

THE INFLUENCE OF BEHAVIORAL FINANCE ON RISK TAKING BEHAVIOR AMONG RETAIL INVESTORS

PENGARUH KEUANGAN PERILAKU TERHADAP PERILAKU PENGAMBILAN RISIKO DI KALANGAN INVESTOR RITEL

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ABSTRACT

Risk-taking behavior among retail investors is often influenced by psychological factors, including heuristics, emotions and overconfidence. Understanding the interactions between these factors is critical to improving investment decisions and reducing the risk of financial loss. This research aims to explore the influence of heuristics, emotions and overconfidence on risk taking by retail investors, as well as how these three factors interact with each other in the context of investment decision making. This research uses a Systematic Literature Review (SLR) approach with the PRISMA method to identify, assess and analyze 40 relevant articles. Data were collected from Scopus and Web of Science databases, and analysis was carried out using thematic analysis techniques to identify main patterns and themes. Findings show that heuristics such as anchoring and availability bias, as well as emotions such as fear and greed, significantly influence investment decisions. Overconfidence has also been proven to increase investors' tendency to take higher risks, often without adequate analysis. This research provides important insights into how psychological factors influence retail investment behavior. These findings contribute to the development of behavioral finance theory and offer practical implications for financial service providers in designing more effective strategies to help investors manage their psychological biases.

Keywords: Behavioral finance, risk-taking behavior, retail investors, heuristics, overconfidence, emotions

ABSTRAK

Perilaku pengambilan risiko di kalangan investor ritel seringkali dipengaruhi oleh faktor psikologis, termasuk heuristik, emosi, dan overconfidence. Memahami interaksi antara faktor-faktor ini sangat penting untuk meningkatkan keputusan investasi dan mengurangi risiko kerugian finansial. Penelitian ini bertujuan untuk mengeksplorasi pengaruh heuristik, emosi, dan overconfidence terhadap pengambilan risiko oleh investor ritel, serta bagaimana ketiga faktor ini saling berinteraksi dalam konteks pengambilan keputusan investasi. Penelitian ini menggunakan pendekatan Systematic Literature Review (SLR) dengan metode PRISMA untuk mengidentifikasi, menilai, dan menganalisis 40 artikel yang relevan. Data dikumpulkan dari database Scopus dan Web of Science, dan analisis dilakukan menggunakan teknik analisis tematik untuk mengidentifikasi pola dan tema utama. Temuan menunjukkan bahwa heuristik seperti anchoring dan availability bias, serta emosi seperti fear dan greed, secara signifikan mempengaruhi keputusan investasi. Overconfidence juga terbukti meningkatkan kecenderungan investor untuk mengambil risiko yang lebih tinggi, sering kali tanpa analisis yang memadai. Penelitian ini memberikan wawasan penting tentang bagaimana faktor psikologis mempengaruhi perilaku investasi ritel. Temuan ini berkontribusi pada pengembangan teori keuangan perilaku dan menawarkan implikasi praktis bagi penyedia layanan keuangan dalam merancang strategi yang lebih efektif untuk membantu investor mengelola bias psikologis mereka.

Kata Kunci: Keuangan perilaku, perilaku pengambilan risiko, investor ritel, heuristik, kepercayaan diri berlebih, emosi

1. INTRODUCTION

Investments by individuals often extend beyond rational considerations, being influenced heavily by psychological factors such as heuristics, emotions, and overconfidence. Heuristics are cognitive shortcuts that individuals employ to simplify decision-making, especially under uncertainty. These cognitive strategies, while expedient, can introduce biases that skew investment decisions. For instance, availability bias can cause investors to rely heavily on recent news or memorable events rather than conducting a comprehensive analysis of data. This can lead them to make choices based on easily retrievable information rather than what is statistically valid or relevant (Haritha, 2023; Yalçın et al., 2016).

Emotions significantly affect investment behavior, as indicated by (Lerner et al., 2015), who discuss how feelings such as fear, greed, and the fear of missing out can lead to rapid and often irrational decision-making, especially in volatile market conditions (Lerner et al., 2015). Investors may become excessively optimistic during market surges or overly cautious in downturns, propelling them toward riskier investments that do not align with their financial goals or the underlying economic fundamentals. The interplay of emotional states can exacerbate biases introduced by heuristics, thus complicating the decision-making process for retail investors who typically possess limited market knowledge and experience (Hoxha & Hasani, 2022; Raut, 2020).

Overconfidence is another critical psychological factor in investment decision-making that can lead to detrimental outcomes for individual investors. Odean (1998) illustrates how confident investors tend to trade more frequently and assume greater risk based on an inflated perception of their predictive abilities. This overconfidence can blind them to important market signals and the necessity for more grounded, data-driven strategies (Noch & Rumasukun, 2024; Khare & Kapoor, 2023). The implications of overconfidence are particularly pronounced in unpredictable environments, where the lack of humility regarding one's predictive skill can result in significant financial losses (Hartono et al., 2023).

Collectively, these psychological factors form a complex web of influences that challenge the rational decision-making paradigm usually emphasized in traditional finance theories. Studies consistently highlight that cognitive biases and emotional responses can lead to poor investment outcomes, particularly among retail investors (Sudirman et al., 2023; Yadav & Chaudhary, 2022). Furthermore, the burgeoning field of behavioral finance has begun to address these psychological dimensions more comprehensively, seeking to enhance understanding of how psychological factors interact within the investment decision-making landscape (Ayaa et al., 2022; Abhijith & Bijulal, 2024). Thus, recognizing and addressing these biases is crucial for both individual investors and financial advisors in guiding investment choices effectively.

