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Research Article

Financial Literacy based on Education, Income, Future Time Perspective

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Abstract: For senior high school students and undergraduate students, financial literacy becomes increasingly important because it helps them understand about savings, investment, and debt. According to the 2024 Financial Services Authority Survey, the level of financial literacy among this group is lower than the national average and ranks second lowest, behind the group of unemployed individuals, who are the lowest. This research aims to examine and analyze the influence of age, gender, education, and income on future time perspective and financial literacy, as well as to influence future time perspective on financial literacy. This study uses a quantitative approach with a survey method. Data were collected through questionnaires distributed via Google Form. Sampling was conducted using purposive sampling technique with the criteria being Indonesian citizens who work as senior high school students and undergraduate students from various locations. The total number of respondents collected was 325 respondents. Data analysis was conducted using Structural Equation Modelling (SEM) techniques with AMOS software. The research results indicate that age and gender do not influence the future time perspective and financial literacy. In contrast, education and income have a positive effect on the future time perspective and financial literacy. The future time perspective was found to have a mediating effect on the influence of education and income on financial literacy. As a theoretical contribution, this research successfully found the influence of education on future time perspective. Furthermore, this study found that future time perspective partially mediate the influence of education and income on financial literacy. Practically, the researchers recommend that senior high school and undergraduated students can improve their financial literacy by focusing on the opportunities available in the future, supported by education and income. In short, students can gradually improve their financial literacy by integrating knowledge, skill, practical experience with money, and financial goals.

Keywords: Education; Income; Future Time Perspective; Financial Literacy; Covariance-based SEM

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1. Introduction

Ideally, people should take responsibility for managing their finances, supported by wealth security. With the multitude of complex financial instruments, they must comprehensively understand financial products to make accurate decisions (Tomar et al., 2021). Having good financial literacy enables individuals to behave effectively (Mireku et al., 2023) and increase their economic resilience (Klapper & Lusardi, 2020).

According to the Financial Services Authority, the 2022 financial literacy rate among senior high school students was 47.56%, still below the national level of 49.68% (OJK, 2022). Equally, in 2024 financial literacy rate senior high school and undergraduate students level was 56.42%, which is below the national level of 65.43%. This level was the second lowest ranking based on employment, after unemployment, with the bottommost characterized by a rate of 42.18% (OJK, 2024). The low financial literacy level of this young generation results in risks, such as being trapped in online borrowing, phishing, and a consumptive lifestyle, supported by online payment applications (Widodo, 2025).

For students, financial literacy can help them understand savings, investments, and short-term and long-term financial planning (Wagner & Walstad, 2019); managing debt and planning for the future (Fernandes et al., 2014); facilitating decisions related to purchasing,

investing, and income management, which in turn lead to prudent debt levels (Bellofatto et al., 2018); and long-term plans such as family care, education, and retirement (Topa et al., 2018). Good financial literacy enables individuals to understand portfolio investment alternatives (Noviarini et al., 2021).

The importance of financial literacy drives the need for research on this topic. Future time perspective becomes a significant contributing factor that has received attention from scholars (Larisa et al., 2021; Sulistianingsih et al., 2025). It is the extent to which individuals care about the future and consider future consequences before making decisions (Howlett et al., 2008). Indeed, Larisa et al. (2021) and Sulistianingsih et al. (2025) confirm a positive relationship between future time perspective (FTP) and financial literacy.

Not surprisingly, several scholars attempt to demonstrate that demographic factors, including age, gender, education, and income, influence FTP. However, the contrary results happen. Related to the age and FTP relationship, Padawer et al. (2007) and Klicperová-Baker et al. (2020) report a positive correlation. In contrast, Kiani et al. (2020), Larisa et al. (2021), and Wang et al. (2024) find an insignificant trend. Regarding the association between gender and FTP, Kiani et al. (2020) and Kurniawati and Dewi (2022) confirm a nonsignificant propensity. Meanwhile, Padawer et al. (2007) show that males have better FTP than females; however, Klicperová-Baker et al. (2020) and Wang et al. (2024) document that females have better FTP than males. Regarding education and FTP connection, an irrelevant propensity is observed (Larisa et al., 2021), while a positive outcome is reported (Kiani et al., 2020; Padawer et al., 2007). Regarding income and FTP linking, a significant yet inconclusive relationship exists (Larisa et al., 2021), with a positive correlation observed (Padawer et al., 2007).

