A Study on the Influence of Behavioral Biases in Investment Decision

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Abstract

The financial market is significantly influenced by investor psychology, with behavioral biases shaping investment decisions. The Indian mutual fund industry has grown rapidly, with Assets Under Management (AUM) exceeding ₹40 trillion. Despite this, rather than using logical analysis, many investors base their decisions on biases, leading to inconsistent investment patterns. The impact of behavioral biases on investing decision-making, including herd mentality, anchoring, loss aversion, and overconfidence, is investigated in this study. The primary objective is to analysed how these biases affect investor choices and suggest ways to promote rational financial behavior. A structured survey was conducted among investors in Bengaluru city, and data was analysed using statistical models, including regression and factor analysis, with spss as the analytical tool. The study evaluates the degree and influence of cognitive as well as emotional biases on investing behavior using important behavioral finance theories. The results show that psychological biases often cause investors to stray from logical decision-making, which impacts the performance of their portfolios. Over confidence leads to excessive trading, while loss aversion discourages necessary risks. The study emphasizes the necessity of bias-mitigation techniques and financial literacy initiatives. Future research can explore behavioral interventions to improve investor decision-making and financial stability.

Keywords: Behavioral Finance; Investor Psychology; Behavioral Biases; Investment Decision-Making; Demographic Moderation; Financial Literacy

Introduction

Making investment decisions is a complicated process that is impacted by both psychological biases and logical analysis. Conventional financial theories, such the Efficient Market Hypothesis (EMH), make the assumption that investors behave rationally and impartially while weighing all available data. Behavioural finance, on the other hand, questions this presumption by highlighting how emotional and cognitive biases influence investing behavior. Researchers like Kahneman and Tversky (1979) have demonstrated that investors often rely on heuristics, resulting in consistent departures from logical judgment. Key biases that affect portfolio selection and financial results include overconfidence, loss aversion, with herding, according to studies by Kumar as well as Goyal (2015) and Zahera and Bansal (2018). Investors that are overconfident sometimes overestimate their understanding and engage in excessive trading. while loss-averse individuals avoid selling depreciating assets due to fear of regret. Herding behavior, as explored by Madaan and Singh (2019), leads to market inefficiencies and speculative bubbles. Furthermore, recent studies, such as Kamath *et al.,* (2023), have expanded on the psychological dimensions of investment decisions, incorporating personality traits and investor sentiment into the behavioral finance framework. Given these findings, understanding behavioral biases is essential for developing strategies that promote rational investment decisions, improve portfolio performance, and reduce market inefficiencies.

Despite advancements in financial education and investment technologies, many investors continue to make suboptimal decisions due to behavioural biases. Research has shown that cognitive distortions such as overconfidence, anchoring, and Fear of Missing Out (FOMO) significantly impact investment choices, leading to excessive risk-taking or conservative decision-making. Investors often fail to recognize these biases, which can result in financial losses, poor diversification, and inefficient asset allocation. Studies by Sattar, Toseef,

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and Sattar (2020) and Sharma, Misra, and Pathak (2021) highlight how these biases persist across different investor demographics, regardless of financial expertise or experience. While financial literacy programs aim to mitigate these biases, their effectiveness remains limited, as psychological tendencies often override rational thinking. The purpose of this study is to investigate how much behavioural biases affect investing choices and how these effects are mitigated by demographic variables. By identifying patterns of irrational behaviour in financial decision-making, this research aims to provide insights into developing targeted interventions that enhance investor awareness and decision-making efficiency.