Although many studies have examined the influence of psychological factors on investment decision making, most of these studies have focused on one or two psychological factors only, without considering the complex interrelationships between these various factors. Most studies in behavioral finance focus on heuristic or overconfidence effects separately, while emotional influences on investment decisions are often analyzed separately as well. These studies provide important insights into how psychological factors influence investors, but they have not linked how the three main factors—heuristics, emotions, and overconfidence—work together in determining investment decisions by retail investors.

For example, although there has been some research that identifies the influence of heuristics such as anchoring bias or representativeness bias in investment decisions, little has discussed how these biases interact with emotions or overconfidence in decision making. The same is true of studies addressing overconfidence: although many studies confirm that overconfident investors tend to take more risks, few examine how other psychological factors, such as emotions and heuristics, can amplify or mitigate the effects of this overconfidence.

Research that combines the three psychological factors—heuristics, emotions, and overconfidence—in the context of investment decisions by retail investors is still limited. Combining these three factors in one study will provide a more holistic understanding of the behavior of retail investors, who often act based on ignorance or irrational beliefs. Therefore, this research aims to fill this gap by comprehensively examining how these three psychological factors influence each other and interact in investment decisions taken by retail investors.

Based on the research results that have been analyzed and the research gaps identified, this study focuses on three main questions which are at the core of the study of retail investor behavior in the context of behavioral finance. First, how does heuristic influence investment decision making by retail investors. This question aims to explore various types of common heuristic biases, such as anchoring, representativeness, and availability bias, and assess the extent to which these biases lead to irrational decisions. In addition, this study also examines how heuristics interact with other psychological factors in influencing investment decisions. Second, how emotions influence short-term investment decisions in retail investors. In volatile market conditions, emotions such as fear, greed, and optimism often emerge and play an important role in daily or weekly investment decisions. This study aims to identify the dominant emotions that arise and the market situations that trigger them. Third, the extent to which overconfidence influences risk taking by retail investors. Overconfidence is a psychological bias that encourages investors to take higher risks compared to the capacity or information they have. This study will explore how overconfidence influences long-term investment decisions and its association with increased exposure to risk. It is hoped that these three questions can provide a comprehensive understanding of the role of psychological factors in investment decision making by retail investors.

This research contributes to the development of behavioral finance theory by providing a deeper understanding of how various psychological factors—heuristics, emotions, and overconfidence—interact in investment decision making by retail investors. By integrating these three factors, this research can enrich the existing literature and provide a more comprehensive perspective on the psychological dynamics in behavioral finance. It is hoped that the findings of this research will provide new insights in understanding the behavior of retail investors, which are often irrational and prone to psychological bias.

In addition, this research also provides practical contributions for retail investors and financial service providers. By understanding how these psychological factors influence investment decisions, financial service providers can develop more effective tools or approaches to help investors overcome their psychological biases. For example, investment companies can create educational programs or use AI-based technology to provide more objective and rational insights for retail investors. It is hoped that this will help them making wiser and more sustainable investment decisions.

2. METHODS

2.1. Research Design

This research uses a Systematic Literature Review (SLR) design that adopts the PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) method to select, assess and analyze relevant articles. SLR is a very appropriate approach for identifying, assessing the quality, and summarizing existing research findings in a particular field. In this case, SLR is used to explore psychological factors that influence investment decisions by retail investors, with a focus on heuristics, emotions and overconfidence. The PRISMA method provides transparent and structured procedures for managing literature searches, screening and selection of relevant articles, and ensures that the research process can be replicated by other researchers.

This SLR process allows for a more in-depth synthesis of the literature, providing a comprehensive picture of the influence of psychological factors in investment decisions, as well as assessing the quality and limitations of existing research. It also allows researchers to identify gaps in the existing literature and make new contributions to the field of behavioral finance.

2.2. Inclusion and Exclusion Criteria

Inclusion and exclusion criteria were set to ensure that only relevant and high-quality articles were included in this review.

- Inclusion Criteria:
 - Journal articles published within the last 10 years, ensure that the literature used reflects the latest findings in the field of behavioral finance.
 - Article discussing the influence of psychological factors in investment decision making by retail investors, especially those related to heuristics, emotions and overconfidence.
 - Articles published in journals indexed by Scopus or Web of Science, to ensure that the sources used are reputable journals and have guaranteed quality.
- Exclusion Criteria:
 - Articles that are not relevant to the main research topic, for example those that discuss non-psychological factors in investment decision making or those that focus on institutional investors.
 - Articles that are not published in Scopus or Web of Science indexed journals due to lack of validity and reference quality.
 - Articles that discuss broader topics and do not focus on the influence of psychological factors in investment decision making.

2.3. Data source

To collect relevant articles, several main databases will be used in the literature search, namely:

- Scopus: One of the largest and most complete databases indexing international scientific journals with high quality standards.
- Web of Science: A database that provides access to scientific journals and publications from various fields of science, including economics and finance.

Searching for articles in this database will use keywords relevant to the research topic, such as:

- behavioral finance
- heuristics
- overconfidence
- investment decisions
- retail investors

The aim of using these keywords is to find articles that discuss the influence of psychological factors in investment decisions by retail investors, as well as identifying more specific and recent related literature.

2.4. Search and Selection Process

The process of searching and selecting articles is carried out using a Boolean search strategy that combines relevant keywords, for example by using logical operators such as

"AND", "OR", and "NOT". This will allow researchers to expand or narrow the search according to the research topic being explored.

