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**The Influence of Financial Literacy and Risk Tolerance on Student Investment Decisions with Demographic Factors as Moderating Variables**

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**ABSTRACT**

This research explores how Financial Literacy and Risk Tolerance affect Investment Decisions, with a particular focus on the role of demographic factors such as Gender and Income as moderating variables. In this study, Financial Literacy and Risk Tolerance are examined as independent variables, while Investment Decision is the dependent variable. The sample for this study comprises 120 respondents, all of whom are students with experience in stock investments. These respondents were selected using a convenience sampling method. The analysis of the data reveals that both Financial Literacy and Risk Tolerance have a significant impact on Investment Decisions made by students. However, the study finds that demographic factors such as Gender and Income do not act as moderators in the relationship between Financial Literacy and Investment Decisions. Similarly, these demographic factors do not moderate the effect of Risk Tolerance on the students' investment decisions. The purpose of this study is to offer insights that could aid in the development of more targeted and effective financial education programs. By understanding the direct influence of Financial Literacy and Risk Tolerance on investment choices and recognizing the non-moderating role of Gender and Income, the study aims to enhance strategies that promote investment participation among students.

*Demographic Factors, Financial Literacy, Investment Decisions, Risk Tolerance*

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**INTRODUCTION**

Since the onset of the Covid-19 pandemic, the global economy has experienced significant turbulence. The pandemic has adversely affected various sectors, from retail to energy, leading to massive layoffs and widespread unemployment. However, during this period, there has been a noticeable trend of increasing investor participation in the stock market, indicating a rapidly evolving economy. As the pandemic intensified, people tended to cut back on

unnecessary consumption, highlighting the need for individuals to possess adequate skills and knowledge to manage their financial resources and wealth. One effective method of financial management is through investment. According to the Financial Services Authority (2017), investment refers to the long-term allocation of capital to acquire assets or purchase stocks and securities to generate profits.

Currently, interest in investing is on the rise, particularly among the younger generation. Contrary to the perception of being overly consumeristic, young people, especially students, are showing a growing interest in the investment world. Students with a background in finance-related disciplines are expected to be knowledgeable about the capital market. One popular investment option among students is stock investment, which represents ownership in a company and confers shareholder status (Maya, 2023). Students can start investing in stocks in the capital market to secure a better financial future. The benefits of investment for students include using the returns as capital for starting a business post-graduation or furthering their education.

Before engaging in investment activities, planning is essential. A well-thought-out investment plan allows for the selection of appropriate investments, leading to sustainable income sources. Developing an investment plan requires good financial knowledge, reflected in an investor's level of financial literacy. With sound financial literacy, investment decisions can be made with clear objectives. The Financial Services Authority defines financial literacy as a series of processes or activities aimed at enhancing consumers' and the public's knowledge, confidence, and skills to manage their finances effectively.

To foster students' interest in investment activities, universities have established Investment Galleries. These galleries provide a platform for students to learn about the investment world and gain financial literacy, equipping them with the knowledge to make informed investment decisions. Studies by Putri et al. (2019), Nggadas & Candraningrat (2023), Yulianis et al. (2021), and Ainunnisa & Hendrawaty (2022) indicate that financial literacy influences investment decisions. Conversely, research by Istanti & Lestari (2023) and Pradikasari & Isbanah (2018) suggests that financial literacy does not impact investment decisions.

Moreover, before making investment decisions, investors consider several factors, including risk. Risk tolerance varies among investors, as each individual has a different level of risk tolerance. According to Hendrawaty et al. (2020), risk tolerance is categorized into three types: risk lovers, risk neutral, and risk averse. Research by Pradikasari & Isbanah (2018), Lulu & Ninuk (2023), and Olga (2022)

shows that risk tolerance affects investment decisions, while Yulianis et al. (2021) found no such effect.

Among the numerous studies indicating that financial literacy and risk tolerance influence investment decisions, some highlight the significant role of demographic factors in moderating these effects. Ainunnisa & Hendrawaty (2022) found that demographic factors moderate the impact of financial literacy on low-risk asset investment decisions. However, Hendrawaty et al. (2020) found that demographic factors, such as gender, age, marital status, and income, do not moderate the relationship between financial literacy and risk tolerance.

Given the conflicting findings regarding the influence of financial literacy and risk tolerance on investment decisions and the lack of research on demographic factors moderating the effect of risk tolerance on investment decisions, this study aims to explore these relationships further. Additionally, this research focuses on stock investment decisions, as stocks are a popular investment instrument among students.

## **RESEARCH METHOD**

This study employs a quantitative research approach, utilizing primary data collected through questionnaires distributed to respondents. The data collection method involved disseminating the questionnaire via Google Forms, shared through various communication channels and social media platforms. The questionnaire comprised four sections: financial literacy (Guttman scale), demographic factors (dummy variables), risk tolerance (Likert scale), and investment decisions (Likert scale). Convenience sampling was utilized for this study to ensure targeted methodology. This sampling method was chosen for its practicality, where respondents from the population who were accessible and willing to participate were included (Darmawan, 2019).