Literature Review

The study of behavioural biases in investment decisions has evolved significantly over the years. Early research, such as Kumar and Goyal (2015), identified key biases like overconfidence, herding, and home bias, highlighting their impact on market inefficiencies. Rehan and Umer (2017) further emphasized the role of emotions in overriding rational decision-making. Later, Zahera and Bansal (2018) conducted a systematic review, stressing that overconfidence and herding lead to irrational investment behaviour. Mittal (2022) expanded on this by highlighting the influence of media and social trends on investment biases. Madaan and Singh (2019) found that overconfidence and herding significantly increase trading volume and market volatility in the National Stock Exchange. Similar findings were reported among investors in Mangalore city, where psychological biases strongly influenced investment choices (Ganavi & Shakila, 2024). Jain et al. (2020) and Kamath et al. (2023) introduced the role of personality traits, noting that neuroticism and extraversion positively influence investment decisions, whereas conscientiousness discourages short-term trading. Kukreja (2022) and Shah et al. (2024) reinforced the idea that risk perception and cognitive biases shape financial decisions, often leading to suboptimal choices. Recent studies also emphasize the role of psychological factors in shaping investor decision-making (Tiwari & Sharma, 2024). Research on financial literacy, such as Suresh (2021) and Khalid, Javed, and Shahzad (2018), showed that educated investors are less prone to biases, while Pragathi and Acharya (2024) found that financial literacy mitigates overconfidence and loss aversion. Shukla, Rushdi, and Katiyar (2020) and Pardiwalla (2024) emphasized the need for financial education to counteract biases in investment behavior. More recent studies, including Smrithi and Selvi (2024) and Goyal and Yadav (2024), explored the impact of social media on investment decisions, revealing that misinformation and speculative behaviour contribute to market volatility. Overall, the literature highlights that psychological biases, financial literacy, personality traits, and social influences collectively shape investment decisions, emphasizing the need for investor awareness programs and behavioral finance education.

Research Objectives

1. To evaluate how biases such as herd mentality, loss aversion, and overconfidence affect the caliber of investment choices and portfolio performance.
2. To examine the connection between behavioural biases in investment decisions and demographic characteristics (like age, earnings, level of education, and prior investment experience).
3. To evaluate how demographic characteristics influence the association between investing choices and behavioral biases.

Research Hypothesis

H_{01}: Behavioural biases do not significantly impact investment decisions.

H_{02}: Demographics (age, gender, income, education) do not significantly correlate with behavioral biases.

H_{03}: Demographics do not moderate the relationship between behavioral biases and investment decisions.

Research Methodology

Examining how behavioural biases affect investment decision-making as well as whether demographic variables like age, gender, wealth, and education mitigate these impacts is the main goal of this research. Traditional financial theories assume that investors act rationally, but behavioural finance highlights the role of psychological biases in shaping investment choices. This research adopts a quantitative research design with a survey-based approach to collect primary data from individual investors. A cross-sectional methodology was used to capture investor behaviour at a specific point in time. The study employs Multiple Linear Regression (MLR), ANOVA, and Moderation Analysis to analyse relationships between behavioural biases and investment decisions. The research framework is grounded in Prospect Theory, the Framework for Heuristics and Biases, and the Adaptive Market Hypothesis, which provide theoretical insights into irrational investment behaviours.

The study focuses on individual investors in Bangalore, Karnataka, with different levels of experience, primarily from urban and semi-urban regions, because they participate in financial markets more frequently. A convenience sampling technique was used due to accessibility constraints. 108 respondents made up

the sample size, which was found to ensure statistical validity for regression and hypothesis testing. The information was gathered via an online questionnaire that included Likert scale questions to measure the presence and how behavioral biases like loss aversion, herding, anchoring bias, FOMO, overconfidence, and others affect investment choices.

The reliability of the survey instrument was assessed using Cronbach's alpha, ensuring internal consistency of the behavioural bias and investment decision scales:

1. Behavioural bias scale: **α = 0.82** (Highly reliable)
2. Investment decision scale: **α = 0.75** (Reliable)

Despite its valuable contributions, there are several restrictions on this study. Convenience sampling may result in selection bias, which would restrict how broadly the findings may be applied. Additionally, self-reported survey responses may be subject to response bias, where participants either underestimate or exaggerate their biases. The sample size (108 respondents), though statistically adequate, may not fully represent all investor behaviours across diverse financial markets. Finally, the study's cross-sectional design limits the capacity to track shifts in investor conduct over time. Larger, more varied samples and longitudinal studies should be taken into account in future research to increase the findings application and robustness.

