
MEASURING FINANCIAL LITERACY OF YOUNG ADULTS IN THE DIGITAL ECONOMY: A GENDER PERSPECTIVE

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ABSTRACT

The Financial Services Authority (OJK) reported that in 2019, the financial literacy index in Indonesia reached only 38.03%. The index indicates that the financial literacy ability of the Indonesian population still needs to improve. This research focuses on measuring young adults' financial literacy in a developing country such as Indonesia. It is a field study using a survey approach (explanatory research), where data collection is conducted through questionnaires. The target population includes students aged 18 to 22 from various universities across Java. Respondents were selected through a census method, and the questionnaires were distributed via social platforms such as WhatsApp and Kata data. In this study, we collected 333 respondents with valid data of 331 respondents. The questionnaires used in this study consist of 52 questions. The result of this study shows that money attitude does not significantly influence financial literacy; however, after being analyzed per dimension, the avoidance and reward dimensions significantly influence financial literacy. Gender does not positively influence Financial Literacy, and no disparities in financial literacy among students with exposure to financial education and those without such exposure. Since there is no difference between students who received financial education exposure and students who did not, it can be suggested that the government influences young adults' financial attitudes to improve their financial literacy. Additionally, educational institutions should revise their course materials to improve students' financial literacy.

Key words: Financial Literacy; Financial Experience; Gender; Money Attitude.

ABSTRAK

Otoritas Jasa Keuangan (OJK) melaporkan pada tahun 2019, indeks literasi keuangan di Indonesia hanya mencapai 38,03%. Indeks tersebut menunjukkan bahwa kemampuan literasi keuangan masyarakat Indonesia masih perlu ditingkatkan. Penelitian ini berfokus pada pengukuran literasi keuangan generasi muda di negara berkembang seperti Indonesia. Penelitian ini merupakan studi lapangan dengan pendekatan survei (explanatory Research), dimana pengumpulan data dilakukan melalui kuesioner. Populasi sasarannya adalah pelajar berusia 18 hingga 22 tahun dari berbagai universitas di Pulau Jawa. Responden dipilih melalui metode sensus dan kuesioner disebar melalui platform sosial seperti WhatsApp dan Kata data. Dalam penelitian ini kami mengumpulkan 333 responden dengan data valid sebanyak 331 responden. Kuesioner yang digunakan dalam penelitian ini terdiri dari 52 pertanyaan. Hasil penelitian menunjukkan bahwa "*money attitude*" tidak berpengaruh signifikan terhadap literasi keuangan; Namun setelah dianalisis per dimensi, dimensi penghindaran dan penghargaan berpengaruh signifikan terhadap literasi keuangan. Gender tidak berpengaruh positif terhadap Literasi Keuangan, dan tidak ada perbedaan dalam literasi keuangan antara siswa yang memiliki latar belakang pendidikan keuangan dengan mereka yang tidak memiliki latar belakang keuangan. Karena itu, maka dapat disarankan agar pemerintah mempengaruhi "*money attitude*" *young adult* untuk meningkatkan literasi keuangan mereka. Selain itu, lembaga pendidikan harus merevisi materi pelajaran ataupun kurikulum yang diberikan untuk meningkatkan literasi keuangan siswa.

Kata kunci: Literasi Keuangan;; Jenis kelamin; Money Attitude; Pengalaman Keuangan.

INTRODUCTION

Since 1990, research on financial literacy has gained popularity in the fields of education, economics, management, finance, and marketing (Kuntze *et al.*, 2019; Rahmah and Siregar, 2022). With the advancement of technology, financial instruments, and economic complexity, understanding financial literacy has become increasingly important. Financial literacy refers to an individual's ability to comprehend finances, including money management, investments, debt, and making sound financial decisions (Mandell, 2009; Shih and Ke, 2014; Rosacker and Rosacker, 2016; Yulianti and Wicaksana, 2017; Oseifuah, Gyekye and Formadi, 2018).

