Saud: The Journal of Commerce, Management and Economics, Vol. 2 (2026), 47-68

Behavioural Biases on Investment Decision-Making: A Systematic Literature Review using PRISMA Guidelines

Nilakhi Baruah[1]

Assistant Professor, Department of Commerce, Gargaon College

ARTICLE INFO

Article History:
Received *14 February 2026*
Accepted *29 May 2026*

Keywords
Behavioural finance
Human biases
Investment
Decision-making
Systematic review
PRISMA.

ABSTRACT

This paper aims to investigate the presence of behavioural biases in investment decision-making activity. Furthermore, it analyses another objective which is to recognize the gap among the previous studies and provide a direction for future scope in this study. Data collection for the systematic literature review was conducted by following the guidelines of Preferred Reporting Items for Systematic Reviews (PRISMA). Data from studies conducted between 1988 and 2024 was gathered. A total of 54 publications from the Scopus database were included in the analysis. Results show that the prior investigations mostly focused on overconfidence, herding, disposition, representativeness, and availability biases. India is the leading country with the most publications, and a large number of papers on this objective were published in 2024. The findings specify that rational investors do not always behave rationally. Investors are affected by behavioural biases, whether they are aware of them or not and whether they are trained or not. Behavioural biases can only be mitigated by providing proper investment education, training, workshops, and seminars to investors.

1. Introduction

This is the world of behavioural finance, a world in which human emotions rule, although logic has its place, markets are moved as much by psychological factors as by information from corporate balance sheets (Montier, 2002). Behavioural finance, broadly understood as the application of psychology to the financial sector, has gained significant momentum since the tech-stock bubble burst in March 2000 and has been at the forefront of advisors' and investors' minds ever since the financial crisis of 2008–2009 (Pompian, 2012). Financial economics appears to be at the Centre of a transitional shift from a neoclassical-based model to a behaviourally-based model. Psychologists have studied decision-making behaviour and found adequate evidence to show that decision-makers do not always behave consistently and rationally and do not

[1] *E-mail Address:* nilakshib265@gmail.com (N. Baruah)
Published by CKB Commerce College, Jorhat.
This article is under the CC-BY-NC-ND licences (http://creativecommons.org/licenses/by-nc-nd/4.0/).

formulate decisions according to the theories of classical statistics. Instead, they behave in a way different from both. Eventually, the behavioural psychologists Daniel Kahneman and Amos Tversky developed a theory known as prospect theory, which is thought to be the conceptual basis of BFMI (Pompian, 2012). According to Pompian (2012), the topic of behavioural finance can be segregated into two different sub-topics a) Behavioural Finance Micro (BFMI) and b) Behavioural Finance Macro (BFMA). Under BFMI, the behavioural mistakes made by the individual investors are examined; whereas, the anomalies in the efficient market hypothesis or behavioural biases or errors performed by the investors as a whole are investigated under the BFMA approach.

The overall aspects of standard finance are enriched by behavioural finance through extracting insights from neuroscience, sociology, psychology, economics, organizational behaviour and law. As a result, from the aspect of behavioural finance, financial analysis is based on more realistic assumptions about individual decision-maker (Chandra, 2020).

The study discusses the biases involved in human behaviour while making any type of decision in complex situations. Even an expert investor cannot deny that his decisions are not affected by biases. Moreover, a systematic literature review using the Preferred Reporting Items for Systematic Reviews (PRISMA) technique is believed to be a pertinent requirement in any subject area. Hence; the PRISMA technique is exercised to review the existing literature available on the topic of behavioural biases in investment decision-making. The study will be carried out to examine the presence of biases, which will be helpful for investors to understand and make investment decisions from a logical point of view. Additionally, to recognize the research gap among the previous studies and provide a direction for future scope to the researchers. The following research questions are established to attain these goals:

a. How do you systematically incorporate the existing literature on behavioural biases using the PRISMA method?
b. Is there any presence of behavioural biases in the investment decision-making activity?
c. What is the research gap found among the past existing studies?

The following section gives an extensive overview of the research methodology, including a rigorous explanation of the techniques for data collecting and analysis.

2. Methodology

This systematic review paper was framed by following Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines (Moher *et al.,* 2009). There were ample amounts of systematic literature review papers in 'Behavioural biases on investment decision making', but few papers followed the guidelines of PRISMA. To fill the research gap, this paper adhered strictly to the guidelines on the PRISMA

checklist, which is a standard, peer-accepted methodology that helped ensure the quality and replication of the revision process. A review guideline was framed, describing the article selection criteria, search strategy, data extraction, and data analysis procedures.

2.1. Eligibility Criteria

All studies on 'behavioural biases on investment decision-making' were eligible for review. The inclusion criteria were (i) publication within the time frame 1988-2024, (ii) published in the English language, (iii) peer-reviewed journals, (iv) Open access journals, (v) accessible of full-text papers, (vi) being an empirical study, and (vii) conducted analysis of behavioural biases and investment decision making activity. Research that wasn't included in the evaluation if they were (i) working papers and case studies, (ii) not related to the share market, (iii) unpublished thesis and dissertation, and (iv) not published in peer-reviewed journals.

2.1.1. Data Sources and Search Strategies

The Scopus electronic database was used for searching the research papers systematically within the time frame of 1988 to 2024. Whereas; actual data from 2007 to 2024 was analysed and synthesised the results for this research. Scopus is believed to be a highly valued and standard database for social science research; hence; only one database is considered for this study. The researchers restricted the subject area to 'Economics, Econometrics and Finance', 'Business, Management and Accounting'. We expanded our search parameters and tactics to find the greatest number of relevant studies. The following search terms were combined with Boolean operators after informatics modifications. The search terms used for the keywords, article, title and abstract were 'behavioural biases', 'behavioural AND biases AND effect AND on AND invest*'. Following the electronic search, a manual search was conducted of the reference lists of the eligible articles that were included. The date of searching the data was 28/04/2024.

2.1.2. Selection of Studies and Data Extraction Process

The titles and abstracts of all studies were screened after the searches of existing literature, and the eligibility of potentially relevant studies was then further evaluated. The PRISMA flow diagram (Figure 1) contains comprehensive information about the study selection process.