Given the unknown size of the population in this study, the sample size was determined using Malhotra's (2020) formula, which recommends a minimum of four to five times the number of questionnaire items. With a total of 24 questions, the required sample size for this study was 120 respondents. The analysis was conducted using PLS-SEM (Partial Least Squares Structural Equation Modeling) with the SMART PLS software version 3.2.9.

## **RESULT AND DISCUSSION**

### **Outer Model**

The outer model testing shows that each construct's value is higher than those of other variables, demonstrating strong discriminant validity. This is further supported by cross-loading values, where indicators within each block

exceed the correlations between blocks. All indicators are below 0.7, confirming excellent discriminant validity. Reliability testing, which evaluates consistency across different conditions, shows that constructs are reliable if composite reliability and Cronbach's alpha are above 0.7. With cross-loading values above 0.7, all items meet the discriminant validity criteria. Additionally, all variables have composite reliability values above 0.7, confirming their reliability.

**Inner Model**

The assessment of the structural model using Smart PLS involved analyzing the R-square values for each endogenous latent variable, specifically to evaluate the impact of Financial Literacy and Risk Tolerance on Students' Investment Decisions, which serve as indicators of the structural model's predictive power.

**Table 1.**

**Inner Model Test Results**

Variable	R Square	Adjusted R Square
Investment Decision (KI)	0.421	0.411

As shown in Table, the results indicate that the Adjusted R-square value for the Investment Decision variable is 41.1%. This signifies that the latent variables of Financial Literacy and Risk Tolerance together account for 41.1% of the variance in Investment Decisions, while the remaining 58.9% is attributable to other factors not included in this study. These findings suggest that while Financial Literacy and Risk Tolerance play a significant role in influencing Investment Decisions, there are additional variables that also contribute to these decisions, warranting further investigation.

**Hypothesis Test Results**

The hypothesis testing results lead to the following conclusions: Financial literacy significantly affects students' investment decisions (p-value = 0.049 < 0.05, path coefficient = 0.213), supporting the first hypothesis. Risk tolerance also has a significant impact (p-value = 0.000 < 0.05, path coefficient = 0.525), confirming the second hypothesis. However, gender does not affect investment decisions (p-value = 0.843 > 0.05) and does not moderate the effects of financial literacy (p-value = 0.252 > 0.05) or risk tolerance (p-value = 0.986 > 0.05), rejecting the third, fourth, and seventh hypotheses. Income also does not influence investment decisions (p-value = 0.248 > 0.05) and does not moderate the effects of financial literacy (p-value = 0.689 > 0.05) or risk tolerance (p-value = 0.327 > 0.05), rejecting the fifth, sixth, and eighth hypotheses.

**Table 2.**  
**Hypothesis Testing Based on Total Effects**

Hypothesis	Path	Path Coefficient	P Values
H1	Financial Literacy (LK) -> Investment Decisions (KI)	0.213	0.049
H2	Risk Tolerance (TR) -> Investment Decision (KI)	0.525	0.000
H3	Gender -> Investment Decision (KI)	0.019	0.843
H4	Gender LK Moderation -> Investment Decision (KI)	-0.12	0.252
H5	Income -> Investment Decision (KI)	0.071	0.248
H6	LK Moderation Income -> Investment Decision (KI)	-0.034	0.689
H7	Gender Moderation TR -> Investment Decision (KI)	0.002	0.986
H8	TR Moderation Income -> Investment Decision (KI)	0.076	0.327

### **The Influence of Financial Literacy on Student Investment Decisions**

The hypothesis testing reveals a p-value of 0.049, demonstrating that financial literacy significantly affects students' investment decisions, thereby substantiating the first hypothesis. This result is consistent with the findings of Putri et al. (2019), Yulianis et al. (2021), Ainunnisa & Hendrawaty (2022), and Nggadas & Candraningrat (2023), all of whom similarly affirm the influence of financial literacy on investment behavior. In alignment with Harry Markowitz's (1952) portfolio theory, which highlights diversification as a strategy for risk management, financial literacy equips students with the understanding needed to appreciate the benefits of diversifying investments to enhance returns and mitigate risks. Wijaya & Afgani (2021) further corroborate this perspective, noting that students with financial literacy are better positioned to manage and adjust their portfolios in response to market fluctuations and financial objectives.

### **The Influence of Risk Tolerance on Student Investment Decisions**

The hypothesis testing reveals a p-value of 0.000, demonstrating that risk tolerance has a significant impact on students' investment decisions, thereby affirming the second hypothesis. This outcome aligns with the research conducted by Kusumaningrum et al. (2019), Ramadhan & Sutrisno (2022), and

Istanti & Ninuk (2023), which also supports the influence of risk tolerance on investment behavior. In accordance with portfolio theory, which advocates for diversification to manage unsystematic risk, an understanding of one's risk tolerance allows students to construct investment portfolios that balance high-risk and low-risk assets based on their individual comfort levels with risk. Students exhibiting high risk tolerance are likely to allocate a greater proportion of their investments to high-risk assets, whereas those with low risk tolerance are inclined toward safer investments. This study concludes that risk tolerance significantly affects students' investment decisions, facilitating more rational and informed choices in alignment with their risk profiles, consistent with the portfolio theory's principle of balancing risk and return.