The Financial Services Authority (OJK) reported that in 2019, the financial literacy index in Indonesia reached only 38.03% (Otoritas Jasa Keuangan, 2022). The index indicates that the financial literacy ability of the Indonesian population still needs to improve, and a significant portion of the population needs more investment experience. For young adults (individuals aged 18-22 years), financial difficulties arise due to consumptive behavior. This issue arises due to limited income and a need for proper financial planning (Rikayanti and Listiadi, 2020). The need for proper planning in financial decisions is closely related to an individual's money attitude, where money can motivate improving financial literacy or lead to poor financial behaviors (Edwards, Allen and Hayhoe, 2007; Sohn *et al.*, 2012). In this regard, universities can play a crucial role in identifying

issues related to financial literacy and implementing efficient and effective solutions to address these literacy problems (Rosacker and Rosacker, 2016). Universities with Faculties of Economics and Business (FEB) should be better equipped to provide financial literacy than other faculties.

Previous research has emphasized the importance of providing financial education from an early age (Rapih, 2016; Kuswanti and Ulfah, 2021; Aravik and Tohir, 2022). However, financial literacy is generally not included in university curricula, whether in General Basic Subjects or Scientific and Skill Subjects. Therefore, it can be assumed that very few students receive formal financial literacy education (Fernandes, Lynch and Netemeyer, 2013; Rakow, 2019). Interestingly, a study by Rosacker & Rosacker (2016), stated that students majoring in accounting and business have a better chance of obtaining financial literacy than students who do not study subjects in these fields. On the other hand, investment experiences can also influence financial literacy among young adults. Research by Frijns, Gilbert, & Tourani-Rad (2014) and Ameliawati & Setiyani (2018) indicates that young adults with investment experiences tend to have higher financial literacy. Additionally, several studies have shown that gender plays a role in financial literacy (Wagland and Taylor, 2009). The novelty of this research lies in measuring financial literacy that involves a gender perspective and examining the university's contribution to enhancing financial literacy among young adults.

Based on the Theory of Planned Behavior, goals are assumed to be motivating factors that indicate how determined someone is to perform a certain behavior (Ajzen, 1991). If a person's goal is to achieve good financial literacy, then one of the drivers for good financial literacy is investment experience. Through investing, individuals will learn about the investment instruments they own. In addition to investment experience, money attitude also plays a significant role in improving financial literacy. Money attitudes can elicit positive and negative feelings toward money (Sohn *et al.*, 2012). If someone has a positive attitude towards money as their goal, they will be motivated to enhance their financial literacy. The last variable used to address the issue of financial literacy is gender because, in general, family financial management is often carried out by wives. Hence, financial literacy is crucial for women to possess.

This study aims to measure the influence of investment experiences and money attitudes on financial literacy and see it through the perspectives of both males and females. This research also analyzes whether Faculty Economics and Business students have better financial literacy than students from other faculties.

METHOD

This research focuses on measuring the financial literacy of young adults in the context of a developing country, namely Indonesia. It is a field study using a survey approach (explanatory research), where data collection is conducted through questionnaires. The target population includes students aged 18 to 22 from various universities across Java. Respondents were selected through a census method, and the questionnaires were distributed via social platforms such as WhatsApp and Kata data. In this study, we collected 333 respondents with valid data of 331 respondents.

The questionnaires used in this study consist of 52 questions, designed based on works by Paolo Stella, Filotto, & Maria Cervellati (2020), Frijns *et al.*, (2014), Hogarth & Hilgert (2002), Sohn *et al.*, (2012) and Goldsmith (2015). The questionnaires are divided into four main sections.

The first section collects demographic data such as age, gender, and education. The second section was used to measure respondents' financial literacy. There are three subsections within this section, which consist of financial knowledge, financial skills, and financial attitude. Respondents were given five questions in the financial knowledge subsection with three answer choices. Every correct answer will be given 1 point, and a false answer will be given 0 points. The maximum points are 5 points, and the minimum is 0 points. The exact mechanism applied for subsection financial skills. While in the financial attitude section, there are seven questions, which are measured using a Likert scale within the range of one to seven.

The third section contains five questions to measure financial experience. There are five questions with two answer choices. Each question has two answer choices; each correct response is given 1 point, while incorrect answers receive 0 points.

