

When Bias Drives Investment Decisions: The Mediating Role of Risk Perception

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ABSTRACT

This research explores how heuristic biases impact investment decisions, with risk perception acting as a mediating factor. Based on Behavioral Finance Theory, the study analyzes the roles of overconfidence bias, availability bias, anchoring bias, representativeness bias, and gambler's fallacy. Data were gathered from 400 retail investors in Indonesia's capital market and scrutinized through Partial Least Squares Structural Equation Modeling (PLS-SEM). The results indicate that availability bias, representativeness bias, and gambler's fallacy have a significant effect on risk perception, while overconfidence bias and anchoring bias do not demonstrate such influence. Furthermore, risk perception has a positive impact on investment decision-making; additionally, both overconfidence bias and availability bias show significant direct effects. Mediation analysis reveals partial mediation for availability bias, full mediation for representativeness bias and gambler's fallacy, direct-only non-mediation for overconfidence bias, and no-effect non-mediation for anchoring bias. These outcomes underscore the critical role of risk perception as a psychological mechanism connecting heuristic biases to investment choices and suggest practical strategies for enhancing investor decision-making quality.

INTRODUCTION

Overconfidence bias refers to investors' tendency to overestimate their knowledge and forecasting ability while underestimating investment risks. Behavioral Finance Theory suggests that excessive confidence increases reliance on personal judgment over objective market information, thereby reducing perceived risk and encouraging risk-taking behavior (Jain et al., 2023). Previous studies confirm that overconfidence significantly influences risk perception and investment decisions, with risk perception acting as an important mediator (Wibowo et al., 2023; Antony & K., 2025; Ahmad & Shah, 2020). Therefore, the following hypothesis is proposed.

Availability bias refers to investors' tendency to rely on readily available or recent information rather than comprehensive analysis. Behavioral Finance Theory argues that information from financial news, social media, and investment communities strongly shapes investors' perceptions of market risk. Prior studies demonstrate that availability bias significantly affects both risk perception and investment decisions (Sadeeq & Butt, 2024; Khairunnisa et al., 2026; Jain et al., 2023). Therefore, the following hypothesis is proposed.

Anchoring bias describes investors' reliance on initial reference points, such as historical stock prices or past market trends, when evaluating investment opportunities. Behavioral Finance Theory explains that this cognitive shortcut may distort objective risk assessment by limiting adjustment to new information. Previous studies report that anchoring bias significantly influences risk perception and investment decisions (Wang, 2023; Dong, 2025; Jain et al., 2023). Therefore, the following hypothesis is proposed.

Representativeness bias reflects investors' tendency to use recent market performance as a predictor of future outcomes while overlooking broader statistical evidence. Behavioral Finance Theory suggests that this heuristic encourages investors to extrapolate recent trends, thereby shaping risk perception. Previous studies show that representativeness bias significantly affects investment decisions through the mediating role of risk perception (Khan, 2020; Loris & Jayanto, 2021; Jain et al., 2023). Therefore, the following hypothesis is proposed.

Gambler's fallacy refers to the mistaken belief that future market outcomes are influenced by previous independent events, leading investors to expect price reversals after prolonged gains or losses. Behavioral Finance Theory explains that this cognitive bias distorts risk evaluation by encouraging decisions based on perceived patterns rather than objective probabilities. Previous studies confirm that gambler's fallacy significantly influences investment decisions through risk perception (Marzuki et al., 2025; Jain et al., 2023). Therefore, the following hypothesis is proposed.

LITERATURE REVIEW

Overconfidence Bias, Anchoring Bias, Availability Bias, Representativeness Bias and Gambler's Fallacy on Risk Perception

Overconfidence bias refers to investors' tendency to overestimate their knowledge, analytical ability, and forecasting skills while underestimating

investment risks. Behavioral Finance Theory suggests that excessive confidence encourages investors to rely on personal judgment rather than objective market information, reducing their perception of uncertainty and increasing risk-taking behavior (Jain et al., 2023). Previous studies also show that overconfidence negatively affects risk perception and investment decision-making, with risk perception serving as an important mediator (Wibowo et al., 2023; Antony & K., 2025; Ahmad & Shah, 2020). Therefore, the following hypothesis is proposed.

Availability bias occurs when investors evaluate investment opportunities based on readily available or recent information rather than comprehensive analysis. Behavioral Finance Theory argues that information from financial news, social media, online forums, and investment influencers can disproportionately shape investors' perceptions of market risk. Prior studies confirm that availability bias significantly influences both risk perception and investment decisions (Sadeeq & Butt, 2024; Khairunnisa et al., 2026; Jain et al., 2023). Therefore, the following hypothesis is proposed.

