the convergent validity method. The indicator requirement for each variable to be declared valid was to have a loading factor value greater than 0.7. Based on the tests that have been done, it can be concluded that all indicators representing the variables of financial knowledge (FK), financial attitude (FA), and locus of control (LOC) are valid, while one indicator of the variable of financial management behavior (FMB) is declared invalid because it has a loading factor value of less than 0.7.

Table 1. Validity Test Result

Indicator	Financial Knowledge	Financial Attitude	Locus of Control	Financial Management Behavior
FK 1	0.922			
FK 2	0.819			
FK 3	0.864			
FK 4	0.834			
FK 5	0.773			
FK 6	0.764			
FK 7	0.910			
FK 8	0.864			
FA 1		0.895		
FA 2		0.902		
FA 3		0.940		
FA 4		0.904		
FA 5		0.945		
FA 6		0.880		
FA 7		0.859		
FA 8		0.927		
FA 9		0.909		
LOC 1			0.881	
LOC 2			0.845	
LOC 3			0.885	
LOC 4			0.872	
LOC 5			0.921	
LOC 6			0.915	
LOC 7			0.932	
LOC 8			0.926	
FMB 2				0.745
FMB 3				0.752
FMB 4				0.843
FMB 5				0.709
FMB 6				0.830
FMB 7				0.861

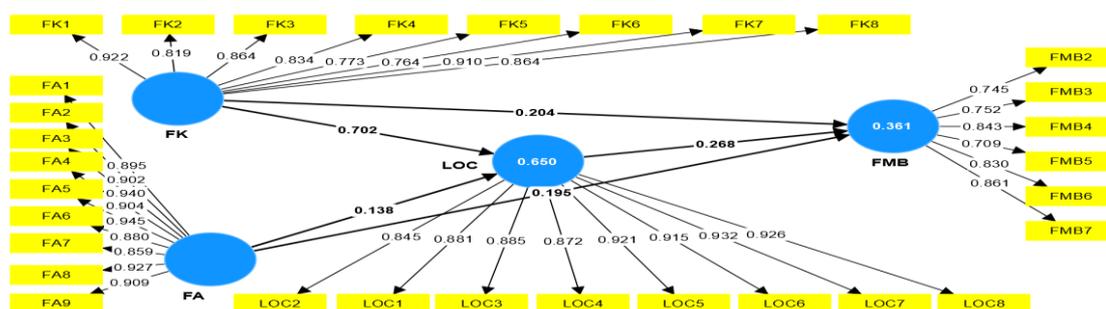


Figure 2. Measurement Model

Figure 2 describes a model formed from data processing using smart PLS. Based on the processing of such data, indicators representing financial management behavior variables (FMB 1) should be removed from the model. This was because the indicator had a loading factor value of less than 0.7.

Reliability Test

Table 2 shows the results of the reliability testing. Based on the test results that have been obtained, it can be concluded that the variables of financial knowledge, financial attitude, locus of control, and financial management behavior are reliable. This can be proven by the value of composite reliability and a Cronbach's alpha greater than 0.7 and 0.6.

Table 2. Reliability Test Result

Variable	Composite Reliability	Cronbach's Alpha
Financial Knowledge	0.944	0.942
Financial Attitude	0.977	0.973
Locus of Control	0.966	0.965
Financial Management Behavior	0.901	0.883

Hypothesis Test

Table 3 shows the results of the hypothesis testing. Based on the results of the hypothesis testing, it can be concluded that the entire hypothesis of this study is accepted. Financial knowledge has a positive effect on financial management behavior; locus of control has been proven to mediate the influence of financial knowledge on financial management behavior; financial attitude has a positive effect on financial management behavior; and locus of control is proven to mediate the influence of financial attitude on financial management behavior.

