

Examining the Influence of Cognitive and Emotional Biases on Investment Decision-Making through Daoist Philosophy: The Role of Financial Literacy

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Abstract: Behavioral Finance theory is the prime factor that suggests that investors are irrational; they are more sensitive towards cognitive and emotional biases when compared to rational decisions. Financial Literacy plays an important role in investment decision-making, as literacy influences investment decisions and enhances a person's ability. The study examines how cognitive and emotional biases influence investment decision-making and how financial literacy moderates these decisions, drawing on Daoist philosophy. This Daoist philosophy focuses on emotional balance, harmony, moderation and independence from extreme attachment, which leads to offering an insightful system of philosophy for illustrating irrational economic behavior. The financial markets are often assumed to be rational, but fewer investors believe in emotions and mental shortcuts that mislead the idea of investment. Data collection was done from 495 active investors through a structured questionnaire using purposive sampling. The study used Structural Equation Modelling (PLS-SEM) for exploring the relationship between cognitive biases, emotional biases, financial literacy and investment decision making, along with R Studio using SCOPUS database for trending topics, word cloud, country collaboration map and lifecycle. The findings revealed that investors' decisions are not influenced by cognitive biases, whereas investors' decisions are directly influenced by emotional biases and financial literacy. The moderation analysis indicates that financial literacy is not significantly influenced by cognitive and emotional biases, and the trending topic is the loss aversion influence on female investment decision-making. The study aims to address the gap in understanding investor choices by examining how cognitive and emotional biases influence decisions. The study contributes especially to researchers for doing research on trending topics and for stock investors to be mindful of investment decisions and psychological biases by extending the wisdom of choices in investment for intensified demand efficacy..

Keywords: Awareness, Behavioral finance, Herd Behavior, Investors, Loss aversion, Overconfidence, Stock market.

INTRODUCTION

The study of the psychology of the stock market introduced the term "behavioral finance" in 1912 by Selden (G. C. 1912). After that, the term 'social psychology' was coined by an American psychologist (Festinger, L., 1957). Additionally, identified risk aversion and utility functions Pratt, J. W. (1964). He assumed risk as a segment of total assets. The term "heuristic" was identified (Tversky, A., & Kahneman, D., 1974). The growth of behavioral finance started in the year 1980. Tversky and Kahneman introduced

the word “behavioral economics”. This term offered a detailed investigation of how psychological economics and finance are set up in a particular position (Heukelom, F. 2014). Prospect theory is beneficial because it helps individuals select investments. This theory is additionally supported by Heukelom. As per the statement of Heukelom, prospect theory offers suggestions on human choices of gain and loss in spite of the potency of choices. Kahneman, Richard and Tversky are nowadays called the almighty fathers of psychological finance. Psychological finance comprises a mixture of psychology and finance. It focuses on resolving individual choices that are best available in the market. This area of finance is a wider field of study in research. As per the conventional finance theory, the market and investors are rational. But in progressive finance, investors are considered irrational. The individual investors generally deviate from the authentic models because of behavioral biases (Weixiang et al., 2022). The ongoing discussion amongst the conventional and latest advancements provides the significance of variables that are non-economic, like heuristics and emotional biases in constructing the behavior of the market (Almansour et al., 2024). The planned diversion from bounded rationality has been seen in wealth management (Sagar, K. 2025), and planned diversion can be shown by inhibiting psychological theories like heuristics and prospect theory. The disadvantages of conventional..

theory can be challenged by exploring behavioral biases through the aspects of psychological finance and creating a more developed understanding of how the knowledge and experience of investors influence the findings of portfolio (Reddy, N.D. 2026). Normally, the study examines the effects of herd behavior and disposition effect on asset distribution, demonstrating the mandate to vary in financial literacy amid the market's unpredictable behavior (Khan et al., 2023; Mumtaz et al., 2025). Furthermore, the effect of loss aversion and overconfidence dominates the marketing analysis that leads to substantial differences in individual findings (Suresh, 2024). These psychological biases are commonly observed in financial markets, where behavioral factors play a key role in investment decisions that deviate from conventional asset values (Fatma S., 2024). Additionally, facts demonstrate that these behavioral aspects are extended by herd behavior, where investors observe others to mitigate regret feelings (Rasool & Ullah, 2020). The theory of prospect demonstrates that people are more into loss rather than gains. Hence, it makes a cognitive bias evaluation report (Prasetyo et al., 2023). Further, quantitative information shows that inefficiencies of the market, comprising securities mispricing and momentum effects, are to some extent driven by mental shortcuts and overconfidence (Rehman et al., 2025). In this study, cognitive bias, emotional bias, and the moderating role of financial literacy are taken into consideration, along with their effect on investment decision-making simultaneously. The purpose of this paper is to examine these psychological biases and their influence on investment decision-making from the perspective of Daoists. Illogical behavior arises when an investor diverges from symmetry and is extremely influenced by external pressure, emotional attachment, and fear. For example, overconfidence in extreme egotism and herding behavior reflects trust in other people, loss aversion arises from fear of loss or uncertainty, and emotions/emotional engagement. Therefore, Daoist philosophy offers an insightful framework for examining how these biases contribute to misrepresented decision choices. For making investments, an investor should have knowledge and literacy to earn good returns. Behavioral biases are emerging as a new trend in the form of behavioral finance. However, behavioral finance states that the attitude of humans is influenced by several psychological biases, such as emotions, overconfidence, anchoring, loss aversion, etc., that might make investors irrational while making investment decisions. Cognitive biases are those biases that arise from information processing and errors in reasoning, such as overconfidence, confirmation, representativeness bias, that influence investors in how they should do market analysis and predict future aspects. These biases result in illogical behavior of the market and have a negative influence on the performance of the portfolio. Emotional biases also influence investment decisions, such as emotions like optimism, greed, and fear. Investors are not able to take rational decisions due to an emotional link with any kind of investment or fear of money loss. Financial results and stability of the market can be influenced by emotional biases that lead to fear selling during the downturn market and buying during the boom market. Financial literacy is significant while making investment decisions, in addition to behavioral biases. If an investor is financially literate, then the investor takes more rational decisions, and a lack of financial literacy makes an investor take irrational decisions. Although many

studies have examined behavioral biases and investor behavior, this requires a mandate to examine how these biases collectively influence investment decision making, where investors, being financially literate, make decisions and participate in markets, are also rapidly increasing.