Data Analysis and Interpretations

Interpretation: The demographic profile of respondents is presented in Table 1, which shows *that* the sample comprises predominantly young investors (39.81%), with a higher proportion of male respondents (75%). The majority possess at least a graduate degree (49.07%), and 49.07% fall into the lower-income category (<5 Lakhs per annum). This diverse demographic composition allows for a comprehensive analysis of investment biases.

Hypothesis 1: Behavioral Biases Influence Investment Decision-making

Test Used: Multiple Linear Regression (MLR)

Dependent Variable: Investment Decision-making

Independent Variables: Behavioral Biases (Overconfidence, FOMO, Herding, Anchoring, Loss Aversion, Trend-chasing)

Interpretation: As shown in Table 2 the regression model explains 58% of the variance ($R^2 = 0.58$) in investment decision-making. Overconfidence, FOMO, and Trend-chasing biases significantly impact investment decisions, supporting the hypothesis that behavioural biases influence investor choices.

Hypothesis 2: Demographic Factors Influence Behavioral Biases

Test Used: ANOVA (for categorical variables: Age, Gender, Education) and Multiple Linear Regression (for continuous variable: Income)

Interpretation: The ANOVA results presented in Table 3 show that younger investors exhibit Younger investors exhibit higher Overconfidence and FOMO. Male investors are more prone to Trend-chasing bias, while higher education levels tend to reduce overconfidence. Income level is significantly associated with higher overconfidence in investment decisions.

Table 1: The demographic profile of the participants

Variable	Categories	Frequency (N=108)	Percentage (%)
Age	18-30 Years (Young)	43	39.81%
	31-45 Years (Middle-aged)	27	25.00%
	46-60 Years (Older)	27	25.00%
	Above 60 Years (Senior)	11	10.19%
Gender	Male	81	75.00%
	Female	27	25.00%
Education	Undergraduate	18	16.67%
	Graduate	53	49.07%
	Postgraduate	37	34.26%
Income level	Below 5 Lakhs	53	49.07%
	5-10 Lakhs	18	16.67%
	Above 10 Lakhs	37	34.26%

Source: Primary data collected through survey (2025), analysed using SPSS.

Table 2: Regression Results: Behavioral Biases and Investment Decisions

Variable	Beta (β)	p-value	Significance
Overconfidence bias	0.32	0.013	Significant at 5%
FOMO	0.25	0.034	Significant
Herding	0.15	0.128	Not Significant
Anchoring bias	0.18	0.092	Significant at 10%
Trend-chasing bias	0.21	0.045	Significant at 5%
Loss aversion bias	0.19	0.067	Not Significant at 10%
Model summary	$R^2 = 0.58$, $p < 0.001$	Overall model significant	

Source: Computed by authors using SPSS regression analysis (2025).

Hypothesis 3: The Association Between Investment Decisions and Biases is Moderated by Demographics

Test Used: Moderation Analysis (Interaction terms in regression models).

Interpretation: Moderation analysis results (see Table 4) indicate that the association between investment decisions and behavioural biases is considerably moderated by age and gender. Male investors are more prone to FOMO and herding, but elder investors are more likely to be overconfident. Higher education levels appear to reduce anchoring bias, implying that reducing irrational decision-making is facilitated by financial literacy.

Findings and Discussions

The study employed Multiple Linear Regression (MLR) and moderation analysis using SPSS to quantitatively assess how behavioural biases influence investment decisions. The regression model revealed that Overconfidence ($\beta = 0.32$, $p = 0.013$), FOMO ($\beta = 0.25$, $p = 0.034$), and Trend-Chasing Bias ($\beta = 0.21$, $p = 0.045$) significantly predict investment behaviour. The model's explanatory power ($R^2 = 0.58$) indicates a strong effect of behavioural variables. Moreover, ANOVA and regression findings demonstrated that age and income significantly affect overconfidence, while gender and education moderated trend-chasing and anchoring biases, respectively. The study highlights the strong influence of behavioural biases on investment decisions, with overconfidence, FOMO, and trend-chasing playing a dominant role. Overconfident investors tend to overestimate their skills, leading to excessive risk-taking and suboptimal portfolio performance. FOMO-driven investors make impulsive choices out of fear of missing profitable opportunities, while trend-chasers prioritize short-term market trends over fundamental analysis. In contrast,

