

Risk Tolerance as a Mediation Mechanism between Financial Literacy and Investment Decisions Among Students

Diah Ayu Septi Fauji^{1*}, Ismayantika Dyah Puspasari², Dian Kusumaningtyas³

Universitas Nusantara PGRI Kediri, Kediri, Indonesia^{1,2,3}

septifauji@unpkediri.ac.id^{1*}, ismayantika@unpkediri.ac.id²,



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Abstract

Purpose: to analyze the influence of financial literacy on investment decisions among students, with a focus on risk tolerance

Research Methodology: This study employed a quantitative approach and was analyzed using Smart Partial Least Squares (Smart PLS). The survey in this study was conducted by distributing an open questionnaire through G-form.

Results: The results show that risk tolerance significantly mediates the influence of financial literacy on investors' decisions. This means that financial literacy not only directly influences investment decisions but also primarily increases students' risk tolerance.

Conclusions: Financial literacy has been shown to have a strong and substantive influence on risk tolerance, suggesting that increased financial understanding contributes to a more open attitude towards investment uncertainty. Risk tolerance, in turn, exerts a stronger influence on investment decisions than financial literacy, confirming its position as a key determinant of students' investment behavior.

Limitations: The study was limited by a relatively narrow age range among respondents, which may restrict the generalizability of the findings. Future research should examine broader age groups to validate and extend these results.

Contributions: Theoretically, these results enrich the behavioral finance literature by confirming that investment decisions are determined not only by knowledge but also by psychological factors that shape an individual's readiness to take on risk. In practice, these findings imply that financial education programs in colleges should not only focus on improving cognitive financial literacy but also include training using risk simulations, paper trading, and market case studies to build more realistic and proportionate risk tolerance

Keywords: *Financial Literacy, Investment Decision, Risk Tolerance*

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1. Introduction

The changing global economic landscape and advances in financial technology have driven a shift in investment behavior from traditional investor groups to younger generations, especially college students ([Eshpulatov, Berdiev, & Artemenkov, 2025](#)). Students, as an early-stage investor Population, have unique characteristics and are beginning to be exposed to various investment options, but are still in the stage of forming stable financial behavior ([Deemed & Deemed, 2025](#)). This phenomenon has attracted the attention of academics and policymakers, as it indicates an important transition in individual financial literacy and practice from an early age ([Eshpulatov et al., 2025](#)).

Financial literacy is considered a basic competency necessary for effective financial decision-making ([Deemed and Deemed, 2025](#); [Eshpulatov et al., 2025](#) ; [Putra, & Asandimitra, 2023](#)). Individuals with good financial literacy are expected to evaluate financial information accurately and make optimal investment decisions. However, empirical evidence suggests that the relationship between financial literacy and investment decisions is inconsistent. For example, some studies show that although financial literacy levels increase, they are not always accompanied by improvements in the quality of individuals' investment decisions. This shows that financial literacy alone does not fully explain the investment decision-making process, especially among students who tend to have limited market experience.

Previous studies have consistently demonstrated that financial literacy influences investment decisions and recognized the importance of risk tolerance in shaping investment behavior ([Eshpulatov et al., 2025](#); [Seraj, Alzain, & Alshebami, 2022](#)). Most studies have examined risk tolerance primarily as an independent predictor or moderating variable. Consequently, empirical evidence explaining whether risk tolerance serves as the psychological mechanism through which financial literacy translates into investment decisions remains limited, particularly among university students ([Ayurini, & Wijayati, 2025](#); [Hossain, Kona, & Zaman, 2026](#)). This limitation is important because students possess financial knowledge acquired through formal education but often lack investment experience and remain vulnerable to behavioral biases such as overconfidence and inaccurate risk evaluation. ([Barber, & Odean, 2013](#); [Fridana, & Asandimitra, 2020](#); [Munyepwa, Nyakatonje, & Chikozho, 2026](#); [Sahi, 2017](#); [Yamaguchi, Ogura, Himeno, Shiiku, Nagahama, Nabeshima, Kuramoto, Saidur, Khan, & Kadoya, 2025](#)). Therefore, the underlying mechanism linking financial literacy to investment decisions in this population remains insufficiently understood, warranting further investigation into the mediating role of risk tolerance.