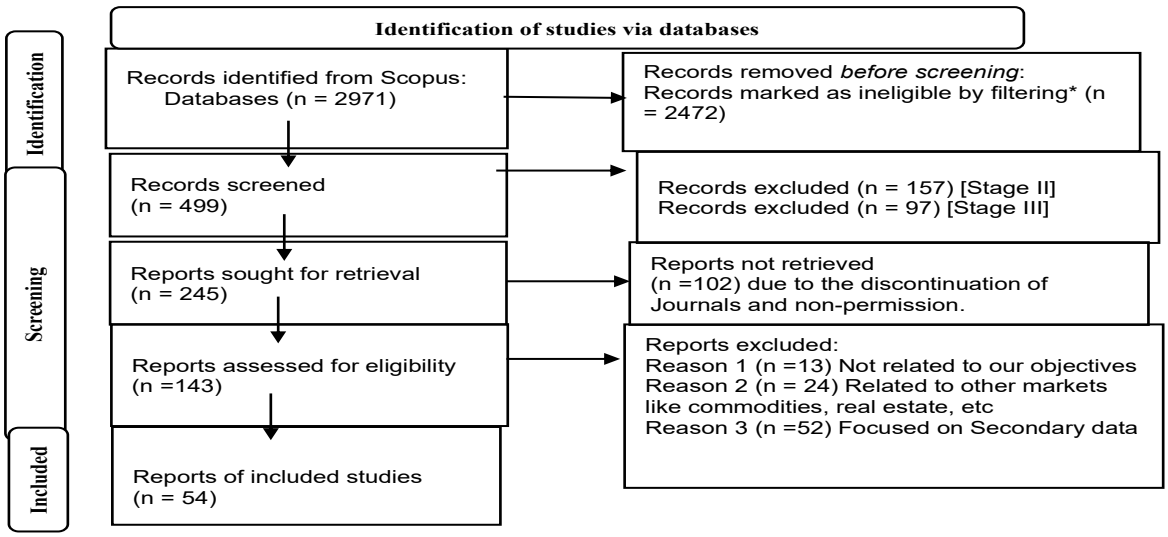
2.1.3. Data Items and Synthesis of Results

The data were systematically handled and synthesized in an MS Excel sheet with (i)year-wise, (ii) biases-wise, (iii) type of data, (iv) objective of the study, (v) methods adopted, (vi) sample-wise, (vii) statistical tools used, and (viii) results of the study etc.

3. Results

3.1. Study Selection

There were four rounds involved in choosing the papers to review. In the first round of selection, the titles and abstracts of the existing studies were scrutinized cautiously. We had coded each paper with any of the three labels 'Yes', 'No' and 'Maybe'. If the paper was related to our study, we labelled it as 'Yes', otherwise 'No' and if any further scrutiny was required then termed it as 'Maybe'. In the second round, we again verified minutely the papers coded with 'Maybe' and finally coded them as 'Yes' or 'No'. All the papers labelled as 'Yes' were included and processed for further stage of selection. The third stage of selection was to review the full text of the papers and after reviewing, consolidation of all the relevant results in a single Excel sheet was the fourth stage covered in this study. Articles from this round were retrieved for thorough analysis before being chosen for inclusion in our research. All articles that did not describe studies on behavioural biases and investment decision-making were removed to more effectively fulfil our research objectives.



*Filtering time frame, English language, subject area and Open Access Journal

Figure 1: PRISMA flow diagram of the paper selection process applied

A total of 2971 papers were identified from the 'Scopus database' and 2472 records were excluded before the screening by applying four filters. 499 articles were eligible for the screening process, and; 137 and 97 were removed as mentioned in the second and third rounds respectively. The 102 reports which did not retrieve for many reasons were excluded from the study. 143 studies were assessed for eligibility, however; 13 were cleared as not related to our objectives, 24 were removed as connected with different markets like commodities, cryptocurrency, Real estate etc, and lastly, 52 studies based on secondary data were excluded from the study. After the screening, 54 studies were considered as study inclusion for further analysis (Figure 1).

3.2. Characteristics of the Studies Included

3.2.1. Journal-wise Publication

In Figure 2, journal-wise publications were displayed for better understanding. It can be observed that the highest number (5) of studies were published by the journal 'Qualitative Research in Financial Markets' and a total of 42 distinct journals were published on the topic under investigation.

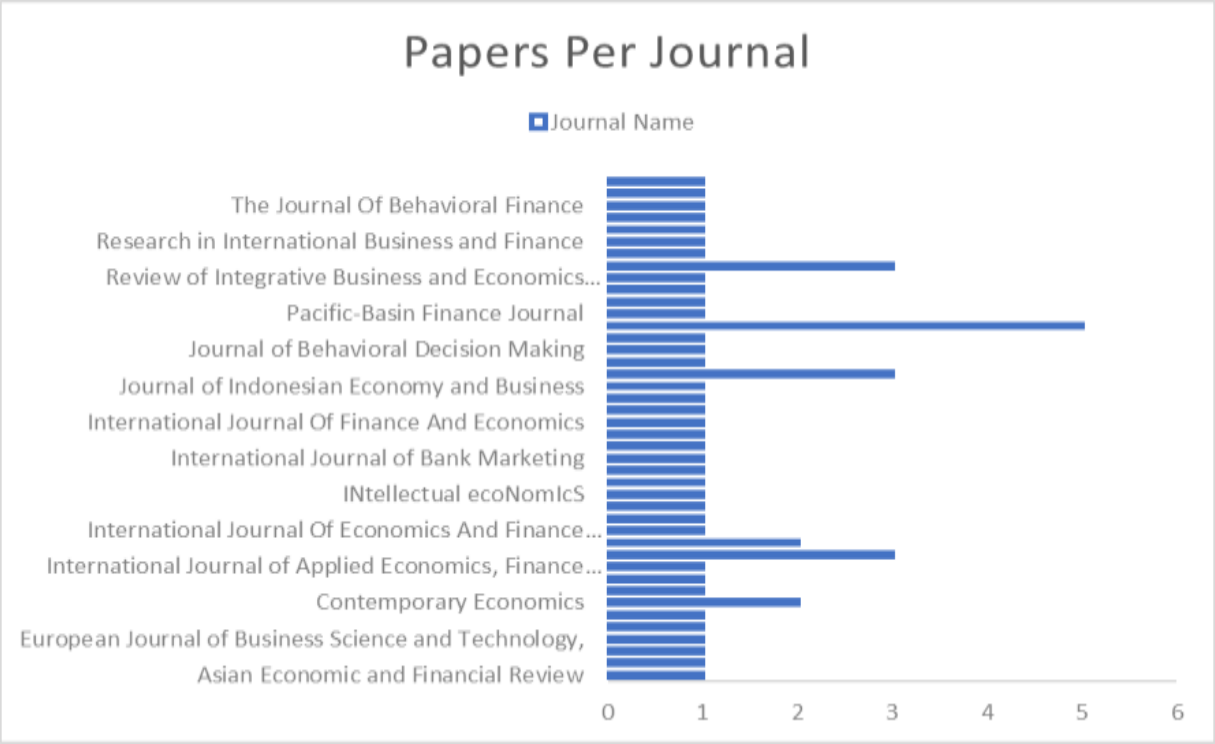


Figure 2: Frequency of Papers Journal Wise publication

3.2.2. Year-wise Publication

In reference to the frequency of year-wise paper publication, Figure 3 shows the highest number of papers published in the year 2024 which highlighted how the theme was currently more relevant across a range of fields of study.