#### **The Influence of Gender on Student Investment Decisions**

The hypothesis testing yields a p-value of 0.843, indicating that gender does not significantly affect students' investment decisions, thus rejecting the third hypothesis. This finding aligns with the research by Putri et al. (2019), Ramadhan & Sutrisno (2022), Sri et al. (2022), and Nggadas & Candraningrat (2023), which similarly reports no significant gender impact on investment decisions. Rahadjeng (2019) supports this, noting no gender differences in capital market investments. Ansari & Uprety (2017) further reveal that gender does not significantly influence economic and environmental factors considered in investment decisions. Thus, the study concludes that both male and female students have equal opportunities to invest, with investment success dependent on individual knowledge and skills rather than gender.

#### **Gender Can Moderate the Influence of Financial Literacy on Student Investment Decisions**

The hypothesis testing yields a p-value of 0.252, indicating that gender does not moderate the relationship between financial literacy and investment decisions, thus refuting the fourth hypothesis. This finding is corroborated by Olga (2022), who similarly concluded that gender does not significantly influence the moderation of financial literacy's impact on investment decisions. The results suggest that gender does not meaningfully affect how financial literacy influences investment behavior. Consequently, the study concludes that students of both genders, possessing equivalent levels of financial literacy, are likely to exhibit similar investment decision-making patterns, with gender not significantly altering this relationship.

#### **The Influence of Income on Student Investment Decisions**

The hypothesis testing results, with a p-value of 0.248, demonstrate that income does not significantly affect students' investment decisions, thereby rejecting the fifth hypothesis. This finding aligns with the research conducted by

Putri et al. (2019), Nggadas & Candraningrat (2023), Sri et al. (2022), and Istanti & Lestari (2023), which similarly report no significant impact of income on investment decisions. The study concludes that income, whether derived from allowances or scholarships, does not serve as a determinant of investment proficiency. Students with higher income levels may still lack the necessary investment knowledge, resulting in suboptimal investment decisions. Thus, income alone is not a reliable indicator of investment capability; rather, knowledge and comprehension of financial principles play a critical role.

#### **Income Can Moderate the Effect of Financial Literacy on Student Investment Decisions**

The hypothesis testing reveals a p-value of 0.689, indicating that income does not moderate the effect of financial literacy on students' investment decisions, thereby rejecting the sixth hypothesis. This result is consistent with the findings of Olga (2022), who similarly concluded that income, as a control variable, does not influence the relationship between financial literacy and investment decisions. The study suggests that income level does not significantly affect how financial literacy impacts investment decisions among students. This implies that other factors, such as educational background or investment experience, may play a more substantial role in shaping investment decisions, irrespective of income.

#### **Gender Can Moderate the Effect of Risk Tolerance on Student Investment Decisions**

The hypothesis testing yields a p-value of 0.986, indicating that gender does not moderate the effect of risk tolerance on students' investment decisions, thereby rejecting the seventh hypothesis. This result suggests that male and female students respond similarly to risk tolerance when making investment decisions. The study concludes that, within the student population, gender does not significantly influence the relationship between risk tolerance and investment decisions. This finding supports the view that gender is not a significant factor in moderating how risk tolerance affects investment choices among students.

#### **Income Can Moderate the Effect of Risk Tolerance on Student Investment Decisions**

The hypothesis testing results, with a p-value of 0.327, indicate that income does not moderate the effect of risk tolerance on students' investment decisions, thereby rejecting the eighth hypothesis. This finding suggests that income does not influence the relationship between risk tolerance and investment decisions, as risk tolerance is an intrinsic characteristic largely unaffected by external factors such as income. According to Wijaya & Afgani (2021), risk tolerance is more

significantly influenced by psychological factors, life experiences, and personal preferences than by income levels. For example, a student with a high income might exhibit low risk tolerance due to a preference for financial security, whereas a student with a lower income may demonstrate higher risk tolerance in the pursuit of greater returns. Therefore, while income may impact investment choices, its effect on risk tolerance is minimal, with individual factors being more influential.

## CONCLUSION

Based on the findings from the questionnaires distributed to students with stock investment experience, the study concludes that financial literacy positively influences students' investment decisions, indicating that better financial knowledge aids in effective financial management, including investments. Risk tolerance also significantly affects investment decisions, with higher risk tolerance leading to bolder investment choices. However, gender and income do not significantly influence investment decisions, nor do they moderate the impact of financial literacy and risk tolerance on these decisions. This suggests that investment decisions among students are not dependent on gender or income levels. For future research, it is recommended to expand the respondent pool and possibly collect data directly to ensure accuracy. Additionally, incorporating other variables such as motivation, herding behavior, and experience regret could provide a more comprehensive analysis of factors influencing investment decisions. Practically, students as investors are encouraged to participate in mentorship programs with experienced professionals to enhance their understanding of financial literacy and risk tolerance, enabling more informed and prudent investment decisions.

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