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Investor Behavioral Bias and Mutual Fund Investment Decisions: Implications for Culturally Sensitive Investor Education in Indonesia

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ABSTRACT

Objective: This study examines the effect of behavioral bias on mutual fund investment decisions in Indonesia by positioning attitude toward risk as a mediating variable and cultural orientation as a moderating variable, with implications for culturally sensitive investor education. **Methods:** A quantitative causal–explanatory design was employed using primary data from a survey of 300 individual mutual fund investors selected through purposive sampling. Data were analyzed using Confirmatory Factor Analysis and Hayes PROCESS macro Model 15 in SPSS to test direct, indirect, and moderated relationships among behavioral bias, attitude toward risk, cultural orientation, and investment decisions. **Results:** Behavioral bias significantly influences investment decisions both directly and indirectly through attitude toward risk. Cultural orientation moderates these relationships by weakening bias-driven effects under stronger cultural orientations, confirming a moderated–mediated model integrating psychological and sociocultural determinants of investment behavior. **Novelty:** This study offers a novel integrative framework combining behavioral finance and cultural finance perspectives while explicitly linking them to investor education. It highlights how behavioral bias, risk attitude, and cultural orientation should inform the design of culturally sensitive financial literacy and advisory strategies, providing an evidence-based foundation for developing investor education programs that address behavioral and cultural factors in mutual fund decision-making.

INTRODUCTION

In recent years, Indonesian public interest in investment products has increased (Martaningrat & Kurniawan, 2024). The development of digital technology and easy access to financial information are key factors driving this trend. The younger generation, in particular, is beginning to demonstrate a renewed awareness of the importance of wise financial management to achieve long-term goals (Candra et al., 2024). This transformation is also supported by expanding financial literacy through various digital channels, social media, and educational programs organized by financial institutions and the government (Baihaqqy et al., 2020), positioning investment as both a financial and an educational arena for enhancing economic decision-making competencies. Various innovations in digital financial services have brought about significant changes in the way people invest (Che Hassan et al., 2023). People are no longer entirely dependent on conventional financial institutions; they can now conduct investment transactions independently through digital devices (Napitupulu et al., 2025). Various features such as risk simulations, automated portfolio recommendations, and real-time performance reports make the investment process easier and more attractive for both novice and experienced investors (Gunawardane, 2023), creating new opportunities and challenges for designing effective investor education and financial literacy programs in digital learning environments.

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Among the various investment instruments available, mutual funds occupy a unique position because they are considered to balance potential returns with risk levels (Ahmad & Shah, 2020; Mustafa et al., 2022). These products are considered safer and more affordable for the general public, because they are managed by professional investment managers. Furthermore, with relatively low initial investment amounts, mutual funds serve as an educational and knowledge-building tool for the public to learn about investing with controlled risk. Public interest and behavior in investing in mutual funds can support investment development in Indonesia (Kutan et al., 2020; Suryanta & Patunru, 2023), making mutual funds a strategic context for developing and evaluating financial literacy and investor education interventions. The increase in retail investor participation in mutual funds is indeed a positive sign in the Indonesian capital market. However, not all investors have the skills to make rational investment decisions. Many still lack knowledge regarding risk analysis, portfolio diversification, and the basic principles of sound investment. This situation often leads to investment decisions being driven by inaccurate information or by public opinion that is not necessarily true. As a result, these decisions have the potential to incur losses, especially when the market experiences intense fluctuations (Zhang et al., 2021), highlighting the urgency of educational efforts that explicitly address misconceptions, decision biases, and risk misperceptions in both formal and non-formal learning settings.

From a behavioral finance perspective, investment behavior is influenced by various cognitive and emotional biases that shape how individuals process information and assess risk. Unlike the assumption of classical finance theory, which assumes investors are always rational, this approach highlights behavioral tendencies such as overconfidence, herding, and loss aversion that can cloud decision objectivity (J. Kumar et al., 2024; Mehmood et al., 2024; Tahir & Danarsari, 2023). This phenomenon is evident in mutual fund investment practices in Indonesia. The phenomenon of bias in behavioral finance is often found in investors, including mutual fund investors, who are often not completely rational in making decisions (Baker & Nofsinger, 2010; Chuahan & Chavda, 2024). Understanding these biases provides a critical foundation for designing instructional strategies, learning materials, and assessment approaches aimed at improving investor decision-making skills.