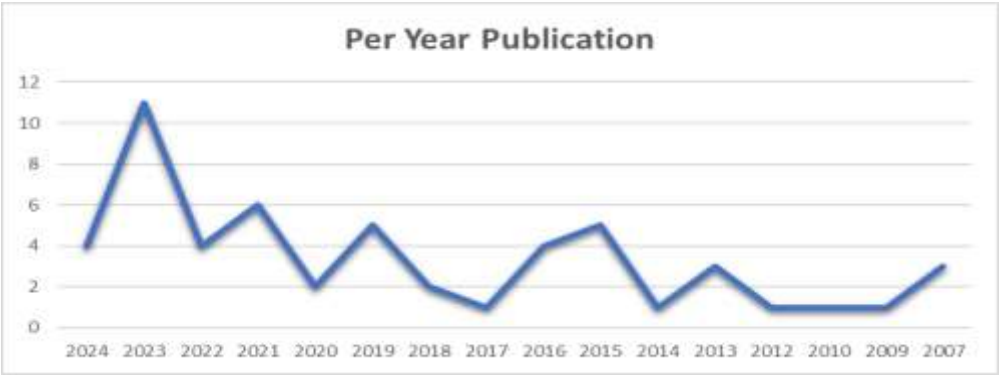


Figure 3: Frequency of Year-wise Paper Publication

3.2.3. Country-wise Research Publication

In Figure 4, it was demonstrated that a maximum of eighteen research reports were carried out in India and most of the studies were covered in Northern and Southern parts of India. The five studies were completed by using Pakistan as the research area, whereas the six studies were conducted in Indonesia. Three investigations were carried out in Germany, and two studies were carried out in each of the following nations: Brazil, China, Morocco, Sweden, Turkey, and the United States. The remaining countries, which included Australia, Egypt, Israel, Malaysia, Nigeria, Poland, Russia, the United Kingdom, and Vietnam, were the focus of individual study projects.

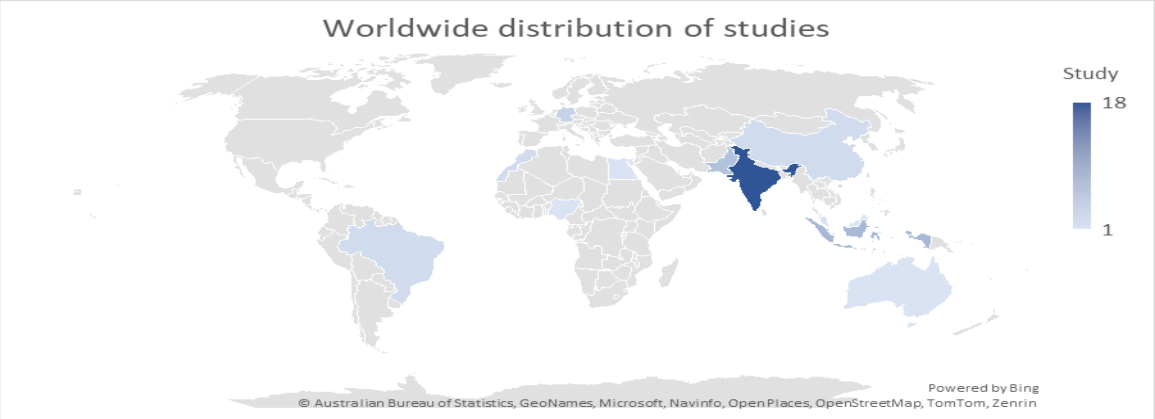


Figure 4: Worldwide distribution of the Studies

3.2.4. Statistical Tools Applied

Most of our studies applied more than one statistical tool in their research reports as per their objectives demanded. In Figure 5, the pie chart displayed that the Structured Equation Modelling (SEM) tool was the most applied statistical technique in the studies while determining the presence of behavioural biases on investment decision-making. ANOVA tool was the second most exercised after SEM.

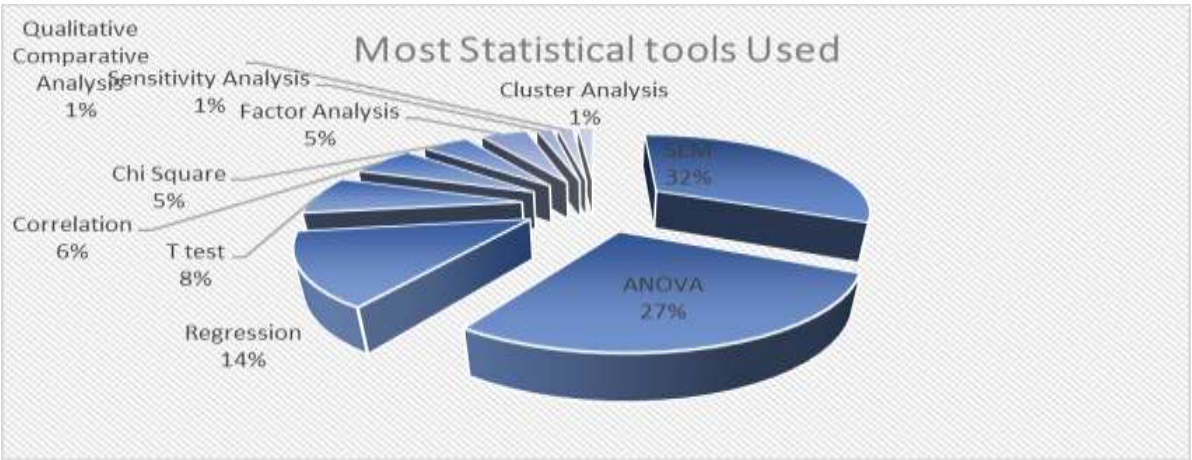


Figure 5: Application of Statistical Tools by the Research

3.2.5. Behavioural Biases Considered

Numerous behavioural biases might affect a rational investor in different circumstances. However; in the subject area only the presence of biases in investment decision-making was considered by the researchers. Many researchers explored more than a single behavioural bias in their studies, and after analysing the studies, it was found that overconfidence bias was explored in the highest number of studies. Additionally, it was also resulted that minimal studies were done on the bias of Self-attribution, Home Bias, familiarity and Emotional biases.