This study also employs Daoist philosophy with behavioral finance by evaluating psychological biases within the wider context of cognitive and emotional biases. By connecting theoretical analysis with reflective justification, the study assists in collaborative discussions on cognition, human behavior and behavioral finance. This study is important because it advances the knowledge of biases above technical economic analysis and applies them under the wider contexts of human science and healthful lives.

2.1 Literature Review: A Theoretical Development

Investing money into some kind of stock has been historically examined through using traditional economic theories that suppose logical behavior and effective markets. Despite that, conceptual evidence constantly shows that investors normally deviate from logic due to emotional and psychological influences, such as fear and greed, which can lead to irrational decision-making in their investment choices. Behavioral finance comprises knowledge from psychology in combination with finance to evaluate such differences and offers a strong conceptual foundation for comprehending the behavior of investors (Shefrin, 2007).

2.1.1 Cognitive bias theory and investment decisions

Cognitive bias stems from common faults in judgment and processing of information by the employment of mental shortcuts or heuristics (Tversky & Kahneman, 1974). Financiers normally rely on estimations or rules of thumb to put money into shares or make other kinds of choices regarding market intelligence, ambiguity, and a shortage of time. As per the definition of rules of thumb, financiers update the selection process by emphasising false conclusions, which give rise to disastrous judgments and poor choices. The financier sometimes overestimates their capability, and sometimes they invest money based on historical acts of particular investment, assuming this investment provided me gain earlier, so it will provide me gain in the future too and invest money called "representativeness bias," as provided in earlier studies like (Barber & Odean, 2001) and (De Bondt & Thaler, 1985).

2.1.2 Emotional Bias Theory and Investment Decisions

Emotional bias theory advises that emotions play a key role in investment decision choices, mainly in the time frame of market volatility. Regret aversion drives investors to copy the behavior of others or delay decisions to reduce psychological pressure (Loomes & Sugden, 1982). Similarly, anxiety experienced during a recession and excessive optimism during periods of inflation can lead to illogical investment timing and poor portfolio performance (Statman, 2014). These emotional aspects positively affect the willingness of investors to think about risk and the comprehensive selection area of investment. The theory of rational choices defines that investors examine losses and gains unevenly, demonstrating loss aversion whereby losses are perceived more severely than profits/returns of similar scale (Kahneman & Tversky, 1979).

2.1.3 Financial Literacy as a Moderating Variable

Financial literacy shows that an individual's understanding and knowledge of financial terminology helps in effective examination of capital information and enlightened decision choices (Lusardi & Mitchell, 2014). Within behavioral finance, financial literacy plays an important role in defining how investors react to emotional and cognitive biases. From the perspective of self-regulation theory, literate people have more analytical capability and cognitive control, enabling them to identify and diminish biased thinking. A high level of financial literacy enables investors to thoroughly examine business information, mitigate belief in heuristics, and supervise expressive responses like overconfidence and fear (Van Rooij et al., 2011). Accordingly, financial literacy undermines the adverse effect of emotional and cognitive biases on investment decisions. Conceptual studies assist the moderating role of financial literacy in mitigating illogical investment behavior and advancing the quality of decision-making (Kumar & Goyal, 2015; Bannier & Neubert, 2016).

2.1.4 Integrated Theoretical Model

Based on theories of behavioural finance, prospect theory, and heuristic theory, this study aims to provide a conceptual framework in which cognitive and emotional biases significantly influence investors' decision-making, while financial literacy moderates the relationship between them. The framework suggests that the influence of behavioral biases on investment decisions varies based on the investor's level of financial literacy. Higher financial literacy reduces the negative impact of emotional and cognitive biases on more informed, rational investment decisions.

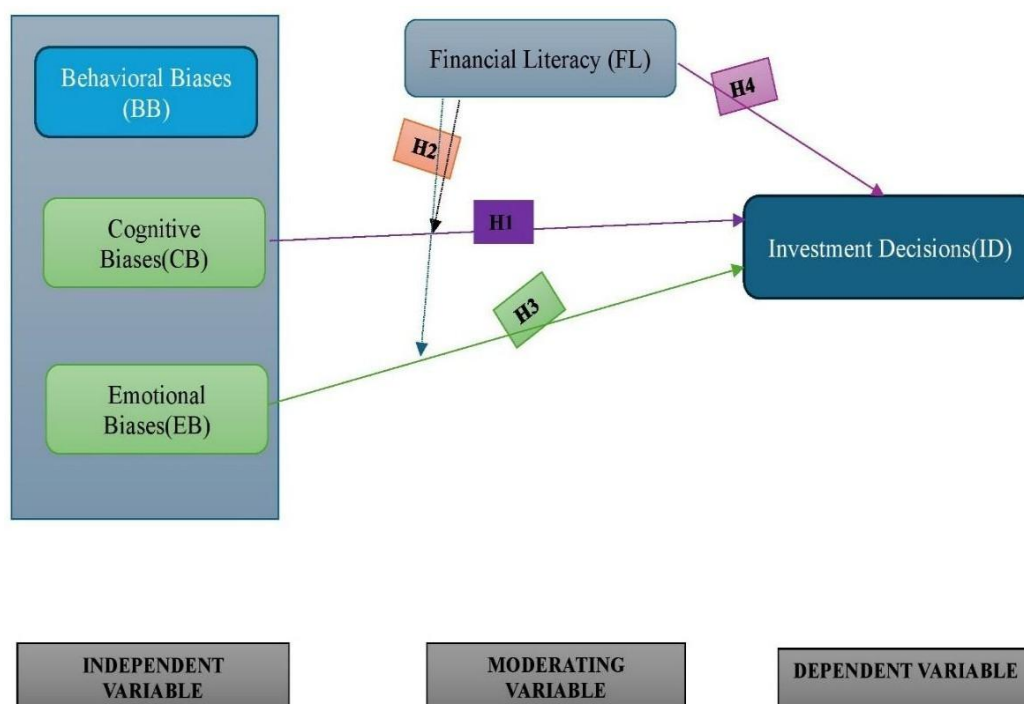


Figure 1: Model

2.2 Text Analytics

The collection of literature review is considered in two phases: one employing the bibliometrics approach and the other based on one-by-one/manual scanning of research materials, which is a historical approach. The approach of bibliometrics is helpful because it gives insight into examining relevant papers in less time, instead of doing it on a one-by-one basis. This method also supports designing the important aspect of every study instead of detailed reading, allowing researchers to quickly identify key themes and trends in the literature. It also provides insight into how to prepare a comprehensive study plan for data examination. The purpose of this method is to evaluate a large sample of data in just a few minutes, which is not feasible using traditional physical methods. Additionally, this method is more technical, and a similar construct of this is provided in depth below.