Lastly, the fourth section comprises 28 questions divided into six subsections, all measured using a Likert scale ranging from one to seven.

The data analysis method includes descriptive analysis, which will explain the existing financial literacy conditions among students in universities across Java, as well as confirmatory analysis, using second-order Structural Equation Modeling (SEM) - one of the strengths of this research.

RESULTS AND DISCUSSION

Respondent Profile

A total of 331 individuals were included as respondents in this study, with 29% (95 individuals) identifying as male and 71% (236 individuals) identifying as female. Most participants, specifically 80%, reside in Bandung and Cimahi, while the remaining respondents are distributed among various other locations within the Java region. The participants in this study consisted of individuals between the ages of 18 and 22 who were enrolled

as college students. Among these participants, 68.28% (226 individuals) were pursuing a degree in finance, while 19.64% (105 individuals) were enrolled in courses outside the field of finance.

Before initiating inquiries about indicators of financial literacy, the questionnaire commences with inquiring about the respondent's level of satisfaction with their present financial state. According to the survey results, 47% of the participants expressed satisfaction with their financial circumstances, and the remaining 53% indicated dissatisfaction. One noteworthy observation is that, when queried about their perceived level of financial understanding, a majority of 69% of respondents expressed a need for more confidence in their financial literacy. It can be inferred that certain participants express contentment with their financial circumstances while lacking sufficient financial literacy. A significant proportion of students likely continue to depend on financial assistance from their families, specifically their parents, to fulfill their daily requirements.

Financial Literacy

Respondents' financial literacy abilities were measured using three indicators: financial attitudes, financial skills, and financial knowledge. Each indicator will be discussed in a separate sub-section below.

Financial attitudes

A set of seven questions was administered to the participants in order to assess their financial attitudes. Overall, the participants in this study exhibit a positive financial attitude. This statement is supported by the responses provided by the participants, indicating a preference for ratings within the range of 5-7. The range suggests that the participants' evaluations and perspectives on financial matters have been effectively incorporated into their attitudes. In the case of question item number 4, the data reveals that most respondents, specifically 85.5%, exhibit a conscientious approach in discerning between essential and non-essential expenditures. They actively refrain from incurring unneeded expenditures.

The provided information indicates that the respondent understands that engaging in any financial endeavor entails inevitable financial repercussions that must be confronted. The aforementioned survey items 1, 2, and 6 demonstrate a notable level of knowledge among respondents regarding the potential ramifications of their financial actions, with over 60% expressing significant concern.

Question item 7 pertains to the level of confidence respondents exhibited regarding the security of online transaction data, thereby presenting an intriguing observation. This study's participants are Generation Z individuals who were raised in an era characterized by exceedingly fast technological advancements. As a result, Generation Z exhibits enhanced technological adaptation, particularly in the realm of online buying endeavors. According to findings from a study performed by Populix, those aged 18-21 years exhibit the highest level of engagement in online shopping, accounting for 35% of the total population surveyed (Populix, 2020). The perceived security concerns surrounding online financial activities continue to evoke apprehension among users due to their high intensity. The issue at hand is closely intertwined with several instances of data breaches in the banking sector and the unauthorized utilization of credit cards by hackers and unscrupulous persons within the banking industry. One notable incident that transpired was the purported occurrence of a ransomware cyber attack encountered by BSI in May 2023. The above incident resulted in a potential data breach of 1.5 terabytes, compromising the personal information of around 15 million customers and employees (Simamoran, 2023). Hence, the government, financial institutions, and corporations must demonstrate a steadfast dedication to enhancing customer data privacy.

Financial Skills

A set of five questions is employed for the assessment of financial skills. In order to assess individuals' financial skills, participants were presented with a series of five inquiries pertaining to the areas of savings, insurance, investments, risk management, and income. The mean score for correct answers is 81.39%. The data indicates that a significant proportion of participants has the skills to effectively handle their financial matters.

The right answer percentage for question items 1 (saving), 2 (insurance), and 5 (income) exceeds 88%. This indicates that a significant proportion of participants had a comprehension of the significance of maintaining savings and insurance, as well as the ability to effectively manage their income or personal finances. However, the proportion of accurate responses pertaining to investment and risk falls below 73.5%. This can be attributed to the fact that a significant proportion of participants who are now enrolled in educational institutions lack prior expertise in investment activities.