These various biases certainly do not occur in isolation, but rather in combination with other factors. A crucial psychological aspect, namely attitude toward risk (ATR), can explain how these biases influence investment decisions through ATR (Inghelbrecht & Tedde, 2024). Cultural orientation may emerge as another important factor in understanding investment behavior because culture shapes the way individuals think, behave, and assess risk (Falamarzi et al., 2023; Kutan et al., 2020; Yılmaz, 2023). Although extensive research on investor behavior has been conducted, a research gap remains in the context of mutual fund investors in Indonesia. Most previous studies have focused on the behavior of stock investors or capital markets in general, while research examining behavioral biases in mutual fund investors is still limited (Mittal, 2019; Mustafa et al., 2022; Palmiter, 2021). From the theoretical gap perspective, some research in the field of behavioral finance still uses the classical finance approach which assumes full rationality and market efficiency. From an empirical gap perspective, there is still little empirical evidence explaining how behavioral bias actually influences mutual fund investment decisions in Indonesia. Most studies use small samples, are in developed country contexts, or fail to consider the mediating variables of attitude toward risk and cultural

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orientation. Addressing these gaps allows this study to contribute not only to behavioral and cultural finance, but also to recent educational research by framing investor behavior as an outcome of learnable attitudes and culturally embedded learning processes.

The objective of this research is to examine the effect of behavioral bias on mutual fund investment decisions in Indonesia by positioning attitude toward risk as a mediating variable and cultural orientation as a moderating variable. Specifically, this study aims to: (1) describe behavioral bias, investment decisions, attitude toward risk, and cultural orientation among mutual fund investors in Indonesia; (2) analyze the direct influence of behavioral bias on mutual fund investment decisions; (3) examine the mediating role of attitude toward risk in the relationship between behavioral bias and investment decisions; and (4) analyze the moderating role of cultural orientation in the relationships between behavioral bias, attitude toward risk, and investment decisions. This research offers conceptual and empirical novelty. Conceptually, it integrates four behavioral biases, with attitude toward risk as a mediating variable and cultural orientation as a moderating variable, into a comprehensive model of mutual fund investment decisions. Empirically, this study provides contextual evidence on Indonesian retail investors with collectivistic characteristics and high-power distance. The findings are expected to enrich behavioral finance studies and, at the same time, inform the development, implementation, and evaluation of more effective financial education and literacy strategies in both formal education and community-based investor education programs.

LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

The theory that underpins this research is Expected Utility Theory as a key foundation in classical financial theory, explaining how individuals make decisions under conditions of uncertainty. It assumes that investors are rational in all their economic actions (van den Brink & Rusinowska, 2024). Within this theoretical framework, investor behavior is viewed as completely logical and consistent, assuming investors have sufficient information to analyze data objectively and are free from emotional influences. It is also assumed that investors consistently seek a balance between risk and return to achieve maximum utility (Aslanidis et al., 2021). This approach is widely used in traditional economic models such as portfolio theory and the capital asset pricing model (CAPM), as a proxy for complete rationality and market efficiency (S. Kumar et al., 2023; Vergara-Fernández et al., 2023). In educational contexts, these classical assumptions often underpin how investment and finance are taught, which makes it crucial to juxtapose them with behavioral perspectives when designing curricula and learning materials in financial education.

However, the reality on the ground shows that investor behavior is not always rational as assumed by classical theory. Many studies have found that investment decisions are often influenced by emotions, subjective perceptions, and various cognitive biases such as overconfidence, loss aversion, and herding behavior (Ahmad & Wu, 2023; Badola et al., 2023; Gabhane et al., 2023; Liu et al., 2021; Othman, 2024). These psychological factors cause investors to deviate from the expected utility principle, especially when faced with market uncertainty or social pressure. This is where a new approach known as Behavioral Finance emerged, a field that combines psychology with economics to understand the irrational behavior of investors. Positioning behavioral finance in this way not only enriches theoretical explanations of investment decisions but

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also provides a conceptual basis for developing instructional strategies and learning resources that help learners recognize and manage decision biases in investment settings.