2.2.1 Exploratory Method

Several techniques come into discussion while working on a literature review, such as traditional, theoretical, and empirical. These experimental reviews of literature are detected through keyword research and employing a text analysis approach. Text analysis is a machine intelligence approach for conducting a review of the literature. Text analytics means a methodical technique for evaluating and extracting data from formatted text data, and developed the foundation of the screening process. All the data relevant to the collection of data and the procedure of text analytics is presented below:

2.2.2 Word Cloud: Most Frequent Words

Fig. 2 represents a word cloud of the most frequent words in the study around the data collection of keywords. The boldness of the text indicates the extent of research conducted on those keywords, with more bold text suggesting comprehensive research and less bold text indicating limited research. The most commonly employed words in the study comprise financial literacy (around 161 times), overconfidence (around 83 times), behavioral finance (35 times), investment decisions 27 times, financial education 24 times, mental accounting 23 times, and decision-making 22 times. This shows the actual words that have been used in this paper. This word cloud represents the most highly occurring words in previous studies and provides a future objective to look more into financial literacy, behavioral finance, financial education, mental accounting, overconfidence and investment decisions. This word cloud helps me to research this topic.



Figure 2: Word Cloud

2.2.3 Trending Topics

Trending topics represent themes, or topics that gained significant popularity/attention under a defined time frame. Figure 5 represents trending topics that demonstrate a move towards developed behavioral economics, economic science, and retirement planning. A leading research surge evaluates the moderating variables among cognitive and emotional biases. Recent trends highlight a shift towards more behavioral economics to cognition, confidence, financial education, financial well-being, economics, surveys, overconfidence, financial knowledge, and retirement planning. This table shows financial literacy, most having a high frequency of 161 times till 2024, is the most dominant and growing topic; overconfidence, 83 times in the middle years of 2022 and 2025; behavioral finance 35 times till 2025; decision making 22 times till 2024; investment decisions 27 times till 2025, mental accounting 23 times till 2025, investments 18 times till 2025, financial education comes 24 times in 2020 and 2023. These trending topics suggest the latest trends covering loss aversions and their influence on demographics, behavioral biases and their influence on investment decisions, mental accounting and its influence on investments, and financial literacy and behavioral finance influence on decision making. It also shows that financial literacy and behavioral finance are emerging and are dominating the field of research, where biases are typically used for evaluating the impact on investment choices.

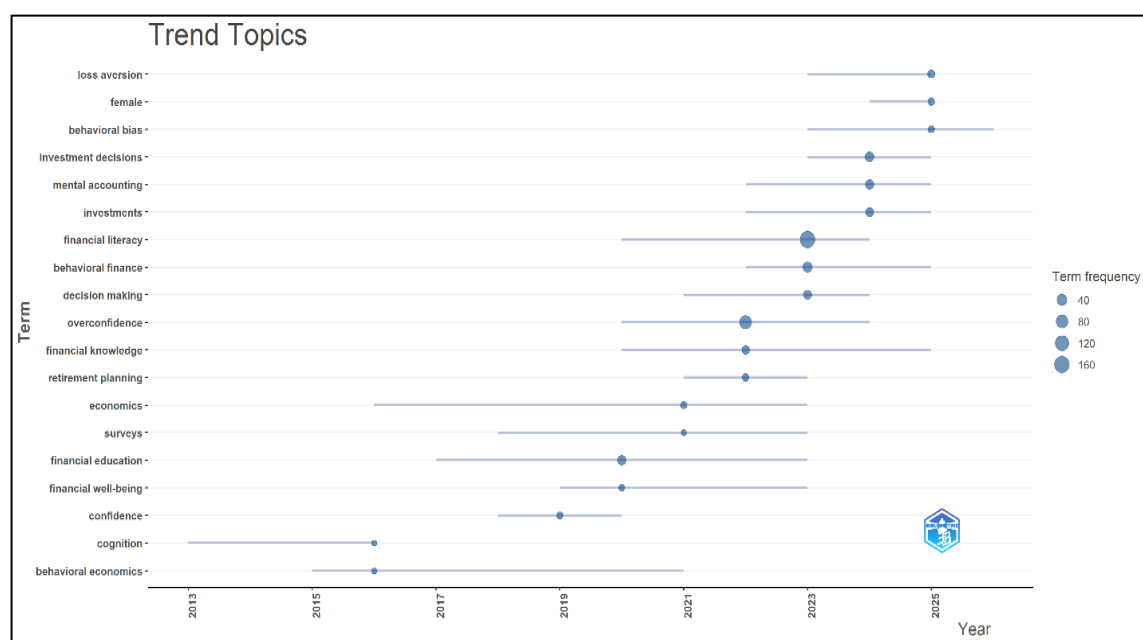


Figure 3: Trending Topics

2.2.4 Life Cycle (Annual and Cumulative Growth Curve)

A life cycle represents distinct steps of an investor's capital drive, starting with information acquisition and awareness, followed by portfolio monitoring, evaluation, and decision choices from 2010 to 2050, and eventually retrospective analysis. The analysis of the life cycle is done through the growth function of logistic, which suggests the additional number of journals/periodicals develops with time, with the following formulae:

Formula:

$$P(t) = K / (1 + \exp(-b(t - t_0)))$$

By setting up a logistic curve for yearly publication estimates in groups, this analysis shows whether an area of research is in its introduction phase, growth phase, maturity, or last/decline stage. It also shows that this topic occurred around 2021, will grow in 2029, and will reach maturity around 2035 and last for a lifetime span of 25 years. It also shows that the topic will expand from 900 to 4800 by the year 2030, with around 587 publications every year. This bell curve represents how publications grow, reach their peak, and die, and the S curve shows total advancement over the years.