Financial Knowledge

Each respondent was provided with a set of five questions. Of the five inquiries presented, two pertain to the fundamental principle of time worth of money, one pertains to the selection of investments, and the remaining two are centered around interest rates. The mean accuracy rate for the set of five questions provided was found to be 58.69%.

In contrast to proficiency in financial skills, the component of financial knowledge has an average correct answer value that falls below 60%, specifically 58.69%. The capacity to effectively manage one's finances is not necessarily correlated with comprehensive financial knowledge.

The question items on investment subjects within the financial abilities dimension exhibit poor scores. Similarly, the question items of investing within the financial knowledge domain exhibited a correct answer score of merely 42%. Among the three aspects examined in this study, it was observed that young adults exhibited a relative deficiency in financial understanding.

Financial knowledge refers to understanding of many financial concepts and skills that enable individuals to make informed and effective decisions regarding their personal

The subjective evaluation of individuals' financial knowledge indicates that many participants need a more adequate understanding of financial matters. This knowledge aligns with the responses of most participants who exhibited relatively low levels of financial literacy, scoring below 60%. Nevertheless, the participants exhibit commendable financial attitudes and possess proficient financial skills.

The quality of financial literacy can be deemed satisfactory when all of these factors exhibit a commendable level of performance. Therefore, it can be inferred from the findings of the descriptive analysis that the deficiency in financial literacy mainly stems from a lack of financial understanding even though a majority of 68.28% of participants in this research were enrolled in the Faculty of Economics and Business. The inference might be drawn that students pursuing finance as their field of study may not possess inherently strong financial acumen.

Investment Experience

In order to ascertain the investment experience of the respondent, a series of five questions are posed, each offering two response options: "Have" and "Do not have." Based on the findings derived from the responses provided by the participants, it is evident that a majority of over 50% own emergency money and possess the ability to manage their assets effectively. However, 43% of individuals maintain a record of their financial transactions. In contrast, a significant proportion of participants (25%) reported limited familiarity with purchasing and selling stocks. This finding indicates that a significant proportion of individuals in the young adult demographic have yet to engage in the process of purchasing and possessing shares. Based on the findings derived from interviews conducted with many participants, it can be inferred that a contributing factor to the hesitancy of young people in engaging in stock trading activities is their lack of knowledge regarding the initial steps involved, along with a perceived insufficiency of cash required for transactions within the stock market. The previous inquiry highlights a prevailing trend within the area, indicating that young adults continue to exhibit a lack of preference for banks or other financial institutions as the sole means of storing their funds. This lack of preference is evidenced by the substantial proportion (74%) of individuals who report saving money in non-financial organizations.

Money Attitude

The concept of money attitude encompasses five distinct dimensions: power, good, avoidance, reward for efforts, achievement, and evil. The measurements of all three qualities were obtained on a Likert scale ranging from 1 to 7, with 1 representing "strongly disagree" and 7 representing "strongly agree."

The dimensions of power, good, avoidance, reward for efforts, and achievement elicit responses that fall within the range of neutral to strongly agree. In contrast to other indicators, the Evil Dimension exhibits a response that diverges significantly. The participants' replies exhibited an equal distribution across the 1-7 scale for the question item "money is evil," and the question item "money is the source of all evil." Young individuals commonly experience uncertainty regarding the potential causal relationship between money and criminal behavior. This observation is evident in the responses categorized as neutral, which exhibit the most significant proportion in both question items.

Results

This research uses 2 independent variables (financial experience, money attitude) and 1 dependent variable (financial literacy). Additionally, this study examines the differences in financial literacy based on gender and educational background. The initial model formed can be seen in Figure 1.