Within the behavioral finance framework, investment decisions are viewed as the result of an interaction between rational and non-rational factors influenced by investors' perceptions, experiences, and social context. Unlike traditional finance theory, which emphasizes objective analysis of risk and return, the behavioral approach highlights how cognitive biases and emotions can shape investment preferences. Empirical models in behavioral finance explain that investment decisions are influenced not only by economic factors such as interest rates and asset performance, but also by behavioral tendencies such as overconfidence, loss aversion, and herding. In the context of mutual funds, investment decisions are reflected in how investors manage their portfolios, including suitability, switching behavior, asset diversification, time consistency, and analytical decision-making (Agarwal & Rao, 2023, 2023; Che Hassan et al., 2023; Kutan et al., 2020; Wu, 2022; Yılmaz, 2023). These behavioral manifestations can be translated into learning outcomes and assessment indicators in financial literacy and investor education programs, enabling educators to evaluate not only knowledge, but also decision-making competencies.

Related to behavioral bias, heuristic bias arises when investors rely on intuition or superficial information without in-depth analysis. Investors buy mutual funds solely based on high past performance, without considering risks or market conditions. Framing bias occurs when investors are influenced by the way information is presented, such as advertising narratives or promotions that emphasize potential profits without clearly explaining the risks (Baker & Nofsinger, 2010; Chuahan & Chavda, 2024). Meanwhile, emotion bias appears when investment decisions are driven by fear of missing opportunities, greed, or regret over previous decisions. As a result, decisions become reactive and inconsistent with long-term financial goals. Furthermore, market impact bias causes investors to follow market sentiment or the actions of other investors, ultimately triggering herding behavior and increasing volatility in mutual fund instruments (Bouteska & Regaieg, 2022).

Within the behavioral finance framework, ATR reflects how individuals assess risk not only based on rational calculations but also through perceptions, emotions, and past experiences (Che Hassan et al., 2023; Öksüz et al., 2022; Zaman et al., 2025). In various behavioral finance studies, attitude toward risk has been shown to have a significant relationship with the level of investor behavioral bias (Luo & Salterio, 2022). Every investor has different tendencies when facing potential losses and gains. Zahera and Bansal (2018) emphasized that attitude toward risk is a key psychological factor that transmits the influence of behavioral bias on investment decisions. In this study, attitude toward risk is positioned as a transmittal mediating variable, explaining how cognitive and emotional biases indirectly influence investment decisions. This approach is supported by previous findings showing that the influence of behavioral bias depends on how individuals assess and respond to risk (Nguyen et al., 2019; Rehman et al., 2024). Understanding this mediating mechanism is essential for designing educational interventions that aim to reshape learners' risk attitudes through targeted instruction, reflective activities, and experiential learning in investment simulations.

This study views cultural orientation as a moderating variable that strengthens or weakens the influence of behavioral bias on mutual fund investment decisions. In this study, cultural orientation is measured based on Hofstede's five main dimensions: power

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distance, uncertainty avoidance, individualism vs. collectivism, masculinity vs. femininity, and long-term vs. short-term orientation (Alipour, 2021; Yılmaz, 2023; Żemojtel-Piotrowska & Piotrowski, 2023). Framing culture in this way allows the model to inform culturally responsive financial education, where teaching strategies, examples, and learning interactions are aligned with the sociocultural characteristics of Indonesian learners.

The relationships between variables in this model illustrate that behavioral bias directly influences investment decisions, and this influence can vary depending on attitudes toward risk and sociocultural context (cultural orientation). Thus, this model is a moderated-mediated causal model, where the mediating variable (attitude toward risk) and the moderating variable (culture) provide additional explanations for the variation in the relationships between the primary variables, as illustrated in Figure 1. At the same time, this model offers a theoretical foundation for developing, adapting, and evaluating investor education and financial literacy programs that explicitly take into account behavioral biases, risk attitudes, and cultural orientation in emerging market contexts.

