



BEHAVIORAL BIASES AND INVESTMENT DECISION MAKING AMONG WOMEN FACULTY: THE MEDIATING ROLE OF RISK PERCEPTION AND MODERATING ROLE OF FINANCIAL LITERACY

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Abstract

The study explores the relationships among behavioral biases, investment decision-making, risk perception, and financial literacy. A conceptual model is developed and tested by collecting data from 415 women faculty members at higher education institutions in India. More specifically, this study tests the effect of three behavioral biases – herding bias, loss aversion bias, and overconfidence bias-on investment decisions of women faculty. First, we checked the psychometric properties of the survey instrument and then tested the hypothesized relationships using partial least squares structural equation modelling (PLS-SEM). The findings indicated (a) behavioral biases are significantly and positively associated with risk perception, and (b) risk perception is positively and significantly associated with investment decision making. The results supported the negative effect of behavioral biases on investment decision-making. The findings also suggest that risk perception mediated the relationship between behavioral biases and investment decision-making. This study documented the moderating effect of financial literacy in the (i) relationship between risk perception and investment decision making, and (ii) behavioral biases and investment decision making. This study underscores the importance of financial literacy and provides direct empirical evidence to support the behavioral biases–investment decision relationship. Theoretical contributions and practical implications are discussed.

Keywords: Behavioural Finance, Financial Literacy, Herding, Investment Decision Making, Loss Aversion, Women Faculty, Overconfidence, Risk Perception.

1. INTRODUCTION

Behavioral biases in investment decisions have received increasing attention by academicians and practitioners over the last two decades (Ali et al., 2024; Banerjee et al., 2025; Chaitra & Madhavi, 2025; Iram et al., 2026; Malik et al., 2026; Nguyen et al., 2025; Wang et al., 2024; Zhou, 2023). In fact, the seminal article by Tversky and Kahneman (1974) and the prospect theory (Kahneman & Tversky, 1979) paved the way for the emergence of behavioral finance as a separate discipline. The core idea of behavioral finance is that human financial or investment decisions are not always rational, which assumes that investors evaluate available information and make rational decisions. However, psychological factors (both cognitive and emotional) are the true influencers in shaping how investors perceive risk and selecting the right investment option to maximize expected returns with minimal risk (Barber & Odean, 2001; Odean, 1998). Among the many biases that affect the investor's decisions, overconfidence, loss aversion, and herding behavior have been widely researched (Alam et al., 2026; İpek & Mandacı, 2025; Iram et al., 2026).



Overconfidence leads investors to overestimate their knowledge, resulting in excessive trust in personal judgments. *Loss aversion*, as detailed in prospect theory, holds that investors perceive both expected and known losses as more impactful than gains, leading them to be conservative (Kahneman & Tversky, 1979). *Herding bias* makes investors imitate the actions of other investors, especially under conditions of uncertainty, which resembles social imitation that compromises individual evaluation and experience (Bikhchandani et al., 1992).

Though prior studies have documented investors' behavior in general, relatively few have examined how women investors perceive these biases and how they affect their investment decisions. In fact, recent studies have documented that women are participating in financial and investment decision-making (Baskoro et al., 2024; Chaitra & Madhavi, 2025; Rajput & Samdariya, 2024).

Recent studies have reported that women are also engaging in financial decision-making due to their educational qualifications, regular monthly income, and ability to plan for the long term. Women are therefore also becoming equal to men in terms of financial literacy. Despite these exclusive strengths, biases are common among women too, and these biases are expected to influence investment decisions by shaping perceptions of risk, information evaluation, and the importance of investments (Barber & Odean, 2001; Lusardi & Mitchell, 2014).

1.1 The study context

The present study focuses on examining the effect of the three most important behavioral biases, such as overconfidence bias, loss aversion bias, and herding bias, on the investment decisions taken by women faculty working in higher educational institutions in India. Risk perception is included as a mediating variable to explain how behavioral biases influence investment decision-making, and financial literacy is included as a moderating variable to examine whether financially literate women faculty are better able to reduce the influence of behavioral biases and make more rational investment decisions. In this study, we selected Bengaluru, which has become a hub of academia.