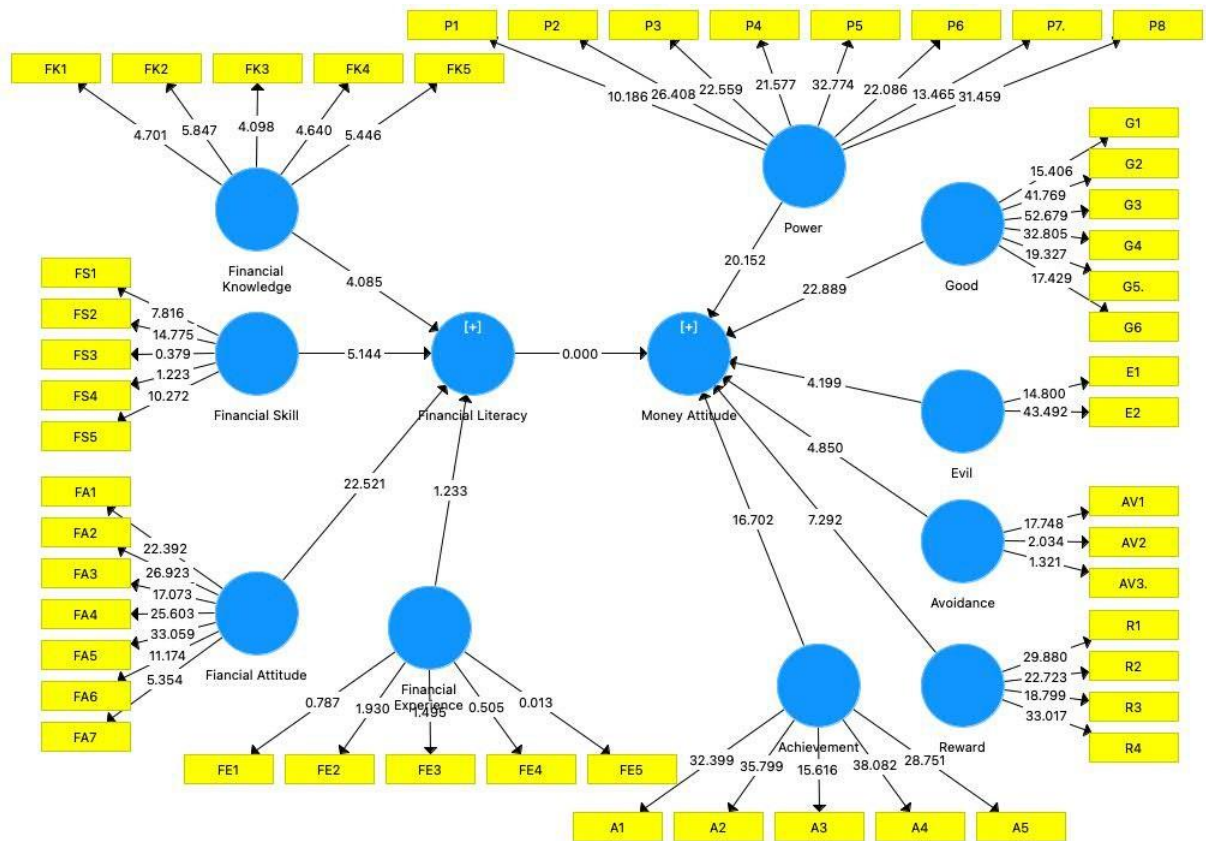


Figure 1. The Initial Model of Financial Literacy

This model is then tested to determine whether it is valid for each question item on the dimensions chosen to measure each variable. Table 1 below shows convergent validity for all indicator items used in this research. It can be seen that the dimensions of financial knowledge and skills, as well as the financial experience variable, are invalid because they have an AVE value below 0.5 and a Cronbach Alpha value below 0.7. Based on the validity testing results, the dimensions of financial knowledge and financial skills, as well as the financial experience variable, were removed from the model.