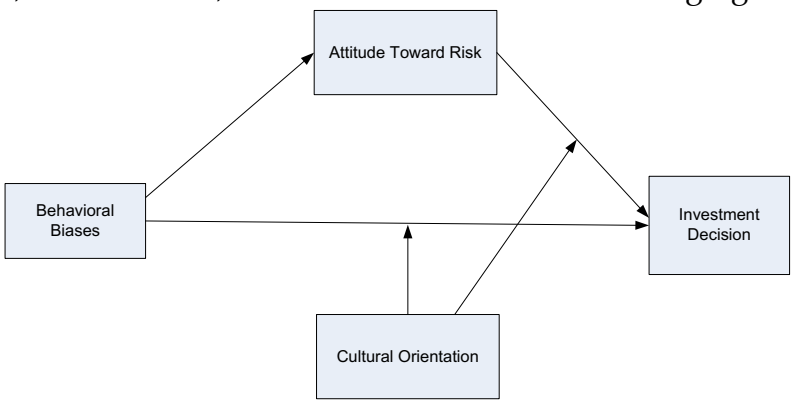

Figure 1. Research Model of Mutual Fund Investment Decisions in Indonesia

Based on the conceptual model, the following six hypotheses can be formulated.

Direct effects hypotheses

H_1 : Behavioral biases have a significant effect on investment decision making.

H_2 : Behavioral biases have a significant effect on attitude toward risk.

H_3 : Attitude toward risk has a significant effect on investment decision making.

Indirect (mediation) hypothesis

H_4 : Attitude toward risk mediates the relationship between behavioral biases and investment decision making.

Moderation hypotheses

H_5 : Cultural orientation moderates the relationship between behavioral biases and attitude toward risk, such that the strength of this relationship varies across cultural orientations.

H_6 : Cultural orientation moderates the relationship between attitude toward risk and investment decision making, such that the effect of attitude toward risk on investment decisions differs according to cultural orientation.

RESEARCH METHODE

This study adopts a quantitative research design, as it focuses on measuring the effects of behavioral biases on mutual fund investment decisions, while also testing the mediating role of attitude toward risk and the moderating role of cultural orientation. A

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quantitative approach enables systematic hypothesis testing and statistical inference regarding causal relationships among variables within an integrated analytical model.

The type of research is causal verification and explanatory. It aims to verify theoretically grounded causal links between behavioral biases and investment decisions, as well as to explain the underlying mechanism through which attitude toward risk transmits these effects and cultural orientation conditions their strength. Model testing is conducted using the Hayes PROCESS macro in SPSS, specifically Model 15, which allows simultaneous examination of mediation and moderation effects.

The target population for the study was set at 2,000 mutual fund investors throughout Indonesia. This number was selected considering research affordability, data collection time, and investor distribution across various regions. Data collection was conducted online through questionnaires distributed to various mutual fund investment communities and platforms. The purposive sampling criteria required respondents to (1) have prior experience investing in mutual funds, (2) be actively investing within the last 12 months, and (3) be at least 18 years old, ensuring that participants possessed relevant and recent investment experience. These criteria were applied through initial screening questions in the questionnaire to ensure the appropriateness of the sample and enhance replicability. The minimum sample size expected was 300 respondents. This represents approximately 20% of the target population and statistically meets the minimum adequate sample size for multivariate analysis. According to Hair Jr. et al. (2021), the ideal sample size for the Structural Equation Modeling (SEM-PLS) method is between 5 and 10 times the number of indicators, with a minimum of approximately 200–400 respondents for complex models. This is also ideal for the Hayes Process model in SPSS. Furthermore, a minimum sample size of 300 is recommended to detect moderation effects with a test power of 0.80.

The data used in this study are primary data collected through a survey of mutual fund investors in Indonesia, including both individual investors and members of investor communities. Respondents' perceptions are measured using a five-point Likert scale. Data collection was carried out from July to November 2025. The measurement of the variables and indicators can be shown in Table 1.