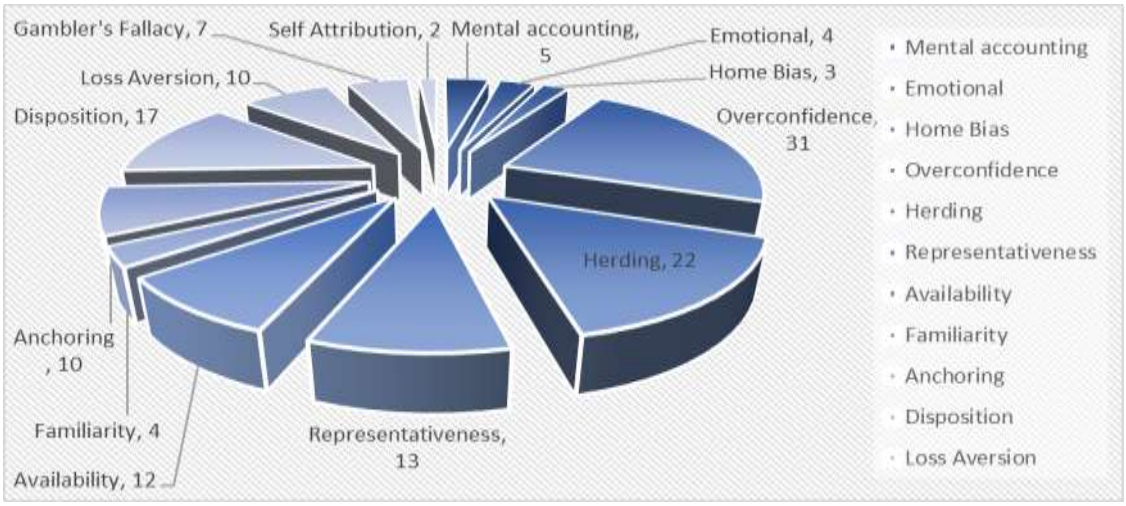


Figure 6: Behavioural Biases included in the research

3.3. Risk of Bias and Results of Individual Studies with Citations

Authors	Methods Adopted	Results	Risk of Bias	Citations
Peprah et. al (2024)	Snowball sampling	The COVID-19 epidemic dramatically illustrated how US investors contributed to the stock market catastrophe by using 87.5% cognitive biases and 75.6% heuristic approaches.	Sampling bias due to non-probability sampling technique. Self-selected samples	0
Suresh 2024	Convenient sampling	Heuristic bias and the emergence of behavioural bias in decision-making were strongly positively correlated. The framing effect, cognitive illusions, and herd mentality all negatively impact behavioural biases.	Sampling bias due to non-probability sampling technique, Self-selected samples.	39
Aziz et.al (2024)	Face-to-face interviews	Several factors influence investment decisions, including overconfidence biases, loss aversion, bandwagon effect, negativity,	No specific sampling technique was mentioned in the study.	0

		gambler's fallacy, and confirmation. Investment decisions are somewhat impacted favourably by endowment and status quo biases.	Geographical bias: only investors of the Islamabad Stock Exchange was taken into consideration.	
Mamidala et.al (2024)	Interviews and Systematic sampling	Retail investors' intentions to invest are influenced by factors: - regret avoidance, switching costs, sunk costs, availability, herding, anchoring, and perceived threat.	In Systematic sampling, the risk of bias is higher while selecting samples.	7
Sathya & Prabhavathi (2023)	Online survey	Social media can affect risk perception while making investing decisions and amplify the consequences of behavioural biases like herding and overconfidence bias.	No specific sampling technique was mentioned in the study.	1
Mahadwartha et al. (2023)	Purposive sampling	Gambler's fallacy and Familiarity occur in investment decision-making; Halo effect more or less occurs in investment decision-making.	Sampling bias due to non-probability sampling technique. Self-selected samples	0
Srinivasan & Karthikeyan (2023)	Random Sampling	Biases reported a negative link between prospect theory and the herding effect, although heuristics showed a favourable relationship with them.	Geographical bias as the study was conducted only in one state of India i.e., Tamil Nadu.	0
El Oubani (2023)	Convenient sampling	Moroccan investors are influenced by disposition; they may exhibit disposition bias during the rational decision-making process. However, when they experience losses, their overconfidence disappears, their perception of risk shifts, and they resume being rational.	Sampling bias due to non-probability sampling technique. Self-selected samples. The sample size is small (114).	0
Deka et.al (2023)	Random Sampling	The study's chosen biases and perceived risk are significantly correlated, as evidenced by the substantial influence of risk perception on stock investment decisions. Higher ESG	The research is based on a pan-national perspective. Better outcomes may have been achieved with a	3

		consciousness diminishes the positive association between investors' perceived biases and risk perception, according to a significant negative moderation effect of ESG consciousness on the relationship between the selected biases and investors' perceived risk.	longitudinal view (Deka et al. 2023)	
Mulasi et al. (2023)	Purposive sampling	Individual financial behaviour is adversely affected by herding and conservatism bias. The impact of conservatism and herding bias on financial behaviour is mitigated by financial self-efficacy.	Sampling bias due to non-probability sampling technique. Self-selected samples	3
Sudirman et al. (2023)	Online survey	Representativeness bias does not affect investment decision-making while anchoring and availability bias have a favourable influence. While anchoring and availability bias is not supported, investment time mitigates the impact of representativeness bias on irrational investment decision-making.	No specific sampling technique was mentioned in the study.	3
Marjerison et al. (2023)	Online survey	It appears that representativeness, risk aversion, and herding behaviour have a minor impact on investors' decisions to invest in funds in the second half of 2020.	No specific sampling technique was mentioned in the study.	7
Souza et al. (2023)	Non-Probability Sampling	Loss aversion has a negative impact on investors' decision-making, but overconfidence and anchoring have a positive effect. There is no influence from the herd effect.	Sampling bias due to non-probability sampling technique. Self-selected samples Representativeness and availability bias were untested.	1
Benayad & Aasri (2023)	Random sampling, Survey method	There was no statistically significant relationship between overconfidence bias and the investment decisions	Bias of sample size which is 133. Hence; difficult to generalise based	0

		of Moroccan SME managers.	on 133 sample SME managers.	
Edeh et al. (2023)	Online Survey	The information showed that investment success and behavioural factor indicators were positively correlated. Thus, the study suggests that NSE should consistently educate clients and provide information to positively impact investment choices. The NSE ought to assess the impact of previous occurrences on the particular counter being examined. [NSE= Nigeria Stock Exchange]	Questionnaires were distributed through the Brokerage firms. Here; the risk of biases can be extremely high.	3
Singh & Kumar (2022)	Survey method	An increased degree of market efficiency would benefit the Indian IPO market from human decision-making's psychological biases.	No specific sampling technique was mentioned in the study.	2
Parmitasari et al. (2022)	Survey method	Emotion significantly boosted the perception of control, but not overconfidence or judgment. There was a notable 86.4% effect of the illusion of control on overconfidence, which was followed by a notable rise in decision-making.	No specific sampling technique was mentioned in the study.	15
Yadav et al. (2022)	Survey	The study showed that diversification is significantly related to both the biases used. The other variables considered are found to be non-significant for both biases.	No specific sampling technique was mentioned in the study.	1
Hasnawati et al. (2022)	Non-Probability	During the COVID-19 pandemic, the data demonstrated that behavioural bias factors strongly influenced investment decisions.	Sampling bias due to non-probability sampling technique. Self-selected samples	0
Bhatia et al. (2021)	Purposive sampling	The irrationalities of investing decision-making are favourably and strongly influenced by behavioural biases. The results also offer empirical proof that	Sampling bias due to non-probability sampling technique. Self-selected	32