Table 3. Hypothesis Test Result

Hypothesis	Original Sample	Sample Mean	Standard Deviation	T Statistics	P Values
Financial Knowledge → Financial Management Behavior	0.204	0.213	0.155	1.315	0.189
Financial Knowledge → Locus of Control	0.702	0.692	0.099	7.111	0.000
Locus of Control → Financial Management Behavior	0.268	0.267	0.123	2.185	0.029
Financial Knowledge → Locus of Control → Financial Management Behavior	0.188	0.184	0.091	2.072	0.038
Financial Attitude → Financial Management Behavior	0.195	0.205	0.086	2.262	0.024
Financial Attitude → Locus of Control	0.138	0.146	0.097	1.423	0.155
Financial Attitude → Locus of Control → Financial Management Behavior	0.037	0.037	0.032	1.174	0.240

Discussion

The Effect of Financial Knowledge on Financial Management Behavior

The results of this study show that financial knowledge has no effect on financial management behavior, so it is contrary to research conducted by Tang and Baker (2016), also Ali et al. (2016). Effective resource management and prudent financial decision making are possible for those with a necessary degree of financial literacy (Garg & Singh, 2018). Furthermore, if they possess the necessary financial expertise, they can manage their money as effectively as possible. A strong grasp of finance can facilitate sorting through the data needed to manage money. People with sufficient financial knowledge are aware of various financial domains, resulting in efficient financial management behavior (Lusardi et al., 2017). The more financially educated a person is, the better their financial decisions will always be (Stolper & Walter, 2017), ensuring that they continuously demonstrate good financial management practices in their daily lives.

The Effect of Financial Knowledge on Locus of Control

Someone with a locus of control may find it easier to manage finances (Haudi, 2023). Enhanced financial literacy leads to greater locus of control. Thus, a higher locus of control over acts such as funding or deposits will follow a higher level of financial literacy, while a lower level of financial literacy will have the opposite effect. Having good financial knowledge can help people feel more in charge because it allows them to manage and allocate their own money (Thi et al., 2015). A knowledgeable person would be able to maintain control. Self-control and good financial knowledge are necessary for making financial decisions (Lee et al., 2023). The findings of this study support those of studies by Blount et al. (2023) and Lin and Bates (2022), which found that locus of control is influenced by financial knowledge.

The Effect of Locus of Control on Financial Management Behavior

Research has shown that financial management behavior is positively impacted by locus of control. In other words, a model locus of control is the foundation for all reasonable and proper financial management behaviors (Ryon & Gleason, 2014). For this reason, those who struggle to maintain the locus of control over their finances require assistance to survive (Cobb-Clark et al., 2016). Conversely, those with a strong locus of control can divide their money according to the plan. Achieving financial success requires a locus of control. Therefore, an outstanding locus of control must go hand-in-hand with acceptable and good financial management behavior. The results of this study are supported by the theory of planned behavior. According to this theory, individuals, opportunities, resources, and specialized skills influence behavior. This condition relates to how financial information affects intentions and conduct. The intention to shape an individual's money management conduct is known as locus of control. Studies by Siswanti (2020) and Strömbäck et al. (2017) show that locus of control favorably affects financial management behaviors.

The Effect of Financial Knowledge on Financial Management Behavior with Locus of Control as a Mediator

Individual behavior is not only controlled by oneself, but also requires control of perceived behavior to influence intentions and behavior (Ajzen et al., 2018). In this study, what is meant by individual behavior is financial management behavior, and locus of control is the intention that will later affect financial management behavior. Individuals always control themselves to be careful in making decisions. This is consistent with the theory that the greater the perceived behavioral control, the stronger the individual's locus of control for exercising behavioral control. As a result, individuals exercise self-control to make wise judgments based on their knowledge. Individuals with greater locus of control tend to have a higher level of knowledge (Hsia et al., 2014). Individuals with good financial knowledge are able to manage their finances more wisely (Tang & Baker, 2016). When making decisions, the locus of control in individuals is influenced by their observations of the world around them and their predictions of what will happen. Individuals with a locus of control will be responsible for their behavior, and individuals with greater responsibility will also manage their resources more carefully (Thi et al., 2015). Aydemir

and Aren (2017) prove that locus of control acts as a mediator between financial knowledge and financial management behavior. Thus, those with strong financial literacy will be better able to control the locus of their finances and will ultimately improve the quality of their financial behavior (Asandimitra & Kautsar, 2019).