Similarly, several scholars attempt to establish the relationship between each demographic element and financial literacy (FL). Unfortunately, the conflicting outputs are available. Related to the age and FL relationship, Larisa et al. (2021), Ahmad and Zabri (2023), and Chen and Huang (2023) document a positive sign, but Boyle et al. (2025) display a negative mark, and Jayanthi and Rau (2019) demonstrate an insignificant tendency. Regarding the association between gender and FL, Jayanti and Rau (2019) document an insignificant inclination. Meanwhile, Chen and Huang (2023), Dewi and Suwena (2023), Sahabuddin and Hadianto (2023), Setiana et al. (2023), and Boyle et al. (2025) show that males have better FL than females. By mentioning education and FL connection, an irrelevant correlation is observed (Ahmad & Zabri, 2023), yet a positive outcome is reported (Boyle et al., 2025; Chen & Huang, 2023; Jayanthi & Rau, 2019; Larisa et al., 2021). Referring to income and FL linking, a positive mark exists (Ahmad & Zabri, 2023; Boyle et al., 2025; Chen & Huang, 2023; Dewi & Suwena, 2023; Larisa et al., 2021; Rahmawati & Nuris, 2021), and a negative sign occurs (Megasari, 2014).

Due to the inconsistent outcomes, especially regarding the effects of age, gender, education, and income on future time perspective and financial literacy, this study attempts to reexamine their causal relationship by utilizing senior high school and undergraduate students in various locations in Java, Indonesia.

2. Literature Review

Human Capital Theory

Human capital theory posits that investments in education, training, health, and cultural development constitute a form of capital that fosters increased productivity and income for individuals throughout their lives. This capital differs from physical or financial capital because it is permanently embedded in individuals and cannot be directly transferred like material assets. Therefore, this investment is considered rational when based on a calculation of expected costs and benefits. Additionally, this theory highlights the importance of education and training as a primary investment in human resource development, which has been empirically proven to increase individual income and well-being in various countries. In addition to economic benefits, investing in human capital also provides non-monetary benefits, such as improved health, increased cultural knowledge, and enhanced social participation. The history and experience of Asian countries, for example, show that countries that successfully increase human capital can experience rapid economic growth despite a lack of natural resources (Becker, 1994).

Financial Literacy

Financial literacy is the understanding of financial principles, instruments, and institutions, as well as the ability to apply this knowledge in managing finances (Li, 2020). Understanding financial literacy is ideally related to concepts relevant to everyday financial decisions throughout a person's life cycle (Lusardi & Mitchell, 2023). The basic concepts required to make saving decisions include awareness of compound interest, inflation, and the time value of money. Making proper decisions also requires knowledge of risk diversification. In addition, competent planning for the future and asset investment requires several additional financial concepts, such as understanding the risk/return differences between stocks and bonds, how the stock market and risk diversification work, and the relationship between bond prices and interest rates (Lusardi & Mitchell, 2017).