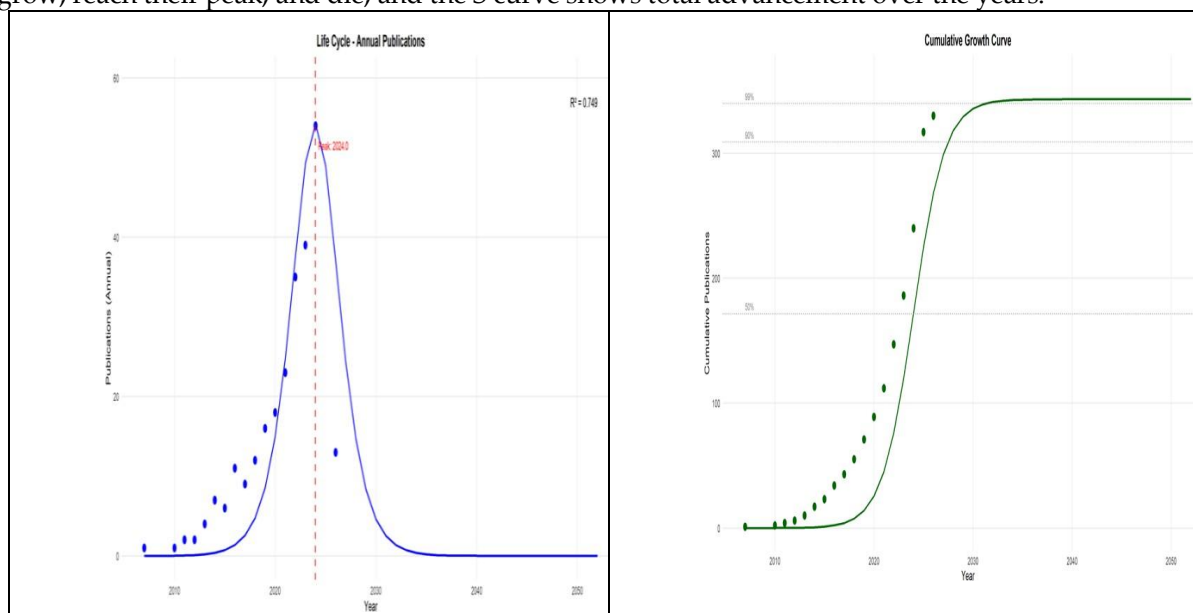


Figure 4: Publication Growth

2.2.5 Country Collaborations' Map

From the perspective of the bibliometric world map, studies on cognitive and emotional biases and literacy represent strong worldwide collaboration paradigms in Figure 4. The collaboration network represents a journey from Australia to Austria, Australia to Germany, Australia to Hong Kong, Australia to Malaysia, Australia to the Netherlands, Australia to New Zealand, Australia to Singapore, Australia to the United Arab Emirates, and Canada to the Netherlands and Canada to New Zealand. The country collaboration of the world map unveils a shift from defined countries to worldwide advanced research of behavioral biases. This study shows the maximum contribution, which is Germany to Italy 4 times, Pakistan to Malaysia 4 times, USA to Canada 4 times, USA to the United Kingdom 4 times, USA to China 3 times, Australia to New Zealand 3 times, and Malaysia to the United Arab Emirates 3 times.

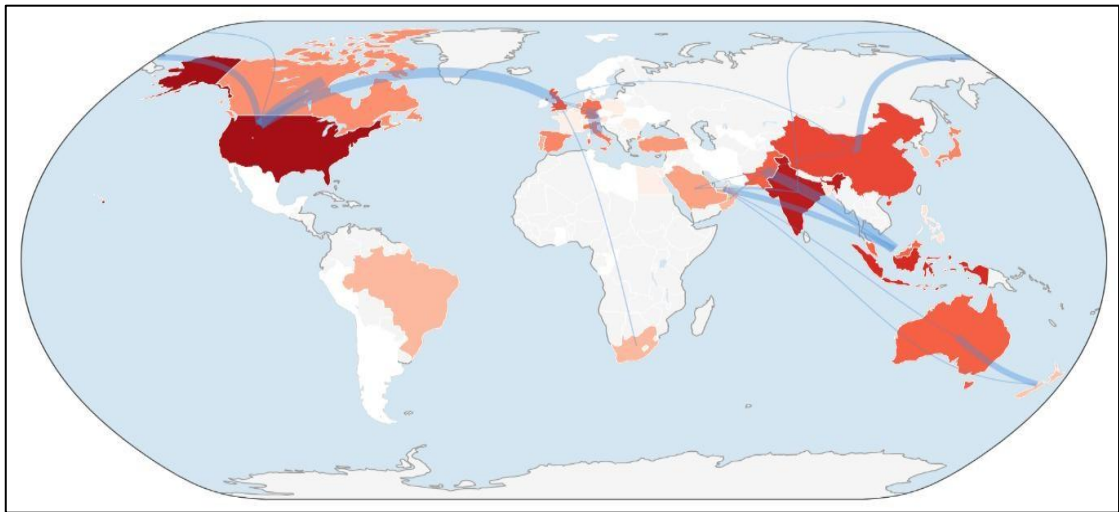


Figure 5: Country Collaboration Map

2.3 Manual Scanning:

Existing literature provides ample proof of behavioral finance variables and their influence on individual investor decision-making, whereas eminent conceptual and methodological restrictions prevail.

Table 1: Existing LR on Behavioral Biases and Investment Decision-Making

Author(s) & Year	Period	Region / Country	Constructs	Methodology	Findings/ Outcomes
Subedi et al. (2026)	2024–2025	Nepal	Availability bias, Behavioral biases, Herding behavior, Investment decision-making, Loss aversion	Multi-group Structural equation modelling, where biases are independent, and decisions are dependent.	Loss aversion, availability bias and mental accounting influence Nepalese investors' decisions.
Cahyani & Yunita (2026)	2024–2025	Indonesia (Bali)	Cryptocurrency, Regret Aversion, Risk Tolerance	SEM, Mediation & Moderation, biases as independent and crypto decisions as dependent.	Biases positively shape crypto-related choices through perceived risk.

