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The Influence of Overconfidence, Herding Behavior, Risk Tolerance, and Risk Perception on Investment Decisions in Forex Trading with Financial Literacy as a Moderating Variable

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Abstract

The rapid development of digital technology and the increasing accessibility of trading platforms have increased public interest in forex trading. However, because forex trading involves substantial risk, investment decisions may be influenced by psychological factors, social influences, and individual risk assessments. Less experienced investors may be particularly vulnerable to losses because of limited risk awareness and behavioral biases. Therefore, identifying the factors that influence investment decisions is essential. This study examines the effects of overconfidence, herding behavior, risk tolerance, and risk perception on investment decisions in forex trading, with financial literacy as a moderating variable. This quantitative study was conducted among members of the Baby Gold forex trading community in Banjarmasin. A total of 69 active members were included using a total sampling technique. Data were collected through questionnaires and analyzed using Structural Equation Modeling-Partial Least Squares (SEM-PLS). The results indicate that overconfidence, herding behavior, risk tolerance, and risk perception have positive and significant effects on investment decisions. Financial literacy does not significantly moderate the relationship between overconfidence and investment decisions or the relationship between herding behavior and investment decisions. However, financial literacy significantly strengthens the effects of risk tolerance and risk perception on investment decisions. Investment decisions in forex trading are significantly influenced by behavioral and risk-related factors. Financial literacy plays an important role in strengthening investors' ability to incorporate their risk tolerance and risk perception into more informed, careful, and measured investment decisions.

KEYWORDS

financial literacy; overconfidence; herding behavior; risk tolerance; risk perception; investment decisions.

Introduction

Foreign Exchange (FOREX) trading is the activity of buying and selling foreign currencies with the aim of profiting from changes in exchange rates. Forex is known as the largest and most liquid financial market in the world, operating 24 hours a day, with daily transaction volumes reaching trillions of dollars. As an investment instrument, forex offers high profit potential, but also carries significant risks due to rapid and unpredictable exchange rate fluctuations. Under these conditions, investors are required to make informed investment decisions, although these decisions are often influenced by psychological and behavioral factors, such as overconfidence, herding behavior, risk tolerance, and risk perception. Therefore, understanding the factors that influence investor decision-making in forex trading is crucial. (Hudson, 2026)

Conventional financial theory assumes that investors behave rationally by evaluating risk and return before making investment decisions. However, in practice, investors often interpret and respond to the same market information differently due to variations in experience, knowledge, emotions, and cognitive processes. As a result, investment decisions are not always based solely on rational analysis but are frequently influenced by psychological biases and behavioral factors. This discrepancy between theoretical assumptions and actual investor behavior has led to the development of behavioral finance, which emphasizes the role of psychological influences in financial decision-making (Krämer, 2014).

The Baby Gold FOREX trading community in Banjarmasin provides an appropriate context for examining investor behavior in high-risk financial markets. Preliminary community data indicate that most members have less than one year of trading experience and started trading with relatively small amounts of capital. Despite their limited experience, many traders reported substantial financial losses, with some exceeding IDR 15 million. This situation suggests a mismatch between traders' preparedness and the complexity of the FOREX market. Furthermore, the dominance of young traders within the community highlights the importance of understanding how behavioral and risk-related factors influence investment decision-making (Pandurugan & Al Shammakhi, 2024).

Previous studies have shown that investment decisions are influenced by both rational and behavioral factors. Financial literacy helps investors understand financial information and make more informed decisions, whereas overconfidence may lead investors to overestimate their knowledge and underestimate potential risks (Rakhmatulloh & Haryono, 2019). Herding behavior reflects the tendency of investors to follow the actions of others when making investment decisions, particularly under conditions of uncertainty. In addition, risk tolerance determines the level of risk an investor is willing to accept, while risk perception reflects how investors evaluate and interpret potential investment risks. Collectively, these factors play an important role in shaping investment decision-making behavior (Mutawally & Haryono, 2019).

Despite the growing body of literature on behavioral finance and investment decision-making, several research gaps remain. First, an empirical gap exists because previous studies have reported inconsistent findings regarding the effects of overconfidence, herding behavior, risk tolerance, and risk perception on investment decisions. Some studies found these variables to have significant effects, while others reported insignificant or contradictory results, indicating the need for further empirical verification (Mutawally & Haryono, 2019); (Putra et al., 2016).