The Effect of Financial Attitude on Financial Management Behavior

Better financial management practices are encouraged from a positive financial perspective. One can better comprehend attitudes toward money by knowing how they relate to it. These results confirm those of earlier research by Amanah et al. (2016) and Thi et al. (2015), which found the impact of financial attitudes on behavior related to financial management. People with a strong attitude toward money management usually behave more wisely with money (Rahmawati & Marcella, 2023). A person who adopts a financial perspective believes that financial conduct can be controlled through financial decisions. Another aspect of a person's financial attitude is their ability to manage financial issues (Nadeem et al., 2020). Positive financial attitudes encourage others to have positive financial attitudes and perspectives. Having a positive financial attitude is the first step toward implementing suitable financial management behavior. Therefore, a person's better financial attitudes toward money correlate with better financial management behavior (Hadita & Wufron, 2022).

The Effect of Financial Attitude on Locus of Control

The results of this study show that financial attitude has no effect on the locus of control, so it is contrary to research conducted by Furnham and Cheng (2017) also Dasman et al. (2021). One element that could assist people in managing their money well is their financial attitudes (Rahmawati & Marcella, 2023). A confident and reasoned approach to money affects locus of control. In other words, a person's locus of control increases with a more positive financial attitude and decreases with a negative one. Positivity regarding money also increases the likelihood of a positive locus of control. As a result, people engage in financially harmless activities using the locus of control (Bénabou & Tirole, 2016). An individual's attitude is defined as how they approach or avoid a particular societal situation. Attitudes are related to motivation and sentiments/emotions. According to Soleimani (2018), the process locus of control explains how a person may exercise self-control and behavioral control to conduct their life in accordance with their ability to control behavior. This is particularly true when managing finances.

The Effect of Financial Attitude on Financial Management Behavior with Locus of Control as Mediator

The results of this study suggest that locus of control does not mediate the influence of financial attitudes on financial management behavior, thus contradicting the findings of Agustina and Mardiana (2020). People with a positive perspective on money typically have a positive locus of control (Dwiastanti, 2017). People use self-control to ensure that they only engage in financially beneficial activities. People's behavior in managing their finances is influenced by their attitudes toward money (Azlan et al., 2015). A locus of control is necessary for everyone as it allows them to control their choices and actions. A person's financial mindset develops a healthy locus of control and, in turn, results in sound financial management practices (Mutlu & Ozer, 2019).

5. Conclusion

Based on the results of the analysis described earlier, it can be concluded that financial knowledge does not directly affect financial management behavior, whereas financial attitudes directly affect financial behavior management. Financial knowledge and attitudes have been shown to directly affect locus of control. Locus of control has also been shown to directly influence financial management behavior. In addition, locus of control has been shown to act as a mediator of the influence of financial knowledge on financial management behavior but does not mediate the influence of financial attitudes on financial management behavior. This study had various limitations. These limitations include a sample that only includes students from the

Faculty of Economics and Business, so it cannot represent all students of various college majors. The next limitation is that the research area is limited only to students from universities in Yogyakarta, Indonesia so it can be said that it cannot represent the financial management behavior of students in various other regions in Indonesia. In addition, the small number of samples affected the results of the study. Based on these limitations, researchers are advised to update both in terms of variables as factors that influence financial management behavior, such as generalized anxiety (Grable et al., 2020) and financial self-efficacy (White et al., 2021), and to take more and wider samples so that they can be used as a reference in determining student financial management behavior. The objects used in subsequent research can also be replaced with age groups (Henager & Cude, 2019) to provide a variety of results to determine the application of financial management behavior.