The PRISMA diagram will be used to clearly illustrate the article screening process carried out in this research. This diagram will show the stages of filtering articles, starting from articles found through the initial search to articles finally selected for inclusion in the study. The article screening process will involve three main stages:

1. Identification: Determining relevant articles based on title, abstract and keywords.
2. Screening: Assessing the suitability of articles based on predetermined inclusion and exclusion criteria.
3. Inclusion: Selecting articles that meet the criteria for further analysis.

This selection process will be carried out systematically and transparently to ensure that only relevant and high quality articles are included in this research.

2.5. Data Analysis Techniques

To analyze the data, this research will use the thematic analysis method. This technique allows researchers to identify, analyze, and report patterns or themes that emerge in existing literature. With this approach, researchers can group findings from various articles based on main themes related to psychological factors in investment decisions.

The steps in thematic analysis include:

1. Coding: Read the article in depth and code the parts of the text that are relevant to the research topic, such as the influence of heuristics, emotions, and overconfidence in investment decisions.
2. Categorization: Grouping similar codes into main categories based on themes found, for example themes related to heuristic bias, emotional impact on investment, and the influence of overconfidence.
3. Interpretation: Compile the results of thematic analysis to find patterns and relationships between psychological factors involved in decision making by retail investors.

Using this approach, this research aims to identify the main findings emerging in the literature and construct a clearer picture of the influence of psychological factors on investment decisions by retail investors. The results of this analysis will provide a more comprehensive understanding of investor behavior and suggest steps that can be taken to help them make more rational decisions.

3. RESULTS

3.1. Characteristics of Reviewed Studies

3.1.1. Number of articles analyzed

A total of 40 articles related to the influence of heuristics, emotions and overconfidence in investment decision making by retail investors have been analyzed in this research.

Distribution of publications per year:

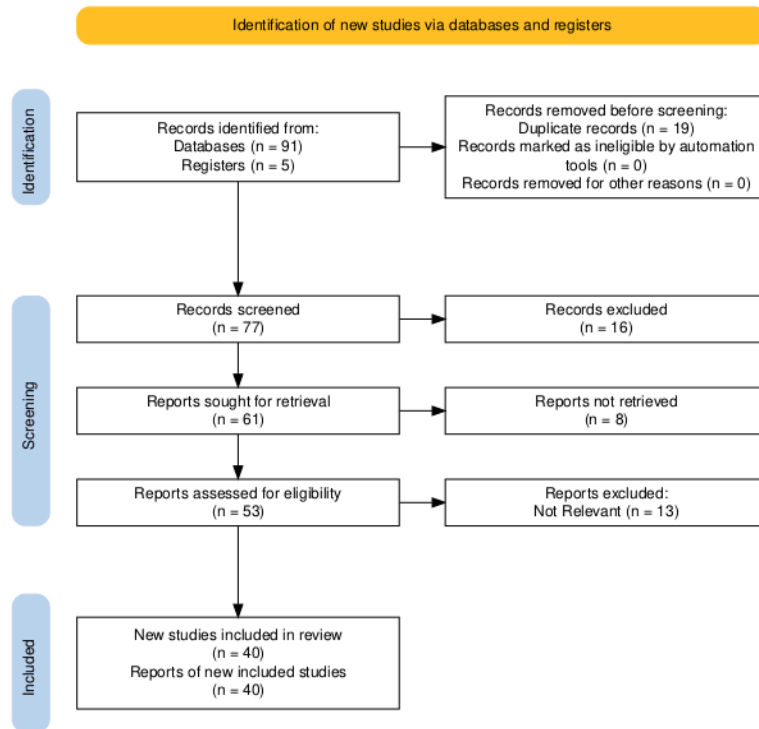


Figure 1. Prisma Diagram
Source: Processed Data, 2025

The process of identifying new studies through databases and registration includes several important steps. First, of the total of 96 records identified, 91 came from databases and 5 from registries. Prior to the screening process, 19 records were removed due to duplication, while no records were marked as ineligible by the automated tool. After screening, 77 records were examined and 16 of them were excluded.

Of the 61 reports sought to be retrieved, 8 were unsuccessful. Furthermore, 53 reports were assessed for suitability. Ultimately, 40 new studies were included in the review, and the number of reports of newly included studies also reached 40. This process represents a systematic method of identifying and filtering data for the preparation of a review that focuses on recent research.