Second, a theoretical gap remains concerning the role of financial literacy in behavioral finance models. Although financial literacy is widely recognized as an important factor in improving investment decision quality, prior studies have produced mixed evidence regarding its ability to moderate the influence of behavioral biases and risk-related factors on investment decisions (Novianggie & Asandimitra, 2019). Consequently, the interaction between financial literacy and behavioral variables remains insufficiently explained, particularly in high-risk investment environments.

Third, a contextual gap exists because most previous studies have focused on stock market investors, students, or general retail investors, whereas limited attention has been given to FOREX traders. The FOREX market differs substantially from the stock market due to its higher volatility, leverage, and speculative characteristics, which may amplify behavioral biases and alter decision-making processes. Furthermore, empirical evidence from Indonesian FOREX

trading communities remains scarce.

Therefore, this study examines the effects of overconfidence, herding behavior, risk tolerance, and risk perception on investment decisions among members of the Baby Gold FOREX trading community in Banjarmasin, while also investigating the moderating role of financial literacy. By focusing on a high-risk FOREX trading environment, this study extends the behavioral finance literature by providing insights into how behavioral biases, risk-related factors, and financial literacy influence investment decision-making. The findings offer theoretical contributions to behavioral finance research, practical implications for investors in improving decision quality and risk management, and policy implications for regulators and financial education providers in strengthening investor protection and financial literacy programs.

Literature Review

Behavioral Finance Theory

According to behavioral finance theory, psychological factors, including feelings, prejudices, and personal perceptions, influence financial decisions in addition to rationality. (Budiman et al., 2025; Cantarella et al., 2023). This strategy is based on Prospect Theory (Kahneman & Tversky, 1979), which explains why people often behave irrationally in risky and uncertain situations. In reality, investors often exhibit various biases, such as overconfidence and herd mentality (Riza et al., 2024; Zima et al., 2025). Furthermore, a person's perception and tolerance for risk influence their investment choices. Financial literacy is also important because it can reduce financial behavioral errors and help people make better investment decisions.

Theory of Reasoned Action (TRA)

According to Fishbein and Ajzen's Theory of Reasoned Action, intentions derived from attitudes and subjective norms determine individual behavior. Subjective norms are associated with social influences or environmental pressures, while attitudes stem from an individual's perceptions of the consequences of an action (Vanessa & Sudarto, 2023). Attitudes and subjective standards combine to produce intentions, which then influence an individual's actual behavior, particularly when it comes to financial decision-making (Tesic et al., 2022). According to this theory, investment decisions are influenced by both social variables and rational considerations.

Financial Markets

Financial markets can be viewed as a system that, through the intermediary function of financial institutions, connects those with excess money with those who need it (Vayanos & Woolley, 2023). There are three types of market efficiency: weak, semi-strong, and strong (Moews, 2024). Market efficiency is achieved when prices reflect all available information (Brilhante, 2025; Polyzos et al., 2024). Investors are less likely to consistently generate anomalous returns in efficient markets because all relevant information is already included in current prices.

Foreign Exchange (Forex) Market & Forex

Driven by the need for international transactions, the foreign exchange market facilitates the exchange of currencies between countries. (Murad, 2022). This includes FOREX activity, which occurs around the clock and is characterized by high trading volume. (Wen & Wang, 2020). Many factors, including monetary policy, economic conditions, geopolitical dynamics, and the mood of market participants, impact exchange rate movements. (Wei et al., 2021; Yeboah et al., 2025). Consequently, this market is known for its considerable risk and extreme volatility.

Investing

Investing is the process of allocating money with the expectation of future returns, which results in a reduction in current consumption levels. (Javier et al., 2024). Investments are typically divided into three groups based on their risk level and potential return: low risk with low returns, medium risk with medium returns, and high risk with high returns (Grable et al., 2024). In reality, the risk and potential return of each investment product vary. (Mukhdoomi & Shah, 2024). Consequently, each investor's financial goals and risk tolerance level must be considered when selecting an investment type. (Siregar & Romula, 2024)

Investment Decisions

The process of allocating money to various asset classes with the goal of achieving long-term returns is known as investment decision-making (Martinez et al., 2024). This procedure considers several factors, including risk assessment, implementation of diversification strategies, and the investor's desired financial goals. Furthermore, the investor's available information and psychological factors also play a role in making the best investment choices. (Lu et al., 2025)

Methods

Types of research

This study employed a quantitative research design using a cross-sectional survey approach to examine the factors influencing investment decision-making among FOREX traders. The research was grounded in Behavioral Finance Theory and the Theory of Reasoned Action (TRA), which suggest that investment decisions are influenced not only by rational considerations but also by psychological, social, and risk-related factors.