Tabel 1. Convergent Validity

Variabel	Dimensions	Cronbach's Alpha	rho_A	Composite Reliability	Average Variance Extracted (AVE)
Financial Literacy	Financial Attitude	,843	,876	,883	,531
	Financial Knowledge	,463	,470	,699	,319
	Financial Skill	,490	,528	,711	,342
Financial Experience		,493	,521	,746	,499
Money Attitude	Power	,873	,879	,901	,535
	Good	,878	,882	,909	,626
	Avoidance	,626	,705	,765	,525
	Reward	,844	,855	,894	,679
	Achievement	,833	,838	,883	,603
	Evil	,735	,763	,881	,788

Hypothesis Testing
Table 2. Hypothesis Testing

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (O/STDEV)	P Values
Avoidance -> Financial Literacy	-0,191	-0,288	0,067	2,842	,005
Reward -> Financial Literacy	0,553	0,554	0,072	7,677	,000

The results of hypothesis testing in table 2 shows that money attitude does not have a significant influence on financial literacy. However, after being analyzed per dimension, the avoidance and reward dimensions significantly influence financial literacy.

After the hypothesis test was carried out, a different test was also conducted to determine whether gender influences a person's financial literacy abilities. The test results can be seen in Table 3.

Tabel 3. T-Test (Gender)

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (O/STDEV)	P Values
Gender -> Financial Literacy	-0,066	-0,079	0,079	0,840	0,401

The hypothesis under examination assesses whether Gender positively influences Financial Literacy. The results of the hypothesis test reveal that the beta coefficient for Gender in relation to Financial Literacy is -0.066, and the corresponding t-statistic registers at 0.840. These findings conclude that the t-statistic is not statistically significant, as it falls below the threshold of 1.96, and the associated p-value exceeds 0.05. Consequently, the hypothesis is rejected, proving that Gender does not positively influence Financial Literacy.

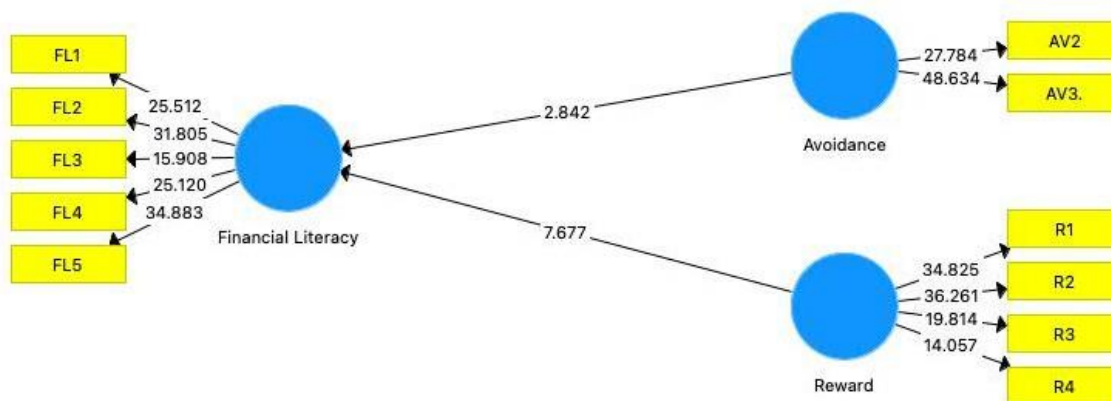
Apart from gender, this research also tested whether students who received financial material as part of the curriculum at university had better financial literacy than those who did not.

Table 4. T-Test (Financial Literacy)

Hypothesis	Median		T count	Prob	Conclusion
	Financial Education	Education Non Financial			
There is difference understanding of financial literacy between student with financial education and non- financial education	124	27	1.486805	0.1371	There is no difference

It can be observed that the achieved significance level, which is 0.1371, is greater than the significance level utilized, namely 0.05. This evidence indicates that the null hypothesis, H₀, has been accepted. There are notable disparities in financial literacy among students with varying levels of exposure to financial education and those without such exposure.

Based on the findings, the financial literacy model shown in Figure 2 below might be suggested.



Discussion

Money attitude

The research results indicate that money attitude (avoidance and reward dimension) significantly influences financial literacy. These findings align with previous studies that suggest an individual's attitude and behavior towards money can affect their level of financial understanding and skills (Sohn *et al.*, 2012).

The research also findings align with the principles of behavioral economics, which emphasize the role of emotions and attitudes in financial decision-making. Recognizing the significant influence of money attitude on financial literacy contributes to a more realistic understanding of how people manage their finances. People consider emotions and attitudes while managing their finances since uncertainty is inherent, and relying on emotions and values can help people deal with it (Pixley, 2012).

