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An Integrated Perspective : The Impact of Digital Financial Knowledge and Self-Esteem on Financial Behavior in the Lives of College Students

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Abstract: This research aims to analyze the impact of digital financial knowledge on college students' financial behavior, and the involvement of self-esteem as a mediator variable. This study used a quantitative survey method. The sample used was a group of 249 undergraduate students majoring in accounting education at Universitas Sebelas Maret and Universitas Negeri Semarang. A conceptual model, containing hypotheses outlining the impact was constructed and assessed through validity, reliability, frequency statistics and path analysis. The findings indicated a direct and positive correlation of digital financial knowledge on financial behavior. This research contributes fresh perspectives by providing both practical and theoretical insights into the variables employed in the study.

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Introduction

All industries, including the financial industry, have changed a lot due to advances in information technology (Mardhiyaturrositaningsih & Hakim, 2022; Nam & Lee, 2023; Yadav & Banerji, 2023; Yu, 2020). The collaborative influence of digital innovations and technological advancements has a significant impact on the financial sector through the financial technology (fintech) (Azeez & Akhtar, 2021). The term "fintech" encompasses various technological advancements that enhance financial services, including e-payment, crowdfunding services, peer-to-peer lending and crypto currency. As digital advancements continue to reshape the way we engage with financial information, the significance of processing digital financial knowledge becomes more pronounced (Martins et al., 2022; Wang et al., 2023), especially among the demographic of college students. In navigating this involving landscape, understanding and adapting to the intricacies of digital financial knowledge are becoming increasingly essential (Fujiki, 2020) for informed decision-making and financial well-being (Amagir et al., 2020).

However, despite the swift evolution of digital products in the financial industry, there has not been a corresponding rise in public knowledge in the realm of digital finance, also known as digital financial literacy. Since the financial well-being of individuals is contingent on their behaviors, comprehending the crucial relationship between financial knowledge and financial behavior becomes a matter of paramount significance (Nave et al., 2023; Ravikumar et al., 2022). Financial knowledge is one component of the three pillars of financial literacy, alongside financial knowledge, financial attitude, and financial behavior (Potrich et al., 2015; Vieira et al., 2020). Hence, one can define digital financial knowledge as an individual's proficiency in comprehending everything associated with financial literacy through the use of digital technology (Azeez & Akhtar, 2021; Rahayu et al., 2022). By promoting a comprehensive understanding of digital financial knowledge empowers individuals to make well-informed choices, mitigate risks associated with digital transactions, and harness the full potential of digital financial tools for their financial behavior, especially for young adults such as college students.

In line with the family financial socialization theory (FFST), young adults internalize and cultivate their values, standards, knowledge, attitudes, and behaviors that impact their financial well-being, whether consciously or unconsciously by a socialization process (Danes, 1994), and this process is particularly influenced by family interactions (Gudmunson & Danes, 2011). In particular, the outcomes of financial socialization are significantly shaped by the dynamics within the parent-child relationship (Flouri, 2004). The outcomes of financial socialization are the acquisition of digital financial knowledge and self-esteem, which then affects financial behavior and financial well-being.

In the last ten years, multiple investigations have disclosed that financial knowledge plays an important role in improving children's financial behavior (Chambers et al., 2019; Chen et al., 2023; Rasyidah & Nawang, 2023). As financial education has the potential to significantly elevate the self-efficacy of college students (Amagir et al., 2020), it becomes crucial to recognize the role of college students' self-esteem as a key mediating variable. This is particularly pertinent since individuals with lower self-esteem among college students are prone to participating in compulsive buying behavior (Noh & Hasan, 2017), a trait that has a positive correlation with the misuse of credit card (Noh & Cha, 2018).

Thus, this study aims to present the impact of digital financial knowledge on college students' financial behavior and, particularly, the involvement of self-esteem as a mediator variable in this correlation. In this way, the paper provides answers of several research questions: (a) whether digital financial knowledge positively affects the college students' financial behavior; (b) if so, how digital financial knowledge affects students' financial behavior; and (c) does self-esteem involved as a mediator in this process. Eventually, the result of this research will assist educators in developing enhanced financial education initiatives. These programs aim to efficiently convey knowledge and enhance self-esteem, thereby contributing to improve behaviors, such as enhancing financial behavior skills among students.