The study investigated the effects of overconfidence (X1), herding behavior (X2), risk tolerance (X3), and risk perception (X4) on investment decision-making (Y). In addition, financial literacy (Z) was incorporated as a moderating variable to examine whether it strengthens or weakens the relationships between the independent variables and investment decisions.

Based on the research framework, eight hypotheses were formulated. Four hypotheses examined the direct effects of overconfidence, herding behavior, risk tolerance, and risk perception on investment decisions (H1–H4), while four hypotheses examined the moderating role of financial literacy in these relationships (H5–H8).

Data were collected through a structured questionnaire distributed to members of the Baby Gold FOREX trading community in Banjarmasin. The responses were analyzed using the Structural Equation Modeling–Partial Least Squares (SEM-PLS) approach.

SEM-PLS was selected for several reasons. First, the study aimed to simultaneously assess multiple direct and moderating relationships among latent constructs. Second, SEM-PLS is appropriate for exploratory and predictive research models that involve complex relationships between variables. Third, this technique performs well with relatively small sample sizes and does not require strict assumptions regarding data normality. Therefore, SEM-PLS was considered suitable for analyzing the proposed research model involving 69 respondents and a moderating variable.

Population and Sample

The use of total sampling was considered appropriate because the population consisted of only 69 active FOREX traders. However, the findings should be interpreted with caution because the sample was drawn from a single trading

community, which may limit the generalizability of the results to other investor populations.

Research Location

This study was conducted among members of the Baby Gold FOREX trading community in Banjarmasin, Indonesia. The respondents consisted of active FOREX traders who regularly participated in trading activities through the community. Baby Gold was selected as the research setting because it represents a growing community of retail FOREX traders with varying levels of trading experience and financial knowledge. Data collection was carried out among registered active members during the 2025 research period.

Instrument Study

This study employed a structured questionnaire adapted from previous studies in behavioral finance and investment decision-making. The instrument measured six constructs: overconfidence (5 items), herding behavior (3 items), risk tolerance (4 items), risk perception (6 items), financial literacy (8 items), and investment decision-making (3 items). The indicators were adapted from Pradhana (2018), Mutawally & Haryono (2019), Putra et al. (2016), Ayu Wulandari & Iramani (2014), Chen & Volpe (1998), Putri & Hamidi (2019), and Budiarto (2017). Minor wording adjustments were made to ensure that the items were relevant to the context of FOREX trading without changing the conceptual meaning of the original indicators.

The questionnaire included statements measuring confidence in personal trading ability, the tendency to follow other investors' decisions, willingness to accept investment risks, perceptions of FOREX trading risks, understanding of financial concepts, and the evaluation of information before making investment decisions. All items were measured using a four-point Likert scale ranging from 1, representing strongly disagree, to 4, representing strongly agree.

Before the main data collection, the questionnaire was reviewed and approved by the research supervisor to assess the relevance, clarity, and suitability of the items for the research objectives. A pilot distribution was subsequently conducted among respondents with characteristics similar to those of the target population. Feedback obtained from the pilot distribution was used to improve the wording and clarity of several statements before the questionnaire was administered in the main survey.

The validity and reliability of the instrument were evaluated using the SEM-PLS measurement model. Indicator reliability was assessed through outer loadings, convergent validity through Average Variance Extracted (AVE), and internal consistency reliability through Cronbach's alpha and composite reliability. Discriminant validity was evaluated using the Fornell–Larcker criterion and the Heterotrait–Monotrait ratio (HTMT). The recommended thresholds were outer loadings above 0.70, AVE above 0.50, Cronbach's alpha above 0.70, and composite reliability above 0.70.

Procedure Data collection

Data were collected in January 2026 through an online questionnaire distributed to members of the Baby Gold FOREX trading community. Prior to data collection, permission to conduct the study and distribute the questionnaire within the community was obtained from the community administrator. To facilitate communication with potential respondents and ensure that the survey reached active community members, the researcher was granted temporary access to the community during the data collection period.