Table 1. Variable Measurement

Variables	Indicators	Sources
Behavioral Bias (BB)	Heuristic bias Framing bias Emotional bias Market impact	Baker and Nofsinger (2010); Chauhan and Chavda (2024)
Investment Decision (ID)	Suitability Switching behavior Diversification Time consistency Analytical decision	Agarwal and Rao (2023); Che Hassan et al. (2023); Kutan et al. (2020); Wu (2022); Yılmaz (2023)
Attitude toward Risk (ATR)	Risk tolerance Risk perception Risk preference	Che Hassan et al. (2023); Öksüz et al. (2022); Zaman et al. (2025); Bouteska and Regaieg (2022)
Cultural Orientation (CO)	Power distance Uncertainty avoidance Individualism versus collectivism Masculinity versus femininity Long term versus short term orientation	Alipour (2021); Yılmaz (2023); Żemojtel Piotrowska and Piotrowski (2023)

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RESULTS AND DISCUSSION

This section is structured in a step-by-step and systematic manner to provide a comprehensive empirical overview and a complete theoretical interpretation. The presentation begins with the results of Confirmatory Factor Analysis (CFA) to ensure the validity and reliability of the constructs used in the study. Next, the results of structural model testing using Hayes PROCESS macro Model 15 are presented to examine the direct influence, mediation role of attitude toward risk, and moderating role of cultural orientation in the relationship between variables. After all empirical results are presented, this section continues with a discussion linking the research findings to the frameworks of behavioral finance, prospect theory, and cultural finance,

Confirmatory Factor Analysis (CFA)

This subsection presents the results of a Confirmatory Factor Analysis (CFA), which aims to test the fit of the measurement model to the empirical data. This analysis was conducted to ensure that each indicator represents the latent construct validly and reliably before testing the structural relationships. First, CFA is used to evaluate the quality of the measurement model, specifically to test the construct validity and reliability of the instrument. This is done by examining the factor loadings of each indicator on the latent construct being measured. The factor loadings of each construct can be shown in Table 2.

Table 2. Factor Loadings

	ATR	BB	CO	ID
Risk tolerance	0.948			
Risk perception	0.944			
Risk preference	0.933			
Heuristic bias		0.961		
Framing bias		0.937		
Emotional bias		0.920		
Market impact		0.952		
Power distance			0.897	
Uncertainty avoidance			0.857	
Individualism versus collectivism			0.836	
Masculinity versus femininity			0.693	
Long term versus short term orientation			0.839	
Suitability				0.922
Switching behavior				0.894
Diversification				0.886
Time consistency				0.833
Analytical decision				0.813

The factor loading results for the attitude toward risk (ATR) variable show very high values (between 0.933 and 0.948). Here, the risk tolerance, risk perception, and risk preference indicators have a very strong ability to represent the ATR construct. These loading values reflect the indicators' consistency in capturing individual tendencies in assessing investment risk. This ATR construct can be said to have excellent convergent validity.

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For the behavioral bias (BB) variable, all indicators also showed very strong factor loadings, ranging from 0.920 to 0.961. Heuristic bias, framing bias, emotional bias, and market impact have been empirically proven to form a cohesive behavioral bias construct. Cognitive and emotional biases are indeed interrelated in influencing how investors make mutual fund investment decisions.

The cultural orientation (CO) variable has a relatively wide range of factor loadings, ranging from 0.693 to 0.897. Power distance, uncertainty avoidance, individualism versus collectivism, masculinity versus femininity, and long-term versus short-term orientation still meet the minimum acceptable threshold. This variation in values reflects the complexity of cultural dimensions within Indonesia's heterogeneous social context.

The investment decision (ID) variable shows a strong factor loading value, ranging from 0.813 to 0.922. The suitability, switching behavior, diversification, time consistency, and analytical decision indicators consistently shape the investment decision construct. This finding suggests that mutual fund investment decisions are not influenced by a single aspect, but rather result from considerations of suitability, time consistency, and analytical skills in managing the investment portfolio.