Research Method

This study used a survey method with a quantitative approach that employed both proportionate random sampling and purposive sampling. The field research occurred during the academic year 2023/2024, and gave specific criteria which included students who had completed financial management courses. A survey conducted online and self-administered was undertaken among a group of college students who were enrolled in the Department of Accounting Education at Universitas Sebelas Maret and Universitas Negeri Semarang. A total of 249 responses from undergraduate students were utilized for the data analysis. There were three instruments used in this study. Digital financial knowledge (DFK) was assessed using 17 items related to trust in digital financial services, personal information risk, addiction risk, and digital crimes (Normawati et al., 2021). Self-esteem (SE) was measured with 12 items, including awareness of self-quality, awareness of self-abilities, awareness of self-worth and awareness of self-satisfaction (Noh, 2022). Financial behavior (FB) was measured using 15 items, including financial planning, future preparation, budgeting, investing and saving (Khawar & Sarwar, 2021). All items were rated on a 4-point Likert scale (1 = strongly disagree, 4 = strongly agree). The collected questionnaires were analyzed using SPSS software version 23. Initially, we calculated descriptive statistics and correlation

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between variables. Subsequently, we performed a path analysis to examine the hypothesis of this study. Pearson product moment test was performed to check the construct validity. The Pearson correlation extracted was more than > 0.296, and the significance value was less than 0.005, so it can be concluded that all the items were valid. Reliability, Cronbach's alpha was calculated. The Cronbach's Alpha value ranged from 0.891 to 0.929, which included a very high value, so reliability was acceptable.

Results and Discussion

Descriptive Analyses of the Variables

The result revealed that the mean score for digital financial knowledge is slightly above 3. Statements that present a higher average encompass "< I do secure my personal information by using strong passwords, two-factor authentication, and privacy settings>" (3.38) and "<I am aware of and knowledgeable about the cybersecurity risks when using digital financial services or conducting online transactions>" (3.27). However, the items with a lower average indicate the presence of some uncertainties regarding the usage of digital financial services (DFK1, 2.77) and assessment of the risk of addiction (DFK11, 2.93). The analysis reveals an intriguing relationship between the values of indicator 1 and indicator 2. It seems that college student understands their personal information risk more than trust in digital financial services.

The self-esteem indicators detect the level of college students' self-esteem, including awareness of self-quality, awareness of self-abilities, awareness of self-worth and awareness of self-satisfaction, enabling them to enhance their financial behavior. The average of the four indicators (2.91) reflects their perception of themselves as if they were carry out activities to manage financial resources. Awareness of self-worth provides the highest value (3.05), followed by awareness of self-satisfaction (2.98). Digital financial knowledge was found to have the highest frequency value because it had the number of items at most. In contrast, self-esteem has the lowest frequency value.

The financial behavior indicators, consisting of fifteen items, reached an average of 2.95. This means that college students' financial behavior is moderate. However, it is important to mention that the items regarding the desire to save money (FB14 and FB15) nearly reached a score of 4. This could be reinforced by the item with a lower average score, such as "I invest my money in more than one type of investment" (2.24). The financial behavior of college students is moderate and the previous variable, self-esteem, which also achieved a low average, might be linked to the values observed in this dependent variable. Therefore, the correlation between the two appears to be apparent, but what is crucial, as mentioned earlier, is that the university can positively impact financial behavior through digital financial knowledge and self-esteem. To accomplish this, it is essential to seek a deeper understanding of which aspects of these variables are truly effective and why.