Anchoring bias refers to investors' excessive reliance on initial reference points, such as historical stock prices or past market trends, when evaluating future investment opportunities. Behavioral Finance Theory explains that this cognitive shortcut may distort objective risk assessment by limiting adjustment to new information. Empirical evidence indicates that anchoring bias influences investment decisions and risk perception (Wang, 2023; Dong, 2025; Jain et al., 2023). Therefore, the following hypothesis is proposed.

Representativeness bias reflects investors' tendency to generalize recent market performance as an indicator of future outcomes while overlooking broader statistical evidence. Behavioral Finance Theory explains that this heuristic reduces perceived uncertainty by encouraging investors to extrapolate recent trends. Previous studies demonstrate that representativeness bias significantly influences investment decisions through risk perception, with risk perception fully mediating this relationship (Khan, 2020; Loris & Jayanto, 2021; Jain et al., 2023). Therefore, the following hypothesis is proposed.

Gambler's fallacy refers to the mistaken belief that future market outcomes are influenced by previous independent events, leading investors to expect price reversals after prolonged gains or losses. Behavioral Finance Theory explains that this cognitive bias distorts risk evaluation by encouraging decisions based on perceived market patterns rather than objective probabilities. Previous studies confirm that gambler's fallacy significantly affects investment decision-making through risk perception (Marzuki et al., 2025; Jain et al., 2023). Therefore, the following hypothesis is proposed.

H1: Overconfidence bias negatively influences investors' risk perception.

H2: Availability bias significantly influences investors' risk perception

H3: Anchoring bias significantly influences investors' risk perception.

H4: Representativeness bias significantly influences investors' risk perception

H5: Gambler's fallacy significantly influences investors' risk perception.

Risk Perception and Investment Decision-Making

Risk perception embodies an individual's subjective assessment concerning uncertainties along with potential losses tied to various investment options; it serves as a pivotal element within behavioral finance explaining why identical market conditions can lead diverse investor responses toward different decisions. This perceptual evaluation mediates interactions between behavioral tendencies influencing investor choices (Ahmed et al., 2022). Generally speaking: greater perceived uncertainty prompts caution amongst investors causing them to shy away from speculative ventures whereas lower perceived risks encourage commitments toward high-risk assets thereby directly shaping behaviors concerning investments according to individual assessments surrounding financial uncertainties. Notably impactful is how subjective views regarding risks forecast actual decision-making processes involving investments (Jain et al., 2023), thus leading us into proposing:

H6: Risk perception significantly influences investment decision-making.

Mediating Hypotheses

Behavioral Finance Theory proposes that heuristic biases influence investment decision-making indirectly through risk perception. Previous studies show that risk perception partially mediates the relationship between overconfidence and investment decisions, while fully mediating the effects of herding and underconfidence biases (Kurnijanto et al., 2025; H & N, 2025). Risk perception also significantly mediates the relationships between overconfidence, representativeness, availability, anchoring, and investment decisions, highlighting the complex interaction between behavioral biases and investor behavior (Chaudhary et al., 2025).

The strength of mediation varies across heuristic biases. Representativeness and anchoring biases influence investment decisions indirectly through risk perception (Hasan et al., 2023), whereas herding bias and gambler's fallacy show no direct effects on investment decisions, although herding and overconfidence significantly affect risk perception. Other behavioral biases, including self-attribution, confirmation, regret aversion, and framing bias, also shape investment decisions through risk perception, reinforcing its central mediating role (Khalid & Riaz, 2025; Silwal & Ghimire, 2025; M et al., 2022).

Furthermore, herding behavior influences investor sentiment and risk perception, producing a serial mediation effect on investment decisions (Dutta & Das, 2026). Heuristic bias has also been identified as the strongest predictor of risk perception, with risk perception positively influencing investment decisions and mediating the effects of heuristic bias (Chairit et al., 2026). Accordingly, this study proposes that risk perception serves as a key psychological mechanism linking heuristic biases to investment decision-making among Indonesian retail investors, with the magnitude of mediation depending on investors' cognitive abilities, financial literacy, and market experience

H7: Risk perception mediates the relationship between overconfidence bias and investment decision-making.

H8: Risk perception mediates the relationship between availability bias and investment decision-making.

H9: Risk perception mediates the relationship between anchoring bias and investment decision-making.

H10: Risk perception mediates the relationship between representativeness bias and investment decision-making.

H11: Risk perception mediates the relationship between gambler's fallacy and investment decision-making.