Construct reliability can be seen from the Composite Reliability and Cronbach's Alpha values. These values are presented in Table 3.

Table 3. Construct Reliability

	Cronbach's Alpha	Composite Reliability
Attitude toward Risk (ATR)	0.936	0.959
Behavioral Bias (BB)	0.958	0.970
Cultural Orientation (CO)	0.888	0.915
Investment Decision (ID)	0.920	0.940

The Cronbach's Alpha and Composite Reliability values for all constructs indicate excellent reliability. The variables for attitude toward risk, behavioral bias, and investment decision have reliability values above the recommended threshold. This indicates internal consistency in measuring the constructs. The cultural orientation variable also demonstrates adequate reliability, although its value is relatively lower than the other constructs.

Next, convergent and discriminant validity tests are performed. Convergent validity is measured through the Average Variance Extracted (AVE) value, while discriminant validity can be explained by comparing the square root of AVE with the correlation between constructs (see Table 4).

Table 4. Convergent and Discriminant Validity Tests

	Average Variance Extracted (AVE)	ATR	BB	CO	ID
Attitude toward Risk (ATR)	0.887	**0.942**			
Behavioral Bias (BB)	0.889	0.588	**0.943**		
Cultural Orientation (CO)	0.684	0.495	0.458	**0.827**	
Investment Decision (ID)	0.758	0.722	0.573	0.515	**0.871**

The results of the convergent and discriminant validity tests demonstrate strong construct validity. All AVE values exceed the recommended threshold of 0.50, confirming adequate convergent validity. Discriminant validity is also well established, as the square root of AVE for each construct is higher than its correlations with other constructs. This

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finding suggests that attitude toward risk, behavioral bias, cultural orientation, and investment decision are empirically distinct concepts. In short, it can be confirmed here that all constructs have met the validity and reliability criteria. Further analysis using Hayes PROCESS can be conducted.

Hayes Model

After the measurement model was declared to meet the criteria, the analysis continued with testing the structural model using Hayes PROCESS macro Model 15. This stage aims to test the direct influence of behavioral bias on investment decisions, the role of attitude toward risk as a mediating variable, and the function of cultural orientation as a moderating variable. This is the calculation output from 300 respondents, related to the proposed model.

The following presents the Hayes PROCESS Model 15 Results: (1) Effects on Attitude toward Risk (ATR) in Table 5, (2) Effects on Investment Decision (ID) in Table 6, and (3) Conditional Effects of Behavioral Bias on Investment Decision at Levels of Cultural Orientation (Table 7).

Table 5. Hayes PROCESS Model 15 Results: Effects on Attitude toward Risk (ATR)

Predictor	Coefficient	SE	t-value	p-value	LLCI	ULCI
Constant	8.804	2.927	3.008	0.003	3.043	14.565
Behavioral Bias (BB)	0.172	0.022	7.951	0.000	0.130	0.215

Model Summary:
$R = 0.418$; $R^2 = 0.175$; $F(1, 298) = 63.218$; $p < 0.001$

Table 6. Hayes PROCESS Model 15 Results: Effects on Investment Decision (ID)

Predictor	Coefficient	SE	t-value	p-value	LLCI	ULCI
Constant	7.681	4.268	1.800	0.073	-0.718	16.081
Behavioral Bias (BB)	0.210	0.033	6.301	0.000	0.145	0.276
Attitude toward Risk (ATR)	0.673	0.080	8.421	0.000	0.516	0.830
Cultural Orientation (CO)	38.885	5.861	6.634	0.000	27.350	50.420
BB × CO	-0.160	0.046	-3.523	0.000	-0.250	-0.071
ATR × CO	-0.407	0.110	-3.690	0.000	-0.625	-0.190

Model Summary:
$R = 0.727$; $R^2 = 0.529$; $F(5, 294) = 66.086$; $p < 0.001$

Table 7. Conditional Effects of Behavioral Bias on Investment Decision at Levels of Cultural Orientation

Cultural Orientation (CO)	Effect of BB on ID	SE	t-value	p-value	LLCI	ULCI
Low (0)	0.210	0.033	6.301	0.000	0.145	0.276
High (1)	0.050	0.031	1.608	0.109	-0.011	0.111

Notes:
- Analysis conducted using Hayes PROCESS macro Model 15 with 5,000 bootstrap samples.
- BB = Behavioral Bias; ATR = Attitude toward Risk; CO = Cultural Orientation; ID = Investment Decision.
- LLCI and ULCI represent lower and upper limits of the 95 percent confidence interval.