Before completing the questionnaire, all respondents received information regarding the purpose of the study, the voluntary nature of participation, the confidentiality of their responses, and their right to withdraw from the study at any

time without consequence. Only respondents who provided informed consent were allowed to participate. No personally identifiable or sensitive information was collected, and all responses were analyzed anonymously for academic research purposes.

Because this study involved a voluntary anonymous questionnaire with minimal risk and did not involve clinical procedures, medical interventions, or vulnerable populations, formal institutional ethical approval was not required under the applicable institutional research procedures. Nevertheless, permission to conduct the study was obtained from the community administrator, and the research adhered to the principles of voluntary participation, informed consent, confidentiality, and anonymity throughout the study.

Data analysis

Data were analyzed using Structural Equation Modeling–Partial Least Squares (SEM-PLS) with SmartPLS 3.0. The analysis was conducted in two stages: evaluation of the measurement model (outer model) and evaluation of the structural model (inner model). The measurement model was assessed through convergent validity using outer loading values (>0.70) and Average Variance Extracted (AVE >0.50), reliability using Cronbach's Alpha and Composite Reliability (CR >0.70), and discriminant validity using the Fornell–Larcker criterion and cross-loadings. After confirming the adequacy of the measurement model, the structural model was evaluated using the coefficient of determination (R^2) to assess explanatory power and effect size (f^2) to determine the contribution of each exogenous variable. Hypothesis testing and moderation analysis were subsequently conducted using the bootstrapping procedure with a significance level of 5%. A hypothesis was considered supported when the t-statistic exceeded 1.96 and the p-value was below 0.05.

Result and Discussion

The measurement model was evaluated through convergent validity, reliability, and discriminant validity tests. Convergent validity was assessed using the Average Variance Extracted (AVE), with a recommended threshold value greater than 0.50. As presented in Table 1, all constructs exceeded the recommended threshold, including Financial Literacy (0.852), Herding Behavior (0.814), Investment Decisions (0.880), Overconfidence (0.828), Risk Perception (0.846), and Risk Tolerance (0.845), indicating satisfactory convergent validity.

Construct reliability was subsequently assessed using Cronbach's Alpha and Composite Reliability. As shown in

Table 2, all constructs achieved Cronbach's Alpha and Composite Reliability values above the recommended threshold of 0.70, confirming adequate internal consistency and reliability.

Discriminant validity was evaluated using the Fornell–Larcker criterion and the Heterotrait–Monotrait ratio (HTMT). The square root of the AVE for each construct was greater than its correlations with the other constructs, indicating that each construct shared more variance with its own indicators than with other latent variables. Furthermore, the HTMT values were all below the recommended threshold of 0.85, confirming satisfactory discriminant validity among the constructs (Table 3).

Overall, the results of the convergent validity, reliability, and discriminant validity assessments demonstrate that the measurement model satisfies the recommended criteria and is therefore appropriate for subsequent structural model analysis.

The explanatory power of the structural model was evaluated using the coefficient of determination (R^2). As presented in Table 4, the R^2 value for Investment Decision was 0.695, indicating that 69.5% of the variance in investment decision-making could be explained by overconfidence, herding behavior, risk tolerance, risk perception, financial literacy, and the interaction effects included in the model. According to Hair et al. (2022), this value indicates a moderate-to-substantial level of explanatory power, suggesting that the proposed model adequately explains investment decision-making among FOREX traders.

Hypothesis Testing

Direct Effects

H1: The Effect of Overconfidence on Investment Decisions

The bootstrapping results showed that overconfidence had a positive and significant effect on investment decisions ($\beta = 0.233$, $t = 2.647$, $p = 0.008$) (see Table 5). This finding indicates that investors with higher levels of confidence in their knowledge, skills, and judgment are more likely to make investment decisions in FOREX trading. Overconfident investors tend to believe that they can accurately predict market movements

Table 1. Validity Convergent Result

Financial Literacy (M)	0.852
Herding (X2)	0.814
Keputusan Investasi (Y)	0.880
Overconfidence (X1)	0.828
Risk Perception (X4)	0.846
Risk Tolerance (X3)	0.845

Table 2. Fornell-Larcker Criterion

Construct	FL	HB	ID	OC	RP	RT
Financial Literacy	0.852					
Herding	0.143	0.814				
Investment Decision	0.337	0.349	0.880			
Overconfidence	0.009	0.079	0.317	0.828		
Risk Perception	-0.036	-0.124	0.408	-0.062	0.846	
Risk Tolerance	0.112	0.105	0.326	0.254	-0.130	0.845

Table 3. Heterotrait-Monotrait Ratio (HTMT)

Construct	FL	HB	ID	OC	RP	RT
Financial Literacy	-					
Herding	0.162	-				
Investment Decision	0.346	0.364	-			
Overconfidence	0.073	0.163	0.353	-		
Risk Perception	0.138	0.202	0.442	0.142	-	
Risk Tolerance	0.112	0.158	0.303	0.248	0.181	-

and achieve favorable investment outcomes. Therefore, H1 was supported.