According to the Union Ministry of Education's All India Survey on Higher Educational Institutions, Bengaluru has over 1100 higher educational institutions and 16 universities (AISHE, 2023). Bengaluru offers a relevant and ideal platform to examine the effects of behavioral factors on investment decisions made by women investors. However, studies on women academicians' investment decisions have been very limited. Decoding as to how the biases in the form of independent variables, such as overconfidence, loss aversion, and herding, exert a significant influence on the investment decisions of women faculty working in HEIs (Banerjee et al., 2025).

The policy initiatives so framed can be aimed at improving the investment outcomes and assisting women academicians in making wise financial decisions (Lusardi & Mitchell, 2014; Banerjee et al., 2025).

1.2 Review of literature, research gap, and research questions

The literature on women's investment decisions is sparse. However, the literature review reveals several notable studies (Ali et al., 2024; Baskoro et al., 2024; Rajput & Samdariya, 2024; Zhou, 2023).

Rajput and Samdariya (2024) conducted an empirical study to examine the role of behavioral finance in shaping the investment decisions of women micro-entrepreneurs and found that overconfidence, optimism, availability bias, and loss aversion played an important role in influencing the financial decision-making.



Baskoro et al. (2024) found that four heuristic biases, such as anchoring, overconfidence, representativeness, and availability bias, have significantly influenced investment decisions. A study conducted in Pakistan by Ali et al. (2024) found that behavioral biases strongly influence investment decisions and that improving financial literacy can help lead to more rational investment decisions. Zhou (2023) emphasizes that investors are more sensitive to potential losses and empirically demonstrates that female and older individuals show a higher level of loss aversion than others.

Chaitra and Madhavi (2025) found that women investors display overconfidence by relying on their personal judgment and past experiences, and concluded that overconfidence leads to incorrect risk and return evaluations, which makes timely financial literacy programs a mandatory requirement for informed investment practices. Wang et al. (2024) examine whether women's empowerment awareness influences the herding behavior of female investors. These findings reveal that empowered women are more likely to rely on their own analysis and judgment rather than others' opinions.

In a recent study, Malik et al. (2026) found that behavioral biases do not influence investment decisions in isolation; instead, investors' perceptions of risk also play an important role in how they make their financial choices. Some researchers found, in a study of 330 women entrepreneurs, that overconfidence and anchoring significantly influenced investment decisions (Iram et al., 2026). However, some scholars contend that loss aversion and herd behavior influence the investment decisions (Nguyen et al., 2025).

1.3 Research Gap

Previous studies have highlighted the significant influence of psychological biases on the investment decision-making of women investors in general. However, most of the studies have focused on entrepreneurs and general investors. Limited research has specifically examined the impact of overconfidence, loss aversion, and herding bias on the investment decisions of women faculty working in HEIs. Further, the effect of financial literacy in the relationship between behavioral biases and investment decisions is rarely examined by previous scholars. Therefore, to bridge the gap, this study attempts to answer the following research questions (RQs):

RQ1: How behavioral biases effect risk perception?

RQ2: How risk perception effects investment decision?

RQ3: How behavioral biased effect investment decision?

RQ4: How risk perception mediates between behavioral biases and investment decisions?

2. THEORETICAL BACKGROUND AND HYPOTHESES DEVELOPMENT

Behavioral finance theory (BFT) ((Tversky & Kahneman, 1974), prospect theory (Kahneman & Tversky, 1979), and overconfidence theory (Odean, 1998) provide theoretical underpinnings for this research. The basic tenet of BFT is that investment choices are influenced by psychological, cognitive and emotional factors, especially under risk and uncertainties (Tversky & Kahneman, 1974; Kahneman & Tversky, 1979). BFT is relevant to the present research as it explains how herding bias, loss aversion bias and overconfidence bias influence investment decision making among women. Prospect theory explains loss aversion by stating that investors feel the pain of loses more strongly than the pleasure of equivalent gains, which may make them conservative or hesitant while choosing the market linked investments even if they offer better long-term returns (Kahneman & Tversky, 1979). Hence this theory supports



loss aversion bias and risk perception. Further, Overconfidence theory suggests that investors often overestimate their financial knowledge, their ability to predict market outcomes, and their personal judgment, leading to excessive confidence in their investment decisions (Odean, 1998; Barber & Odean, 2001).

Overconfidence influences investment behaviors and can affect the quality of financial decisions. In the present study, overconfidence bias is relevant as women faculty may possess higher education, stable income, and exposure to financial information, which may sometimes lead to excessive reliance on personal judgment.