Shunmuga sundaram & Sinha (2025)	2023–2024	India	Decision-making, Investment, Heuristics, Psychological biases, Sequential mediation, G11, G40, G41	Serial Mediation, Biases as predictors and insurance holders as dependent variables	Behavioral biases affect the investment decisions of life insurance policyholders.
Sharma et al. (2024)	2022–2023	Nepal	Behavioral biases, Emerging markets, Financial risk propensity, Investment decision-making, Nepal Stock Exchange	Mediation Analysis, 327 Investors through a primary structured questionnaire	Loss aversion, herding and experiential biases affect investment choices, and the financial propensity for risk mediates these decisions.
Ahmed et al. (2022)	2020–2021	Pakistan	Investment decision, disposition effect, herding bias, blue-chip stocks, risk perception, structural equation modeling	Purposive sampling, 450 respondents through a structured questionnaire	Perception of risk mediates the investment decisions and blue-chip stocks. Risk perception does not mediate between the disposition effect, herding bias and investment decisions.
Ritika & Kishor (2020)	2018–2019	India	Behavioral biases, Scale development, Investment decision, Behavioral finance	Scale development. EFA and Confirmatory Factor Analysis,	Validate two behavioral biases for investors' decision-making. One scale for cognitive and another for emotional.
Alrabadi et al. (2018)	2017	Jordan	Behavioral Biases, Investment Performance, Gender, Overconfidence, Familiarity, Loss Aversion, Disposition, Availability, Representativ	Logistic regression, Chi-square test and t-test.	Behavioral biases influence the performance of investments as the value of p is less than 5%.

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			ness, Confirmation, Herding, Amman Stock Exchange		
Firah et al. (2017)	2016	Indonesia	Competence Investors' Overconfidence, Investors' Decision to Invest	Structural equation model, Partial Least Squares	Investors' confidence and competence influence decision of investors for investing.
Hayat & Anwar (2016)	2015	Pakistan	Investment Decision, Overconfidence Bias, Disposition Effect, Herding Bias, Financial Literacy	Moderation analysis, ANOVA	Herding bias, overconfidence and disposition effect positively influence the decisions of investors. Financial literacy has a positive moderating effect on overconfidence and a negative moderating role on herding bias.
Alquraan et al. (2016)	2015–2016	Saudi Arabia	Behavioral Finance, Classical Finance, Investment Decisions, Individual Investors, Saudi Stock Market	Multiple Linear Regression, ANOVA	Overconfidence, loss aversion and risk perception significantly influence investment decisions in the Saudi stock market, while herding has an insignificant influence on investment decisions in the Saudi stock market.
Badshah et al. (2016)	2015	Pakistan	Representativeness bias, Islamabad stock exchange	Regression Analysis	Representativeness bias influence decision making of investors in the Islamabad stock exchange.
Fachrudin & Fachrudin (2016)	2015–2016	Indonesia	Biases, IDM	Statistical Analysis, structural equation modeling	Education and experience do not positively influence financial choices, but financial literacy found a positive relation

					between experience and education for investment decisions.
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3. Gaps in Existing Literature

Existing literature provided a comprehensive understanding of behavioral biases and their relationship with a financier's selection of investment money. The existing studies offer several disadvantages due to some only covering biases being covered, some only covering financial literacy being considered, and limited studies comprising everything in one combined study. Further, the collaboration between the emotional and cognitive biases is less studied, and there is an absence of multidimensional models with these words in one study. The current research paper offers the relation among the cognitive, emotional, and literacy as one combined study, so that accurate results of influence can be found.

Research Objectives

- To examine the investment decisions influenced by cognitive biases.
- To examine the financial/economic literacy effect of moderation on cognitive biases and emotional biases
- To examine the investment decisions influenced by emotional bias
- To examine how financial and economic literacy influence investment decisions.
- To examine trending topics in this area of research.

4.1 Hypotheses

Ha1: Cognitive biases positively influence investment decision-making.

Cognitive biases are called mistakes in reasoning that stem from an individual's usage of heuristics while processing information (Tversky & Kahneman, 1974). In this field of investment decision-making, investors normally rely on clear heuristics because of the overload of information, uncertainty, and constraints of time in capital markets. That conviction can lead to poor investment choices and biased judgments. Several cognitive biases influence investment decisions, including representativeness bias, overconfidence bias, availability bias, confirmation bias, and anchoring bias. Representativeness bias leads investors to generalise historical performance into the future without taking into consideration essential factors, consequently misrepresenting judgment calls (De Bondt & Thaler, 1985). Overconfident investors are prone to exaggerating their predictive abilities and knowledge related to risk-taking and excessive trading (Barber & Odean, 2001). An empirical study proves that cognitive biases enhance the effect of selection choices (Badshah et al., 2016; Budiarto & Susanti, 2017). As per this, it can be said that cognitive biases play an innovative role in framing how financiers interpret selection choices and economic data.

Ha2: Moderation of financial literacy of cognitive biases & emotional biases on investment decisions

Literacy is all about knowledge of financial aspects. Higher literacy can lower the adverse effects of emotional biases by more detailed logical examination and critical thinking (Kumar & Goyal, 2015). Whereas financiers with less literacy are more in doubt for emotional areas, such as having high fear during market decline and sometimes during rising prices. Empirical studies show the moderate role of literacy in removing irrational behavior and advancing the efficient choices of decision-making (Bannier & Neubert, 2016). Therefore, it plays like a protective mechanism that mitigates the adverse consequences of emotional biases.

Ha3: Emotional biases positively influence investment decision-making.