METHODOLOGY

This study employed a quantitative cross-sectional survey design to examine the relationships among heuristic biases, risk perception, and investment decision-making based on Behavioral Finance Theory. The target population comprised individual investors actively participating in the Indonesia Stock Exchange (IDX), with purposive sampling used to select 400 respondents who met the criteria of having an active securities account, at least one year of investment experience, and stock trading activity within the previous six months (Hair et al., 2022). Data were collected through a structured online questionnaire distributed via investor communities, securities firms, university investment galleries, and investment-related social media platforms. The questionnaire measured seven latent constructs—overconfidence bias, availability bias, anchoring bias, representativeness bias, gambler's fallacy, risk perception, and investment decision-making—using previously validated scales adapted to the Indonesian context and assessed on a five-point Likert scale. A pilot study was conducted to ensure instrument clarity and content validity. Data were analyzed using SmartPLS 4 with Partial Least Squares Structural Equation Modeling (PLS-SEM). The analysis included assessment of the measurement model through indicator loadings, Cronbach's alpha, composite reliability, average variance extracted (AVE), heterotrait-monotrait ratio (HTMT), and variance inflation factor (VIF), followed by structural model evaluation using path coefficients, bootstrapping with 5,000 resamples, coefficients of determination (R^2), effect sizes (f^2), predictive relevance (Q^2), standardized root mean square residual (SRMR), PLSpredict, and mediation analysis based on indirect effects.

RESEARCH RESULT AND DISCUSSION

To provide a comprehensive overview of the research sample, a descriptive analysis of respondents' demographic characteristics was conducted prior to the empirical analysis. Examining the demographic profile is important because individual characteristics may influence investors' perceptions, behavioral tendencies, and investment decision-making processes. The respondents were classified according to six demographic variables, namely gender, age, educational level, occupation, investment experience, and investment portfolio value. The distribution of these characteristics provides an overview of the diversity and representativeness of the sample, ensuring that the respondents adequately reflect the profile of active retail investors in the Indonesian capital market. The detailed demographic characteristics of the respondents are presented in Table 1.

Table 1. Demographic Characteristics of Respondents

Variable	Category	Frequency	Percentage (%)
Gender	Male	232	58
	Female	168	42
Age	18–25 years	48	12
	26–35 years	192	48
	36–45 years	104	26
	>45 years	56	14
Educational Level	High School	40	10
	Diploma	52	13
	Bachelor's Degree	220	55
	Master's/Doctoral Degree	88	22
Occupation	Private Employee	172	43
	Entrepreneur	92	23
	Professional (Doctor, Lecturer, Consultant, Accountant, etc.)	68	17
	Civil Servant/Government Employee	48	12
	Retired/Others	20	5
Investment Experience	1–3 years	168	42
	4–6 years	124	31
	7–10 years	68	17
	>10 years	40	10
Monthly Trading Frequency	1–3 transactions	96	24
	4–8 transactions	160	40
	9–15 transactions	92	23
	>15 transactions	52	13
Investment Portfolio Value	< IDR 25 million	88	22
	IDR 25–100 million	168	42
	IDR 100–500 million	96	24
	> IDR 500 million	48	12
Total		400	100

Table 1 presents the demographic characteristics of the respondents, indicating that the sample closely represents active retail investors in the Indonesian capital market. Most respondents are male, although female

participation is also substantial, while the majority are aged 26–35 years, reflecting economically productive individuals with strong investment potential. Most respondents hold bachelor's degrees, with many also possessing postgraduate qualifications, suggesting adequate financial knowledge for evaluating investment opportunities. Private-sector employees form the largest occupational group, followed by entrepreneurs, professionals, and government employees. Consistent with the sampling criteria, all respondents have at least one year of investment experience, with most reporting one to six years of active market participation. They also trade stocks regularly each month and predominantly maintain portfolios valued between IDR 25 million and IDR 100 million. Overall, these characteristics indicate that the sample provides a robust representation of experienced and active Indonesian retail investors, supporting the validity of the study's empirical findings.

Outer model

Table 2. Outer Model Analysis

Indicator	LF	AVE	CA	CR	VIF	Indicator	LF	AVE	CA	CR	VIF
IDM1	0.737	0.57	0.71	0.81	4.91	AV1	0.88	0.53	0.75	0.83	4.77
IDM2	0.74					AV2	0.89				
IDM3	0.88					AV3	0.73				
IDM4	0.88					AV4	0.86				
IDM5	0.89					AV5	0.86				
RP1	0.81	0.711	0.898	0.925	3.376	RE1	0.89	0.623	0.765	0.849	4.532
RP2	0.87					RE2	0.93				
RP3	0.83					RE3	0.89				
RP4	0.87					RE4	0.88				
RP5	0.82					OC1	0.81				
GF1	0.79	0.56	0.73	0.82	4.46	OC2	0.84	0.52	0.70	0.79	4.01
GF2	0.89					OC3	0.82				
GF3	0.89					OC4	0.86				
A1	0.89					OC5	0.83				
A2	0.85	0.61	0.79	0.85	4.49						
A3	0.80										
A4	0.83										
A5	0.91										