Future Time Perspective

Future time perspective refers to the extent to which individuals care about the future and consider future consequences before making decisions (Howlett et al., 2008). Future time perspective serves as a key psychological factor that significantly predicts a person's financial future (Tomar et al., 2021). In order for individuals to achieve a better financial future, it is important to have abilities such as future time perspective because it is associated with beliefs and cognitive behaviors that can potentially influence personal financial outcomes and financial well-being (Drever et al., 2015). According to Carstensen (2006), future time perspective can be conceptualized as a single construct, representing a bipolar continuum from expansive (the feeling that there is more than enough time to do what one wants) to limited (the feeling that time is almost up). A more open (i.e., expansive) future time perspective is associated with positive developmental indicators such as higher levels of subjective well-being (Allemand et al., 2012; Ramsey & Gentzler, 2014) and psychological well-being (Brothers et al., 2016), as well as the presence of meaning in one's life (Hicks et al., 2012). A limited future time perspective, in contrast to an open future time perspective, clearly shows negative and maladaptive outcomes, including depressive symptoms and adverse effects (Grühn et al., 2016), along with lower levels of life satisfaction and optimism (Brothers et al., 2014).

Age and Future Time Perspective

Future time orientation changes with age (Peetsma et al., 2012). Generally, the older the people, the higher their scores on orientation related to responsible planning and commitment (Klicperová-Baker et al., 2020). In their investigation, Padawer et al. (2007) and Klicperová-Baker et al. (2020) document a positive relationship between age and future time perspective. By mentioning this explanation, part A of the first hypothesis is formed:

H_1a: Age positively influences future time perspective.

Gender and Future Time Perspective

Women have social and cultural roles that emphasize the importance of long-term financial planning. Additionally, psychologically, they are responsible and empathetic, which helps increase awareness in financial planning (Klicperová-Baker et al., 2020). In their investigation, Klicperová-Baker et al. (2020) and Wang et al. (2024) document a positive relationship between female and future time perspective. By mentioning this explanation, part B of the first hypothesis is formed:

H_1b: Female positively influences future time perspective.

Education and Future Time Perspective

Education is the essential predictor of future time orientation. It can foster the ability and attitude to plan effectively, enriching knowledge and skills to support a long-term vision. Hence, individuals with a higher education level tend to have the responsibility to prepare for their future (Klicperová-Baker et al., 2020). In their investigation, Padawer et al. (2007) and Kiani et al. (2020) confirm a positive relationship between education and future time perspective. By mentioning this explanation, part C of the first hypothesis is formed:

H_1c: Education positively influences future time perspective.

Income and Future Time Perspective

Individuals with higher income levels tend to score higher on the future dimension, indicating a more focused orientation toward planning and commitment to the future. This situation is due to economic stability and access to resources that enable individuals to plan and invest for the long term (Klicperová-Baker et al., 2020). In their investigation, Padawer

et al. (2007) confirm a positive relationship between income and future time perspective. Based on this explanation, part D of the first hypothesis is formed:

H_1d: Income positively influences future time perspective.

Age and Financial Literacy

Cude et al. (2019), supported by Lusardi and Mitchell (2014), demonstrate that the level of financial literacy is a quadratic function of age, resulting in a U-curve. According to Cude et al. (2019), the young and old groups have better financial literacy than the middle-aged group. The young ones are more familiar and accustomed to technology and financial information; therefore, they comprehend basic financial concepts. Meanwhile, the old ones have financial knowledge based on their practical experience. Unfortunately, middle-aged individuals often exhibit lower literacy levels due to their limited formal financial education and limited practical experience in this area. Unlike them, Larisa et al. (2021), supported by Chen and Huang (2023), report a positive tendency of age towards financial literacy. Using correlation analysis, Ahmad and Zabri (2023) exhibit a positive sign. By mentioning this explanation, part A of the second hypothesis is formed:

H_2a: Age positively influences financial literacy.

Gender and Financial Literacy

Males are more financially literate than females because their economic knowledge tends to be generally superior to that of females (Ansari et al., 2023). In their research, Chen and Huang (2023) and Dewi and Suwena (2023) confirm this finding by showing a positive relationship between financial literacy and man. Equally, Sahabudin and Hadianto (2023), Setiana et al. (2023), and Boyle et al. (2025) affirm this positive tendency. By mentioning this explanation, part B of the second hypothesis is formed:

H_2b: Males positively influences financial literacy.