REFERENCES

- Agustina, N. R., & Mardiana. (2020). The effect of financial knowledge and financial attitude on financial management behavior mediated with locus of control. *Management and Economics Journal*, 4(3).
- Ajzen, I., Fishbein, M., Lohmann, S., & Albarracín, D. (2018). *The influence of attitudes on behavior*. Routledge.
- Akben-Selcuk, E. (2015). Factors influencing college students' financial behaviors in Turkey: Evidence from a national survey. *International Journal of Economics and Finance*, 7(6). <https://doi.org/10.5539/ijef.v7n6p87>
- Alekam, J. M. E., Salleh, M. S., & Mokhtar, S. S. M. (2018). The effect of family, peer, behavior, saving and spending behavior on financial literacy among young generations. *International Journal of Organizational Leadership*, 7(3). <https://doi.org/10.33844/ijol.2018.60258>
- Ali, M., Qamar, J., Asif, M., Khemta, N., & Jamil, H. (2016). How knowledge and financial self-efficacy moderate the relationship between money attitudes and personal financial management behavior. *European Online Journal of Natural and Social Sciences*, 5(2).
- Amanah, E., Rahardian, D., & Iradianty, A. (2016). The influence of financial knowledge, financial attitude and external locus of control on personal financial management behavior case study of bachelor degree student in Telkom University. *E-Proceeding of Management*, 3(2).
- Ameliawati, M., & Setiyani, R. (2018). The Influence of financial attitude, financial socialization, and financial experience to financial management behavior with financial literacy as the mediation variable. *KnE Social Sciences*, 3(10). <https://doi.org/10.18502/kss.v3i10.3174>
- Asandimitra, N., & Kautsar, A. (2019). The influence of financial information, financial self efficacy, and emotional intelligence to financial management behavior of female lecturer. *Humanities and Social Sciences Reviews*, 7(6). <https://doi.org/10.18510/hssr.2019.76160>
- Aydemir, S. D., & Aren, S. (2017). Do the effects of individual factors on financial risk-taking behavior diversify with financial literacy? *Kybernetes*, 46(10). <https://doi.org/10.1108/K-10-2016-0281>
- Azlan, A., Jamal, A., Kamal, W., Mohdrahimie, R., Roslemohidin, A. K., & Osman, Z. (2015). The effects of social influence and financial literacy on savings behavior: A study on students of higher learning institutions in Kota Kinabalu, Sabah. *International Journal of Business and Social Science*, 6(111).
- Bénabou, R., & Tirole, J. (2016). Mindful economics: The production, consumption, and value of beliefs. *Journal of Economic Perspectives*, 30(3). <https://doi.org/10.1257/jep.30.3.141>
- Blount, I., Triana, M. del C., Richard, O., & Li, M. (2023). How women CEOs' financial knowledge and firm homophily affect venture performance. *Journal of Business Research*, 155. <https://doi.org/10.1016/j.jbusres.2022.113459>
- Brooks, C., & Wheeler, B. (2018). Establishing the effect of financial knowledge, financial well-being, self-esteem, and locus of control on financial distress among university students. *Southeastern Council on Family Relation Conference*.
- Chin, W. W. (2013). Commentary issues and opinion on structural equation modeling. *MIS Quarterly*, 22(1).