H2: The Effect of Herding Behavior on Investment Decisions

The results revealed that herding behavior had a positive and significant effect on investment decisions ($\beta = 0.250$, $t = 2.533$, $p = 0.012$). This suggests that investors are influenced by the actions and decisions of other traders when making investment choices. In the FOREX market, investors may follow market trends or imitate the behavior of other investors to reduce uncertainty and gain confidence in their decisions. Therefore, H2 was supported.

H3: The Effect of Risk Tolerance on Investment Decisions

Risk tolerance was found to have a positive and significant effect on investment decisions ($\beta = 0.347$, $t = 3.209$, $p = 0.001$). This result implies that investors with a higher willingness to accept risk are more likely to engage in investment activities and pursue opportunities with potentially higher returns. Investors who are comfortable with uncertainty tend to make more active investment decisions in the FOREX market. Therefore, H3 was supported.

H4: The Effect of Risk Perception on Investment Decisions

The analysis showed that risk perception had the strongest positive and significant effect on investment decisions ($\beta = 0.459$, $t = 4.926$, $p < 0.001$). This finding indicates that investors' assessment and understanding of potential risks play a crucial role in shaping their investment behavior. Investors who are able to evaluate risks effectively are more likely to make informed investment decisions. Therefore, H4 was supported.

Moderating Effects

H5: Financial Literacy Moderates the Relationship between Overconfidence and Investment Decisions

The results indicate that financial literacy did not significantly moderate the relationship between overconfidence and investment decisions ($\beta = 0.488$, $t = 1.473$, $p = 0.141$). Although the interaction coefficient was positive, the effect was not statistically significant. This finding

suggests that financial literacy was not sufficient to strengthen or weaken the influence of overconfidence on investment decisions among FOREX investors. Therefore, H5 was not supported.

H6: Financial Literacy Moderates the Relationship between Herding Behavior and Investment Decisions

The moderating effect of financial literacy on the relationship between herding behavior and investment decisions was also found to be insignificant ($\beta = -0.043$, $t = 0.240$, $p = 0.810$). The negative coefficient indicates a weakening tendency; however, the effect was not statistically significant. This result implies that investors' financial literacy levels did not alter the influence of herding behavior on their investment decisions. Social influences and the tendency to follow other investors remained dominant regardless of financial literacy. Therefore, H6 was not supported.

H7: Financial Literacy Moderates the Relationship between Risk Tolerance and Investment Decisions

The analysis revealed that financial literacy significantly moderated the relationship between risk tolerance and investment decisions ($\beta = 0.289$, $t = 2.329$, $p = 0.020$). The positive and significant interaction effect indicates that higher levels of financial literacy strengthened the influence of risk tolerance on investment decisions. Investors with greater financial knowledge were better able to utilize their willingness to take risks when making investment decisions. Therefore, H7 was supported.

H8: Financial Literacy Moderates the Relationship between Risk Perception and Investment Decisions

The results further showed that financial literacy significantly moderated the relationship between risk