Emotional biases stem from moods, feelings, and influencing phases instead of logical analysis. Distinct cognitive biases arise from emotional biases; faulty reasoning is influenced by emotional and psychological reactions to market volatility, losses, and gains (Shefrin, 2007). Emotions like regret, fear, optimism, and greed significantly influence the behavior of investors, especially in periods of uncertainty of the market. Under this regret aversion, states that people should avoid investing money where they feel regret after the investment (Loomes & Sugden, 1982). Earlier research focuses on how emotional aspects significantly manipulate the rational choices and move more towards irrational behavior (Statman, 2014; Baker & Ricciardi, 2014). Emotional reactions sometimes put a command on illogical aspects, hence having a positive effect on choices.

Ha4: Investment decisions are significantly influenced by financial literacy.

A person who has economic knowledge is advanced in evaluating the alternatives of investment, examining risk accuracy, and making sound decisions related to economic perspectives. Prior studies show that higher standards of economic knowledge are related to advanced behavior of investment, comprising higher involvement in capital markets, better portfolio diversification, and mitigated sensitivity to behavioral biases (Van Rooij, Lusardi, & Alessie, 2011). Financial literacy supports investors to decipher capital information more impartially and mitigate belief in emotions and heuristics. In the field of investment decision-making, financially literate investors are more prone to examine investments based on conceptual analysis instead of emotional aspects or market noise. Distinct conceptual studies assure that economic literacy influences long-term economic results and quality of investment decisions (Klapper, Lusardi, & Van Oudheusden, 2015).

5. Research Methodology

The existing study tried to evaluate the cognitive and emotional biases and moderation effect of economic literacy on investment decisions. A cross-sectional design of research was employed, and a quantitative technique was used to analyze the purpose of the research and hypothesis testing, along with R Studio for trending topics, word cloud, country collaboration map and lifecycle. The study comprised respondents who were investors in the stock market of the Delhi NCR area of India. This Delhi NCR region is significant for the study due to the exceptional vision it provides into rapidly developing regions like parts of Delhi, Noida, and Gurgaon. The study employed nearly 495 people in the Delhi NCR region. The investigator has modified the questionnaire from current literature and conducted the pilot study to examine the validity and reliability of the questionnaire, accompanied by the collection of data. The questionnaire comprises two parts. Section 1 questions are related to demographic info like occupation and educational qualifications. Section 2 comprises questions related to cognitive bias, emotional bias, financial literacy, and investment. The researcher employed the classic formula to examine sample size. Sample size = $n_0 = \frac{Z^2 \cdot p \cdot q}{e^2}$ where, $Z = 1.96$, N = size of population, p = population proportion and e = margin of error (0.05). A sample size of 495 respondents is arithmetically enough to portray the population with a confidence interval of 95%, a 50% population proportion, and a 5% margin of error. This study employed purposive sampling for obtaining the sample because it offers the researcher the ability to select respondents who are easily able to reach out to and stock investors of India and are likely to offer their contribution relevant to the objectives of the study. The judgement of the researcher was important in ensuring that the integration of people was adequate for offering appropriate solutions. We went out to various investors in the stock market, asking them to fill out the questionnaire. Based on participants' priorities, the survey questionnaire was distributed using offline and online methods. Those who chose to fill it out online received the questionnaire by email through Google Forms. The inquirer got approval from participants and guaranteed them the privacy of their data. A Likert scale was employed to examine the participants to evaluate their knowledge level and their perspectives. The collection of data has been analysed through employing Smart-PLS. Descriptive statistics were employed to examine the demographic description of the participants' sample. The scholar examined the authenticity and genuineness of the construct. For evaluating the internal consistency of experimental variables, composite reliability is employed. AVE (Average Variance Extracted) is executed to examine convergent validity. Discriminant validity is employed to

understand the distinct variables that are not highly related/correlated with several other constructs in the model of research. It also examines that every variable examines a novel approach and sustains conceptual separation. Multicollinearity is employed, which stands for when two or more than two independent variables are related to each other in a regression model. It also magnifies standard deviation and makes it hard to examine the distinct influence of each independent variable.

Results and Analysis

6.1 Demographic profile of respondents:

Demographic data represents the demographic profile of an investor, such as knowing the exact profile of an investor in terms of education and occupation. As demographics play an important role. Being an educated investor, he/she is liable to make good decisions and try not to be influenced by any illogical decision. Occupation also shows the person's involvement in several types of jobs. This table shows that graduates are the highest number who participated in this survey, along with businessmen. 320 participants are graduates, and 206, the highest, have been involved in business and actively participated. It also specifies the kind of people/investor who have participated in this study and what he/she thinks about the same.

Table 2: Demographic Profile

Variable	Category	Frequency	Percentage
Education	Graduate	320	64.60
	Postgraduate	134	27.00
	PhD	41	8.20
	Total	495	100
Occupation	Private Job	129	26.06
	Govt. Job	146	29.49
	Businessman	206	41.61
	Others	14	2.82
	Total	495	100

6.2 Reliability & Validity

Table 3 defines measured outcomes of the model, confirming the internal reliability (consistency) along with the legality of the variables. Cronbach's alpha was employed for evaluating the logical coherence and composite reliability, while validity (convergent) was examined employing AVE (Average Variance Extracted). The finding represents acceptable internal consistency (Hair et al., 2019), as Cronbach's range is from 0.640 to 0.691, covering the minimum limit of 0.60. Additionally, composite reliability also confirms acceptable construct reliability as values range from 0.635 to 0.831, exceeding the range of 0.70. Convergent validity can be examined using AVE, which examines the extent to which a variable defines the variance of its constructs. Here AVE ranges from 0.579 to 0.622, representing established convergent validity (Fornell & Larcker, 1981; Hair et al., 2019).