In addition, Informational Cascade Theory (Bikhchandani et al., 1992) helps explain individuals' herding behavior. In the context of women's investment decision-making, this theory explains why women faculty may follow the choices of peers, colleagues, family members, or market trends rather than rely on individual financial analysis. Hence,, this theory supports the relationship between herding bias, risk perception, women faculty, and investment decision-making.

2.1. Hypotheses development

2.1.1 Behavioural Biases and Risk Perception

Behavioral finance theory argues that investors do not always make investment decisions based on complete rationality, as their financial choices are often influenced by psychological, emotional, and cognitive factors (Kahneman & Tversky, 1979; Tversky & Kahneman, 1974). Risk perception explains how individuals perceive the risk of making decisions. While some individuals are risk-averse, others are risk-taking, and how they perceive risk is important in making financial decisions.

For example, Loss aversion increases the fear of potential or probable losses, herding behavior encourages reliance on others' opinions, and overconfidence may lead investors to underestimate risk (Barber & Odean, 2001; Bikhchandani et al., 1992; Odean, 1998; Wang et al., 2024; Zhou, 2023). Hence, these biases are expected to influence individuals' risk perceptions, and women are no exception. Based on this, the following hypothesis is formulated:

H1: Behavioral biases significantly and positively influence the risk perception of women faculty.

2.1.2 Risk perception and investment decision making

Risk perception refers to investors' subjective evaluation of the uncertainty, safety, and potential financial losses associated with an investment. They may perceive market-linked investments as highly risky, even if they offer high long-term returns, while bank deposits as safer, despite their moderate returns. Prior studies show that risk perception influences investment preferences and acts as an important psychological factor in behavioral finance models (Ahmad & Shah, 2022; Malik et al., 2026; Nguyen et al., 2025). Based on this, the following hypothesis is framed:

H2: Risk perception significantly and positively influences the investment decisions of women faculty.

2.1.3 Behavioral biases and investment decision-making

Herding bias may make investors follow others' investment choices, loss aversion may create fear of market-linked investments, and overconfidence may make investors rely on and

overestimate their own judgments (Ali et al., 2024; Barber & Odean, 2001; Bikhchandani et al., 1992; Nguyen et al., 2025; Odean, 1998; Zhou, 2023). Recent studies also show that behavioral biases shape investment decisions among women investors (Baskoro et al., 2024; Iram et al., 2026; Rajput & Samdariya, 2024). Hence, biases are expected to influence the investment decision-making of women faculty and we offer the following hypothesis.

H3: Behavioral biases significantly and negatively influence the investment decision-making of women faculty.

2.1.4 Risk perception as mediator

Biases influence investors' decisions by shaping how they understand risk. Loss-averse investors may view market-linked investments as highly risky, and herding behavior may lead them to assume that an investment option is less risky simply because many are choosing it.

Overconfidence may reduce risk by excessive trust in personal opinions and judgments. Prior studies have shown risk perception as an important mediator between biases and investment decisions (Ahmad & Shah, 2022; Malik et al., 2026; Nguyen et al., 2025). Therefore, we offer the following hypothesis:

H4: Risk perception mediates the relationship between behavioral biases and investment decision-making among women faculty.

2.1.5 Financial literacy as a moderator in the relationship between risk perception and investment decision making

Financial education may change how risk is perceived and influence investment decision-making. Women faculty with lower financial literacy may view market-linked investments as highly risky and might avoid investing or trading in them, while those with higher financial literacy may evaluate the risk considering the factors such as time of investment, risk and return relationship, diversification policies, etc. The existing studies show that financial literacy improves rational judgment and reduces emotionally driven investment decisions (Banerjee et al., 2025; Lusardi & Mitchell, 2014; Malik et al., 2026). Thus, we offer the following hypothesis:

H5: Financial literacy moderates the relationship between risk perception and investment decision-making among women faculty.

2.1.6 Financial literacy as a moderator in the relationship between behavioral biases and investment decisions

Investors' understanding of financial concepts, ability to compare investment alternatives, evaluation of risk and return, diversification policies, and ability to make informed financial decisions depend on their level of financial literacy.

Previous studies show that financial literacy can reduce negative influence of biases by encouraging more rational financial judgment (Adil et al., 2022; Lusardi & Mitchell, 2014; Mahmood et al., 2024; Malik et al., 2026). Therefore, financial literacy is expected to weaken or reduce the influence of behavioral biases on investment decision-making among women faculty. Thus, we offer the following hypothesis:

H6: Financial literacy moderates the relationship between behavioral biases and investment decision-making, such that the influence of behavioral biases is weaker (stronger) among women faculty with higher (lower) financial literacy.