Table 4. R-Square Value

	R Square	R Square Adjusted
Investment decision	0.695	0.649

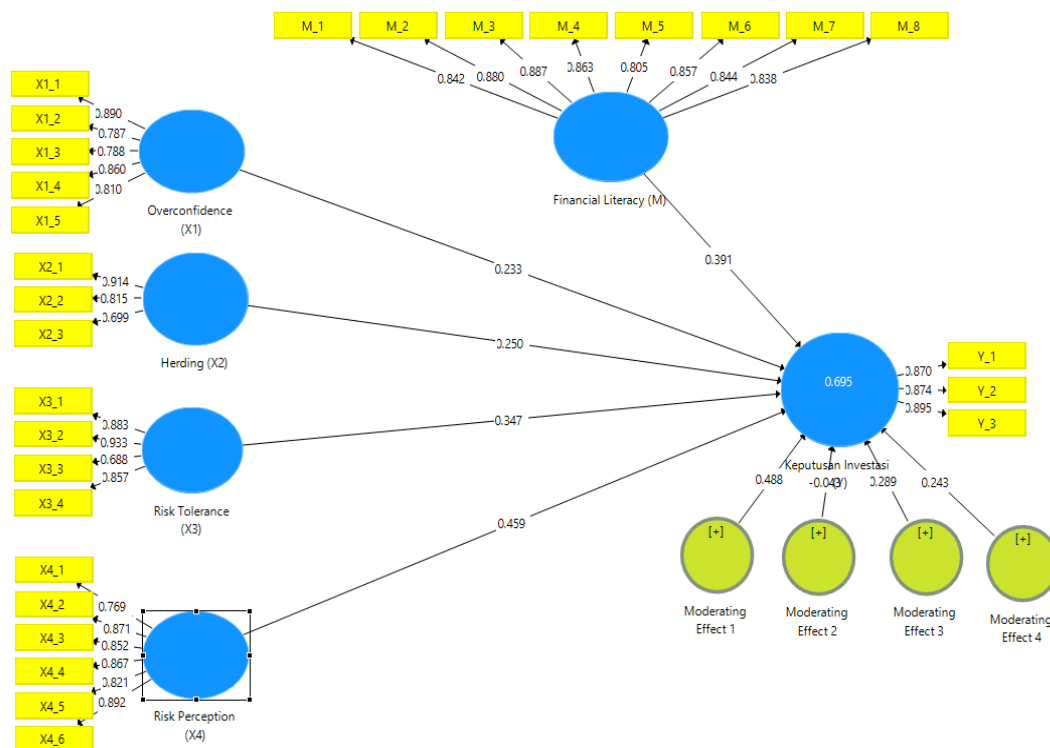


Figure 1. Structural Model (Inner Model)

Source: SEM PLS, 2026

perception and investment decisions ($\beta = 0.243$, $t = 2.688$, $p = 0.007$). The positive interaction coefficient suggests that financial literacy enhanced the effect of risk perception on investment decisions. Investors with higher financial literacy were more capable of assessing and interpreting investment risks, enabling them to make more informed decisions. Therefore, H8 was supported (see Table 6).

Interpretation Key Findings

The findings indicate that overconfidence, herding behavior, risk tolerance, and risk perception significantly influence investment decisions in FOREX trading. These results suggest that investment decisions are not determined solely by rational financial considerations but are also shaped by psychological and behavioral factors. Investors with higher levels of overconfidence tend to rely more heavily on their own judgment and trading abilities, which may encourage them to make investment decisions more confidently. However, excessive confidence can also lead investors to underestimate potential risks and overestimate their ability to predict market movements. This finding is consistent with Rakhmatulloh & Haryono (2019) and Ayu Wulandari & Iramani (2014), who reported that overconfident investors are more likely to rely on their personal judgments while underestimating the level of investment risk.

The significant effect of herding behavior suggests that social environments and the behavior of other investors play an important role in shaping investment decisions. This finding is consistent with the studies of (Mutawally & Haryono, 2019), Setiawan (2018), and Chen & Volpe (1998), which reported that investors often rely on the behavior and judgments of other market participants when making decisions under conditions of uncertainty. Such behavior reflects investors' tendency to seek confirmation from others, particularly in highly volatile markets such as FOREX trading.

The results also indicate that risk tolerance significantly influences investment decisions. Investors with higher levels of risk tolerance are generally more willing to accept uncertainty and engage in higher-risk investment opportunities. This finding is consistent with Putra et al. (2016) and Ayu Wulandari & Iramani (2014), who reported that risk tolerance plays an important role in determining investors' willingness to undertake riskier investment decisions.

Similarly, risk perception was found to have a significant positive effect on investment decisions. This finding supports the studies of Pradikasari & Isbanah (2018) and Salisa (2021), which suggested that investors' perceptions of investment risk influence how they evaluate potential gains and losses before making investment decisions. Because risk perception is shaped by individuals' experiences and subjective evaluations, investors may respond differently to similar investment opportunities.