Based on this description, this study proposes that risk tolerance plays a crucial mediating role in the relationship between financial literacy and students' investment decisions. By treating risk tolerance as a mediator, this study aims to explain the internal processes that are often overlooked when linking financial literacy to investment decisions. This focus on mediation is simultaneously an interesting theoretical novelty because it shifts attention from simple, direct relationships to deeper psychological dynamics, thereby providing a more complete understanding of the investment behavior of younger generations. This research is also important in practice because it shows that efforts to improve financial literacy among students must be accompanied by strategies to help them develop appropriate risk tolerance. Without proper understanding and risk management, financial literacy alone may not be sufficient to produce quality investment decisions

Thus, this study not only examines the relationship between financial literacy and investment decisions but also demonstrates the role of risk tolerance mediation as a psychological mechanism through which financial literacy influences students' investment decisions. Based on the background described, this study aims to address the main problems regarding the effectiveness of financial literacy in encouraging students' investment decisions. In particular, the research questions are as follows:

RQ1: Does financial literacy affect students' investment decisions?

RQ2: Does financial literacy affect students' risk tolerance?

RQ3: Does risk tolerance affect student investment decisions?

RQ4: Does risk tolerance mediate the relationship between financial literacy and investment decisions among students?

The formulation of this problem is designed to capture both the direct and indirect relationships between financial literacy and investment decisions, with risk tolerance serving as a psychological mechanism for this relationship. In line with the formulation of the problem, the objectives of this research are as follows: (1) analyze the influence of financial literacy on student investment decisions; (2) analyze the influence of financial literacy on students' risk tolerance; (3) analyze the influence of risk tolerance on student investment decisions; and (4) examine the role of risk tolerance as a mediation mechanism in the relationship between financial literacy and investment decisions among students. These goals are expected to provide a more comprehensive understanding of the psychological processes underlying investment decision-making among young investors.

2. Literature Review and Hypotheses Development

2.1 Financial Literacy and Financial Behavior

Financial literacy is widely recognized as a key determinant of sound financial behavior because it enhances individuals' ability to interpret financial information, evaluate investment alternatives, and make informed financial decisions ([Irianto et al., 2024](#); [Lyngdoh et al., 2025](#)). Empirical studies consistently report that individuals with higher financial literacy demonstrate more prudent financial behaviors, including effective financial planning, debt management, and participation in financial markets ([Annamalah et al., 2019](#); [Rupande et al., 2019](#)). These findings suggest that financial literacy provides the cognitive foundation necessary for making rational investment decisions.

However, the empirical relationship between financial literacy and investment decisions remains inconclusive. While several studies report a significant positive effect, others find that financially literate individuals do not necessarily exhibit better investment behaviors. This inconsistency implies that financial knowledge alone may be insufficient to explain investment decisions and suggests that psychological factors may shape how financial literacy translates into actual investment behavior. Consequently, recent behavioral finance research has increasingly emphasized the importance of examining internal psychological mechanisms rather than relying solely on direct relationships between variables.

2.2 Risk Tolerance in Financial Decision Making

Risk tolerance is consistently identified as one of the most influential psychological determinants of investment behavior because it reflects an individual's willingness to accept uncertainty in the pursuit of higher returns ([Risqina et al., 2023](#)). Previous studies generally agree that investors with higher risk tolerance are more likely to allocate funds to high-risk assets, whereas risk-averse individuals prefer safer investment options. However, the literature differs in its explanations of the role of risk tolerance in investment decision making. Some studies conceptualize it as an independent predictor of investment behavior, whereas others argue that risk tolerance develops through financial knowledge, investment experience, and individual characteristics ([Harshini et al., 2025](#); [Indrawati et al., 2025](#); [Suherman et al., 2023](#); [Weber, 2001](#)). These different perspectives indicate that risk tolerance may not only influence investment decisions directly but may also serve as the psychological pathway through which financial literacy affects investment behavior.

2.3 Investment Decisions in a Behavioral Perspective

The behavioral finance literature suggests that investment decisions result from interactions between cognitive capability, psychological characteristics, and external market conditions rather than purely rational considerations ([Ahmed, & Noreen, 2021](#); [Handoko, & Sholichah, 2019](#)). Previous studies have consistently identified financial literacy and risk tolerance as important determinants of investment decisions, although behavioral biases such as overconfidence, herding, and emotional reactions frequently weaken rational decision-making. This tendency is particularly evident among university students, whose investment decisions are often shaped by digital investment platforms, social media exposure and limited market experience. Consequently, students represent an appropriate context for examining how cognitive and psychological factors jointly influence investment behaviors.

2.4 The Relationship between Financial Literacy, Risk Tolerance, and Investment Decisions

Previous studies generally acknowledge that financial literacy enhances individuals' capacity to evaluate investment opportunities, whereas risk tolerance determines their willingness to act on those evaluations. Although these two constructs have frequently been examined independently, relatively few studies have investigated their sequential relationships within a single explanatory framework. Existing evidence suggests that financially literate individuals are not necessarily willing to undertake investment risks unless they possess sufficient risk tolerance ([Efendi & Fitriyah, 2026](#); [Eshpulatov et al., 2025](#); [Nabeshima et al., 2025](#); [Widyastuti et al., 2019](#)).