The measurement model was evaluated through convergent validity, internal consistency reliability, and common method bias (CMB). As shown in Table 2, most indicator loadings exceeded the recommended threshold of 0.70, with only one indicator (A3) falling below the criterion, while all constructs achieved Average Variance Extracted (AVE) values ranging from 0.525 to 0.711, confirming adequate convergent validity. Reliability assessment further showed that Cronbach's alpha values (0.703–0.898) and composite reliability values (0.798–0.925) all exceeded the recommended threshold of 0.70, demonstrating satisfactory internal consistency. Common method bias was examined using the full collinearity variance inflation factor (VIF) following Kock (2015), and all VIF values ranged from 3.376 to 4.913, remaining below the critical threshold of 5.00. These results indicate the absence of serious multicollinearity and common method bias, confirming that the measurement model satisfies the requirements

of convergent validity, reliability, and CMB assessment, thereby providing a robust foundation for structural model evaluation and hypothesis testing.

Table 3. HTMT

	IDM	RP	GF	A	AV	RE	OC
IDM							
RP	0.867						
GF	0.799	0.889					
A	0.775	0.887	0.876				
AV	0.814	0.806	0.858	0.834			
RE	0.792	0.804	0.852	0.785	0.878		
OC	0.831	0.819	0.826	0.834	0.805	0.888	

The discriminant validity of the measurement model was assessed through the Heterotrait-Monotrait ratio (HTMT), as detailed in Table 3. The results show that all HTMT values were below the suggested threshold, thereby affirming that each construct is empirically separate from the others. This outcome indicates that the latent variables incorporated in the study effectively measure distinct conceptual dimensions without significant overlap. As a result, the measurement model meets the criteria for discriminant validity, demonstrating that each construct reflects its intended theoretical concept while remaining sufficiently distinct from other constructs. The confirmed discriminant validity further enhances the reliability of the measurement model and instills confidence for advancing to the evaluation of the structural model and hypothesis testing.

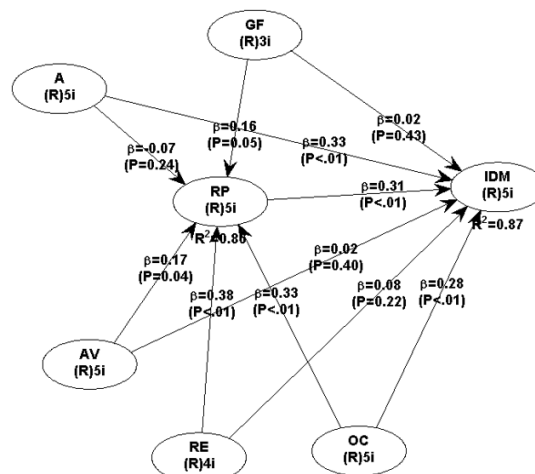


Figure1. Structural Modelling

The structural model presented in Figure 1 demonstrates strong explanatory power, with the coefficient of determination (R^2) reaching 0.85 for risk perception and 0.87 for investment decision-making, indicating that heuristic biases collectively explain 85% of the variance in risk perception, while heuristic biases and risk perception together explain 87% of the variance in investment decisions. These values confirm the model's high predictive accuracy in explaining investor behavior in the Indonesian capital market. The direct effect

analysis shows that availability bias, representativeness bias, and gambler's fallacy significantly influence risk perception, whereas overconfidence bias and anchoring bias do not. Furthermore, risk perception, availability bias, and overconfidence bias have significant positive effects on investment decision-making, while anchoring bias, representativeness bias, and gambler's fallacy exhibit no significant direct effects. The mediation analysis further establishes risk perception as a selective mediator, transmitting the effects of availability bias, representativeness bias, and gambler's fallacy on investment decision-making, whereas no mediating effect is found for anchoring bias or overconfidence bias due to their insignificant relationships with risk perception. Overall, the findings indicate that risk perception selectively explains how certain heuristic biases shape investment decisions, while other biases primarily influence investor behavior through direct pathways.