The conceptual model is presented in Figure 1.

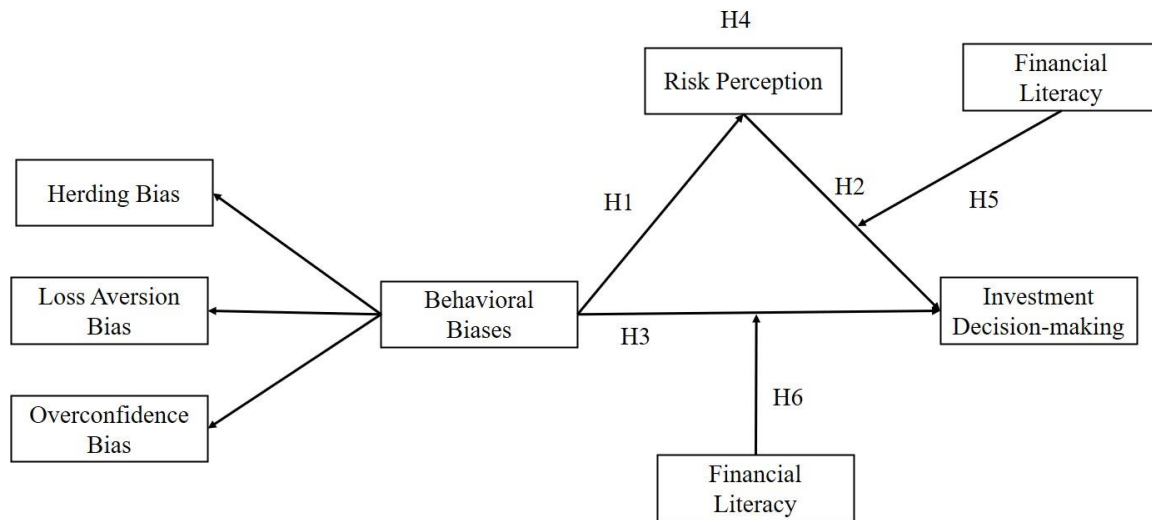


Figure 1: The Conceptual Model

Source: The authors

3. METHOD

3.1 Sample

This study aims to explore the relationship between behavioral biases and investment decisions among women. In this research, we selected women faculty working in HEIs in Bangalore, India. A carefully crafted survey instrument is sent to women faculty through Google Forms. We employed stratified random sampling, collecting data on women faculty across different strata of Bangalore. This type of stratified sampling allows us to reduce, if not completely eliminate, the sampling bias. The Google Forms were shared with respondents via links on various social media platforms. Since Google Forms does not allow the participants to close the survey with incomplete information, all the data collected was complete. In all, we received 415 surveys completed, which we used in the analysis. At the beginning, we asked a qualifying question about whether they actively participate in investment decision-making. If the answer is no, they will not be allowed to continue filling out surveys. We assessed non-response bias by comparing the first 50 respondents with the last 50 respondents and found no statistical differences between the two groups (Armstrong & Overton, 1977).

3.2 Demographic profile

The demographic profile of respondents were presented in Table 1, and the investment choices are mentioned in Table 2.

Table 1: Demographic profile of respondents

Demographic Variables	Category	Frequency	Percentage
Age (in years)	Below 25	66	15.90
	26–35	67	16.14
	36–45	83	20.00
	45–50	133	32.05
	Above 50	66	15.90
Marital Status	Single	116	27.95
	Married	291	70.12