Conversely, individuals with a higher risk tolerance may actively invest despite having only moderate financial knowledge. These findings indicate that investment decisions emerge from the interaction between cognitive competence and psychological readiness, rather than from financial literacy alone. Therefore, positioning risk tolerance as a mediating variable provides a more comprehensive explanation of how it influences investment decisions.

2.5 Hypotheses Development

2.5.1 Financial Literacy and Investment Decisions

Previous studies have consistently indicated that financial literacy enhances individuals' ability to evaluate financial information, understand investment risks, and select appropriate investment alternatives. Accordingly, individuals with higher financial literacy are expected to make better investment decisions.

H₁: Financial literacy positively affects students' investment decisions

2.5.2 Financial Literacy and Risk Tolerance

Financial literacy improves individuals' understanding of financial risks and returns, enabling them to develop a more realistic assessment of investment uncertainty. Consequently, financially literate students are expected to exhibit higher risk tolerance.

H₂: Financial literacy positively affects students' risk tolerance

2.5.3 Risk Tolerance and Investment Decisions

Risk tolerance reflects an individual's willingness to accept uncertainty in the pursuit of investment returns. Students with higher risk tolerance are therefore more likely to engage in investment activities and make decisions in the face of uncertainty.

H₃: Risk tolerance positively affects students' investment decisions

2.5.4 The Mediating Role of Risk Tolerance

Behavioral finance suggests that financial knowledge does not always translate directly into investment behavior but may operate through psychological factors such as confidence. Accordingly, risk tolerance is expected to mediate the relationship between financial literacy and investment decision-making.

H₄: Risk tolerance mediates the relationship between financial literacy and students' investment decision

2.6 Research Conceptual Framework

Based on the development of the formulated theories and hypotheses, this study's conceptual framework describes the causal relationships among financial literacy, risk tolerance, and student investment decisions. Financial literacy is an exogenous variable that influences investment decisions directly and indirectly through risk tolerance. Risk tolerance serves as a mediating variable that explains the internal process by which financial literacy translates into investment decision-making.

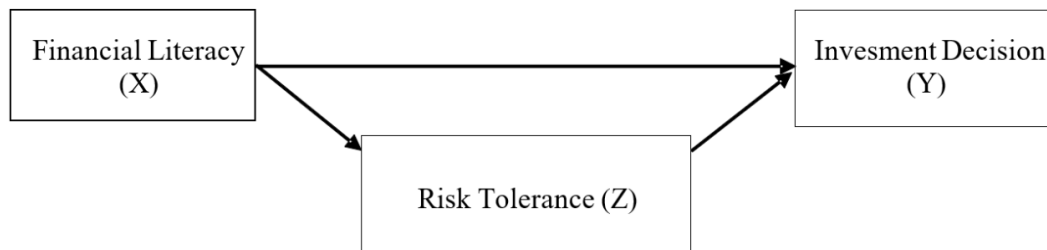


Figure 1. Conceptual framework

Figure 1 shows the conceptual framework of this study includes the following relationships: Using the Partial Least Squares Structural Equation Modeling (PLS-SEM) approach, this framework enables the simultaneous testing of direct and indirect influences, providing a more complete picture of the mechanism underlying investment decision-making among students.

3. Methodology

3.1 Design and Research Approach

This study uses a quantitative approach with an explanatory research design to test the causal relationship between financial literacy, risk tolerance, and investment decisions. This approach was chosen because it is appropriate for testing theory-based hypotheses and explaining the mediating mechanism of risk tolerance in the relationship between financial literacy and investment decision-making. The analysis method used is Partial Least Squares Structural Equation Modeling (PLS-SEM), which is predictive and suitable for models with mediated relationships and for data that do not need to be normally distributed.

3.2 Population and Research Sample

The Population of this study consisted of university students in the Kediri area who owned investment products or had considered engaging in investment activities. University students were selected because they represent novice investors in the early stages of developing financial knowledge, risk preferences and investment behavior. A simple random sampling technique was employed to minimize selection bias and ensure that each eligible respondent had an equal opportunity to participate in the study.

A total of 172 valid responses were obtained and analyzed. The adequacy of the sample size was assessed based on the recommendation of [Hair et al. \(2019\)](#), who suggested that the complexity of the structural model should determine the minimum sample size in PLS-SEM. The proposed model contains at most two structural paths directed toward an endogenous construct; therefore, the minimum sample size required under the commonly applied 10-times rule is substantially lower than the final sample size. Accordingly, the sample of 172 respondents was considered adequate to provide reliable parameter estimation and sufficient statistical power for the PLS-SEM analysis.