Education and Financial Literacy

Education fosters self-confidence in managing money and enhances economic knowledge (Cude et al., 2019; Lusardi & Mitchell, 2014). Formal education gives students the basic knowledge and skills to understand financial concepts (such as budgeting, investment, and pension planning) and organize money effectively. The more educated the people, the higher their economic literacy tends to be (Lusardi & Mitchell, 2014). Formally, education increases the understanding of basic literacy concepts, such as inflation, the time value of money, and portfolio diversification to mitigate risk (Cude et al., 2019). In their investigation, Larisa et al. (2021), Jayanthi and Rau (2019), Chen and Huang (2023), and Boyle et al. (2025) confirm this enlightenment by demonstrating a positive relationship between education and financial literacy. By mentioning this explanation, part C of the second hypothesis is formed:

H_2c: Education positively influences financial literacy.

Income and Financial Literacy

Individuals with higher income tend to have better financial literacy (Ansari et al., 2023). Higher income provides them with more resources and opportunities to learn and manage their money effectively through financial education (Lusardi & Mitchell, 2014), thereby enriching their comprehension of basic and advanced financial concepts (Lusardi & Mitchell, 2007). This finding is supported by Larisa et al. (2021) and Chen and Huang (2023), who confirm a positive relationship between income and financial literacy (FL). Similarly, Ahmad and Zabri (2023) affirm a positive correlation between income and FL. After employing and studying students as their sample, Rahmawati and Nuris (2021) and Dewi and Suwena (2023) report a positive relationship between pocket money and FL. By mentioning this explanation, part D of the second hypothesis is formed:

H_2d: Income positively influences financial literacy.

Future Time Perspective and Financial Literacy

Future time perspective refers to the consideration of personal concerns and consequences that will arise in the future before making decisions (Howlett et al., 2008). It enables individuals to achieve their goals by developing current skills (Carstensen, 2006), including financial knowledge to enhance their cognitive abilities (She et al., 2023). In their investigations, Larisa et al. (2021) and Sulistianingsih et al. (2025) support this description by indicating a positive association between future time perspective and financial literacy. By mentioning this explanation, the third hypothesis is formed:

H_3: Future time perspective influences financial literacy.

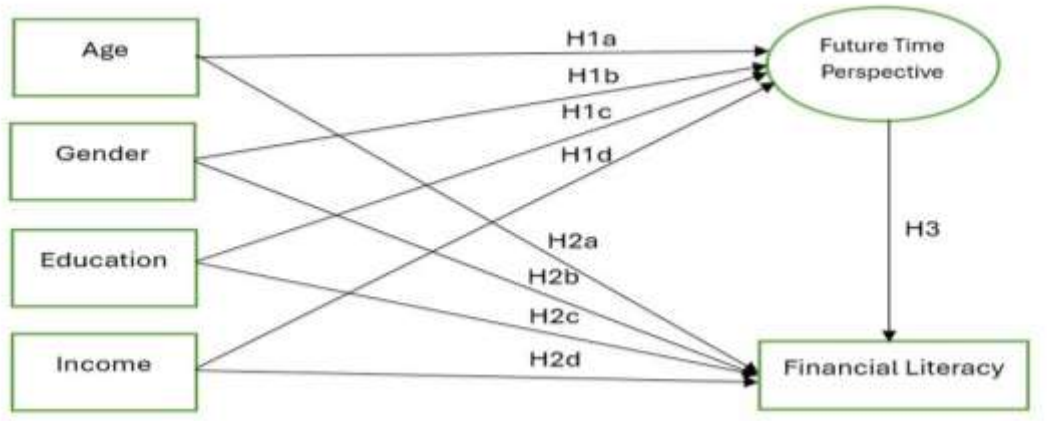

Figure 1. Research Model.

3. Method

In this research, financial literacy (FL) serves as an endogenous variable, measured using 13 items from Lusardi and Mitchell (2017), which consist of five fundamental and eight advanced questions. The future time perspective, which is the second endogenous one, is measured using ten indicators from Larisa et al. (2021) and Soylu and Ozekes (2023).