3.1.2. Trending Article

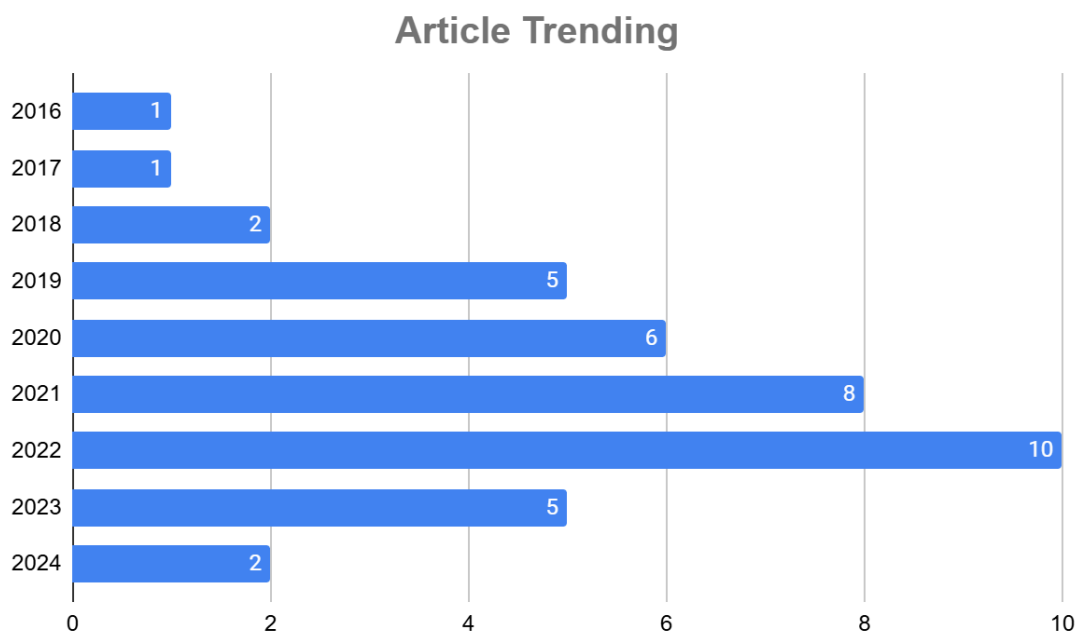


Figure 2. Article Trending
Source: Processed Data, 2025

Between 2016 and 2024, the research landscape regarding the influence of behavioral finance on risk-taking behavior among retail investors is experiencing significant development. In 2016, only one article was published, marking the beginning of exploration of this topic with a focus on risk tolerance and psychological factors influencing investment decisions. In 2017, the number of articles remained at one, indicating that research is still in its early stages and has not progressed much. However, in 2018, the number of articles increased to two, with research starting to broaden its scope to understand more deeply the emotions and cognitive biases that influence investor behavior.

A significant spike occurred in 2019 with five articles published, signaling increased interest in exploring market dynamics and investor behavior. 2020 saw six articles, focusing on risk perceptions and the impact of the COVID-19 pandemic on investment decisions. The peak number of articles was recorded in 2021 with eight articles, showing that this topic is increasingly relevant and widely discussed among academics and practitioners. In 2022, the number of articles reached ten, reflecting greater attention to the influence of behavioral finance on risk taking among retail investors.

However, in 2023, there was a decrease in the number of articles to five, perhaps indicating that research is starting to stabilize and focus on more in-depth analysis. Finally, in 2024, only two articles were published, with attention turning to future trends and predictions in behavioral finance, signaling that the research continues to adapt to changes in markets and technology. Overall, these data demonstrate significant developments in understanding of how psychological and behavioral factors influence investment decisions among retail investors over the period.

3.1.3. Previous Research Methods

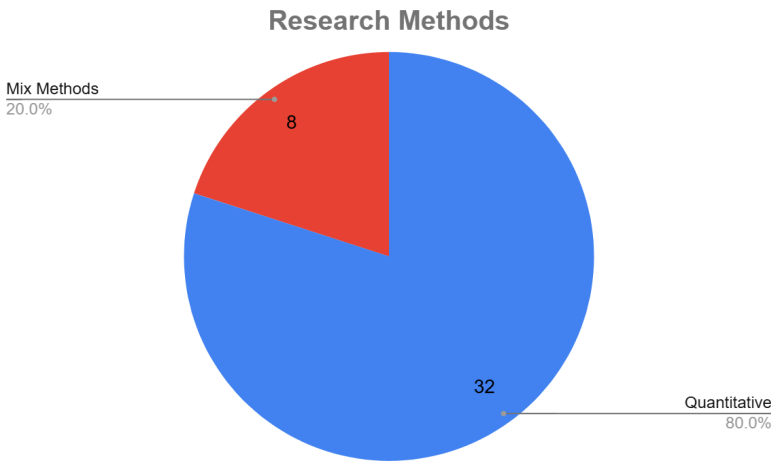


Figure 3. Previous Research Methods
Source: Processed Data, 2025

The table shown shows that research on the influence of behavioral finance on risk-taking behavior by retail investors is dominated by quantitative approaches, with a total of 32 articles. This approach generally involves collecting numerical data through instruments such as surveys or questionnaires designed to measure psychological variables, including risk

tolerance, cognitive biases, and various emotional factors. Statistical analysis is then used to identify patterns and relationships between variables, thereby providing strong empirical evidence regarding the influence of psychological factors on investment decisions. This dominance of quantitative methods reflects the need for objective and measurable data in the context of behavioral finance studies. On the other hand, there are also 8 articles that use a mixed methods approach, namely a combination of quantitative and qualitative methods. This approach allows researchers not only to obtain numerical data, but also to explore deeper understanding through interviews or focus group discussions. As such, mixed methods provide a richer and more interpretive context to the quantitative findings, as well as allowing for further exploration of nuances in investor behavior that may not be captured through numbers alone.

3.2. Key Findings

1. Heuristics

Anchoring bias and availability bias are cognitive heuristics that significantly influence the short-term investment decisions of retail investors. Anchoring bias refers to the phenomenon where investors rely heavily on prior information or previous prices when making investment choices, often neglecting more relevant and recent information (Shah et al., 2018; (Owusu & Laryea, 2022; . This reliance can distort judgment, resulting in suboptimal investment decisions as investors anchor their expectations based on outdated or non-representative data (Shah et al., 2018; .

Availability bias, on the other hand, occurs when investors make decisions based on easily recalled or memorable information that may not accurately represent the overall market situation (Piotrowski & Bünnings, 2022; (Sudirman et al., 2023). For instance, an investor might overestimate the likelihood of a specific stock's success due to recent news coverage or personal experiences, leading to choices that do not align with broader market trends (Sudirman et al., 2023). Research indicates that these biases can impair decision-making processes, ultimately causing investors to miss significant opportunities or incur unnecessary losses (Shah et al., 2018; Yalçın et al., 2016).