3.3 Data Collection Techniques

Primary data were collected using an online structured questionnaire. The measurement items were adapted from previously validated instruments in the literature. Before distributing the questionnaire, the instrument was reviewed by experts in finance and research methodology to assess content validity, wording clarity, and item relevance. Their feedback was incorporated into the final version of the questionnaire to improve clarity and ensure that the instrument appropriately represented the constructs being assessed. All items were measured using a five-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree).

3.4 Data Analysis Method: PLS-SEM

Data analysis was carried out using PLS-SEM in two main stages: the evaluation of the measurement model and the evaluation of the structural model. The measurement model was used to assess the validity and reliability of the latent constructs. The criteria used include: (1) convergent validity, which was evaluated through outer loading values (>0.70) and Average Variance Extracted (AVE >0.50), (2) construct reliability, measured using Cronbach's Alpha and Composite Reliability (value

>0.70), and (3) discriminant validity, which was tested using the Fornell–Larcker and Heterotrait–Monotrait Ratio (HTMT <0.90) criteria.

3.5 Structural Model Evaluation

The structural model was evaluated to examine the relationships among latent constructs and test the proposed hypotheses. The evaluation was conducted through several criteria, including path coefficients to assess the direction and strength of relationships between constructs, the coefficient of determination (R^2) to evaluate the explanatory power of exogenous constructs in predicting endogenous constructs, effect size (f^2) to determine the relative contribution of each exogenous construct to the endogenous construct, and hypothesis significance testing using a bootstrapping procedure with 5,000 subsamples.

3.6 Mediation Test

The mediating role of risk tolerance was tested by analyzing the indirect effects of financial literacy on investment decisions via risk tolerance. The significance of the mediation effect was determined using bootstrap. In addition, the Variance Accounted For (VAF) value was used to determine whether the mediation was partial or full.

3.7 Research Instruments and Variable Indicators

The research instruments were prepared based on adaptations of previous relevant studies and were adapted to the student context. All the constructs in this study were treated as reflective constructs. The indicators of this research are shown in Table 1.

Table 1. Indicators

Variables	Indicator
Financial Literacy (X) (Chen & Volpe, 1998)	General financial knowledge
Financial Literacy (X) (Chen & Volpe, 1998)	Risk management and insurance
Financial Literacy (X) (Chen & Volpe, 1998)	Investment knowledge
Risk Tolerance (Z) (Harshini et al., 2025; Weber, 2001)	Openness to financial risk
Risk Tolerance (Z) (Harshini et al., 2025; Weber, 2001)	Preference for stability or risk
Risk Tolerance (Z) (Harshini et al., 2025; Weber, 2001)	Behavior in the face of investment volatility
Investment Decision (Y) (Ahmed & Noreen, 2021)	Investment preference options (stock vs fixed income)
Investment Decision (Y) (Ahmed & Noreen, 2021)	Decision-making policy
Investment Decision (Y) (Ahmed & Noreen, 2021)	Stock selection behavior

4. Results and Discussions

4.1 Result

4.1.1 Evaluation Measurement Model

The measurement model was evaluated to ensure that the indicators represent latent constructs validly and reliably before interpreting the structural relationships.

4.1.2 Outer Loading

All indicators had outer loadings above the minimum threshold of 0.60, thus meeting the convergent validity criteria for reflective constructs.

Table 2. Outer loadings

	Outer Loadings
$X_{i,1} < X$	0.707

	Outer Loadings
$X_{1.2} <- X$	0.767
$X_{1.3} <- X$	0.668
$X_{1.4} <- X$	0.780
$X_{1.5} <- X$	0.642
$X_{1.6} <- X$	0.685
$Y_1 <- Y$	0.817
$Y_2 <- Y$	0.726
$Y_3 <- Y$	0.869
$Y_4 <- Y$	0.715
$Y_5 <- Y$	0.757
$Y_6 <- Y$	0.846
$Y_7 <- Y$	0.788
$Z_1 <- Z$	0.901
$Z_2 <- Z$	0.910
$Z_3 <- Z$	0.911

Table 2 shows in the Financial Literacy (X) construct, the outer loadings range from 0.642 to 0.780, with the strongest indicators being $X_{1.4}$ (0.780) and $X_{1.2}$ (0.767). This shows that financial literacy is measured in a fairly homogeneous manner and is centered on understanding financial concepts relevant to investment decisions. The Investment Decision construct (Y) showed excellent measurement quality, with outer loadings ranging from 0.715 to 0.869. Y_3 (0.869) and Y_6 (0.846) are the strongest indicators of student investment decisions, particularly regarding rationality and decision effectiveness. The Risk Tolerance construct (Z) exhibited a very high measurement quality, with outer loadings ranging from 0.901 to 0.911. This indicates that the three risk tolerance indicators are highly consistent and clearly reflect the same construct, particularly in terms of comfort with uncertainty and willingness to take risks.