In addition, the findings indicate that financial literacy strengthened the effects of risk tolerance and risk perception on investment decisions rather than moderating the

relationships between overconfidence, herding behavior, and investment decisions. This finding is consistent with the studies of by Yanti & Endri (2024), Salim & Pamungkas (2025), and Hidayah (2023), which reported that financial literacy primarily enhances investors' ability to understand and evaluate investment risks rather than reducing behavioral biases. However, these findings differ from those of Prasetyo (2024), who found that financial literacy may reduce the influence of certain behavioral biases under specific conditions. The difference between the findings may be related to variations in research context, respondent characteristics, or investment environments. Because the present study did not directly examine these factors, this interpretation should be considered with caution.

Overall, the findings are consistent with Behavioral Finance Theory and the Theory of Reasoned Action (TRA). Behavioral Finance Theory proposes that investment decisions are influenced not only by rational considerations but also by psychological biases and individual perceptions. The significant effects of overconfidence, herding behavior, risk tolerance, and risk perception on investment decisions support this perspective by demonstrating that investors' decisions are

Table 5. Bootstrapping Results

Relationships Between Variables	Path Coefficient (β)	t- statistics	p-value
Financial Literacy (M) → Investment decision (Y)	0.391	2.768	0.006
Herding (X2) → Investment decision (Y)	0.250	2.533	0.012
Moderating Effect 1 → Investment decision (Y)	0.488	1.473	0.141
Moderating Effect 2 → Investment decision (Y)	-0.043	0.240	0.810
Moderating Effect 3 → Investment decision (Y)	0.289	2.329	0.020
Moderating Effect 4 → Investment decision (Y)	0.243	2.688	0.007
Overconfidence (X1) → Investment decision (Y)	0.233	2.647	0.008
Risk Perception (X4) → Investment Decision (Y)	0.459	4.926	0.000
Risk Tolerance (X3) → Investment Decision (Y)	0.347	3.209	0.001

Source: SEM PLS, 2026

Table 6. Hypothesis Results

Hypothesis	Relationship	β	t-value	p-value	Decision
H1	Overconfidence → Investment Decision	0.233	2.647	0.008	Supported
H2	Herding → Investment Decision	0.250	2.533	0.012	Supported
H3	Risk Tolerance → Investment Decision	0.347	3.209	0.001	Supported
H4	Risk Perception → Investment Decision	0.459	4.926	0.000	Supported
H5	Financial Literacy × Overconfidence → Investment Decision	0.488	1.473	0.141	Not Supported
H6	Financial Literacy × Herding → Investment Decision	-0.043	0.240	0.810	Not Supported
H7	Financial Literacy × Risk Tolerance → Investment Decision	0.289	2.329	0.020	Supported
H8	Financial Literacy × Risk Perception → Investment Decision	0.243	2.688	0.007	Supported

shaped by both psychological and risk-related factors. Furthermore, the Theory of Reasoned Action emphasizes that individual behavior is influenced by personal attitudes and social influences. The significant effect of herding behavior observed in this study suggests that social influence remains an important determinant of investment decision-making among FOREX traders. Collectively, these findings reinforce the view that both psychological and social factors contribute to investor behavior in high-risk financial markets (see [Figure 1](#)).

Comparison With Previous Studies

In addition, this study found that financial literacy strengthened the effects of risk tolerance and risk perception on investment decisions, but did not moderate the effects of overconfidence and herding behavior. This finding can be explained by the distinctive characteristics of the FOREX market, which is highly volatile, speculative, and heavily dependent on rapid decision-making. In such an environment, financial literacy plays a more effective role in helping investors understand, evaluate, and manage investment risks. Investors with higher financial literacy are generally better able to assess potential gains and losses, interpret market information, and align investment choices with their individual risk preferences. Consequently, financial literacy strengthens the influence of both risk tolerance and risk perception on investment decisions.

In addition, this study found that financial literacy strengthened the effects of risk tolerance and risk perception on investment decisions but did not moderate the effects of overconfidence and herding behavior. These findings may reflect the distinctive characteristics of the FOREX market, which is highly volatile, speculative, and heavily dependent on rapid decision-making. In such an environment, financial literacy may be more relevant for helping investors evaluate investment risks and align their willingness to accept risk with more informed investment decisions. Consequently, financial literacy strengthened the influence of both risk tolerance and risk perception on investment decisions.

By contrast, financial literacy did not significantly moderate the relationships between overconfidence, herding behavior, and investment decisions. These findings may indicate that financial literacy alone was insufficient to alter the influence of these behavioral factors within the present sample. Previous studies have suggested that overconfidence is associated with excessive confidence in one's own judgment, whereas herding behavior is closely related to social influence and reliance on the actions of other investors. Although these characteristics may help explain the observed findings, the present study did not directly examine these underlying psychological or social mechanisms. Therefore, these interpretations should be considered with caution. Future studies are encouraged to investigate the conditions under which financial literacy may interact with behavioral biases across different investment settings.