Various studies have explored the implications of these biases in changing market environments. For example, it has been noted that investors influenced by anchoring and availability heuristics frequently misjudge potential risks, focusing instead on familiar narratives or past experiences rather than adopting a more analytical approach (Owusu & Laryea, 2022; Kasoga, 2021). Additionally, the COVID-19 pandemic exhibited an amplified effect of these biases, as heightened uncertainty and volatility made prior information seem relevant, despite its potential irrelevance (Peprah et al., 2024; Parveen et al., 2021).

These biases not only hinder effective investment behavior but can also increase trading activity, leading to excessive buying and selling based on irrational exuberance or undue pessimism (Ahmad et al., 2022). As a result, understanding and mitigating the impact of anchoring and availability biases is crucial for retail investors seeking to improve their investment outcomes. Awareness of these biases can lead to more rational decision-making processes, allowing investors to make informed choices backed by comprehensive data rather than cognitive shortcuts.

2. Emotions

The influences of emotions, specifically fear and greed, on investment decisions are both profound and well-documented in behavioral finance. Fear often induces investors to liquidate their positions during market downturns, despite the underlying fundamentals of stocks remaining sound. The psychological mechanism driving this behavior can be traced to a heightened risk perception, which prompts a rapid response to market volatility. Research indicates that the fear of missing out (FoMO) compels individuals to engage in less rational

investment behaviors, such as hoarding assets in the hope of securing short-term gains, consequently exacerbating market fluctuations (Wang et al., 2023).

Additionally, the emotion of greed can lead to excessively risky investment behaviors. It drives investors to pursue high-risk opportunities with unrealistic expectations of swift returns, often ignoring rational analyses of market conditions. A study elucidates the neural mechanisms underpinning greed-related decision-making, revealing that higher levels of trait greed correlate with an increased inclination toward risk-taking, albeit not always towards advantageous outcomes (Li et al., 2019). This is further elaborated by research showing that short-term investors are particularly vulnerable to heuristic biases, such as overconfidence and short-term profit-seeking behaviors, which are exacerbated by emotional responses like greed (Sudirman et al., 2023).

Moreover, the cognitive biases fueled by greed can impair judgment, as individuals may become largely insensitive to negative feedback regarding their investments. High levels of greed can lead to a tendency to overlook losses compared to gains, resulting in persistent risk-taking even in the face of substantial evidence that suggests a change in strategy is warranted (Mussel & Hewig, 2019).

Corroborating these findings, a study emphasizes the importance of distinguishing between short-term and long-term investment strategies, where emotional responses significantly differ. Short-term investments are often characterized by a focus on immediate returns influenced by market sentiments, while long-term investments benefit from a more detached analysis based on fundamental values (Vohra, 2017). This dichotomy highlights the critical need for investors to harness self-control and emotional regulation in their decision-making processes.

In summary, both fear and greed play significant roles in the investment landscape. Fear prompts irrational selling behaviors, while greed cultivates a propensity for high-risk investments without adequate market analysis. Thus, understanding and regulating these emotional influences can enhance investment decision-making and potentially lead to more sustainable financial outcomes.

3. Overconfidence

Overconfidence is a well-documented phenomenon affecting investors' decision-making processes, leading them to accept higher risks without appropriately weighing potential downsides. Research has consistently shown that overconfident investors have a propensity to overestimate their knowledge and abilities, resulting in significant implications for their investment behaviors.

First, overconfidence has been found to correlate positively with the tendency to take excessive risks. Loppies et al. (2022) concluded that an investor's overconfidence significantly impacts their investment decision-making, corroborating earlier findings from Salvatore and Esra in 2020. They articulate how overconfidence stems from an investor's overestimation of their market insights and an underestimation of associated risks. This sentiment aligns with findings from Chen et al. (Chen et al., 2023), asserting that overconfident investors are inclined to pursue riskier securities, which ultimately affects stock returns and market stability.

The implications of such overconfidence are also evident in the trading behaviors of these investors. According to Pikulina et al. (Pikulina et al., 2017), overconfident individuals frequently misjudge their capacity to make profitable trades, often leading to greater trading volumes and frequency. Chang et al. (2008) further emphasized that overconfidence is positively associated with increased idiosyncratic risk in financial markets, suggesting that overestimation of one's private information might elevate market volatility and contribute to the overall instability of investment returns.

Furthermore, the psychological underpinnings of overconfidence elucidate why investors might dismiss critical market information. As articulated by Ganesh et al. (Ganesh et al., 2023), overconfident investors often neglect critical data that could prompt a reevaluation of their strategies, ultimately leading to decisions that diverge significantly from optimal market reactions. This pattern of behavior is compounded by the cognitive bias of ignoring unaligned information detrimental to their investment beliefs.

To understand how overconfidence manifests differently across various investor demographics, research shows gender differences, as men generally exhibit higher levels of overconfidence compared to women (Arijaya & Basana, 2021; ,Fachrudin et al., 2018). This variance in behavior underscores the need for a nuanced understanding of how individual characteristics interact with cognitive biases in shaping investment behavior.

In summary, the existing literature robustly indicates that overconfidence leads investors to undertake higher risks, ignore unfavorable market information, and make less informed investment choices. This understanding is critical for both investors aiming to refine their approaches and advisors looking to guide clients through behavioral pitfalls in investing.

4. DISCUSSIONS

4.1. Synthesis of Results

The results of this research show that The behavior of retail investors is significantly influenced by psychological factors, including heuristics, emotions, and overconfidence, which can lead to decisions that deviate from rationality. Emotions, particularly during volatile market conditions, dominate retail investors' decision-making processes, driving impulsive behaviors that may stem from fear in declining markets or greed in rising ones (Su et al., 2020; , (Madaan & Singh, 2019; , Chen, 2023). Studies indicate that such emotional reactions can have profound impacts, often resulting in erratic investment choices that fail to reflect sound market judgments or comprehensive data analyses (Bi, 2022; , Hu et al., 2021; , Elhussein & Abdelgadir, 2020).