4.1.3 Reliability and AVE

The reliability results showed that all three constructs met the measurement quality criteria.

Table 3. Reliability test

	Cronbach Alpha	Composite Reliability (rho_a)	Composite Reliability (rho_c)	Average Variance Extracted (AVE)
X	0.803	0.811	0.859	0.504
Y	0.899	0.902	0.921	0.624
Z	0.893	0.895	0.933	0.823

Table 3 shows that an AVE value above 0.50 for all constructs indicates adequate convergent validity. Overall, the measurement model was feasible and robust, allowing for a high-confidence interpretation of the structural analysis.

4.1.4 Model Fit (Model Fit)

Model suitability was assessed using several PLS-SEM fit model indices:

Table 4. Goodness-of-Fit assessment results of the PLS-SEM model

	Saturated Model	Estimated Model
SRMR	0.109	0.109
d_ULS	1.610	1.610
d_G	0.868	0.868
Chi-square	1342.804	1342.804

	Saturated Model	Estimated Model
NFI	0.632	0.632

Table 4 shows that SRMR values close to the 0.10 threshold indicate that the model has a fairly good fit for behavior-based predictive models. Relatively low d_ULS and d_G values indicate a reasonable distance between the estimated and saturated models. The NFI of 0.632 indicates moderate model compatibility, although it could be improved through model refinement in future studies. Overall, the model is considered feasible for hypothesis testing.

4.1.5 Structural Model

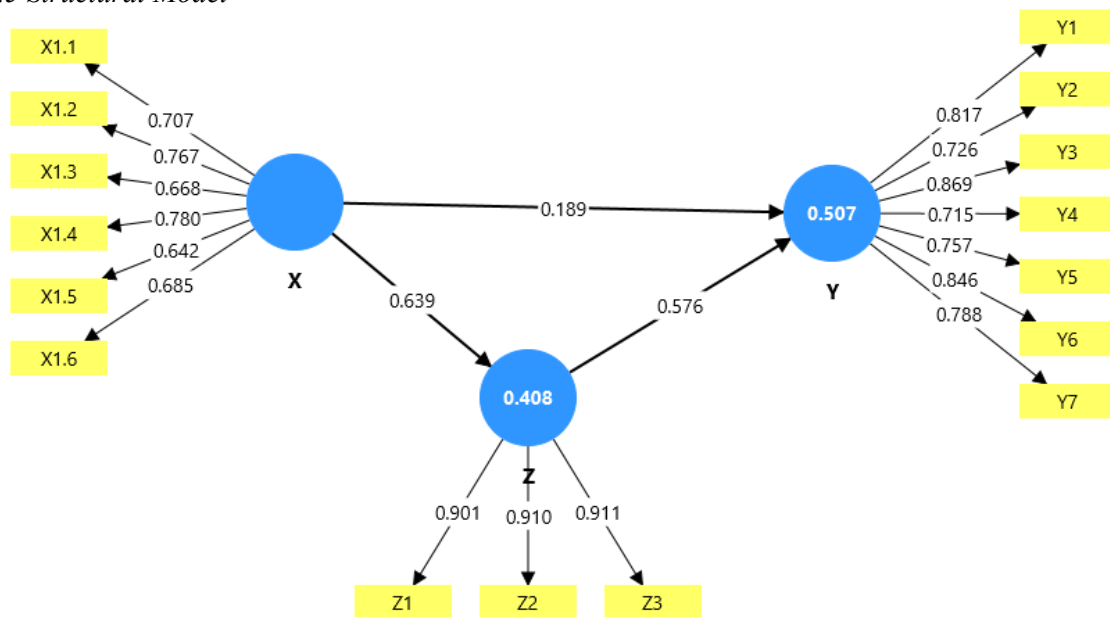


Figure 2. Structural model

Figure 2 illustrates the structural model assessment using Partial Least Squares Structural Equation Modeling (PLS-SEM), showing the relationships among the latent constructs *X*, *Z*, and *Y*. The measurement model indicates that all indicators have acceptable outer loading values, ranging from 0.642 to 0.780 for construct *X*, 0.901 to 0.911 for construct *Z*, and 0.715 to 0.869 for construct *Y*. These values indicate that the indicators adequately represent the constructs. The structural model demonstrated that construct *X* had a positive effect on *Z* with a path coefficient of 0.639, indicating that an increase in *X* contributed to higher *Z*. Furthermore, construct *Z* positively influenced *Y* with a path coefficient of 0.576, suggesting that *Z* played an important role in improving *Y*. The direct relationship between *X* and *Y* shows a positive path coefficient of 0.189, indicating that *X* also contributes directly to *Y*, although with a weaker effect than the indirect pathway through *Z*.