	Widowed / Divorced / Separated	8	1.93
Qualification	Postgraduate	150	36.14
	M.Phil.	58	13.98
	PhD	174	41.93
	Other	33	7.95
Teaching Experience (in years)	Below 5 years	75	18.07
	5–10 years	174	41.93
	11–20 years	117	28.19
	Above 20 years	49	11.81
Annual Income (in INR / US \$)	Below ₹480,000 (\$4500)	41	9.88
	₹480,000–₹720,000 (\$4500 - \$6750)	108	26.02
	₹720,000–₹960,000 (\$6750-\$9000)	158	38.07
	Above ₹960,000 (\$9000)	108	26.02
Investment Experience (in years)	Less than 3 years	108	26.02
	3–5 years	157	37.83
	6–10 years	134	32.29
	Above 10 years	16	3.86
Preferred Investment Options	Fixed Deposits / bank deposits	67	16.14
	Gold	59	14.22
	Fixed Deposits / bank deposits, Mutual Funds, Shares/Stocks, Gold, Insurance	50	12.05
	Mutual Funds	41	9.88
	Shares/Stocks	25	6.02
	Real Estate	25	6.02
	Fixed Deposits / bank deposits, Gold	25	6.02
	Fixed Deposits / bank deposits, Mutual Funds, Gold, Insurance	17	4.10
	Fixed Deposits / bank deposits, Insurance	17	4.10
	Fixed Deposits / bank deposits, Gold, Insurance	17	4.10
	Insurance	8	1.93
	Fixed Deposits / bank deposits, Mutual Funds, Gold, Insurance, chit funds	8	1.93
	Fixed Deposits / bank deposits, Gold, Insurance, Real Estate, chit funds	8	1.93
	Mutual Funds, Shares/Stocks	8	1.93
	Fixed Deposits / bank deposits, Mutual Funds, Shares/Stocks, Gold	8	1.93
	Shares/Stocks, Gold	8	1.93
	Fixed Deposits / bank deposits, Shares/Stocks, Gold, Insurance	8	1.93
	Fixed Deposits / bank deposits, Mutual Funds, Insurance	8	1.93
Fixed Deposits / bank deposits, Mutual Funds, Shares/Stocks, Insurance	8	1.93	

Source: The authors

Table 2: Investment choices of the respondents

Investment Choice	Frequency	Percentage
Fixed Deposits / bank deposits	241	58.07
Mutual Funds	148	35.66
Shares/Stocks	115	27.71
Gold	208	50.12
Insurance	149	35.90
Real Estate	33	7.95
chit funds	16	3.86

Source: The authors

3.2 Measures

All constructs used in this research are from well-established sources (The constructs, indicators, and the sources are mentioned in Appendix-A). The indicators are measured on Likert-type five-point scale ('1' = 'strongly disagree', and '5' = 'strongly agree').

4. ANALYSIS AND RESULTS

The analysis is carried out in two stages. First, the measurement model is assessed to examine the reliability and validity of the constructs. Internal consistency reliability was evaluated using Cronbach's alpha and composite reliability (Cronbach, 1951). Convergent validity was assessed using Average Variance Extracted, and Discriminant validity was examined using the Fornell–Larcker criterion and the Heterotrait – Monotrait ratio. Secondly, the structural model was assessed to test the hypotheses. Path coefficients, t-statistics, and p-values were examined through the bootstrapping procedure in PLS-SEM (Hair et al., 2022; Malik et al., 2026; Nguyen et al., 2025).

4.1 Assessment of Measurement Model

The measurement model was assessed through reliability, convergent validity and discriminant validity before testing the structural model. The reliability results confirmed that all the constructs met the required standards (See Table 3).

Table 3: Confirmatory factor analysis (CFA)

Construct	Items	Loading	Cronbach's Alpha	Composite Reliability	AVE
Overconfidence Bias	OCB 1	0.794	0.841	0.891	0.620
	OCB 2	0.813			
	OCB 3	0.841			
	OCB 4	0.792			
	OCB 5	0.69			
Loss Aversion Bias	LAB1	0.803	0.905	0.934	0.739
	LAB2	0.831			
	LAB3	0.884			
	LAB4	0.857			
	LAB5	0.919			
Herding Bias	HB1	0.915	0.959	0.968	0.860
	HB2	0.862			
	HB3	0.959			
	HB4	0.937			
	HB5	0.960			
Risk Perception	RP 1	0.961	0.98	0.984	0.924
	RP 2	0.958			
	RP 3	0.965			
	RP 4	0.962			
	RP 5	0.962			
Financial Literacy	FL1	0.896	0.937	0.952	0.799
	FL2	0.906			
	FL3	0.897			
	FL4	0.882			
	FL5	0.889			
Investment Decision Making	IDM 1	0.833	0.868	0.905	0.655
	IDM 2	0.834			
	IDM 3	0.79			
	IDM 4	0.815			
	IDM 5	0.773			

Source: The authors

The measurement model reveals that the reliability coefficients (Cronbach's alpha) values ranged from 0.841 to 0.980, exceeding the recommended threshold of 0.70, indicating strong internal consistency among the items (Cronbach, 1951; Hair et al., 2022). Composite reliability values ranged from 0.891 to 0.984, confirming that the constructs are reliable for further analysis.