The results for the first stage of the model are presented in Table 5, which reports the effect of behavioral bias on attitude toward risk. The findings indicate that behavioral bias has a positive and statistically significant effect on attitude toward risk. This result suggests that stronger behavioral biases are associated with a higher tendency to accept or reinterpret investment risk. The model explains a meaningful proportion of variance in attitude toward risk, namely behavioral bias plays an important role in shaping how investors perceive and respond to risk in the context of mutual fund investment.

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Table 6 shows the results of the structural model with investment decision as the outcome variable. Here, behavioral bias, attitude toward risk, and cultural orientation each have a significant direct effect on investment decisions. Attitude toward risk exhibits a strong positive influence, indicating that investors with a higher tolerance or preference for risk tend to make more assertive investment decisions. Cultural orientation also shows a substantial positive effect, highlighting the importance of cultural values in shaping investment behavior. In addition, both interaction terms are statistically significant and negative, indicating that cultural orientation weakens the direct effect of behavioral bias and the effect of attitude toward risk on investment decisions.

The moderating role of cultural orientation is provided in Table 7, which reports the conditional effects of behavioral bias on investment decisions at different levels of cultural orientation. The results show that when cultural orientation is low, behavioral bias has a strong and significant positive effect on investment decisions. However, when cultural orientation is high, this effect becomes weaker and statistically insignificant. This pattern confirms the presence of a moderation effect, suggesting that strong cultural values may constrain or dampen the influence of individual behavioral biases on investment decision-making.

Discussion

The discussion section interprets all empirical findings by linking them to the theoretical framework and previous research findings. The discussion focuses on how behavioral bias, attitudes toward risk, and cultural orientation interact to influence investment decisions within the context of mutual fund investors in Indonesia, while also drawing out implications for investor education and financial literacy development.

From the results, the factor loadings for attitude toward risk are uniformly very high, indicating a strong and coherent construct. Risk tolerance shows the highest loading, followed closely by risk perception and risk preference. This pattern suggests that investors' acceptance of volatility and loss potential is the most central element in shaping overall risk attitude, while perception and preference function as closely related cognitive and affective complements. The consistently high loadings indicate that risk attitude operates as an integrated psychological mechanism through which biases translate into investment behavior.

This finding is consistent with prior studies suggesting that tolerance represents a relatively stable psychological disposition, whereas perception and preference are more context-dependent and influenced by information framing (Ahmad & Shah, 2020; Zahera & Bansal, 2018). In addition, previous research confirms that risk attitude serves as a key mechanism through which psychological biases influence investment decisions (Che Hassan et al., 2023). These results imply that educational interventions targeting risk attitudes may be particularly effective in modifying biased decision-making patterns.

For behavioral bias, all indicators exhibit very strong loadings, with heuristic bias and market impact bias emerging as the most dominant. The high loading of heuristic bias indicates that investors rely heavily on mental shortcuts when making mutual fund investment decisions, particularly under conditions of information overload and uncertainty. Similarly, the strong loading of market impact bias suggests that price movements, trends, and market sentiment play a major role in shaping investor judgment. Emotional bias and framing bias, while still strong, load slightly lower,

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indicating that emotions and presentation effects tend to reinforce rather than dominate heuristic-driven cognition.

These findings align with behavioral finance literature emphasizing the role of heuristics as dominant cognitive mechanisms in investment decision-making (Baker & Nofsinger, 2010; Ahmad & Wu, 2023). Previous studies also highlight that market signals and sentiment significantly influence investor behavior, particularly in emerging and digitally mediated markets (Chuahan & Chavda, 2024; Gabhane et al., 2023). Furthermore, emotional and framing effects are often found to complement heuristic processes rather than replace them (Badola et al., 2023). These results suggest the need for instructional designs that train investors to recognize and critically evaluate heuristics, market signals, and persuasive financial narratives.