Heuristics, such as anchoring bias and availability bias, play critical roles under conditions of uncertainty. For instance, investors often rely on historical performance to anchor their expectations for future outcomes, especially when faced with inconsistent or overwhelming market information (Arora & Rajendran, 2023; , Dhakal & Lamsal, 2023). This reliance on past data can skew perceptions of risk and return, leading to suboptimal investment decisions. Research illustrates the persistent effect of anchoring bias, which can exacerbate irrational trading behavior, particularly among individual investors in uncertain environments (Dangol & Manandhar, 2020; , Elhussein & Abdelgadir, 2020).

Overconfidence further complicates the decision-making landscape for retail investors. Many individuals believe they possess superior insight into market movements, leading them to underestimate risk or overestimate their predictive capabilities. This overconfidence can result in increased trading activity and a propensity to take greater risks—traits that are commonly observed in economically turbulent periods (Madaan & Singh, 2019; , Elhussein & Abdelgadir, 2020). The tendency to rely on personal intuition instead of systematic analysis reflects a significant disconnection from rational investment principles and highlights the psychological underpinnings of trading behaviors in the stock market (Dangol & Manandhar, 2020; , Mushinada & Veluri, 2019).

In summary, the complex interplay of emotions, heuristics, and overconfidence produces a landscape where retail investors often navigate financial decisions through a lens distorted by psychological biases. These factors not only influence individual investment behavior but also contribute to broader market volatility and inefficiencies.

4.2. Theoretical and Practical Implications

Theoretically, the findings of this research enrich the behavioral finance literature by showing how the interaction between heuristics, emotions, and overconfidence can influence investment decision making. In the existing literature, previous research often focuses on only one psychological factor, such as heuristics or overconfidence separately. This research brings together these three factors and shows that these factors do not just stand alone, but interact with each other, influence each other, and ultimately shape investor decision-making patterns.

Practically, these findings provide important insights for investment service providers and portfolio managers to design strategies that can help retail investors manage their psychological biases. For example, by understanding how fear and greed influence investment decisions, investment service providers can design educational programs or tools that help investors remain rational, especially during periods of high market volatility. In addition, by understanding overconfidence and heuristics, financial service providers can design instruments that are more transparent and easy to understand, thereby helping investors to avoid investment decisions driven by psychological bias alone.

4.3. Comparison with Previous Studies

This research is different from previous studies which tend to focus on one particular psychological factor in making investment decisions, such as heuristics or overconfidence. For example, previous research often examines the impact of overconfidence on risk taking without considering how heuristics or emotions also influence the same behavior. In contrast, this research provides a more holistic picture by considering all three psychological factors at once, which not only increases our understanding of investment decision making, but also opens the door to a more holistic approach in the study of behavioral finance.

In addition, most studies examining the influence of heuristics and emotions on investment decision making focus more on institutional investors or professional investors, while this research pays attention to retail investors, who often have limited knowledge and experience in making investment decisions. Thus, this research expands the scope of previous research by adding a new dimension in the psychological influence on retail investors.

4.4. Study Limitations

However, there is a major limitation in this research, namely the reliance on articles available in the databases used (Scopus, Web of Science, Google Scholar), which may not include all relevant literature, especially those published outside indexed journals or other sources. This may lead to missing some relevant studies in the context of behavioral finance and investment decision making.

In addition, this study does not investigate the influence of cultural or geographical aspects in the influence of psychological factors on investment decisions. Cultural factors or local economic conditions can play an important role in influencing how investors view risk and make investment decisions. For example, investors in developing countries may be more likely to be influenced by emotions or certain heuristics, while investors in developed countries may be more likely to be influenced by rational or analytical factors. Further research needs to consider these dimensions to provide a more complete picture of the factors that influence investment decisions.

4.5. Recommendations for Further Research

For further research, there are several directions that can be developed, including:

1. The Influence of Psychological Factors in Emerging Market Contexts: Research can investigate how heuristics, emotions, and overconfidence influence investment decision making in emerging markets. Differences in market structure, regulation, and

economic development may lead to differences in how investors respond to these psychological factors.

2. Relationship between Overconfidence and Long-Term Investment Results: Future research can more deeply examine the relationship between overconfidence and long-term investment results. Overconfident investors may be more likely to take high risks in the short term, but how does this affect their profitability in the long term? Investigating this can provide deeper insight into the sustainability of investment decisions influenced by overconfidence.
3. Interdisciplinary Approach: Research can also take an interdisciplinary approach by combining social psychology or neuroeconomic theories to explore further the psychological processes that influence investment decisions, as well as to identify methods or strategies that can be used to reduce the influence of psychological bias in investment decision making.

Thus, although this research has made an important contribution to understanding psychological influences on investment decisions, there are many aspects that still need to be explored further to deepen our understanding of behavioral finance and investment decision making in increasingly complex markets.

5. CONCLUSION

5.1. Summary of Key Findings

This research finds that heuristics, emotions and overconfidence have a significant influence on investment decisions by retail investors. Among these three factors, the biggest impact comes from emotional factors and overconfidence. Investors are often influenced by feelings such as fear and greed which dominate their decision making, especially in fluctuating market conditions. In addition, overconfidence makes investors feel confident in making decisions that are often not based on adequate analysis, thereby increasing their tendency to take high risks.

5.2. Contributions to the Literature

This research fills a gap in the behavioral finance literature by integrating various psychological factors that play a role in investment decision making. This research provides deeper insight into the risk-taking behavior of retail investors, by showing how emotions, heuristics and overconfidence interact and influence their investment decisions. Previously, many studies only examined one factor in isolation, but this research offers a more comprehensive picture of the psychological impact on investment decisions.