Table 3: Reliability and Validity

Constructs	Cronbach's alpha	Composite reliability (rho_a)	Composite reliability (rho_c)	Average variance extracted (AVE)
Cognitive Biases	0.691	0.698	0.831	0.622
Emotional Biases	0.632	0.635	0.804	0.579
Investment Decision Making	0.640	0.658	0.808	0.586
Financial Literacy	0.669	0.678	0.821	0.606

Source: Author's Work

6.3 Discriminant Validity: Fornell-Larcker Criterion

The criterion of Fornell-Larcker has been employed to examine the validity of discriminant; on the other hand, the corresponding inflation factor variance, called "indulgence," is used to check issues of multicollinearity (Fornell, C., & Larcker, D. F., 1981; Hair et al., 2017). The conceptual model mandates appealing to SEM for existing research. The model's dependent variable is investment decision-making; the moderating variable is economic literacy; cognitive and emotional biases are predictor variables. The study preserved 3 assertions on cognitive biases, 3 assertions of emotional biases, 3 assertions on financial literacy, and 3 assertions on investment decision making. Under this study, the participants in the analysis are investors in the stock market. The proposed model is exhibited in Figure 1. Table 4 represents the outcomes of discriminant validity examined using the Fornell-Larcker criterion. The diagonal values present the principal square root of AVE for each variable, and the non-diagonal values show the inter-variable correlation. Discriminant Validity is established if the square root of AVE is greater than the analogous correlation of another variable, and the value should be less than 0.85 (Henseler, Ringle, and Sarstedt, 2015). Under this study, discriminant validity is fully acceptable.

Table 4: Fornell-Larcker Criterion

Constructs	Cognitive Biases	Emotional Biases	Investment Decision Making	Financial Literacy
Cognitive Biases	0.788			
Emotional Biases	0.781	0.761		
Investment Decision Making	0.689	0.747	0.766	
Financial Literacy	0.824	0.757	0.740	0.778

Source: Author's Estimation

6.4 Multicollinearity

Multicollinearity refers to a mathematical condition in which two or more than two predictor constructs in a model of regression are mutually related to each other, making it challenging to examine the distinct influence of each construct on the dependent construct (Stock & Watson, 2020). High multicollinearity can enhance typical mistakes and mitigate the authenticity of factor measures. Table 5 represents the multi-collinearity examination of assessed constructs using VIF values. The outcomes show that all values of VIF are below the limit of 3.3 (Kock, N., & Lynn, G.S., 2012), advising that multicollinearity is not an issue under this model. Model satisfies the assumption of multicollinearity analyses for future analysis.

Table 5: Multicollinearity

Constructs	VIF	1/VIF
Cognitive Biases 1	1.182	0.84
Cognitive Biases 2	1.663	0.60
Cognitive Biases 3	1.572	0.63
Emotional Biases 1	1.363	0.73
Emotional Biases 2	1.420	0.70
Emotional Biases 3	1.135	0.88
Investment Decision Making 1	1.125	0.88
Investment Decision Making 2	1.478	0.67
Investment Decision Making 3	1.429	0.69
Financial Literacy 1	1.155	0.86
Financial Literacy 2	1.578	0.63
Financial Literacy 3	1.504	0.66

Source: Author's Work

6.5 Hypothesis testing

By using PLS-SEM along with bootstrapping, the study identified no positive influence of cognitive biases on selection choices, as the p-value is greater than 0.05. But emotional biases and financial literacy have a positive effect on investment decisions; economic literacy does not have a positive effect on cognitive biases, emotional biases, and investment decisions, as the p-value is greater than 0.05.

Table 6: Hypothesis Testing

Constructs	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T statistics (O/STDEV)	P values
Cognitive Biases -> Investment Decision Making	0.063	0.064	0.050	1.249	0.212
Emotional Biases -> Investment Decision Making	0.390	0.390	0.048	8.140	0.000
Financial Literacy -> Investment Decision Making	0.369	0.369	0.051	7.234	0.000
Financial Literacy x Cognitive Biases -> Investment Decision Making	-0.037	-0.037	0.061	0.614	0.539
Financial Literacy x Emotional Biases -> Investment Decision Making	-0.047	-0.048	0.055	0.862	0.389