The cultural orientation construct shows greater variation in factor loadings, reflecting the multidimensional and context-sensitive nature of culture. Power distance and uncertainty avoidance load relatively high, indicating that hierarchical norms and discomfort with ambiguity are important factors shaping investor attitudes. In the Indonesian context, the high loading of power distance reflects a tendency for individuals to rely on authority figures, such as financial advisors, senior family members, and institutional recommendations, when making investment decisions. Masculinity versus femininity exhibits the lowest loading, indicating that competitive value orientations play a less central role compared to authority structures and risk-related norms.

These findings support cultural finance perspectives suggesting that hierarchical structures and uncertainty avoidance are particularly influential in collectivist and emerging market contexts (Falamarzi et al., 2023; Yılmaz, 2023). In addition, prior studies argue that not all cultural dimensions exert equal influence on financial behavior (Kutan et al., 2020; Żemojtel-Piotrowska & Piotrowski, 2023). This highlights the importance of designing culturally responsive investor education that considers hierarchy and uncertainty avoidance.

CONCLUSION

Fundamental Finding: This study concludes that behavioral bias exerts a positive and significant influence on mutual fund investment decisions in Indonesia, operating both directly and indirectly through investors' attitudes toward risk, while cultural orientation moderates these relationships by attenuating bias-driven effects under stronger cultural constraints. The structural results indicate that when investors display stronger heuristic, emotional, framing, and market impact biases, their risk tolerance, risk perception, and risk preference increase, which in turn lead to more assertive investment behaviors such as frequent switching, broader diversification, and higher time consistency in mutual fund portfolio management. The findings confirm that attitude toward risk functions as a central psychological mechanism translating behavioral biases into observable investment choices, whereas cultural orientation particularly dimensions such as power distance, uncertainty avoidance, and collectivism, acts as a contextual filter that shapes how strongly these biases and risk attitudes are expressed in decision making. **Implications:** Theoretical implications show that integrating behavioral bias, attitude toward risk, and cultural orientation into a single moderated–mediated model advances behavioral and cultural finance by demonstrating that investor decisions emerge from the interaction between cognitive emotional tendencies and socio-cultural structures rather than from purely rational optimization. Educational implications suggest that

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investor education and financial literacy programs should explicitly address behavioral biases and risk attitudes through case-based learning, simulations, and reflective activities, while being culturally responsive to Indonesian norms of collectivism, hierarchy, and uncertainty avoidance, so that learners can recognize, critique, and manage their own decision tendencies more effectively. These findings align with and support Indonesia's National Strategy for Financial Literacy (SNLKI) by the Otoritas Jasa Keuangan (OJK), providing an evidence-based rationale for integrating behavioral and cultural dimensions into national financial literacy programs. Practical implications for regulators, financial institutions, and mutual fund providers include the need to design risk communication, advisory services, and digital platform features that simplify information without reinforcing biases, incorporate warnings or nudges against excessive switching and trend chasing, and embed culturally sensitive guidance that aligns with local values while promoting prudent, long-term investing behavior. **Futer Research:** Future studies should examine additional determinants of mutual fund investment decisions and financial well-being, such as financial literacy levels, quality of investor education exposure, digital platform design, and perceived trust in financial institutions, to obtain a more comprehensive picture of decision drivers. Subsequent research may incorporate moderating variables such as age, income level, investment experience, type and intensity of financial education received, or learning climate in investor communities to clarify heterogeneity in the strength of behavioral bias and attitude toward risk effects across different investor segments. Methodologically, longitudinal designs are recommended to capture changes in bias, risk attitude, and investment behavior over time, especially before and after targeted investor education interventions, while experimental or quasi-experimental studies could test the effectiveness of specific debiasing and culturally tailored educational strategies in improving mutual fund decision making.

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