		individual investors' use of robo-advisory services is unable to reduce overconfidence and loss-aversion bias.	samples	
Zhdanov & Simonov (2021)	Experimental study	Portfolio holders familiar with the assets in their portfolios were 1.10 times more likely to be persistent in purchasing downgraded assets and 1.34 times more likely to be persistent in selling winners and holding losers.	Not found any risk of bias.	3
Sharma & Firoz (2021)	Survey	The investor's rationality and behavioural biases are strongly correlated. Optimism, herding, and disposition effects all have a significant impact on an investor's rationality and investment choices.	No specific sampling technique was mentioned in the study.	5
Youssef et al. (2021)	Convenient sampling	The impact of financial literacy on behavioural biases varies depending on the type of bias; information processing biases are most affected, belief perseverance biases are moderately affected, and emotional biases are least affected. Women are more affected by financial literacy when it comes to behavioural biases than men are.	Sampling bias due to non-probability sampling technique. Self-selected samples	2
Kartini & Nahda (2021)	Snowball sampling	Investment decisions are significantly impacted by anchoring, representativeness, loss aversion, overconfidence, optimism, and herding behaviour. It highlights how behavioural aspects affect investors' decisions.	Sampling bias due to non-probability sampling technique. Self-selected samples. Sample size bias occurred (165). More sophisticated statistical tools can be used.	116
Khan et al. (2021)	Simple Random Sampling	Investors' investing decisions are significantly and favourably impacted by availability and representativeness bias.	Not found any risk of bias.	56

Ullah et al. (2020)	Random Sampling	The herd mentality, disposition effect, and overconfidence all have significantly favourable effects on investment choices. Active investors exhibit more overconfidence bias while passive investors exhibit more herding bias.	Not found any risk of bias.	38
Ratnadi et al. (2020)	Survey	Availability bias is the heuristic element used in investing decisions. Herding had a negative impact on investment decisions, prospect factors influenced decisions, market behaviour variables influenced decisions, and heuristics had no effect on decisions.	No specific sampling technique was mentioned in the study.	16
Baker et al. (2019)	Email and telephone Survey	Biases and investing decision-making have a significant relationship.	No specific sampling technique was mentioned in the study.	74
Madaan & Singh (2019)	Survey	Strong correlations between investing decision-making and overconfidence, anchoring, disposition effect, and herding behaviour. Herd mentality and overconfidence have a big impact on investing decisions. Investors' decision-making regarding investments is unaffected by anchoring or disposition.	No specific sampling technique was mentioned in the study.	165
Sabir et al. (2019)	Cluster Sampling, Questionnaire Survey	Overconfidence has a strong positive correlation with stock market investors' herding behaviour. Investor herding behaviour is exacerbated by a rise in investor overconfidence.	Sampling bias might arise due to the usage of the cluster sampling technique.	108
Khilar & Singh (2019)	Judgment and snowball sampling technique	Overconfidence bias affects the investment decisions made by investors in the Bhubaneswar region, India.	Sampling bias due to non-probability sampling technique. Self-selected samples.	9
Trejos et al. (2019)	Survey	Gender, career, and educational attainment all contribute to the explanation	No specific sampling technique was	77

		of overconfidence; age, nationality, and earnings do not. Overconfidence is more common among investors displaying disposition effects.	mentioned in the study.	
Phan et al. (2018)	Quota and snowball sampling	Positive evidence for overconfidence and evaluation frequency on overtrading, as well as a social transmission bias on under diversification and equity allocation.	Young and highly educated investors and people with economic backgrounds are overrepresented	31
Rasheed et al. (2018)	Convenience Sampling	The locus of control has no discernible moderating influence, yet both of the heuristics under investigation considerably lead investors to stray from rational decision-making.	Sampling bias due to non-probability sampling technique. Self-selected samples.	155
Jonsson et al. (2017)	Random Method	Financial literacy affects the attenuation of the disposition effect. Knowledge about mutual funds and knowledge about current market conditions affect the attenuation of the disposition effect,	Not found any risk of bias.	83
Kumar & Goyal (2016)	Judgemental and Snowball	In India, overconfidence and herd mentality are more common in male investors. When making financial decisions, investors use reason. Behavioural biases develop at various phases of the decision-making process.	Sampling bias due to non-probability sampling technique. Self-selected samples.	230
Khan et al. (2016)	Simple random sampling, survey method	Trading activities are determined by the simultaneous recognition of overconfidence, optimism, and stated preferences for firm features. A firm's liquidity preferences and trading volume features combined with a better-than-average degree of overconfidence, relative optimism in the financial sphere, and optimism in personal investments are likely to stimulate trading activity among investors.	Not found any risk of bias.	43
Singh et al.	Judgemental	Gender has no bearing on	Sampling bias due	24

(2016)	and Convenient sampling	reference point biases, overreaction, or the framing effect, although women are more self-attributable than men and males are more overconfident.	to non-probability sampling technique. Self-selected samples. Geographical bias: only conducted survey in Delhi NCR.	
Tekçe et al. (2016)	-	Investors are prone to biases: Overconfidence is positively correlated with familiarity bias; Representativeness heuristic deteriorates wealth while status quo bias results in higher trade performance; Familiarity bias has a nonmonotonic effect on return; lower (higher) levels of familiarity bias have a negative (positive) effect on return; Male, younger, and investors in low-income, low-education regions exhibit more familiarity bias; Female, older, and investors with high portfolio values are more susceptible to the disposition effect and representativeness heuristic.	No specific sampling technique was mentioned in the study.	136
Frino et al. (2015)	Account-based Survey	A large sample of individual investor accounts is used to find the disposition effect across various investor groups. Investors with Chinese ancestry, women, and older investors are more likely to experience the disposition impact. The disposition effect can be predicted by a number of other biases, such as regular trading, round-size trading heuristics, and the investor's degree of portfolio diversification.	Not found any risk of bias.	64
Rzeszutek et al. (2015)	Convenience Sampling	Reliability to behavioural biases is correlated with stock market investment skills, according to statistical assessments. Some	Sampling bias due to non-probability sampling technique.	63

		personality features have an impact on one's vulnerability to behavioural biases.	Self-selected samples	
Tekçe & Yilmaz (2015)	Account Based Survey	Overconfidence is more common among male and younger investors, investors with smaller portfolio values, and investors in low-income and low-education areas. The wealth of a portfolio is negatively impacted by overconfidence.	Not found any risk of bias.	112
Prosad et al. (2015)	Judgemental and Snowball Sampling	Investors' age, occupation, and frequency of trading are the most significant determinants of behavioural biases, along with their level of trading expertise. Every bias is associated with a distinct set of investor traits, and in the Indian context, overconfidence emerges as the most significant bias.	Sampling bias due to non-probability sampling technique Due to time and resource constraints, the data set is limited to investors of only Delhi/NCR	149
Lucchesi et al. (2015)	Account Based Survey	Prospect theory appears to direct managers' decision-making, but it was not possible to verify the assumption that mean reversion bias is the cause of the disposition effect.	Not found any risk of bias.	27
Du & Shelley (2014)	Experimental	Ambiguity makes managers more likely to deceive and investors more likely to follow, and investors' dependence on managers' advice may increase when they feel too comfortable with them.	Not found any risk of bias.	7
Bodnaruk & Simonov (2013)	Account Based survey	Financial professionals outperform their peers in terms of performance, risk diversification, and behavioural bias reduction. Instead, they make superior investing judgments. Stocks that provide managers with an informational edge over other investors—stocks that are also owned by mutual funds, for example—perform significantly better for them.	Not found any risk of bias.	126