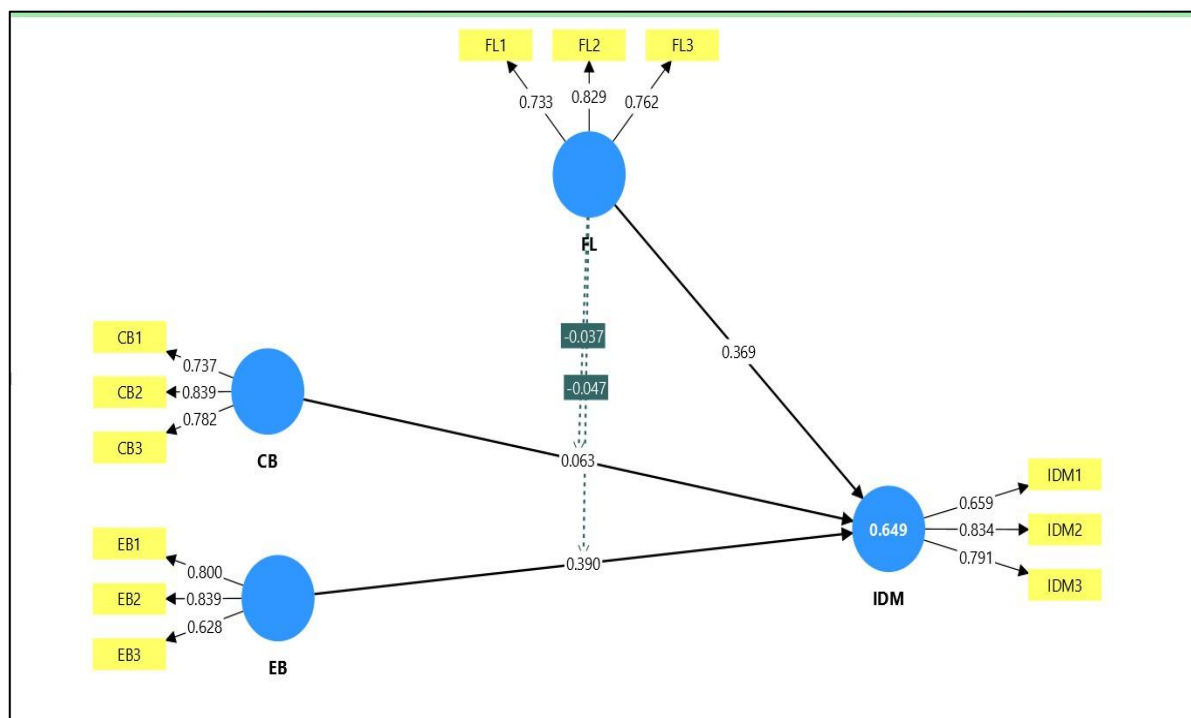
Source: Author's Estimation

6.6 Cognitive bias, Emotional bias, financial literacy: A structural equation model

SEM is a statistical technique for examining hypotheses about the correlation between latent and observed constructs (Hair et al., 2019). In this study, SEM is applied to cognitive and emotional bias while making investment decisions. Apart from this, the conceptual model interprets the moderate use of financial literacy. Inside the advanced model, aspects with factor loadings above 0.5 were used for further analysis (Hair et al., 2019). The factor loadings vary from 0.628 to 0.859. The factor loading of their sub-constructs ranges from 0.737 to 0.839 for cognitive biases, 0.628 to 0.839 for emotional biases, 0.733 to 0.829 for financial literacy, and 0.659 to 0.834 for investment decision making and financial literacy. Cognitive biases, financial literacy and emotional biases are 1. The outcome of SEM is presented in Figure 6.

Figure 6: SEM

The outcomes show that for hypothesis 1, cognitive bias influence on decision making is insignificant, as presented in Table 5, where the p-value is greater than 0.05. The study also indicates that financial literacy does not moderate cognitive and emotional biases, as the p-value is greater than 0.05. On the other hand, the third and fourth hypotheses proved true: emotional biases and financial literacy significantly influence investors' investment decision-making, as the p-values are less than 0.05. The SEM outcome validates that economic knowledge/literacy does not moderate the effect on cognitive and emotional biases, but financial literacy does when work as a predictor construct influencing investment decisions. That's why we accept the fourth hypothesis. The study enunciates that emotional biases also influence the investment decision-making of investors. The calculated direct effect of the latest construct/ hypothesis is presented in Table 6.



Discussion

This study aims to understand the employment of cognitive bias, emotional bias, and economic knowledge/literacy while having the intention of putting money in the stock market based on theoretical and bibliometric analysis using a quantitative approach. The present research has particularly discussed five research questions. The first question examines the influence of cognitive

biases on investment choices. The results do not support the positive association of cognitive biases. The findings showed that cognitive biases don't significantly link with the investment decisions of investors. It means an investor invests by logical aspects and by not involving/taking cognitive shortcuts and heuristics. This finding is supported by existing literature (Divakara Reddy et al., 2026). Further, the second question examines the effect of moderation on cognitive and emotional biases. The analysis shows that financial literacy does not have a moderating effect on emotional and cognitive biases. It means the moderation effect is not fully supported. This finding is also supported by the existing literature (Wijaya, L. I., 2025). The third question examines investment decisions positively influenced by emotional biases. These results fully supported the study and paper. Emotional biases had a significant influence on the decision-making of investors. It means people somewhere are making emotional decisions and investing money in the stock market. The results are consistent with existing studies like Kumar, M., & Vishwakarma, K. (2024). Fourth, the study attempts to understand the economic literacy of investment choices. The results also supported this objective, as investment decisions were influenced positively by financial literacy. This study is also supported by this existing literature (Nogueira, M. C., 2025). Lastly, the study suggests the latest topics through the SCOPUS database, which are the influence of loss aversion on female investment decisions. Word cloud also represents words that are most emerging now days are, such as financial literacy, mental accounting, overconfidence, and investment decisions. It means this study is a new aspect which is taking data not only from Google Scholar but also from the SCOPUS database for literature review and finding out the topics to help others for future research.

Conclusion

The study focused on the linkage between cognitive bias, emotional bias, and financial literacy while working as a predictor variable on investment decision-making (dependent variable). The main complexity of this sector is that investors who invest in the stock market follow the cognitive and emotional aspects of others. Outcomes of this research are supplementary due to investment decision-making positively influenced by emotional biases (Sharma et al. 2024 and Shunmugasundaram and Sinha 2025) and economic literacy (Budiarto and Susanti 2017). But on the other side, under the result area, moderation has failed. Cognitive bias did not have a significant influence on the decision-making of investment; it has also been proven under (Iram, T., 2023 and Ansari, M. S., 2022). Financial literacy working as a moderating variable also failed to show significant influence on cognitive biases and emotional biases (B. A. H., 2022; Desai, G., 2026). The outcomes demonstrated that emotional bias and financial literacy both significantly influenced IDM, so these hypotheses are true. The study showed that a research framework with dependent, moderator, and predictor variables supports the government in making an announcement that helps to attract investors. It also supports policymakers and investors in making decisions with emotional biases and cognitive biases by enhancing market efficiency. On the other hand, literature can be increased by focusing on recent trending topics like loss aversions and their influence on demographics, behavioral biases and their influence on investment decisions, mental accounting and its influence on investments, and financial literacy and behavioral finance influence on decision making. Behavioral biases like loss aversion influence female for investment decision are a relatively new and large field, so it will provide numerous challenges and opportunities soon. Findings will help the stock market regulators by showing how psychological factors influence investors' decisions, and regulators could take advantage of them to attract and influence the investors.

Limitations

The study offers a detailed analysis of the correlational influence of cognitive bias, emotional bias, and economic literacy on investment decisions, as well as the effect of the moderation of economic literacy on cognitive and emotional biases. Still, the study is constrained to Delhi NCR, which may be limited to common accomplishments in other states of India. The research is cross-sectional in character. Hence, psychological modifications over the time frame cannot be assessed. Financial literacy was not assessed as a separate variable, in spite of the enhanced significance of psychological biases.

Future scope

The future study can broaden the current cross-sectional study design by applying a longitudinal design of research to assess how psychological biases, investment decisions, and economic literacy expand over the years, mainly during the time frame of volatility of the market. By widening the field of regional zones beyond Delhi NCR to include other zones of India, comprising high educational qualifications and high literacy, mainly in the share market. Furthermore, subsequent studies can include risk perception and impact investing as main constructs within the area of behavioral finance. By the empirical framework, a comprehensive test can be included to evaluate cognitive and emotional aspects like representativeness, mental accounting, herd behavior, loss aversion, AI, risk perception, and economic literacy that provide more understanding of how retail investors align with sustainability in India.

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