The coefficient of determination (R^2) values show that construct *Z* is explained by *X* with an R^2 value of 0.408, meaning that *X* accounts for 40.8% of the variance in *Z*, while the remaining variance is explained by factors outside the model. Additionally, construct *Y* obtained an R^2 value of 0.507, indicating that *X* and *Z* together explain 50.7% of the variance in *Y*, which reflects the moderate explanatory power of the proposed model. Overall, the structural model suggests that *Z* functions as an important mechanism for strengthening the relationship between *X* and *Y*, as the indirect pathway through *Z* ($X \rightarrow Z \rightarrow Y$) demonstrates a stronger influence than the direct relationship between *X* and *Y*. The findings support the proposed conceptual framework and confirm the relevance of examining both direct and mediated effects among the constructs studied.

Table 5. Path coefficients of the structural model

	Path Coefficients
$X \rightarrow Y$	0.189

	Path Coefficients
$X \rightarrow Z$	0.639
$Z \rightarrow Y$	0.576

Table 5 presents the path coefficient results of the structural model estimated using Partial Least Squares Structural Equation Modeling (PLS-SEM). The path coefficients indicate the strength and direction of the relationships between the latent constructs in the proposed model. The results show that X has a positive effect on Y , with a path coefficient of 0.189, indicating that an increase in X is associated with an increase in Y , although the direct influence is relatively weak compared to other relationships in the model. Furthermore, X has a positive and stronger effect on Z , with a path coefficient of 0.639, suggesting that X plays an important role in explaining changes in Z . Meanwhile, Z positively influences Y , with a path coefficient of 0.576, indicating that Z contributes substantially to improving Y . Overall, the structural model demonstrates that X influences Y both directly and indirectly through Z . The stronger coefficient of the relationship between X and Z , followed by Z and Y , indicates that Z has an important mediating role in strengthening the relationship between X and Y . These findings support the proposed model by highlighting the importance of considering the indirect pathway in explaining the effect of X on Y .

4.2 Discussion

4.2.1 The Influence of Financial Literacy (X) on Investment Decisions (Y)

The findings of this study show that financial literacy has a significant effect on students' investment decisions, but with relatively weak strength ($\beta = 0.189$). These results indicate that, although financial literacy serves as a cognitive foundation for financial decision-making, it is not sufficient to fully explain investment behavior. This is in line with the findings of [Eshpulatov, Berdiev, and Artemenkov \(2025\)](#), which show that among students, financial literacy is not always the primary determinant of investment intentions and behaviors; in fact, behavioral factors such as risk tolerance, overconfidence, and herding behavior are more influential in predicting investment decisions. The findings imply that financial knowledge is necessary but insufficient without psychological and affective readiness to deal with market risks ([Monali, Yuliansyah, & Tubarad, 2026](#)).

The misalignment between literacy and investment action is also affirmed by [Harshini, Desai, and Chaitra \(2025\)](#), who found that increased investment literacy improved financial understanding but did not automatically increase risk-taking courage or a preference for risky instruments. In other words, individuals who are "investment literate" may not necessarily become more active investors if their risk tolerance is low. This reinforces the interpretation that literacy works more as an information processing mechanism, while psychological factors heavily influence actual decisions ([Batra, & Kumar, 2018](#); [Damayanti, & Rafik, 2025](#); [Nabila, Hizazi, & Kusumastuti, 2025](#)).

In addition, [Nabeshima, Saidur, and Khan \(2025\)](#) remind us that when combined with overconfidence, literacy can lead to suboptimal decisions: individuals feel they "know more" but have a lower tolerance for losses and tend to sell assets too quickly during a market downturn. This phenomenon explains why high literacy does not always lead to more rational investment decisions, because literacy can be mediated (or even distorted) by behavioral biases ([Hakim, & Nareswari, 2021](#); [Khalid, & Riaz, 2026](#); [Suresh, 2023](#)).