5.3. Study Limitations

Some limitations of this research include article selection which only includes articles available in certain databases, so there may be relevant literature that was not covered. In addition, this research also does not pay sufficient attention to the cultural context, which can influence investor decision making. Cultural differences can result in widely varying investment behavior, particularly regarding self-confidence and emotional responses to market fluctuations.

5.4. Suggestions for Future Research

For further research, several suggestions that can be considered are:

1. Longitudinal Approach: Further research could adopt a longitudinal approach to examine how psychological factors such as heuristics, emotions, and overconfidence develop over time and how they impact long-term investment outcomes.

2. Demographic and Cultural Considerations: Future research could consider demographic factors such as age, gender, and level of investor education, as well as cultural context that may influence investment behavior. Research involving different cultures or emerging markets can provide further insight into how psychological factors interact in different contexts.

Thus, this research makes an important contribution to our understanding of investment decision making and may open up opportunities for further research that examines psychological factors in broader and more diverse contexts.

6. REFERENCES

- Abhijith, R. and Bijulal, D. (2024). Heuristic biases influencing individual stock investment decisions: a hybrid fuzzy delphi-ahp-dematel approach. *Journal of Advances in Management Research*, 21(4), 627-648. <https://doi.org/10.1108/jamr-03-2024-0093>
- Ahmad, M., Wu, Q., & Abbass, Y. (2022). Probing the impact of recognition-based heuristic biases on investment decision-making and performance. *Kybernetes*, 52(10), 4229-4256. <https://doi.org/10.1108/k-01-2022-0112>
- Arijaya, C. and Basana, S. (2021). Risk aversion and overconfidence in gender perspective. *International Journal of Financial and Investment Studies (Ijfis)*, 2(1), 42-49. <https://doi.org/10.9744/ijfis.2.1.42-49>
- Arora, R. and Rajendran, M. (2023). Moored minds: an experimental insight into the impact of the anchoring and disposition effect on portfolio performance. *Journal of Risk and Financial Management*, 16(8), 349. <https://doi.org/10.3390/jrfm16080349>
- Ayaa, M., Peprah, W., Mensah, M., Owusu-Sekyere, A., & Daniel, B. (2022). Influence of heuristic techniques and biases in investment decision-making: a conceptual analysis and directions for future research. *International Journal of Academic Research in Business and Social Sciences*, 12(5). <https://doi.org/10.6007/ijarbss/v12-i5/13339>
- Bi, J. (2022). Stock market prediction based on financial news text mining and investor sentiment recognition. *Mathematical Problems in Engineering*, 2022, 1-9. <https://doi.org/10.1155/2022/2427389>
- Chang, E., Luo, Y., & Ren, J. (2008). Investor overconfidence and the increase in idiosyncratic risk. *SSRN Electronic Journal*. <https://doi.org/10.2139/ssrn.1099269>
- Chen, Q., Han, Y., & Huang, Y. (2023). Market-wide overconfidence and stock returns. *Journal of Futures Markets*, 44(1), 3-26. <https://doi.org/10.1002/fut.22462>
- Chen, S. (2023). An empirical study of the impact of investor sentiment on stock returns from a behavioural finance perspective.. <https://doi.org/10.4108/eai.19-5-2023.2334284>
- Dangol, J. and Manandhar, R. (2020). Impact of heuristics on investment decisions: the moderating role of locus of control. *Journal of Business and Social Sciences Research*, 5(1), 1-14. <https://doi.org/10.3126/jbssr.v5i1.30195>
- Dhakal, S. and Lamsal, R. (2023). Impact of cognitive biases on investment decisions of investors in nepal. *The Lumbini Journal of Business and Economics*, 11(1), 35-48. <https://doi.org/10.3126/ljbe.v11i1.54315>
- Elhussein, N. and Abdelgadir, J. (2020). Behavioral bias in individual investment decisions: is it a common phenomenon in stock markets?. *International Journal of Financial Research*, 11(6), 25. <https://doi.org/10.5430/ijfr.v11n6p25>
- Fachrudin, K., Lumbanraja, P., Sadalia, I., & Lubis, A. (2018). Are men or women more overconfident in investment decision-making?.. <https://doi.org/10.2991/ebic-17.2018.13>
- Ganesh, R., Thiagarajan, S., Vasudevan, G., & Naresh, G. (2023). Investors' overconfidence in the stock market. *Copernican Journal of Finance & Accounting*, 11(4), 107-123. <https://doi.org/10.12775/cjfa.2022.021>