The findings of this study are consistent with those reported by [Putra et al. \(2016\)](#) and [Ayu Wulandari & Iramani \(2014\)](#), who found that risk tolerance plays an important role in shaping investors' willingness to undertake higher-risk investment decisions. Similarly, the present study demonstrates that investors with higher levels of risk tolerance are more likely to make investment decisions involving greater levels of financial risk.

The results are also consistent with the studies conducted by [Pradikasari & Isbanah \(2018\)](#) and [Salisa \(2021\)](#), which reported that risk perception significantly influences investors' evaluation of potential investment risks and their subsequent investment decisions. Likewise, the present findings indicate that investors with a better understanding and assessment of investment risks tend to make more

informed investment decisions in the FOREX market.

In addition, the findings study shows that literacy finance strengthens impact tolerance risk and perception risk than act as variables moderation in interaction between trust excessive self and behavior follow suit investment. This result consistent with research by [Yanti & Endri \(2024\)](#), [Salim & Pamungkas \(2025\)](#), and [Hidayah \(2023\)](#), who found that literacy finance increase understanding risk more than reduce psychological bias.

In addition, the findings of this study indicate that financial literacy strengthened the effects of risk tolerance and risk perception on investment decisions rather than moderating the relationships between overconfidence, herding behavior, and investment decisions. This finding is consistent with previous studies by [Yanti & Endri \(2024\)](#), [Salim & Pamungkas \(2025\)](#), and [Hidayah \(2023\)](#) which reported that financial literacy primarily enhances investors' ability to understand and evaluate investment risks rather than reducing behavioral biases.

However, these findings are not entirely consistent with those of [Prasetyo \(2024\)](#), who found that financial literacy may reduce the influence of certain behavioral biases under specific conditions. The difference between the two studies may be related to variations in research context, respondent characteristics, or investment environments. Because the present study did not directly examine these factors, this explanation should be interpreted with caution. Overall, the findings suggest that the role of financial literacy in moderating behavioral biases may vary depending on the characteristics of the investment context and the investors being studied.

Recommendation For Future Research

Future studies should extend this research by examining broader and more diverse investor populations across different trading communities, brokerage platforms, and geographical regions to improve the generalizability of the findings. Researchers may also employ longitudinal research designs to observe how investor behavior and decision-making evolve over time, particularly in highly volatile financial markets such as FOREX trading.

In addition, future studies could incorporate other behavioral and psychological variables that may influence investment decisions, including emotional intelligence, overtrading behavior, market sentiment, self-control, and financial experience. Combining quantitative and qualitative approaches may also provide a deeper understanding of the mechanisms underlying investor behavior and the role of financial literacy in reducing behavioral biases.

Conclusion

This study examined the effects of overconfidence, herding behavior, risk tolerance, and risk perception on investment decisions among FOREX traders in the Baby Gold community in Banjarmasin, as well as the moderating role of financial literacy. The findings revealed that overconfidence, herding behavior, risk tolerance, and risk perception positively and significantly influence investment decisions, supporting H1, H2, H3, and H4. Among these variables, risk perception emerged as the strongest predictor of investment decisions.

Regarding the moderating effects, financial literacy significantly strengthened the relationships between risk tolerance and investment decisions (H7) and between risk perception and investment decisions (H8). However, financial literacy did not moderate the relationships between overconfidence and investment decisions (H5) or between herding behavior and investment decisions (H6).

From a theoretical perspective, these findings support Behavioral Finance Theory and the Theory of Reasoned Action by

demonstrating that investment decisions are influenced by psychological, social, and risk-related factors. Practically, the results highlight the importance of improving financial literacy to help investors evaluate risks more effectively and make more informed investment decisions in the highly volatile FOREX market. The findings may also assist financial educators, trading communities, and regulators in designing programs aimed at strengthening investor competence and reducing behavioral biases in investment activities.

Author contributions

The authors collaborated on every phase of this research, from problem conceptualization and data collection to analysis and preparation for publication. Each author

contributed to the development of research tools, data processing and analysis, and the production and improvement of the final publication, all of which constituted a collaborative team effort.

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