4.2.2 The Effect of Financial Literacy (X) on Risk Tolerance (Z)

A strong path coefficient between financial literacy and risk tolerance ($\beta = 0.639$; $R^2 = 0.408$) indicates that improved financial understanding significantly enhances students' psychological readiness to handle investment uncertainty. These results are consistent with the literature that places literacy as a prerequisite for the formation of more informed risk attitudes. [Harshini et al. \(2025\)](#) affirm that individuals with better investment literacy tend to understand the risk–return relationship and diversification mechanisms; therefore, they are more comfortable accepting market volatility.

These findings are also in line with [Indrawati et al. \(2025\)](#), who suggest that financial literacy increases risk tolerance by improving how individuals process risk information and assess financial

consequences more rationally. Within their framework, risk tolerance serves as a psychological mechanism that bridges financial knowledge and economic decision-making. [Anindya and Hasnawati \(2024\)](#) stated that financial literacy and risk tolerance have a positive relationship with students' investment decisions. With a high understanding of investment instruments, students are more capable and confident in making investment decisions. In addition, [Afriani et al. \(2023\)](#) state that financial literacy significantly influences behavior and risk tolerance in shaping investment decisions.

Nevertheless, an R^2 of 0.408 indicates that more than half of the variation in risk tolerance is explained by factors other than financial literacy, such as investment experience, personality (e.g., conscientiousness or neuroticism), and subjective risk perception. These findings are in line with [Coats and Bajtelsmit \(2024\)](#), who suggest that risk tolerance is influenced by time preference, financial efficacy, health, and psychological characteristics other than literacy. This means that literacy plays an important role but is not the only determinant of risk tolerance ([Bayar et al., 2020](#); [Song et al., 2023](#); [Thakkar et al., 2025](#)).

Theoretically, these findings support the Behavioral Finance Theory perspective that financial understanding shapes the way individuals interpret risk, but affective and dispositional factors still influence responses to risk ([Akbar et al., 2025](#); [Stefani & Rahman, 2023](#)). In addition, the results of this study reflect that a person's financial decisions are influenced not only by knowledge but also by other important factors, forming the basis for psychological responses to the uncertainty of market conditions. Students with good financial literacy can distinguish between manageable risks and immeasurable risks beyond their control, which will give them the psychological strength to tend not to panic when the market fluctuates, so that they are prepared to face investment dynamics ([Fadila et al., 2022](#); [Permatasari et al., 2025](#)).

4.2.3 The Effect of Risk Tolerance (Z) on Investment Decisions (Y)

Risk tolerance has a substantive influence on investment decisions ($\beta = 0.576$), confirming its role as a key determinant of student investment behavior. Individuals with a high risk tolerance are more likely to choose risky instruments, survive market fluctuations and make long-term investments. These findings are consistent with [Harshini et al. \(2025\)](#), who showed that individuals with higher risk tolerance are 1.9 times more likely to invest in risky assets than individuals with low risk tolerance.

Other studies have also shown that students consider risk tolerance to be more dominant in deciding to invest compared to other factors ([Anindya & Hasnawati, 2024](#); [Muhammad et al., 2025](#)). Young investors, in this case, are represented by students with a high-risk tolerance who tend to be interested in investments that offer high returns, such as stocks. On the other hand, students with low risk tolerance will choose conservative instruments such as savings and deposits ([Anggraini, 2024](#)). These results are also in line with [Eshpulatov et al. \(2025\)](#), who found that risk tolerance is a stronger predictor of student investment intention and participation than financial or digital literacy. They found that even students with high literacy remained reluctant to invest when their risk tolerance was low. In contrast, students with high-risk tolerance remained invested even when their literacy was moderate.

In contrast, [Nabeshima et al. \(2025\)](#) added an important nuance: risk tolerance is not only about the courage to take risks but also the ability to tolerate losses. Overconfident individuals tend to appear "risk-taking," but actually have a low loss tolerance and tend to sell assets too quickly when the market is down ([Efendi & Fitriyah, 2026](#); [Nabeshima et al., 2025](#)). This indicates that the quality of risk tolerance is not just the level that needs to be considered in investment education. Thus, this study reinforces the argument that risk tolerance is a key psychological mechanism linking individual characteristics to actual investment behavior.

Empirically, this study shows that risk tolerance is interpreted not only as a high level of courage in taking risks but also as the level of confidence that students possess when facing fluctuating market conditions. Psychologically, students or investors with a high risk tolerance tend to be calm and not panic when market conditions fluctuate, and they are more confident in defending their long-term

investment decisions ([Sudirman et al., 2023](#)). However, students with low risk tolerance easily panic amid fluctuating market conditions and make hasty, emotional decisions.