Lakshmi et al. (2013)	Offline and Online survey	Investors with a shorter investing horizon tend to exhibit higher levels of overconfidence, Herding, Social Contagion, and Representative Heuristic behaviour. Investment decisions typically become long-term as risk aversion, the disposition effect, and cognitive dissonance increase to a significant degree.	Not randomly selected data. Traders who aim for short-term gains are probably not the same as long-term capital appreciation stock investors.	49
Kudryavtsev et al. (2013)	Online survey	Male and more experienced investors have higher correlation coefficients between the biases, suggesting that while these investor categories are likely to act more consistently, they are also more likely to make their own decisions about whether to reject all or mostly rely on simplifying techniques.	No specific sampling technique was mentioned in the study.	94
Kalra & Arora (2012)	Judgment and snowballing sampling	Segmenting the individual investors based on their investment biases, yielded four segments namely, novice learners, competent confirmers, cautious anticipators and efficient planners. Different investors face different biases according to their investment experience.	Not randomly selected data. Geographical bias: only Delhi NCR was taken as research area.	132
Nikiforow (2010)	Interview method	Training rather influences fund managers' perception than their investment behaviour. Training significantly sharpens the awareness towards the reflection effect, which is an important and desirable result, as this bias partly explains the well-known disposition effect.	Sample size bias: 117 samples were interviewed.	38
Graham et al. (2009)	Telephone survey, Random sampling	More often trading and internationally diversified portfolios are characteristics of proficient investors.	Geographical bias: Only some parts of the country were being selected for the study.	945
Chen et al.	Account-	Three behavioural biases	Not found any risk	886

(2007)	based Survey	affect Chinese investors: representativeness, disposition and overconfidence. Compared to past research, Chinese investors appear to be more overconfident than US investors (i.e., they hold fewer stocks but trade more frequently), and their disposition effect is more prominent.	of bias.	
Glaser & Weber (2007)	Online survey	Investors who think that they are above average in terms of investment skills or past performance (but who did not have above-average performance in the past) trade more.	No specific sampling technique was mentioned in the study.	1143
Lütje & Menkhoff (2007)	Survey method	The majority of them favour local assets, which is consistent with findings for other groups in earlier research.	No specific sampling technique was mentioned in the study.	109

Source: Compiled by the author

3.4. Synthesis of Results

The researchers intend to accumulate all the results from the extensive literature review in this study. Overconfidence bias substantially impacts investment decision-making supported by (Aziz *et al*., 2024; Souza *et al*., 2023; Kartini & Nahda, 2021; Madaan & Singh, 2019). Another study showed that Herd mentality, overconfidence, and disposition effect all significantly influence investment decisions in a positive manner. The disposition of an investor has no moderating effect, herding has a negative moderating effect, and overconfidence has a positive moderating effect of investor's type (active and passive) when it comes to investing decisions. Active investors exhibit greater overconfidence bias, whereas passive investors exhibit higher herding bias (Ullah *et al*., 2020). Another study (Khilar & Singh, 2019) found that investors in the Bhubaneswar region of India were influenced by overconfidence bias while making investment decisions. Overconfidence is more common among investors who display the disposition effect (Trejos *et al*., 2019). Another study from India by (Kumar & Goyal, 2016) stated about gender that male investors are more inclined to exhibit herding and overconfidence bias. However, behavioural biases can also appear at various phases of the decision-making process. This study was supported by (Singh *et al*., 2016) males tend to be more overconfident than females, whereas; females are influenced by self-attribution bias. Additionally, gender does not affect overreaction, framing effect and reference point biases. Overconfidence and herding bias are favourably connected; when overconfidence increases, the herding behaviour of the investor also increases (Sabir *et al*., 2019). Furthermore, a study claimed that males,

younger investors, investors with a lower portfolio value, and investors in low-income and low education exhibit more overconfident behaviour. overconfidence has a negative effect on portfolio wealth (Tekçe & Yilmaz, 2015). There is a higher degree of overconfidence, Herding, Social Contagion and Representative Heuristic behaviour among short-term investors than those with a longer investment horizon (Lakshmi *et al*., 2013). Overconfidence bias exists among Indian investors (Prosad *et al.,* 2015) and Chinese investors are more overconfident than U.S. investors (Cheng *et al*., 2007). Adversely; one study claimed no significant relationship between overconfidence bias and the investment decisions of Moroccan SME managers (Benayad & Aasri, 2023). The use of robo-advisory services under brokerage firms by individual investors is still unable to reduce behavioural biases like loss aversion and overconfidence biases (Bhatia *et al.,* 2021)

According to Hasnawati *et al.* (2022), during the COVID-19 pandemic, the data demonstrated that behavioural bias factors strongly influenced investment decision-making. The COVID-19 pandemic situation clearly and significantly demonstrated how US investors used 75.6% heuristics techniques (calculated guesses based on prior knowledge) and 87.5% cognitive biases (unintentional errors in their worldview) to cause the crash of the capital market (Peprah *et al.,* 2024). The Pandemic resulted in investors showing a preference to invest in funds over stocks in the first half of 2020 due to an increased level of risk aversion during the Pandemic. In addition, investors' decisions to invest in funds in the second half of 2020 appear to be slightly influenced by the behavioural factors of representativeness and risk aversion biases and, to a significant extent, by herding behaviour. However, there is not a strong relationship between investors' risk aversion indicators. It was determined that behavioural factors and investors' financial risk aversion bias indicators do not have strong correlations (Marjerison *et al*., 2023).

Anchoring bias, availability bias, herding bias, switching cost, sunk cost, regret avoidance and perceived threat have a significant effect on retail investors' investing intention. The attitude of the investors towards investing decisions mediates the effects of behavioural bias and the status quo on investment intention (Mamidala *et al.*, 2024). Gambler's fallacy and Familiarity bias occur in investment decision making, Halo effect more or less occurs in the decision-making of investment (Mahadwartha *et al*., 2023). Anchoring and availability bias have a positive effect on investment decision-making, while representativeness bias has no significant impact. Investment time moderates the effect of representativeness bias on irrational investment decision-making, while anchoring and availability bias are not supported (Sudirman *et al*., 2023). Behavioural biases are significantly related to the investor's rationality. Whereby, herding, optimism and disposition effect bias show a strong influence on the investor's rationality and affect their investment decisions (Sharma & Firoz, 2021). The disposition effect is more prevalent in investors of Chinese background, as well as women and older investors. Further, other behavioural biases are found to be predictors of the disposition effect, including frequent trading, round-size trading heuristics, and the investor's level of portfolio diversification (Frino *et al.*, 2015). Most of the investors prefer local assets,

which stands in agreement with observations from other groups in previous literature relating to home bias behaviour stated by (Lütje & Menkhoff, 2007).