- Chujan, W., Ngoc, N. L. B., & Faizi, A. S. (2022). Locus of control on financial behavior and financial risk attitude. *Annals of Economics and Finance*, 23(2).
- Cobb-Clark, D. A., Dahmann, S. C., Kamhöfer, D., & Schildberg-Hörisch, H. (2021). Self-control: Determinants, life outcomes and intergenerational implications. *SSRN Electronic Journal*. <https://doi.org/10.2139/ssrn.3427627>
- Cobb-Clark, D. A., Kassenboehmer, S. C., & Sinning, M. G. (2016). Locus of control and savings. *Journal of Banking and Finance*, 73. <https://doi.org/10.1016/j.jbankfin.2016.06.013>
- Cooper, D. R., & Schindler, P. (2014). *Business research methods*. McGraw-Hill Education.
- Cowan, K., & Kinley, T. (2014). Green spirit: Consumer empathies for green apparel. *International Journal of Consumer Studies*, 38(5). <https://doi.org/10.1111/ijcs.12125>
- Dasman, S., Riyana, R., Bintarti, S., & Kustina, L. (2021). Financial attitude and financial knowledge toward behavior financial management through internal locus of control on Pelita Bangsa University Student. *Proceeding The First International Conference on Government Education Management and Tourism*, 1(1).
- Dew, J., & Xiao, J. J. (2011). The financial management behavior scale: Development and validation. *Journal of Financial Counseling and Planning*, 22(1).
- Dwiastanti, A. (2017). Analysis of financial knowledge and financial attitude on locus of control and financial management behavior. *Management and Business Review*, 1(1). <https://doi.org/10.21067/mbr.v1i1.2043>
- Furnham, A., & Cheng, H. (2017). Socio-demographic indicators, intelligence, and locus of control as predictors of adult financial well-being. *Journal of Intelligence*, 5(2). <https://doi.org/10.3390/jintelligence5020011>
- Furrebø, E. F., & Nyhus, E. K. (2022). Financial self-efficacy, financial literacy, and gender: A review. *Journal of Consumer Affairs*, 56(2). <https://doi.org/10.1111/joca.12436>
- Garg, N., & Singh, S. (2018). Financial literacy among youth. *International Journal of Social Economics*.
- Goyal, K., & Kumar, S. (2021). Financial literacy: A systematic review and bibliometric analysis. In *International Journal of Consumer Studies*, 45(1). <https://doi.org/10.1111/ijcs.12605>
- Grable, J. E., Archuleta, K. L., Ford, M. R., Kruger, M., Gale, J., & Goetz, J. (2020). The moderating effect of generalized anxiety and financial knowledge on financial management behavior. *Contemporary Family Therapy*, 42(1). <https://doi.org/10.1007/s10591-019-09520-x>
- Hadita, A., & Wufron, W. (2022). Building attitudes in financial management behavior of Garut University Students through financial management-based training. *Journal of Nonformal Education*, 8(2). <https://doi.org/10.15294/jne.v8i2.37426>
- Hair, J. F., Sarstedt, M., Hopkins, L., & Kuppelwieser, V. G. (2014). Partial least squares structural equation modelling (PLS-SEM). *European Business Review*, 26(2), 106–121. <https://doi.org/10.1108/EBR-10-2013-0128>
- Hampson, D. P., Gong, S., & Xie, Y. (2021). How consumer confidence affects price conscious behavior: The roles of financial vulnerability and locus of control. *Journal of Business Research*, 132. <https://doi.org/10.1016/j.jbusres.2020.10.032>
- Haudi. (2023). The role of financial literacy, financial attitudes, and family financial education on personal financial management and locus of control of university students. *International Journal of Social and Management Studies*, 4(2).
- Henager, R., & Cude, B. J. (2019). Financial literacy of high school graduates: Long and short term financial behavior by age group. *Journal of Family and Economic Issues*, 40(3). <https://doi.org/10.1007/s10834-019-09626-2>
- Henseler, J., Ringle, C. M., & Sinkovics, R. R. (2009). The use of partial least squares path modeling in international marketing. *Advances in International Marketing*, 20. [https://doi.org/10.1108/S1474-7979\(2009\)0000020014](https://doi.org/10.1108/S1474-7979(2009)0000020014)
- Hsia, J. W., Chang, C. C., & Tseng, A. H. (2014). Effects of individuals' locus of control and computer self-efficacy on their e-learning acceptance in high-tech companies. *Behaviour and Information Technology*, 33(1). <https://doi.org/10.1080/0144929X.2012.702284>
- Ivancevich, J., Konopaske, R., & Matteson, M. (2014). *Organizational behavior and management*. McGraw-Hill Education.