Table 4. Inner Model Analysis

Hypothesis	Structural Relationship	Path Coefficient (β)	p-value	Decision
H1	Overconfidence Bias $\rightarrow$ Risk Perception	0.08	0.22	Not Supported
H2	Availability Bias $\rightarrow$ Risk Perception	0.17	0.04	Supported
H3	Anchoring Bias $\rightarrow$ Risk Perception	0.07	0.24	Not Supported
H4	Representativeness Bias $\rightarrow$ Risk Perception	0.38	<0.001	Supported
H5	Gambler's Fallacy $\rightarrow$ Risk Perception	0.16	0.05	Supported
H6	Risk Perception $\rightarrow$ Investment Decision-Making	0.31	<0.001	Supported
	Overconfidence Bias $\rightarrow$ Investment Decision-Making	0.28	<0.001	Supported
	Availability Bias $\rightarrow$ Investment Decision-Making	0.33	<0.001	Supported
	Anchoring Bias $\rightarrow$ Investment Decision-Making	0.02	0.40	Not Supported
	Representativeness Bias $\rightarrow$ Investment Decision-Making	0.08	0.22	Not Supported
	Gambler's Fallacy $\rightarrow$ Investment Decision-Making	0.02	0.43	Not Supported
				Supported

Overconfidence Bias, Anchoring Bias, Availability Bias, Representativeness Bias and Gambler's Fallacy on Risk Perception

Overconfidence bias refers to investors' tendency to overestimate their knowledge and analytical abilities while underestimating investment risks. Behavioral Finance Theory suggests that excessive confidence reduces perceived risk by encouraging reliance on personal judgment rather than objective information. However, the findings do not support this expectation, as overconfidence bias has no significant effect on risk perception ($\beta = 0.08$, $p = 0.22$), leading to the rejection of H1. This indicates that Indonesian retail investors may rely more on objective market information, investment experience, and digital

analytical tools than on excessive self-confidence when evaluating risk. The finding contradicts Behavioral Finance Theory and differs from Ahmad and Shah (2020), Wibowo et al. (2023), and Antony and K. (2025), suggesting that the influence of overconfidence on risk perception may be context-dependent.

Availability bias describes investors' tendency to rely on readily available information rather than comprehensive analysis. Behavioral Finance Theory argues that recent news, social media, and market trends shape investors' perceptions of uncertainty. The results reveal a positive and significant effect of availability bias on risk perception ($\beta = 0.17$, $p = 0.04$), supporting H2. Investors who depend on easily accessible information tend to adjust their perception of investment risk according to prevailing market sentiment. This finding supports Behavioral Finance Theory and is consistent with Jain et al. (2023), Khairunnisa et al. (2026), and Sadeeq and Butt (2024).

Anchoring bias reflects investors' reliance on initial reference points, such as historical prices or past market trends, when evaluating investment opportunities. Although Behavioral Finance Theory predicts that anchoring distorts objective risk assessment, the results indicate no significant effect on risk perception ($\beta = 0.07$, $p = 0.24$), leading to the rejection of H3. This suggests that Indonesian retail investors rely more on current market information and broader economic conditions than on historical reference points. The finding contrasts with Behavioral Finance Theory and previous studies by Wang (2023), Dong (2025), and Jain et al. (2023).

Representativeness bias refers to investors' tendency to generalize recent market performance as a predictor of future outcomes while overlooking broader statistical evidence. Consistent with Behavioral Finance Theory, the results show a strong positive effect on risk perception ($\beta = 0.38$, $p < 0.001$), supporting H4. Investors who rely on recent market trends tend to evaluate investment risk based on short-term observations rather than objective probabilities. This finding supports Behavioral Finance Theory and is consistent with Jain et al. (2023), Loris and Jayanto (2021), and Khan (2020).

Gambler's fallacy reflects the mistaken belief that future market outcomes are influenced by previous independent events, leading investors to expect price reversals after consecutive gains or losses. Behavioral Finance Theory explains that this cognitive bias affects subjective risk evaluation by creating false expectations of predictable market patterns. The findings show a positive and significant effect on risk perception ($\beta = 0.16$, $p = 0.05$), supporting H5. Investors exhibiting gambler's fallacy tend to assess investment risk based on perceived market patterns rather than probabilistic reasoning. This result is consistent with Behavioral Finance Theory and prior studies by Jain et al. (2023), Patni and Gupta (2015), and Marzuki et al. (2025), confirming the role of gambler's fallacy in shaping investment risk perception.

Risk Perception on Investment Decision-Making

potential losses associated with investment alternatives and represents a central construct in Behavioral Finance Theory. The theory argues that investment decisions are driven more by perceived risk than by market conditions alone. The findings reveal a positive and significant effect of risk

perception on investment decisions ($\beta = 0.31$, $p < 0.001$), supporting H6. This indicates that investors who carefully assess potential uncertainties are more likely to make rational investment decisions before committing financial resources. Therefore, risk perception serves as an important psychological mechanism influencing investor behavior. These findings support Behavioral Finance Theory and are consistent with Ahmed et al. (2022) and Jain et al. (2023), confirming that perceived risk plays a fundamental role in shaping investment decision-making.