Dimensions avoidance in money attitude refers to an individual's tendency to avoid dealing with money or their finances. People who exhibit this trait think money is terrible, wealthy people are greedy, and they do not deserve money (Ali *et al.*, 2016). This may include a fear of investment risk, discomfort in discussing money, or evading financial planning. The research results show that individuals with this attitude tend to have lower levels of financial literacy. This could be due to their limited engagement in financial activities. Conversely, dimension reward in money attitude pertains to individuals who see money as a reward or a tool to achieve their goals. They are more open to financial learning, investing, and good financial planning. The study's findings indicate that those with this attitude typically have greater levels of financial literacy. People with higher levels of financial literacy were more likely to view money as a reward for work. This higher financial literacy may result from their increased involvement in financial pursuits for financial gain, which requires strong financial literacy (Sohn *et al.*, 2012).

Furthermore, based on research findings indicate that attitudes towards money in the forms of avoidance and reward significantly influence financial literacy. This is highly relevant in the context of day-to-day financial decision-making, as an individual's attitude towards money can impact their investment choices, debt management, and financial planning. These findings provide a strong basis for the development of more targeted financial education programs. Financial education can be customized to assist individuals with avoidance attitudes in overcoming their discomfort and encouraging individuals with reward attitudes to better leverage their skills.

Gender

The research findings indicate that there is no significant difference in financial literacy between male and female individuals in the sampled population. These findings align with research conducted by Suryani and Ramadhan (2017) which found no gender differences in financial literacy. This may occur because most college-going young adults in Indonesia are still single. Therefore, young adults, especially males, are not responsible for arranging their family's finances.

On the other hand, previous studies reported there is a significant differences in financial literacy between men and women (Chen and Volpe, 2002; Yu *et al.*, 2015; Kemp, Hort and Hollowood, 2017; Garg and Singh, 2018; Swiecka *et al.*, 2020; Okamoto and Komamura, 2021).

While gender did not significantly influence financial literacy in this study, other factors are likely to affect individuals' financial literacy. These factors include educational levels, financial experience, resource access, and cultural factors. Therefore, it is essential to consider these factors in developing financial literacy programs. Moreover, It is necessary to note that while this research found that gender does not significantly influence financial literacy in a specific context, it does not mean that differences in financial literacy between males and females never occur. For example, most of the study that conducted in Western countries tend to show that males have higher financial literacy than women (Chen and Volpe, 2002; Swiecka *et al.*, 2020).

These differences may remain relevant in certain situations or among particular population groups. Therefore, further research may be necessary to understand better the factors influencing financial literacy and how they interact with gender in various contexts.

Financial Education

Study conducted by Mandell (2009) show no significant difference in financial literacy between young adults who receive financial material and those who do not. The results of this study, however, do not agree with those of two other studies (Wagner, 2019; Meyers, 2020) which found a substantial difference between individuals exposed to financial material and those who are not.

While financial education programs attempt to provide students with fundamental money management skills, their success frequently depends on several variables, including the standard and length of the curriculum, the methods of instruction, and the amount of student engagement. According to some studies, students may not retain or apply the financial knowledge they receive in school, and practical experience and personal financial obligations may be the best ways to foster real-world financial literacy. As a result, there is a need for continuous evaluation and improvement in financial education programs because the effect of financial education on students' financial literacy levels can be unpredictable and inconclusive.

CONCLUSION

In conclusion, the study emphasizes how important money attitudes are to financial literacy, particularly avoidance and reward dimensions. These results highlight the significance of designing financial education programs to address people with various money attitudes, assisting people with avoidance attitudes in overcoming discomfort and motivating people with reward attitudes to make the most of their abilities. Even though there was no discernible gender gap in financial literacy, this study suggested considering various criteria, including educational attainment, financial experience, resource access, and cultural considerations. As practical experience and individual financial obligations also play a significant role in forming people's financial knowledge and skills, the impact of financial education programs is still variable, suggesting the need for ongoing evaluation and improvement to ensure effective financial literacy outcomes.

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