4. Discussion

The researchers have not come across any study on the presence of behavioural biases in investment decision-making by following the guidelines of PRISMA. Moreover, we established a research question in this area to fill this gap. Hence; we have systematically reviewed and incorporated all 54 studies gathered from the Scopus database by applying PRISMA guidelines in this study. The second research question was "Is there any presence of behavioural biases in the investment decision-making activity?". We have found the answer to this question from the results of past studies that there is the presence of behavioural biases in investment decision-making activity. In the share market, investors are influenced by various behavioural biases irrespective of their different demographical factors, investment frequency, investment goal (Short-term or long-term), different investor types and different portfolios they hold. In general, investors perceive that their decisions are not affected by behavioural biases or they make decisions from their calculations, analysis and past performance; which is not the case in the real sense rather they unintentionally judge the situation and commit financial mistakes. The third research question was to find the gap after reviewing the 54 literatures. Most of the studies covered the biases of overconfidence, disposition effect, loss aversion and representativeness, however; few studies have covered other biases like familiarity bias, home bias, company brand familiarity, self-attribution effect and emotional factors, especially mood bias, attitude and intuition bias. Exploring these biases can be the future scope for the researchers by using primary data as well as secondary data.

To mitigate behavioural biases, the authority of the share market or the government can conduct webinars, seminars, workshops, conferences and training programmes. Moreover; proper education on the share market and mutual fund market should be provided to the investors so that they can make investment decisions unbiasedly.

5. Conclusion

As a concluding note, the findings obtained in the present review make evident the presence of behavioural biases in investment-related decision-making. According to the findings, behavioural biases should continue to be researched. Humans are not machines, hence; we cannot claim that their thought process is rational or they behave rationally. People tend to commit mistakes or errors and chanced to get influenced by other factors.

References

Chandra, P. (2020). *Behavioural Finance.* Mcgraw- Hill Education.

Baker, H. K., Kumar, S., & Goyal, N. (2021). Personality Traits and Investor Sentiment. Review Of Behavioral Finance, 13(4), 354-369.

Benayad, K., & Aasri, M. R. (2023). Behavioral Biases and Investment Decisions of SMEs Managers: Empirical Analysis Within the Moroccan Context. International Journal of Financial Studies, 11(4), 120.

Bhatia, A., Chandani, A., Divekar, R., Mehta, M., & Vijay, N. (2022). Digital Innovation in Wealth Management Landscape: The Moderating Role of Robo Advisors In Behavioural Biases and Investment Decision-Making. International Journal of Innovation Science, 14(3/4), 693-712.

Bodnaruk, A., & Simonov, A. (2015). Do Financial Experts Make Better Investment Decisions? Journal Of Financial Intermediation, 24(4), 514-536.

Chen, G., Kim, K. A., Nofsinger, J. R., & Rui, O. M. (2007). Trading Performance, Disposition Effect, Overconfidence, Representativeness Bias, And Experience of Emerging Market Investors. Journal Of Behavioral Decision Making, 20(4), 425-451.

Deka, J., Sharma, M., Agarwal, N., & Tiwari, K. (2023). Linking ESG-Investing Consciousness, Behavioral Biases, And Risk-Perception: Scale Validation with Specifics of Indian Retail Investors. European Journal of Business Science and Technology, 70.

Du, N., & Shelley, M. K. (2014). Exploring Ambiguity and Familiarity Effects in The "Earnings Game" Between Managers And Investors. Journal Of Behavioral Finance, 15(1), 70-77.

Edeh, B. M., Ibrahim, U. A., Maitala, F., & Daniel, C. O. (2022). Behavioural Factors Effect on Investors' Investment Performance: A Survey from The Nigerian Capital Market. WSEAS Transactions on Business and Economics.

Frino, A., Lepone, G., & Wright, D. (2015). Investor Characteristics and The Disposition Effect. Pacific-Basin Finance Journal, 31, 1-12.

Hasnawati, S., Hendrawaty, E., & Wanda, S. (2022). Similarity Check Article: Investment In Pandemic: Do Behavioral and Demographic Factors Play A Role? International Journal of Economics and Finance Studies, 14(03), 314-342.

Graham, J. R., Harvey, C. R., & Huang, H. (2009). Investor Competence, Trading Frequency, And Home Bias. Management Science, 55(7), 1094-1106.

Glaser, M., & Weber, M. (2007). Overconfidence And Trading Volume. The Geneva Risk and Insurance Review, 32, 1-36.

Islam Khan, M. T., Tan, S. H., & Chong, L. L. (2016). The Effects of Stated Preferences for Firm Characteristics, Optimism and Overconfidence on Trading Activities. International Journal of Bank Marketing, 34(7), 1114-1130.

Jonsson, S., Söderberg, I. L., & Wilhelmsson, M. (2017). An Investigation of The Impact of Financial Literacy, Risk Attitude, And Saving Motives on The Attenuation of Mutual Fund Investors' Disposition Bias. Managerial Finance, 43(3), 282-298.

Lakshmi, P., Visalakshmi, S., Thamaraiselvan, N., & Senthilarasu, B. (2013). Assessing The Linkage of Behavioural Traits and Investment Decisions Using SEM Approach. International Journal of Economics & Management, 7(2).

Kalra Sahi, S., & Pratap Arora, A. (2012). Individual Investor Biases: A Segmentation Analysis. Qualitative Research in Financial Markets, 4(1), 6-25.

Kartini, K., & NAHDA, K. (2021). Behavioral Biases on Investment Decision: A Case Study in Indonesia. The Journal of Asian Finance, Economics and Business, 8(3), 1231-1240.

Khan, I., Afeef, M., Jan, S., & Ihsan, A. (2021). The Impact of Heuristic Biases on Investors' Investment Decision in Pakistan Stock Market: Moderating Role of Long-Term Orientation. Qualitative Research in Financial Markets, 13(2), 252-274.

Khan, M. A., Aziz, S., Mehmood, S., & Tangl, A. (2024). ROLE OF BEHAVIORAL BIASES IN THE INVESTMENT DECISIONS OF PAKISTAN STOCK Exchange INVESTORS: MODERATING ROLE OF INVESTMENT Experience.

Khilar, R. P., & Singh, S. (2019). Influence Of Behavioural Biases on Investment Decision Making in Bhubaneswar Region. International Journal of Recent Technology and Engineering, 8(3), 8297-8301.

Kudryavtsev, A., Cohen, G., & Hon-Snir, S. (2013). 'Rational'or'Intuitive': Are Behavioral Biases Correlated Across Stock Market Investors? Contemporary Economics, 7(2), 31-53.

Kumar, S., & Goyal, N. (2016). Evidence On Rationality and Behavioural Biases In Investment Decision Making. Qualitative Research In Financial Markets, 8(4), 270-287.