Hypothesis Testing

Table 1 displays the correlation coefficient of all the variables. The correlation demonstrates the significant relationship between the variables which have an impact of 29.4 percent on financial behavior. The table enables a more detailed examination of the significance of each variable separately, and we can note that all variables are statistically significant as they are below the acceptable value (0.05). Therefore we can confirm that digital financial knowledge, self-esteem and financial behavior have a crucial impact on the sample group at Universitas Sebelas Maret and Universitas Negeri Semarang. Based on the correlation result, digital financial knowledge was associated with self-esteem (B=0.480). Furthermore, digital financial knowledge (B=0.174) is positive and significantly related to

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financial behavior. Self-esteem is the variable which has the strongest significant impact on financial behavior (B=0.437). Consequently, hypothesis (a) can be accepted.

Table 1. The Correlation between Variables

No	Variables	Corr. (Beta)	St.E	t	p	R^2	Sig.
1	DFK * SE	.480**	0.043	8.588	0.372	0.230	0.000
2	DFK * FB	.174**	0.061	2.851	0.174	0.294	0.005
3	SE * FB	.437**	0.079	7.165	0.563		0.000

Note(s). **Correlation is significant at the 0.05 level (2-tailed), DFK = Digital Financial Knowledge, SE = Self-Esteem, FB = Financial Behavior, St.E = Standard Error.

To test the hypothesis that self-esteem mediates the impact of digital financial knowledge on financial behavior, path analysis and Sobel test were performed. Further, the significance of mediation was revalidated using SPSS v.23. The hypothesis suggesting that self-esteem acts as a mediator in the impact of digital financial knowledge on financial behavior can be accepted. The correlation value between digital financial knowledge and self-esteem was significant (0.000).

The mediation effect of self-esteem on the impact of digital financial knowledge on financial behavior was examined. The digital financial knowledge and financial behavior correlation value were significant (43.7 per cent). After adding self-esteem as a mediator, ρZX (0.480) and ρYZ (0.437) were significant. Since after both steps, the correlation values of digital financial knowledge and financial behavior remained significant, hypothesis (c): self-esteem involved as a mediator in this process, was accepted.

The mediation effect of self-esteem on digital financial knowledge with financial behavior was examined to validate the result further using SPSS v.23. We also conducted mediation using the Sobel test as can be seen in Table 2. Sobel test result, Z value is 5.500 > 1.96, was mediates the impact of digital financial knowledge on financial behavior. Path analysis for mediation testing was used. Self-esteem, digital financial knowledge and financial behavior were identified as the mediating, independent and dependent variables. The total effect (0.294), direct effect (0.174) and indirect effect (0.209) were significant (see Table 2). The result of the path analysis reconfirmed the previous correlation, and the Sobel test analysis found that self-esteem mediates the impact of digital financial knowledge on financial behavior. Figure 1 presents the research model and results of the conducted work. The correlation among key variables were significant: digital financial knowledge, self-esteem and financial behavior.

Table 2. Sobel Test

a	Med	b	a	b	Sa	Sb	Z	P (sig.)	Conclusion
x	Z	y	0.372	0.563	0.043	0.079	5.500	0.000	Mediate

Table 3. Relationship Values between Research Variables

IV	MV	DV	Effect IV on MV	Effect IV on DV	Indirect effect IV on DV	Total effect (R^2)	Other Variables
Digital financial knowledge	Self-esteem	Financial behavior	0.480	0.174	(0.480 x 0.437 =0.209)	0.294	0.706

Note(s). IV = independent variable, MV = mediating variabel, DV = dependent variabel

Discussion

Normawati et al. (2022) highlighted the necessity for research aimed at gaining a deeper understanding of the impact of digital financial knowledge on financial behavior. This

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study enriches the existing literature on digital financial knowledge and financial behavior by introducing the examination of self-esteem as a mediating variable. The result of this study indicates that self-esteem mediated the impact of digital financial knowledge on financial behavior. Therefore, this study contributes to the broader research landscape by emphasizing the significant role of digital financial knowledge in promoting financial planning, future preparation, budgeting, investing and saving. Moreover, the study presents digital financial knowledge, self-esteem and financial behavior as a validated research framework in higher education circles by providing empirical support. The mediating role of self-esteem has been explored between awareness of self-quality, awareness of self-abilities, awareness of self-worth and awareness of self-satisfaction, and has been empirically supported.