Moreover, age, gender, education, and income act as exogenous variables. For age, this study uses the real values provided by the respondents, as Herlina et al. (2024) utilize. Following Padawer et al. (2007), Hadianto and Mariana (2023), Sahabuddin and Hadianto (2023), and Setiana et al. (2023), this study employs a dummy variable, with male as the reference category (DMALE = 1) and female as the base category (DFEMALE = 0) to measure gender. By citing Larisa et al. (2021) and Herlina et al. (2024), this investigation employs the high school (code 1) and undergraduate departments (code 2) of higher education to indicate their educational levels. By mentioning Lantara and Kartini (2015) and Trixsiana and Lestari (2024), a ranking score is applied for pocket money. If the pocket money is less than IDR 1 million or between IDR 1 million and IDR 2 million, it employs one or two as the code. If the income ranges from IDR 3 to 4 million, IDR 4 to 5 million, and above IDR 5 million, the corresponding codes are 3, 4, and 5.

The population is the object with its detailed features set to be investigated (Sugiyono, 2022). The intended population is Indonesians on the island of Java. To collect samples, this study employs a purposive sampling technique, adhering to specific criteria as explained by Hartono (2014). The participants are senior high school and undergraduate students from various locations.

This study uses the minimum sample size of 200 respondents, as required for theory testing (Ghozali, 2021b), collected by a survey that distributed a questionnaire scaled by a seven-point Likert, ranging from 1 (strongly disagree) to 7 (strongly agree), corresponding to the latent variable, e.g., future time perspective (Larisa et al., 2021; Soylu & Ozekes, 2023).

Additionally, the structural equation model based on covariance is employed to analyze the data. This model is selected due to its theoretical confirmation, as described by Ghozali (2021b). Its model is in Equations 1, 2, and 3:

$$FTP = \gamma_1 AGE + \gamma_2 GENDER + \gamma_3 EDUCATION + \gamma_4 INCOME + \xi_1 \quad (1)$$
$$FL = \gamma_5 AGE + \gamma_6 GENDER + \gamma_7 EDUCATION + \gamma_8 INCOME + \xi_2 \quad (2)$$
$$FL = \beta_1 FTP + \xi_3 \quad (3)$$

Validity and reliability testing ensure that the survey provides accurate and consistent responses to the statements (Ghozali, 2021a). Furthermore, the loading factor and average variance extracted (AVE) are compared with 0.5 to validate the answer. The accurate answer exists if they are above 0.5. Meanwhile, Cronbach's Alpha and composite reliability are compared to 0.7 to determine consistency. The reliable answer exists if they are higher than 0.5. Then, the goodness of fit is assessed by the Chi-Square/DF, Tucker-Lewis Index (TLI),

comparative fit index (CFI), and normed fit index (NFI), based on an acceptable range, as shown in Table 1. If they are in an acceptable range, the model fits the responses (Junaidi, 2021).

Table 1. Some cut-off values of goodness-of-fit.

Measure	Acceptable range
Chi-Square/DF	From 2 to 5
TLI, CFI, and NFI	Above 0.9
Source: Junaidi (2021)	

4. Results and Discussion

Results

This study effectively collected 325 responses from the survey between August 5 and 25, 2025. Then, it classified them by age, gender, education, and income, as displayed in Table 2. Based on their maximum number, the respondents are between 15 and 20 years old (85.54%), undergraduate students (75.08%), have pocket money between IDR 100,000 and less than IDR 1 million (20.92%), and stay in Bandung City (70.15%). Based on their minimum number, the respondents are between 36 and 40 years old (0.62%), senior high school students (24.92%), have pocket money between IDR 3 million and IDR 4 million (5.54%) and stay in Cirebon and Yogyakarta Cities (1%), as well as Garut, Tangerang, Indramayu Regencies (1%).

Table 2. The demographic aspects of the respondents.