- Jufrizen, J., & Ariza, C. (2022). Mediation role of financial attitude on the influence of financial knowledge on financial behavior. *Journal Of Management Analytical and Solution*, 2(3). <https://doi.org/10.32734/jomas.v2i3.9177>
- Lee, J. M., Kim, K. T., & Hanna, S. D. (2023). Myopia, financial knowledge, and financial well-being. *Journal of Financial Counseling and Planning*, 34(1). <https://doi.org/10.1891/JFCP-2021-0070>
- Lin, C. A., & Bates, T. C. (2022). Smart people know how the economy works: Cognitive ability, economic knowledge and financial literacy. *Intelligence*, 93. <https://doi.org/10.1016/j.intell.2022.101667>
- Lührmann, M., Serra-Garcia, M., & Winter, J. (2015). Teaching teenagers in finance: Does it work? *Journal of Banking and Finance*, 54. <https://doi.org/10.1016/j.jbankfin.2014.11.009>
- Lusardi, A. (2019). Financial literacy and the need for financial education: Evidence and implications. *Swiss Journal of Economics and Statistics*, 155(1). <https://doi.org/10.1186/s41937-019-0027-5>
- Lusardi, A., Michaud, P. C., & Mitchell, O. S. (2017). Optimal financial knowledge and wealth inequality. *Journal of Political Economy*, 125(2). <https://doi.org/10.1086/690950>
- Mansor, M., Sabri, M. F., Mansur, M., Ithnin, M., Magli, A. S., Husniyah, A. R., Mahdzan, N. S., Othman, M. A., Zakaria, R. H., Mohd Satar, N., & Janor, H. (2022). Analysing the predictors of financial stress and financial well-being among the bottom 40 percent (B40) households in Malaysia. *International Journal of Environmental Research and Public Health*, 19(19). <https://doi.org/10.3390/ijerph191912490>
- Mashud, M., Mediaty, M., & Pontoh, G. T. (2021). The effect of financial literature, lifestyle and income of parents on student financial management behavior. *Journal of International Conference Proceedings*, 4(3). <https://doi.org/10.32535/jicp.v4i3.1315>
- Mutlu, U., & Ozer, G. (2019). The effects of personality traits on financial behaviour. *Pressacademia*, 8(3). <https://doi.org/10.17261/pressacademia.2019.1122>
- Nadeem, M. A., Qamar, M. A. J., Nazir, M. S., Ahmad, I., Timoshin, A., & Shehzad, K. (2020). How investors attitudes shape stock market participation in the presence of financial self-efficacy. *Frontiers in Psychology*, 11. <https://doi.org/10.3389/fpsyg.2020.553351>
- Nair, G. K. (2022). Dynamics of locus of control, financial knowledge, financial behaviour and financial position: An empirical study. *EMAJ: Emerging Markets Journal*, 12(1). <https://doi.org/10.5195/emaj.2022.245>
- Nazah, K., Syahlina, M., Salsabila, G., Munthe, H., & Banuari, N. (2022). Efforts to improve student financial management behavior through lifestyle and financial knowledge and financial attitude. *Enrichment: Journal of Management*, 12(4).
- O'Connor, G. E., & Kabadayi, S. (2020). Examining antecedents of health insurance literacy: The role of locus of control, cognitive style, and financial knowledge. *Journal of Consumer Affairs*, 54(1). <https://doi.org/10.1111/joca.12266>
- Perry, V. G., & Morris, M. D. (2005). Who is in control? The role of self-perception, knowledge, and income in explaining consumer financial behavior. *Journal of Consumer Affairs*, 39(2), 299–313.
- Potrich, A. C. G., Vieira, K. M., & Kirch, G. (2015). Determinants of financial literacy: Analysis of the influence of socioeconomic and demographic variables. *Revista Contabilidade e Financas*, 26(69). <https://doi.org/10.1590/1808-057x201501040>
- Potrich, A. C. G., Vieira, K. M., & Mendes-Da-Silva, W. (2016). Development of a financial literacy model for university students. *Management Research Review*, 39(3). <https://doi.org/10.1108/MRR-06-2014-0143>
- Rahmawati, U., & Marcella, E. (2023). Locus of control, financial knowledge, financial attitude, financial self-efficacy, and social economic status as antecedents of financial management behavior. *Journal of Management and Business Insight*, 1(1). <https://doi.org/10.12928/jombi.v1i1.561>
- Rajna, A., & Anthony, P. (2011). Knowledge, attitude, practice and satisfaction on personal financial management among the medical practitioners in the public and private medical services in Malaysia (*Doctoral dissertation*, University Kebangsaan Malaysia).