Convergent validity was established through AVEs, which ranged from 0.620 to 0.924, exceeding the accepted threshold of 0.50 (Fornell & Larcker, 1981; Hair et al., 2022). This confirms that the items adequately represent their respective constructs. The second-order latent construct (Behavioral biases) revealed that the factor loadings of overconfidence bias (0.472), loss aversion bias (0.935), and herding bias (0.929). Though the overconfidence bias is below the acceptable level of 0.70, since these are well-established constructs, they are acceptable.

Higher-order construct specification is appropriate when conceptually related lower-order constructs collectively represent a broader theoretical construct (Becker et al., 2012; Sarstedt et al., 2019). The reliability and validity results of these three dimensions confirmed that they were suitable for forming the higher-order construct. This specification is theoretically appropriate because the study does not examine each bias in isolation, but models their combined influence on risk perception and investment decision-making. Therefore, behavioral biases were retained as the main independent construct in the structural model.

4.2 Discriminant validity (HTMT ratio) and Fornell-Larcker criterion

Discriminant validity was assessed using the Fornell–Larcker criterion and HTMT criterion (Fornell & Larcker, 1981; Henseler et al., 2015; Hair et al., 2022). The square root of AVE values for risk perception 0.961, financial literacy 0.894 and investment decision making 0.809 were higher than their inter-construct correlations, confirming discriminant validity (Fornell & Larcker, 1981). Similarly, all HTMT values were below 0.90, confirming that the constructs are statistically distinct (Henseler et al., 2015; Hair et al., 2022). Overall, the measurement model satisfies reliability and validity requirements.

4.3 Multicollinearity

The collinearity results show that financial literacy and the interaction terms are within acceptable limits. Behavioural biases and risk perception depict moderate VIF values of 5.721 and 5.676 respectively.

Although these values are slightly above the conservative threshold of 5.00, they are theoretically acceptable because behavioural biases are expected to influence risk perception in the mediation model. Hence, the constructs are retained, and the related path coefficients are interpreted carefully (Hair et al., 2022).

4.4 Common method bias (CMB)

As the study relied on data collected via a self-administered questionnaire, Harman's single-factor test was conducted to assess the possibility of common-method bias. The test revealed that the first unrotated factor accounted for 41.73% of the total variance, which is below the accepted cut-off of 50%. Hence, the data were not affected by a single dominant factor, confirming that common method bias did not pose a serious threat to the study's validity (Podsakoff et al., 2003). However, recent scholars have pointed out that Harman's single-factor method is not reliable for testing CMB, and that additional measures are necessary (Howard et al., 2024). Consequently, we used a latent variable approach and found that the inner VIF values of the constructs were below 3.3, vouching for the absence of CMB (Kock, 2015).

4.5 Structural Model Assessment

We used PLS-SEM to test the structural model and presented the results in Table 5.

Table 5: Hypotheses Testing and Path Coefficients

Hypothesis	Relationship Tested	Path coefficient	Standard error	T/Z	p-value	Decision
H1	Behavioral Biases -> Risk Perception	0.901	0.031	28.929	< 0.001	Supported
H2	Risk Perception -> Investment Decision-Making	0.507	0.053	9.603	< 0.001	Supported
H3	Behavioral Biases -> Investment Decision-Making	-0.208	0.051	-4.075	< 0.001	Supported
H4	Behavioral Biases -> Risk Perception -> Investment Decision-Making [Indirect effect]	0.457	0.054	8.511	< 0.001	Supported
H5	Financial Literacy x Behavioral Biases -> Investment Decision-Making	-0.208	0.034	-6.131	< 0.001	Supported
H6	Financial Literacy x Risk Perception -> Investment Decision-Making	0.175	0.04	4.364	< 0.001	Supported

Source: The authors

The hypotheses testing results indicate that all proposed relationships are statistically significant. Behavioral biases have a strong positive effect on risk perception ($\beta = 0.901$, $p < 0.001$), supporting H1. This indicates that herding, loss aversion, and overconfidence biases significantly shape how women faculty perceive investment risk.

Risk perception also significantly influences investment decision-making ($\beta = 0.507$, $p < 0.001$), supporting H2. This indicates that herding, loss aversion, and overconfidence biases significantly shape how women faculty perceive investment risk. The direct effect of behavioral biases on investment decision-making is negative and significant ($\beta = -0.208$, $p < 0.001$), thus supporting H3.