Table 3: Influence of Demographic Factors on Behavioral Biases

Demographic Factor	Bias Affected	F-value	p-value	Significance
Age	Overconfidence bias	4.12	0.009	Significant at 1
	FOMO	3.87	0.012	Significant at 5%
Gender	Trend-chasing bias	4.01	0.048	Significant at 5%
Education	Overconfidence bias	3.78	0.027	Significant at 5%
Income	Overconfidence bias	0.28	0.019	Significant at 5%

Source: Computed by authors using ANOVA and regression analysis (2025).

Table 4: Moderation Effects of Demographics on Behavioral Biases

Interaction Effect	Coefficient (β)	p-value	Interpretation
Gender × Herding bias	0.215	0.045	Gender moderates herding behaviour.
Age × Overconfidence	0.312	0.021	Older investors more affected by overconfidence.
Gender × FOMO	0.184	0.040	Males more susceptible to FOMO.
Education × Anchoring bias	-0.112	0.072	Higher education reduces anchoring effect.

Source: Computed by authors using moderation analysis in SPSS (2025).

biases like herding, anchoring, and overoptimism were not statistically significant, suggesting a lesser impact. Demographic factors also moderated these biases-young investors were more prone to overconfidence and FOMO, men exhibited stronger trend-chasing tendencies, and higher education levels helped mitigate overconfidence, highlighting financial literacy's role in improving decision-making. Wealthier investors displayed greater overconfidence, likely due to their financial capacity to absorb risks. These findings align with Prospect Theory and the Heuristics and Biases Framework, reinforcing the idea that investment choices are driven more by psychology than rational analysis, contradicting the Efficient Market Hypothesis.

These insights have important implications for policymakers, financial institutions, and investors. Governments can design financial literacy programs to address investment biases, particularly among young and inexperienced investors. Regulators could introduce transparency measures to counter emotional decision-making, while financial institutions can refine advisory services by incorporating behavioural assessments into client profiling. Wealth managers can develop debiasing strategies to prevent impulsive investment choices. Additionally, this study contributes to behavioural finance research, encouraging future exploration of AI-driven investment tools. Retail investors can benefit by recognizing their biases and adopting disciplined strategies. By integrating behavioural insights into financial education, policymaking, and advisory services, stakeholders can enhance market efficiency, reduce irrational decision-making, and improve financial outcomes. These findings suggest several actionable strategies:

1. Investment advisory services should incorporate behavioural assessments to identify high-risk investor profiles prone to overconfidence or FOMO.
2. Financial literacy modules targeting young and male investors could help mitigate susceptibility to trend-chasing.
3. Portfolio diversification tools can be designed to flag bias-influenced decisions in real time. Embedding these interventions in financial platforms could enhance investor discipline and long-term wealth outcomes.

Conclusion

This study investigated how behavioural biases affect investment decision-making and how these correlations are moderated by demographic characteristics. The findings confirmed that overconfidence, FOMO, and trend-chasing significantly influence investment decisions, while age, gender, education, and income shape the prevalence and intensity of these biases. Overconfidence emerged as the strongest bias, leading to excessive risk-taking and suboptimal investment outcomes. The study also highlighted how financial literacy reduces overconfidence, emphasizing the need for investor education programs.

By addressing these biases, this study offers insightful information to help governments, financial advisors, and investors create plans that lessen illogical choices. This study challenges traditional financial theories that assume investor rationality and instead underscores the necessity of behavioural considerations in investment strategies. The findings contribute to behavioural finance literature and provide practical recommendations for more informed investment choices, ultimately improving financial market efficiency and individual portfolio performance.

Scope for Further Research

Longitudinal studies should be investigated in future study to evaluate how behavioural biases change over time. Findings may be more broadly applicable if the sample was bigger and more varied in terms of geography and economic status. Additionally, investigating the role of technological advancements-such as AI-driven investment platforms-could provide deeper insights into how digital tools influence investor behaviour. Expanding research to include new biases and psychological factors could further refine behavioural finance models.

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