Table 5. Mediating Test

Relationship	Direct Effect	Indirect Effect (via RP)	Mediation Type
Availability Bias → IDM	Significant	Significant	Complementary (Partial) Mediation
Representativeness Bias → IDM	Not Significant	Significant	Indirect-only (Full) Mediation
Gambler's Fallacy → IDM	Not Significant	Significant	Indirect-only (Full) Mediation
Overconfidence Bias → IDM	Significant	Not Significant	Direct-only Non-Mediation
Anchoring Bias → IDM	Not Significant	Not Significant	No-effect Non-Mediation

Risk Perception Mediates the Relationship between Overconfidence Bias, Availability Bias, Anchoring Bias, and Representativeness Bias, and Investment Decision-Making

Behavioral Finance Theory proposes that risk perception mediates the relationship between overconfidence bias and investment decision-making. However, the mediation analysis shows that although overconfidence bias has a significant direct effect on investment decisions, its indirect effect through risk perception is insignificant, indicating direct-only non-mediation. This suggests that overconfident investors rely primarily on self-confidence rather than perceived investment risk when making decisions. These findings differ from Ahmad and Shah (2020), Jain et al. (2023), and Ahmed et al. (2022). Availability bias reflects investors' reliance on readily available information, while risk perception represents their subjective assessment of investment uncertainty. Behavioral Finance Theory suggests that available information influences investment decisions both directly and indirectly through risk perception. The mediation analysis confirms partial mediation, indicating that availability bias affects investment decisions directly and by shaping investors' perceptions of risk. These findings are consistent with Jain et al. (2023), Chaudhary et al. (2025), and Khairunnisa et al. (2026).

Anchoring bias refers to investors' reliance on historical prices or past market trends, whereas risk perception reflects the evaluation of investment

uncertainty. Although Behavioral Finance Theory suggests an indirect effect through risk perception, the mediation analysis finds neither direct nor indirect effects to be significant, indicating no mediation. This suggests that Indonesian retail investors rely more on current market information than historical reference points. These findings differ from Jain et al. (2023), Hasan et al. (2023), and Wang (2023). Representativeness bias refers to investors' tendency to use recent market performance to predict future outcomes, while risk perception reflects their assessment of investment uncertainty. The mediation analysis demonstrates full mediation, indicating that representativeness bias influences investment decisions only through risk perception rather than through a direct effect. These findings support Behavioral Finance Theory and are consistent with Jain et al. (2023), Hasan et al. (2023), and Chaudhary et al. (2025). Gambler's fallacy refers to the mistaken belief that future market movements depend on previous independent events, whereas risk perception represents investors' evaluation of financial uncertainty. Behavioral Finance Theory suggests that this cognitive bias influence investment decisions indirectly through risk perception. The mediation analysis confirms full mediation, indicating that gambler's fallacy affects investment decisions only by altering perceived investment risk rather than through a direct effect. These findings are consistent with Jain et al. (2022, 2023).

CONCLUSIONS AND RECOMMENDATIONS

The findings indicate that heuristic biases influence investment decisions among Indonesian retail investors through distinct psychological mechanisms, with risk perception serving as a selective mediator rather than a universal explanatory mechanism. Specifically, availability bias exerts both direct and indirect effects on investment decisions through risk perception, whereas representativeness bias and the gambler's fallacy influence investment decisions only indirectly via risk perception. In contrast, overconfidence bias has a direct effect without mediation, while anchoring bias exhibits neither direct nor indirect effects. These results extend Behavioral Finance Theory by demonstrating that heuristic biases operate through heterogeneous cognitive pathways in emerging capital markets. Nevertheless, the findings should be interpreted in light of several limitations, including the cross-sectional research design, the use of self-reported survey data, and the exclusive focus on Indonesian retail investors, all of which may limit causal inference and the generalizability of the results. Future studies are encouraged to adopt longitudinal and cross-country research designs, compare retail and institutional investors, and incorporate additional behavioral and contextual factors, such as financial literacy, investment experience, financial well-being, market volatility, AI-assisted investment technologies, and social media sentiment, to develop a more comprehensive understanding of investment decision-making in increasingly digital financial markets.