- Rashid, A., Zakaria, Z., S, S., Pasalo, F., & Saroge, J. (2022). The effect of financial literatur on financial welfare with financial management behavior as a mediation in The Papua Mama Market. *Media Trend*, 17(1). <https://doi.org/10.21107/mediatrend.v17i1.13970>
- Rosalina, E., Andriani, W., Santi, E., & Rahmi, A. (2022). Household financial management with personality factors and locus of control through mental budgeting. *Economics, Business, Accounting & Society Review*, 1(3). <https://doi.org/10.55980/ebasr.v1i3.41>
- Rotter, J. B. (1966). Generalized expectancies for internal versus external control of reinforcement. *Psychological Monographs*, 80(1). <https://doi.org/10.1037/h0092976>
- Ryon, H. S., & Gleason, M. E. J. (2014). The role of locus of control in daily life. *Personality and Social Psychology Bulletin*, 40(1). <https://doi.org/10.1177/0146167213507087>
- Ryu, H. S., & Ko, K. S. (2019). Understanding speculative investment behavior in the Bitcoin context from a dual-systems perspective. *Industrial Management and Data Systems*, 119(7). <https://doi.org/10.1108/IMDS-10-2018-0441>
- Sinaga, S. A., & Wibowo, S. S. A. (2023). The effect of financial knowledge, financial attitude, and personality on financial management behavior on small medium micro business actors in Batam City. In *Proceedings of the 4th International Conference on Applied Economics and Social Science, ICAESS 2022, 5 October 2022, Batam, Riau Islands, Indonesia: ICAESS 2022* (p. 60). European Alliance for Innovation. <https://doi.org/10.4108/eai.5-10-2022.2325848>
- Siswanti, I. (2020). Financial knowledge, financial attitude, and financial management behavior: Self-control as mediating. *The International Journal of Accounting and Business Society*, 28(1). <https://doi.org/10.21776/ub.ijabs.2020.28.1.5>
- Soleimani, H. (2018). The relationship among EFL learners' self-regulation, locus of control, and preference for vocabulary acquisition. *Applied Linguistics Research Journal*. <https://doi.org/10.14744/alrj.2018.08208>
- Stolper, O. A., & Walter, A. (2017). Financial literacy, financial advice, and financial behavior. *Journal of Business Economics*, 87(5). <https://doi.org/10.1007/s11573-017-0853-9>
- Strömbäck, C., Lind, T., Skagerlund, K., Västfjäll, D., & Tinghög, G. (2017). Does self-control predict financial behavior and financial well-being? *Journal of Behavioral and Experimental Finance*, 14. <https://doi.org/10.1016/j.jbef.2017.04.002>
- Tang, N., & Baker, A. (2016). Self-esteem, financial knowledge and financial behavior. *Journal of Economic Psychology*, 54. <https://doi.org/10.1016/j.joep.2016.04.005>
- Thi, N., Mien, N., & Thao, T. P. (2015). Factors affecting personal financial management behaviors: Evidence from Vietnam. *Economics, Finance and Social Sciences*.
- White, K., Park, N., Watkins, K., McCoy, M., & Morris, J. (2021). The relationship between objective financial knowledge, financial management, and financial self-efficacy among African American students. *Financial Services Review*, 29(3). <https://doi.org/10.61190/fsr.v29i3.3455>