The mediation analysis confirms that risk perception acts as a significant mediator between behavioral biases and investment decision-making, with an indirect effect that is significant ($\beta = 0.457$, $p < 0.001$), supporting H4. This confirms that risk perception mediates the relationship between behavioral biases and investment decision-making.

As far as moderation is concerned, the results reveal that financial literacy significantly moderates the relationship between risk perception and investment decision-making ($\beta = 0.175$, $p < 0.001$), supporting H5. This suggests that financially literate women faculty are better able to interpret investment risk and make more informed decisions.

The moderation results also show that financial literacy weakens the effect of behavioral biases on investment decision-making ($\beta = -0.208$, $p < 0.001$), supporting H6. This indicates that financial literacy weakens the influence of behavioral biases on investment decision-making.

Overall, the results confirm that behavioral biases influence investment decision-making directly and indirectly through risk perception, while financial literacy plays a significant moderating role in improving rational investment behavior.

The visualization of moderation is presented in Figures 2 and 3.

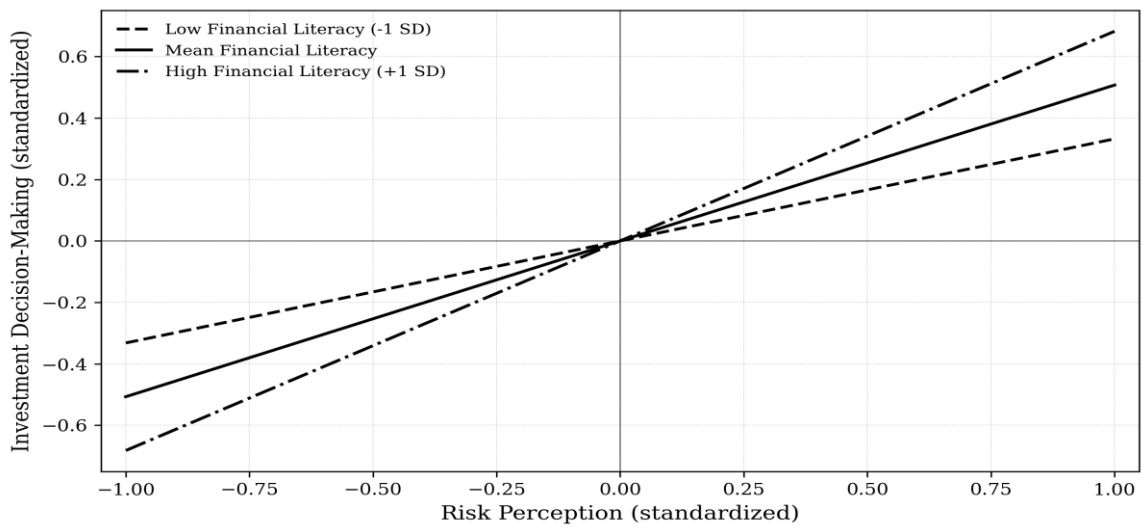


Figure 2: Moderating effect of financial literacy on the relationship between risk perception and investment decision making

Source: PLS-SEM output.

Interpretation - The plot shows the moderating role of financial literacy in the relationship between risk perception and investment decision making. The steeper slope at higher financial literacy indicates that financially literate women faculty interpret risk more effectively while making investment decisions compared to the financially illiterate women faculty.