Lucchesi, E. P., Yoshinaga, C. E., & CASTRO, F. H. F. D. (2015). Disposition Effect Among Brazilian Equity Fund Managers. Revista De Administracao De Empresas, 55(1), 26-37.

Madaan, G., & Singh, S. (2019). An Analysis of Behavioral Biases in Investment Decision-Making. International Journal of Financial Research, 10(4), 55-67.

Mahadwartha, P. A., & Ismiyanti, F. (2023). The Gambler's Fallacy, The Halo Effect, And the Familiarity Effect Based on Risk Profile: Bullish and Bearish Market in Indonesia Stock Exchange. Gadjah Mada International Journal of Business, 25(2), 143-171.

Mamidala, V., Kumari, P., & Singh, D. (2024). Should I Invest or Not? Investigating The Role of Biases And Status Quo. Qualitative Research in Financial Markets, 16(3), 423-447.

Marjerison, R. K., Han, L., & Chen, J. (2023). Investor Behavior During Periods of Crises: The Chinese Funds Market During The 2020 Pandemic. Review Of Integrative Business and Economics Research, 12(1), 71-91.

Moher, D., Liberati, A., Tetzlaff, J., Altman, D. G., & The PRISMA Group. (July 2009). Preferred Reporting Items For Systematic Reviews And Meta - Analyses: The PRISMA Statement. *Plos Medicine* , 1-7.

Montier, J. (2002). *Behavioural Finance: Insights Into Irrational Minds And Markets.* England: John Wiley & Sons, Ltd.

Mulasi, A., Mathew, J., & Desai, K. (2022). Predicting The Financial Behavior of Indian Salaried-Class Individuals. Investment Management and Financial Innovations, 20(1), 26-37.

Nikiforow, M. (2010). Does Training on Behavioural Finance Influence Fund Managers' Perception and Behaviour? Applied Financial Economics, 20(7), 515-528.

Parmitasari, R. D. A., Syariati, A., & Sumarlin. (2022). Chain Reaction of Behavioral Bias and Risky Investment Decision in Indonesian Nascent Investors. Risks, 10(8), 145.

Pompian, M. (2012). *Behavioural Finance And Wealth Management How To Build Investment Strategies That Account For Investor Bias.* John Wiley & Sons, Inc., Hoboken, New Jersey.

Peprah, W. K., Kwakwah-Oppong, C. A., Osei-Kuffour, F., & Evinita, L. 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.

Phan, T. C., Rieger, M. O., & Wang, M. (2018). What Leads to Overtrading and Under-Diversification? Survey Evidence from Retail Investors in An Emerging Market. Journal Of Behavioral and Experimental Finance, 19, 39-55.

Prosad, J. M., Kapoor, S., & Sengupta, J. (2015). Behavioral Biases of Indian Investors: A Survey of Delhi-NCR Region. Qualitative Research in Financial Markets, 7(3), 230-263.

Ratnadi, N. M. D., Widanaputra, A. A. G. P., & Putra, I. N. W. A. (2020). Behavioral Factors Influencing Investment Decision-Making by College Student: An Empirical Study in Bali Province, Indonesia. International Journal of Scientific & Technology Research, 9(2), 1358-1367.

Rasheed, M. H., Rafique, A., Zahid, T., & Akhtar, M. W. (2018). Factors Influencing Investor's Decision Making in Pakistan: Moderating the Role of Locus of Control. Review Of Behavioral Finance, 10(1), 70-87.

Rzeszutek, M., Szyszka, A., & Czerwonka, M. (2015). Investors' Expertise, Personality Traits and Susceptibility to Behavioral Biases in The Decision-Making Process. Contemporary Economics, 9(3), 237-352.

Sabir, S. A., Mohammad, H. B., & Shahar, H. B. K. (2019). The Role of Overconfidence and Past Investment Experience in Herding Behaviour with A Moderating Effect of Financial Literacy: Evidence from Pakistan Stock Exchange. Asian Economic and Financial Review, 9(4), 480.

Sathya, N., & Prabhavathi, C. (2024). The Influence of Social Media on Investment Decision-Making: Examining Behavioral Biases, Risk Perception, And Mediation Effects. International Journal of System Assurance Engineering and Management, 15(3), 957-963.

Sharma, M., & Firoz, M. (2022). Delineating Investors' Rationality and Behavioural Biases-Evidence from The Indian Stock Market. International Journal of Management Practice, 15(1), 59-86.

Singh, A. K., & Kumar, M. (2022). Analyzing The Relationship Between Psychological Biases and Initial Public Offerings Investment Decision-making in India. Management And Labour Studies, 47(4), 407-430.

Singh, H. P., & Goyal, N. (2016). Behavioural Biases in Investment Decisions-An Exploration of The Role of Gender.

Souza, V. V., Souza, L. L. F., Oliveira, O., De Souza, E. M., & Costa, J. S. (2023). Do Heuristics Affect Brazilian Investors' Decision-Making Process? Review Of Behavioral Finance, (Ahead-Of-Print).

Srinivasan, K., & Karthikeyan, P. (2023). Investigating Self-Efficacy and Behavioural Bias on Investment Decisions.

Sudirman, W. F. R., Alif, M. I., & 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: JIEB., 38(3), 254-269.

Suresh, G. (2024). Impact Of Financial Literacy and Behavioural Biases on Investment Decision-Making. FIIB Business Review, 13(1), 72-86.

Tekçe, B., & Yılmaz, N. (2015). Are Individual Stock Investors Overconfident? Evidence From An Emerging Market. Journal Of Behavioral and Experimental Finance, 5, 35-45.

Tekçe, B., Yılmaz, N., & Bildik, R. (2016). What Factors Affect Behavioral Biases? Evidence From Turkish Individual Stock Investors. Research In International Business and Finance, 37, 515-526.

Trejos, C., Van Deemen, A., Rodríguez, Y. E., & Gomez, J. M. (2019). Overconfidence And Disposition Effect In The Stock Market: A Micro World Based Setting. Journal Of Behavioral and Experimental Finance, 21, 61-69.

Ullah, S., & Elahi, M. A. (2014, May). Behavioral Biases in Investment Decision Making and Moderating Role of Investor's Type. In SZABIST's 20th National Research Conference, 10th May.

Yadav, A., Yadav, D., & Hazarika, I. K. (2022). A New Conceptualization of Investor Sophistication and Its Impact on Herding and Overconfidence Bias. Investment Management and Financial Innovations, 19(2), 67-80.

Youssef, A., Tantawi, P., Ragheb, M., & Saeed, M. (2021). The Effect of Financial Literacy on Behavioral Biases of Individual Investors in The Egyptian Stock Exchange.

Zhdanov, V., & Simonov, A. (2021). Sell Winners and Buy Losers? The Impact of Familiarity on Individual Investors' Decision-Making: Experimental Results. International Journal of Financial Studies, 9(3), 47.