Aspect	Description	N	Portion
Age	Between 15 and 20	278	85.54%
	Between 21 and 25	42	12.92%
	Between 36 and 40	2	0.62%
	Between 41 and 50	3	0.92%
Education	Senior High School Students	81	24.92%
	Undergraduate Students	244	75.08%
Pocket	Between IDR100,000 and< 1 million	128	39.38%
money	Between IDR1 million and < 2 million	68	20.92%
	Between IDR2 million and < 3 million	32	9.85%
	Between IDR3 million and < 4million	18	5.54%
	Between IDR4 million and < 5 million	43	13.23%
	Above IDR 5 million	36	11.08%
Location	Bandung City	228	70.15%
	Jakarta City	80	24.62%
	Cimahi City	7	2.15%
	Cirebon City	1	0.31%
	Garut Regency	1	0.31%
	Tangerang Regency	1	0.31%
	Tasikmalaya City	5	1.54%
	Indramayu Regency	1	0.31%
	Yogyakarta City	1	0.31%

Based on the first validity check, invalid responses to FTP8, FTP9, and FTP10 exist because their loading factors are below 0.5: -0.091, -0.152, and 0.042. Therefore, they are removed, the validity is reexamined, and the result is presented in Table 3. In this table, the

loading factors of FTP1, FTP2, FTP3, FTP4, FTP5, FTP6, and FTP7 are all higher than 0.5: 0.786, 0.698, 0.677, 0.731, 0.753, 0.691, and 0.602. Hence, the validity test is achievable, followed by an AVE above 0.5, which is 0.501. Additionally, all valid indicators pass the reliability testing, as evidenced by composite reliability and Cronbach's Alpha, both of which exceed 0.7, at 0.875 and 0.873, respectively.

Table 3. The validity and reliability examination outputs for future time perspective indicators.

Indicator	Loading factor	AVE	Composite Reliability	Cronbach Alpha
FTP1	0.786	0.501	0.875	0.873
FTP2	0.698			
FTP3	0.677			
FTP4	0.731			
FTP5	0.753			
FTP6	0.691			
FTP7	0.602			

After combining future time perspective with financial literacy, age, gender, education, and income, the SEM based on covariance appears. Before that, the goodness of fit is detected, and its measurement is Chi-Square/DF of 3.049, which is in the acceptable range from 2 to 5. Due to this situation, the model fits the responses, supported by a TLI of 0.918, a CFI of 0.945, and an NFI of 0.922, all of which exceed 0.9 (see Table 4).

Table 4. The result of goodness-of-fit.

Measure	Chi-Square/DF	TLI	CFI	NFI
Acceptable range	From 2 to 5		Above 0.9	
Value from IBM AMOS output	3.047	0.918	0.945	0.922

Finally, the SEM based on the covariance estimation result is presented in Table 5. In this table, the probability of the critical ratio for H_1a, H_1b, H_1c, H_1d, H_2a, H_2b, H_2c, H_2d, and H_3 is 0.277, 0.821, 0.000, 0.000, 0.050, 0.313, 0.043, 0.014, and 0.000. The probability for H_1a, H_1b, H_2a, and H_2b is similar to and above 0.05; hence, they are rejected. Age and gender do not affect future time perspective and financial literacy. Meanwhile, education and income have a positive impact on future time perspective and financial literacy, and future time perspective has a positive influence on financial literacy.

Table 5. The estimation result of SEM based on the covariance.