In the context of the impact of digital financial knowledge on financial behavior among college students, this investigation establishes a significant correlation between these variables. It aligns with the theory utilized in this study, as articulated by the FFST, which states that financial knowledge plays a role in shaping both financial behavior and financial well-being. According to FFST, the impact of digital financial knowledge on financial behavior subsequently influences financial well-being. This result also aligns with the prior research that digital financial knowledge is a pivotal factor influencing financial behavior, as both variables are implicated in the same process of interpersonal evaluation, reinforcing their alignment (Normawati et al., 2022). Recognizing the importance of influencing the digital financial knowledge of college students in shaping their financial behavior is imperative for making informed and strategic decisions (Rahayu et al., 2022).

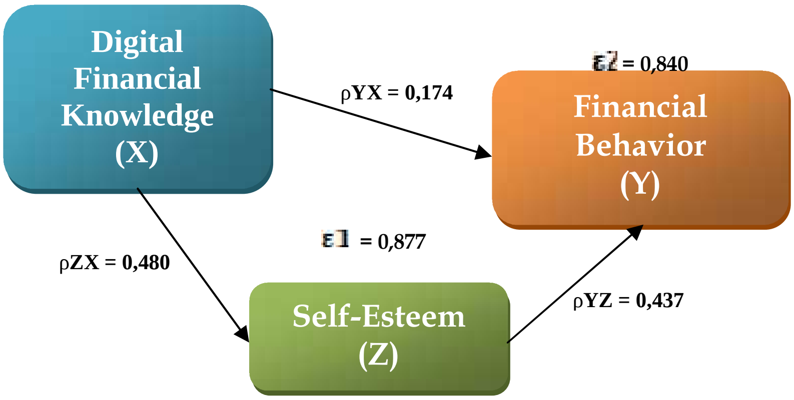

Figure 1. Research Values

This study also provides evidence of the substantial impact of self-esteem on financial behavior. In accordance with FFST, financial capabilities affect financial behavior and financial well-being. In this mechanism, financial capabilities are interpreted as self-esteem. Furthermore, self-esteem fully mediated digital financial knowledge and financial behavior in our analysis, the impact value is higher than the direct influence between digital financial knowledge and financial behavior. This result is in line with the findings from studies conducted by Noh (2022). The indirect way in which digital financial knowledge influences financial behavior is by adjusting their self-esteem instead of solely imparting knowledge to them. This discovery shows that an educational program should not only concentrate on providing students with the necessary knowledge to handle their financial affairs but also on enhancing their self-esteem.

Our study provides implications on how college students' knowledge can support self-valuation, and generate continuous healthy financial behavior. The study result can enable universities to develop strategies and make decisions to enhance students' behavior (Chen et al., 2023; Noh, 2022). Educators should focus on improving classroom teaching to ensure the effective delivery of intended information (Wee & Goy, 2022). This implication is consistent with findings from other research in the field. For instance, a study conducted by Bandura (1982) and (Dewanti et al., 2022) revealed that gaining financial knowledge and skill through formal financial education may not automatically lead to positive financial behaviors in college students. The study suggested that enhancing perceived self-efficacy is a crucial factor in improving financial behavior, as self-efficacy influences how effectively individuals undertake actions in various situations.

Conclusion

The results show that the findings indicated a direct and positive correlation of digital financial knowledge on financial behavior. Moreover, the result indicated that self-esteem acts as a mediator in the impact of digital financial knowledge on financial behavior of college students. This research contributes fresh perspectives by providing both practical and theoretical insights into the variables employed in the study.

Recommendation

The study invites further research on exploring the impact of digital financial knowledge on financial behavior. Our findings can be transferred to enhance academic self-esteem, students are encouraged to engage in success experiences and receive positive verbal reinforcement, as academic self-esteem plays a pivotal role in mitigating the impact of digital financial knowledge on financial behavior. This study also offered the importance of university's policy on financial education programs to increase their awareness about students' knowledge and self-esteem – they can foster warm and engaging environments and promote positive communication styles to enhance financial teaching. This approach can encourage students to participate more actively in financial discussions and enhance their perceived self-esteem, thereby enabling them to manage their finances more effectively.

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