- Haritha, P. (2023). The effect of heuristics on indian stock market investors: investor sentiment as a mediator. *Management and Labour Studies*, 49(1), 43-61. <https://doi.org/10.1177/0258042x231170745>
- Hartono, H., Halim, E., Aswieri, A., Suharli, D., & Aurella, M. (2023). The influence of financial literacy and heuristic behavior on generation z's investing decisions during a global pandemic. *E3s Web of Conferences*, 426, 02008. <https://doi.org/10.1051/e3sconf/202342602008>
- Hoxha, V. and Hasani, I. (2022). Decision-making biases in property investments in prishtina, kosovo. *Journal of Property Investment & Finance*, 41(2), 155-181. <https://doi.org/10.1108/jpif-04-2022-0031>
- Hu, J., Yun-yun, S., & Ma, F. (2021). The measurement method of investor sentiment and its relationship with stock market. *Computational Intelligence and Neuroscience*, 2021(1). <https://doi.org/10.1155/2021/6672677>
- Kasoga, P. (2021). Heuristic biases and investment decisions: multiple mediation mechanisms of risk tolerance and financial literacy—a survey at the tanzania stock market. *Journal of Money and Business*, 1(2), 102-116. <https://doi.org/10.1108/jmb-10-2021-0037>
- Khare, T. and Kapoor, S. (2023). Behavioral biases and the rational decision-making process of financial professionals: significant factors that determine the future of the financial market. *Journal of Advances in Management Research*, 21(1), 44-65. <https://doi.org/10.1108/jamr-03-2023-0086>
- Lerner, J., Li, Y., Valdesolo, P., & Kassam, K. (2015). Emotion and decision making. *Annual Review of Psychology*, 66(1), 799-823. <https://doi.org/10.1146/annurev-psych-010213-115043>
- Li, W., Wang, H., Xie, X., & Li, J. (2019). Neural mediation of greed personality trait on economic risk-taking. *Elife*, 8. <https://doi.org/10.7554/elife.45093>
- Loppies, L., Esomar, M., & Janah, I. (2022). Herding behavior, overconfidence, regret aversion bias on investment decisions. *International Journal of Economics Social Science Entrepreneurship and Technology (Ijeset)*, 1(5), 345-352. <https://doi.org/10.55983/ijeset.v1i5.357>
- Madaan, G. and Singh, S. (2019). An analysis of behavioral biases in investment decision-making. *International Journal of Financial Research*, 10(4), 55. <https://doi.org/10.5430/ijfr.v10n4p55>
- Mushinada, V. and Veluri, V. (2019). Elucidating investors rationality and behavioural biases in indian stock market. *Review of Behavioral Finance*, 11(2), 201-219. <https://doi.org/10.1108/rbf-04-2018-0034>
- Mussel, P. and Hewig, J. (2019). A neural perspective on when and why trait greed comes at the expense of others. *Scientific Reports*, 9(1). <https://doi.org/10.1038/s41598-019-47372-5>
- Noch, M. and Rumasukun, M. (2024). Understanding human behavior in finance: a qualitative study on cognitive biases and decision-making in investment practices. *Golden Ratio of Finance Management*, 4(1), 24-34. <https://doi.org/10.52970/grfm.v4i1.462>
- Owusu, S. and Laryea, E. (2022). The impact of anchoring bias on investment decision-making: evidence from ghana. *Review of Behavioral Finance*, 15(5), 729-749. <https://doi.org/10.1108/rbf-09-2020-0223>
- Parveen, S., Satti, Z., Subhan, Q., Riaz, N., Baber, S., & Bashir, T. (2021). Examining investors' sentiments, behavioral biases and investment decisions during covid-19 in the emerging stock market: a case of pakistan stock market. *Journal of Economic and Administrative Sciences*, 39(3), 549-570. <https://doi.org/10.1108/jeas-08-2020-0153>
- Peprah, W., Kwakwah-Oppong, A., Osei-Kuffour, F., & Evinita, L. (2024). The mediating effect of the covid-19 pandemic on heuristic techniques and cognitive biases on investment

- decision-making. *International Journal of Applied Economics Finance and Accounting*, 18(2), 351-360. <https://doi.org/10.33094/ijaefa.v18i2.1400>
- Pikulina, E., Renneboog, L., & Tobler, P. (2017). Overconfidence and investment: an experimental approach. *Journal of Corporate Finance*, 43, 175-192. <https://doi.org/10.1016/j.jcorpfin.2017.01.002>
- Piotrowski, M. and Bünnings, C. (2022). How heuristics in judgement influence the securities investment decision process. *Journal of Financial Services Marketing*, 29(1), 97-105. <https://doi.org/10.1057/s41264-022-00184-7>
- Raut, R. (2020). Past behaviour, financial literacy and investment decision-making process of individual investors. *International Journal of Emerging Markets*, 15(6), 1243-1263. <https://doi.org/10.1108/ijoem-07-2018-0379>
- Shah, S., Ahmad, M., & Mahmood, F. (2018). Heuristic biases in investment decision-making and perceived market efficiency. *Qualitative Research in Financial Markets*, 10(1), 85-110. <https://doi.org/10.1108/qrfm-04-2017-0033>
- Su, C., Cai, X., & Tao, R. (2020). Can stock investor sentiment be contagious in china?. *Sustainability*, 12(4), 1571. <https://doi.org/10.3390/su12041571>
- Sudirman, W., Alif, M., & Pratiwi, A. (2023). Does heuristic bias matter for long and short-term investment decision-making during the covid-19 pandemic?. *Journal of Indonesian Economy and Business*, 38(3). <https://doi.org/10.22146/jieb.v38i3.3666>
- Vohra, T. (2017). Short-term versus long-term investments: a study of women stock investors of punjab. *Manthan Journal of Commerce and Management*, 4(01). <https://doi.org/10.17492/manthan.v4i01.9607>
- Wang, H., Peng, M., Jia, H., & Lai, K. (2023). The dark side of upward social comparison for social media users: an investigation of fear of missing out and digital hoarding behavior. *Social Media + Society*, 9(1). <https://doi.org/10.1177/20563051221150420>
- Yadav, K. and Chaudhary, R. (2022). Impact of heuristic-driven biases on investment decision-making of individual investors: the mediating role of risk perception. *Orissa Journal of Commerce*, 127-143. <https://doi.org/10.54063/ojc.2022.v43i01.10>
- Yalçın, K., Tatoğlu, E., & Zaim, S. (2016). Developing an instrument for measuring the effects of heuristics on investment decisions. *Kybernetes*, 45(7), 1052-1071. <https://doi.org/10.1108/k-05-2015-0130>