Hypothesis	Directional Symbol	Coefficient	Standard error	Critical Ratio	Probability
H_1a	AGE → FTP	0.016	0.015	1.087	0.277
H_1b	GENDER → FTP	0.020	0.088	0.226	0.821
H_1c	Education → FTP	1.198	0.130	9.237	0.000
H_1d	Income → FTP	0.145	0.026	5.618	0.000
H_2a	AGE → FL	-0.006	0.003	-1.956	0.050
H_2b	GENDER → FL	-0.018	0.018	-1.009	0.313
H_2c	Education → FL	0.060	0.030	2.027	0.043
H2d	Income → FL	0.013	0.005	2.465	0.014
H_3	FTP → FL	0.218	0.017	12.903	0.000

Additionally, this study exhibits the Sobel mediating result (see Table 6) to prove that FTP mediates the influence of age, gender, education, and income on financial literacy. By referring to Table 6, FTP does not mediate the impact of age and gender on financial literacy because the 2-tailed probability is above 5% significance level: 0.228 and 0.389. Fortunately, FTP can mediate the influence of education and income on this literacy because the 2-tailed likelihood is less than 5%: 0.000 and 0.000.

Table 6. Testing Result of the Mediating Effect of FTP.

Proposed Mediating Effect	Indirect Effect	Standard Error	Z-statistic (Sobel)	Probability (2-tailed)	Statistical Interpretation
AGE → FTP → FL	0.003	0.003	1.060	0.228	The mediating effect is not proven.
GENDER → FTP → FL	0.004	0.019	0.227	0.389	
Education → FTP → FL	0.261	0.035	7.468	0.000	The mediating effect occurs.
Income → FTP → FL	0.032	0.006	5.101	0.000	

Discussion

In this study, age does not influence future time perspective (H_1a is rejected). Statistically, this situation happens because the dominant age range of the respondents is concentrated between 15 and 25 years old, i.e., 98.46%, containing 85.54% the range between 15 and 20 years old and 12.92% for 21 and 25 years old (see Table 2). The relatively homogeneous age range of respondents reduces chronological variation, making age unlikely to explain differences in FTP. Consequently, it confirms the findings of Kiani et al. (2020), Larisa et al. (2021), and Wang et al. (2024), demonstrating no relationship between age and this perspective.

Furthermore, gender does not influence future time perspective (H_1b is rejected). It indicates no gender gap: Female and male students have similar future time perspective. In student communities, especially in areas with relatively equal access to education such as major cities in Java, males and females often receive similar exposure to careers, curriculum, and future information. As a result, future orientation tends to be similar across genders. Hence, this result supports Kiani et al. (2020), who declare that gender is not correlated with future time perspective (FTP), and Kurniawati and Dewi (2022), who exhibit that gender does not affect FTP.

Moreover, education has a positive influence on future time perspective (H_1c is accepted). Education can foster the ability and attitude to plan effectively, enriching knowledge and skills to support a long-term vision. Hence, individuals with a higher education level tend to have the responsibility to prepare for their future (Klicperová-Baker et al., 2020). Therefore, this result supports the finding of Padawer et al. (2007), who found that education can positively predict this perspective based on the views of 1,498 individuals aged 24 to 74 in the United States, as well as that of Kiani et al. (2020), who researched 416 students attending a Chinese public campus, declaring a positive correlation between education and FTP.

Besides, income has a positive influence on future time perspective (H_1d is accepted). For senior high school and undergraduate university students, income often comes from their parents, referred to as pocket money (Dewi & Suwena, 2023; Megasari, 2014; Rahmawati & Nuris, 2021). Individuals with higher income levels tend to score higher on the future dimension, indicating a more focused orientation toward planning and commitment to the future. This situation is due to economic stability and access to resources that enable individuals to plan and invest for the long term (Klicperová-Baker et al., 2020). This positive

sign indicates their financial responsibility, as the students carefully consider their money utilization. Although using pocket money, this study aligns with Padawer et al. (2007), who found that income can positively predict this perspective based on the views of 1,498 Americans aged 24 to 74.

Additionally, age does not influence financial literacy (H_2a is rejected). Statistically, this situation happens because the dominant age range of the respondents is concentrated between 15 and 25 years old, i.e., 98.46%, containing 85.54% the range between 15 and 20 years old and 12.92% for 21 and 25 years old (see Table 2). The relatively narrow age range among students reduces the variation that can be explained by age. Thus, it affirms Jayanthi and Rau (Jayanthi & Rau, 2019), exhibiting no association between age and financial literacy after studying 126 households in rural areas in India.