REFERENCES

- Adhytya, A. H. Q., & Rafik, A. (2026). What drives retail investors' decisions in the Indonesian market? Understanding the role of cognitive and social biases. *Journal of Enterprise and Development*. <https://doi.org/10.20414/jed.v8i1.15072>
- Ahmad, M., & Shah, S. (2020). Overconfidence heuristic-driven bias in investment decision-making and performance: Mediating effects of risk perception and moderating effects of financial literacy. *Journal of Economic and Administrative Sciences*. <https://doi.org/10.1108/jeas-07-2020-0116>
- Ahmed, Z., Rasool, S., Saleem, Q., Khan, M. A., & Kanwal, S. (2022). Mediating role of risk perception between behavioral biases and investor's investment decisions. *SAGE Open*. <https://doi.org/10.1177/21582440221097394>
- Ambarwati, R., & Yoga, I. (2025). Decoding market signals: How generation Z investors in Indonesia make investment decisions. *Journal of Business and Management Review*. <https://doi.org/10.47153/jbmr.v6i2.483>
- Antony, S. R., & K., S. (2025). The overconfidence conundrum: Risk perception and bankers investment decision. *Proceedings*. <https://doi.org/10.26573/2025.22.1.31>
- Binu, M. O. U. (2024). The influence of heuristic and herding behavior on investment decisions through FOMO on retail investors in Indonesia. *Jurnal Indonesia Sosial Teknologi*. <https://doi.org/10.59141/jist.v5i9.3313>
- Chairit, S., Sirichote, O., & Noknoi, C. (2026). Antecedents of investment decisions among retail investors: Mediating risk perception and moderating investment horizon. *Investment Management & Financial Innovations*. [https://doi.org/10.21511/imfi.23\(2\).2026.24](https://doi.org/10.21511/imfi.23(2).2026.24)
- Chaudhary, M. K., Adhikari, M., Ghimire, D. M., & Bhattarai, D. R. (2025). Heuristic bias and investment decision: Exploring the mediating role of investors' risk perceptions. *Investment Management & Financial Innovations*. [https://doi.org/10.21511/imfi.22\(1\).2025.33](https://doi.org/10.21511/imfi.22(1).2025.33)
- Damayanti, R., & Muchran, M. (2025). Retail investor surge in response to interest rate stability: A case study of the Indonesian capital market in 2025. *International Journal of Economic Research and Financial Accounting (IJERFA)*. <https://doi.org/10.55227/ijerfa.v3i4.360>
- Dong, Y. (2025). A study on the impact of anchoring effect on investor behavior in financial markets. *Advances in Economics, Management and Political Sciences*. <https://doi.org/10.54254/2754-1169/2025.21132>
- Dutta, D., & Das, S. (2026). Analysis of the impact of herding behaviour, investor sentiment and risk perception towards investment decisions: A serial mediation approach. *IIMT Journal of Management*. <https://doi.org/10.1108/iimtjm-09-2025-0076>

- H, I. S. P., & N, S. (2025). Decoding individual investors' behavior: Unveiling risk perception as a mediator in the indian stock market. *International Research Journal of Multidisciplinary Scope*. <https://doi.org/10.47857/irjms.2025.v06i02.03194>
- Hasan, M., Ahmed, S. S., Mustafa, S., & Aziz, A. (2023). Risk perception as a mediator between heuristic biases and investment decision making: Case study of pakistan stock exchange. *NICE Research Journal*. <https://doi.org/10.51239/nrjss.v16i4.434>
- Ikhsan, M., Ismiyanti, F., & Komalasari, P. (2024). Enhancing rational investment decisions: The impact of financial literacy and experience on indonesian retail investors, moderated by overconfidence. *Journal of System and Management Sciences*. <https://doi.org/10.33168/jsms.2024.1029>
- Jain, J., Walia, N., Singla, H., Singh, S., Sood, K., & Grima, S. (2023). Heuristic biases as mental shortcuts to investment decision-making: A mediation analysis of risk perception. *Risks*, 11(4), 72. <https://doi.org/10.3390/risks11040072>
- Jain, J., Walia, N., Singla, H., Singh, S., Sood, K., & Grima, S. (2023). Heuristic biases as mental shortcuts to investment decision-making: A mediation analysis of risk perception. *Risks*, 11(4), 72. <https://doi.org/10.3390/risks11040072>
- Kanapickienė, R., Vasiliauskaitė, D., Keliuotytė-Staniulėnienė, G., Špicas, R., Omeir, A. K., & Kanapickas, T. (2024). A comprehensive review of behavioral biases in financial decision-making: From classical finance to behavioral finance perspectives. *Journal of Business and Economic Management*. <https://doi.org/10.3846/jbem.2024.22314>
- Khairunnisa, H. N., Situngkir, T. L., & Fadilla, A. (2026). Risk perception sebagai variabel mediasi: Overconfidence bias dan availability bias terhadap keputusan investasi. *Jurnal Kajian dan Penelitian Umum*, 4(3). <https://doi.org/10.47861/jkpu-nalanda.v4i3.2295>
- Khalid, I., & Riaz, L. (2025). Behavioral biases and investment management decisions: The mediating role of risk perception and the moderating role of financial literacy. *Management Science Advances*. <https://doi.org/10.31181/msa31202629>
- Khan, A. (2020). Scale development and exploration in representativeness bias intervening investment and financial decisions. *Pakistan Social Sciences Review*, 4(1). [https://doi.org/10.35484/PSSR.2020\(4-I\)32](https://doi.org/10.35484/PSSR.2020(4-I)32)
- Kurnijanto, A. W., Joni, J., Sumbodo, K. V., Wijaya, L. I., & Sutejo, B. S. (2025). Influence of behavioral bias on investment decision with risk perception as a mediating variable: A study on generation z at the indonesia stock