4.2.4 The Effect of Financial Literacy (X) on Investment Decisions (Y) through Risk Tolerance (Z)

The results show that risk tolerance partially mediates the relationship between financial literacy and investors' decisions. This means that literacy influences investment decisions directly and indirectly by increasing students' risk tolerance. These findings are in line with [Indrawati et al. \(2025\)](#), who found that financial literacy affects financing decisions primarily through risk tolerance and risk perception rather than solely through direct effects. Based on this value, the variable of financial literacy on investment decisions through risk tolerance has a strong influence; therefore, in this study, risk tolerance, as a mediating variable, is an important factor in the relationship between financial literacy and investment decisions. Substantively, financial literacy in investment decisions is more effective when risk tolerance is directly considered.

The findings of this study can be explained by risk tolerance serving as a psychological transmission mechanism that mediates the influence of financial knowledge on investment decision-making. In the context of behavioral finance, students who understand finance and the concepts of risk and return will have a more realistic understanding and calculation of risk ([Ademola, 2019](#); [Fahlevi & Susilowati, 2025](#); [Yan, 2025](#)). Knowledge of this gives students the perspective that risk is not a big threat but a process and a small challenge in an investment that can be managed and minimized. Therefore, increasing financial literacy indirectly prepares individuals to make better investment decisions by increasing their risk tolerance.

The results of this study strengthen the view that investment decision-making is also shaped by students' psychological readiness to face uncertainty and market fluctuations. Students with strong financial knowledge tend to be better at analyzing investment opportunities and potential, which increases their confidence in investment decision-making. On the other hand, students with limited financial knowledge tend to have an excessive understanding of risk (risk aversion); therefore, they are more hesitant and afraid to make investments.

Theoretically, these findings support the integration of the expected utility and prospect theories. Financial literacy improves the rational ability to assess risk–return (EUT logic), but actual decisions are still shaped by attitudes towards loss and uncertainty (Prospect Theory logic). Risk tolerance serves as a bridge between cognitive rationality and psychological responses to risk([Chung et al., 2019](#)).

5. Conclusions

5.1 Conclusion

This study demonstrates that financial literacy positively influences students' investment decisions; however, its direct effect is relatively modest. In contrast, financial literacy exerts a substantial positive influence on risk tolerance, while risk tolerance has a stronger effect on investment decisions. These findings indicate that financial knowledge alone is insufficient to encourage students to make rational investment decisions unless accompanied by psychological readiness to manage investment risk. Furthermore, the significant mediating role of risk tolerance confirms that financial literacy primarily influences investment decisions indirectly by shaping individuals' willingness to accept investment uncertainty.

Theoretically, this study advances the behavioral finance literature by providing empirical evidence that risk tolerance functions as a psychological mechanism linking financial literacy and investment decisions among university students. Unlike previous studies that predominantly examined risk tolerance as an independent predictor or moderating variable, this study demonstrates its mediating role in explaining how financial knowledge translates into actual investment behavior. These findings contribute to a more comprehensive understanding of investment decision-making by integrating cognitive capability and psychological readiness within a single explanatory framework, thereby extending the existing explanations of the financial behavior of young investors.

From a practical perspective, the findings suggest that higher education institutions should move beyond conventional financial literacy instruction by incorporating behavioral finance and investment risk management into the curriculum. Universities should integrate investment simulations, portfolio management projects, market case analyses, and risk profiling exercises into financial education programs to strengthen students' ability to make informed investment decisions under uncertainty. Moreover, collaboration between universities, campus investment galleries, financial institutions, and relevant financial authorities can facilitate experiential learning opportunities that simultaneously enhance financial literacy and appropriate risk tolerance among young investors.

Despite these contributions, this study has some limitations. The sample was limited to university students in the Kediri region, which may restrict the generalizability of the findings to other populations and settings. In addition, the cross-sectional research design does not capture the changes in investment behavior over time. Future research should therefore involve more diverse respondent groups, extend geographical coverage, and employ longitudinal designs to provide a deeper understanding of the dynamic relationship between financial literacy, risk tolerance, and investment decisions.

5.2 Research Limitations

The limitation of this study is the limited age of the students who were sampled; therefore, for generalizations, it is still necessary to test again.

5.3 Suggestions and Directions for Future Research

Future research should include additional variables, such as risk perception, investment experience, and behavioral biases, to improve the model's predictive power. In addition, a longitudinal design can provide a deeper understanding of the dynamics of changing risk tolerance and students' investment decisions over time.

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Author Contributions

DASF contributed to the conceptualization, methodology, formal analysis, writing of the original draft, correspondence, and final approval of the manuscript. The IDP contributed to the investigation, data curation, validation, and writing–review and editing of the manuscript. DK contributed to the methodology, validation, writing–review and editing, and final approval of the manuscript. All authors have read and approved the final manuscript and have agreed to be held accountable for the content of this work.

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