Gender also does not influence financial literacy (H_2b is rejected). It indicates no gender gap: Female and male students have similar financial literacy. Among student groups, gender differences in financial literacy are often small or insignificant due to the homogenity of curriculum and access to education (OECD, 2020). Henceforth, this result aligns with Jayanthi and Rau (Jayanthi & Rau, 2019), who found no association between gender and financial literacy after studying 126 households in rural areas of India.

Education has a positive influence on financial literacy (H_2c is accepted). Formal education gives students the basic knowledge and skills to understand financial concepts and organize money effectively. The more educated the people, the higher their economic literacy tends to be (Lusardi & Mitchell, 2014). Therefore, this result confirms the findings of Jayanthi and Rau (2019), Larisa et al. (2021), Chen and Huang (2023), and Boyle et al. (2025), which were obtained after investigating people from India, Indonesia, China, and the United States, respectively.

Then, income has a positive influence on financial literacy (H_2d is accepted). For senior high school and undergraduate university students, income often comes from their parents, referred to as pocket money (Dewi & Suwena, 2023; Megasari, 2014; Rahmawati & Nuris, 2021). Income allows them to invest in economic education. As expected, they can gain hands-on experience that enhances their literacy (Allgood & Walstad, 2016). Hence, this result verifies the studies declaring that financial literacy is affected by income (Boyle et al., 2025; Chen & Huang, 2023; Larisa et al., 2021) and pocket money (Dewi & Suwena, 2023; Rahmawati & Nuris, 2021), as well as a positive correlation between income and financial literacy (Ahmad & Zabri, 2023).

Ultimately, a future time perspective has a positive influence on financial literacy (H3 is accepted). This situation demonstrates that personal financial literacy is likely to improve if individuals have a more positive outlook on the future (Sulistianingsih et al., 2025). Future orientation enables individuals to achieve their goals by developing current skills (Carstensen, 2006), including financial knowledge to enhance their cognitive abilities (She et al., 2023). Hence, this result is supported by Larisa et al. (Larisa et al., 2021) and Sulistianingih et al. (Sulistianingsih et al., 2025), learning about the female employees and citizens in Padang City in Indonesia, respectively.

Finally, this study cannot prove the mediating role of FTP on the impact of age and gender on financial literacy. Instead, it demonstrates that FTP can mediate the influence of income on financial literacy, as affirmed by Larisa et al. (Larisa et al., 2021). Meanwhile, FTP can mediate the effect of education on financial literacy, becoming a research novelty.

5. Conclusion and Contribution

This research aims to analyze the influence of demographic factors (age, gender, education, and income) on future time perspective and financial literacy, as well as the influence of future time perspective on financial literacy among senior high school students and undergraduate students in developing countries like Indonesia.

Theoretically, this research has confirmed the significant role of future time perspective, both directly and indirectly, in affecting financial literacy. Indirectly, future time perspective proves to mediate how education level and income significantly influence individuals to improve their financial literacy. The higher the education and income, the greater the likelihood that students have a future orientation related to long-term financial stability, which ultimately leads to a more diligent effort in seeking information and learning to manage

money. Directly, students with high future time perspective see the future as something real and relevant, which is related to motivation, perseverance, and long-term effort in the context of education (Phan et al., 2020), hence they tend to seek financial information proactively.

Practically, the researcher recommends that students can enhance their financial literacy by focusing on future opportunities. Students need to set aside their pocket money to invest in financial assets as a practice in managing assets, and also invest in themselves by acquiring knowledge, experience, and skills.

This research contributes to the existing personal finance literature, firstly, by providing insights into financial literacy issues and its challenges from the perspective of senior high school students and undergraduate students. Secondly, by offering a more comprehensive investigation by including the presence of psychological factors of future time perspective considering the lack of examination of this factor in previous research.

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