- exchange. *Dinasti International Journal of Economics, Finance & Accounting*. <https://doi.org/10.38035/dijefa.v5i6.3643>
- Lei, X. (2025). Availability heuristic, risk tolerance, and investment decision-making: A behavioral perspective. *Highlights in Business, Economics and Management*. <https://doi.org/10.54097/c5k0yw82>
- Loris, R., & Jayanto, P. Y. (2021). The effect of representativeness, availability, anchoring, risk perception, and herding on investment decisions syariah investors. <https://doi.org/10.33369/J.AKUNTANSI.11.1.81-92>
- M, Z., MS, N., R, F., & M., I. (2022). Moderating role of information asymmetry between cognitive biases and investment decisions: A mediating effect of risk perception. <https://doi.org/10.3389/fpsyg.2022.828956>
- Marzuki, F. B., Azriel, M. D., & Naomi, P. (2025). The influence of gambler's fallacy and financial literacy on generation z's investment decisions in the digital era. *AL-KHARAJ*. <https://doi.org/10.47467/alkharaj.v7i1.6342>
- Patni, I., & Gupta, D. (2015). Exploring the behavioral biases for equity investment: An empirical study on active investors of jaipur city. *Asian Journal of Management*. <https://doi.org/10.5958/2321-5763.2015.00023.2>
- Sadeeq, U., & Butt, K. A. (2024). Impact of heuristic-driven availability bias on investment decision making in the Indian stock market: An empirical study. *EPRA International Journal of Economic and Business Review*. <https://doi.org/10.36713/epra16692>
- Sari, D. P., Sova, M., Mulyadi, M., Indrasari, A., & Hisam, M. (2026). The strategic role of digital trading communities in shaping retail investor behavior in modern capital markets. *Dinasti International Journal of Education Management And Social Science*. <https://doi.org/10.38035/dijemss.v7i5.6403>
- Sawitri, K. D., & Candraningrat, I. R. (2025). The influence of financial literacy and overconfidence on investment decisions with risk tolerance as a mediating variable (a study on stock investors in bali province). *Enrichment: Journal of Multidisciplinary Research and Development*. <https://doi.org/10.55324/enrichment.v3i2.355>
- Shah, B., & Butt, K. A. (2024). Heuristic biases and investment decision-making of stock market investors: A review paper. *Vision: The Journal of Business Perspective*. <https://doi.org/10.1177/09722629231220985>
- Silwal, S., & Ghimire, P. (2025). Behavioral factors and risk perception affecting investment decision in the context of nepal. *The Batuk*. <https://doi.org/10.3126/batuk.v11i2.82367>
- Singh, S. K. (2012). Investor irrationality and self-defeating behavior: Insights from behavioral finance. <http://www.jgbm.org/page/16%20Sudhir%20Singh.pdf>

- Wang, B. (2023). The impact of anchoring bias on financial decision-making: Exploring cognitive biases in decision-making processes. *Studies in Psychological Science*, 1(3), 136-143. <https://doi.org/10.56397/SPS.2023.09.04>
- Wibowo, M. A., Indrawati, N. K., & Aisjah, S. (2023). The impact of overconfidence and herding bias on stock investment decisions mediated by risk perception. *International Journal of Research in Business and Social Science*, 12(5), 241-252. <https://doi.org/10.20525/ijrbs.v12i5.2663>
- Wijoyo, F., & Arifin, A. Z. (2024). Overconfidence bias in investment decisions on indonesian stock market. *International Journal of Application on Economics and Business*. <https://doi.org/10.24912/ijaeb.v2i2.3430-3439>