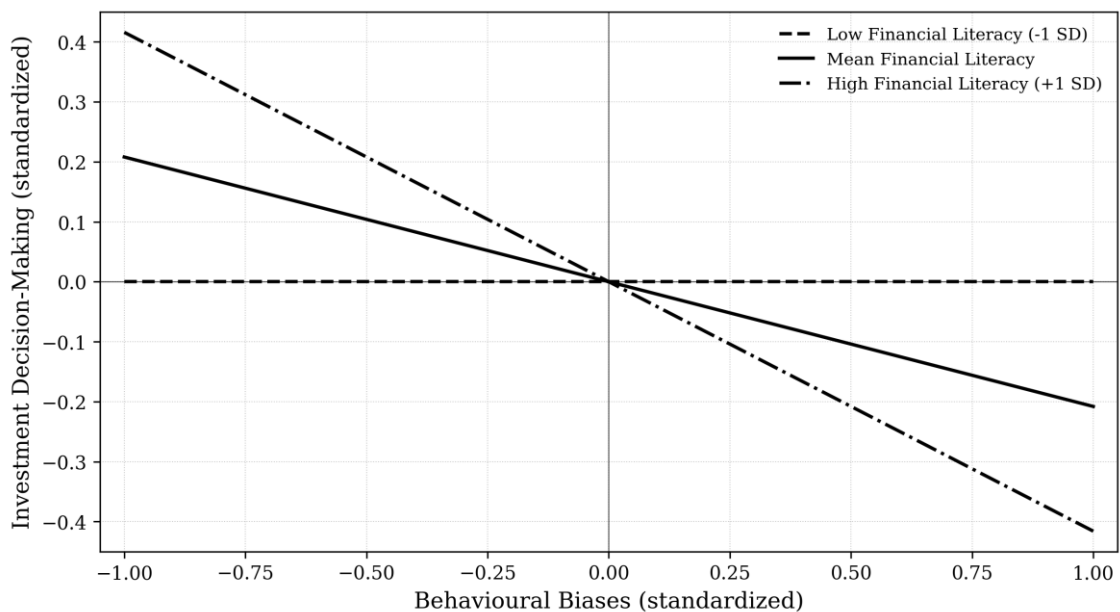


Figure 3: Moderating effect of financial literacy on the relationship between behavioural biases and investment decision making

Source: PLS-SEM output.

Interpretation - This plot shows the moderating role of financial literacy in the relationship between behavioral biases and investment decision making. The changing slope indicates the influence of behavioral biases differs across different levels of financial literacy.



5. DISCUSSION

The present study examined the effect of behavioral biases and investment decision-making among women faculty in the context of a developing country, India. Data collected from 415 women faculty from HEIs in Bangalore were analyzed by PLS-SEM, and the results validated the conceptual model presented in Figure 1.

First, the results indicate that behavioral biases – herding bias, loss aversion bias, and overconfidence bias- were positively associated with risk perception (Hypothesis 1), confirming the predictions of BFT and other empirical studies from the literature (Kahneman & Tversky, 1979; Tversky & Kahneman, 1974; Barber & Odean, 2001). The herding bias, loss aversion bias, and overconfidence bias affect how women faculty understand and evaluate risk related to investments, indicating that decisions are made at through psychological and emotional factors. Some of the recent studies also documented that behavioral biases are linked to risk perception (Ahmad & Shah, 2022; Malik et al., 2026; Nguyen et al., 2025). If the loss aversion bias makes women faculty fear or overestimate potential losses, the herding bias makes them consider few investment options as safe simply because others prefer them, while the overconfidence bias makes them feel more dependent on their own judgments and opinions.

Second, this study supports that risk perception is a precursor to investment decision-making of women faculty (Hypothesis 2). This implies that women faculty's final investment choices are not based solely on returns but also on how safe or risky they perceive an investment option to be. This finding aligns with Ahmad and Shah (2022) and Malik et al. (2026), who observed that risk perception plays an important role as a psychological factor in investment decision-making.

Third, the findings indicate that behavioral biases are negatively associated with investment decision-making (Hypothesis 3). This relationship indicates that the higher the bias, the lower the quality of investment decision-making, even after controlling for risk perception and financial literacy. This confirms the belief that women faculty who are influenced by others' opinions, fear losses, or show excessive confidence may make less rational decisions. This result aligns with the behavioral finance argument that biases can prevent investors from conducting objective analysis (Odean, 1998; Barber & Odean, 2001), and with recent studies (Ali et al., 2024; Mahmood et al., 2024).

Fourth, behavioral biases indirectly affect investment decision-making through risk perception (Hypothesis 4). This finding indicates that, in addition to direct effects, behavioral bias may also indirectly influence investment decisions through risk perceptions. The results of our study concur with those of other studies by scholars (Ahmad & Shah, 2022; Malik et al., 2026).

The fifth key finding depicts the moderating effect of financial literacy on the relationship between risk perception and investment decision-making, which is also significant (Hypothesis 5). This suggests that the financially literate women faculty interpret risk and convert that risk awareness into informed investment decisions. This supports the view that financial literacy strengthens the investor's ability to process financial information and make more informed investment decisions (Banerjee et al., 2025; Lusardi & Mitchell, 2014; Malik et al., 2026).

The sixth key finding is that financial literacy significantly moderates the relationship between risk perception and investment decision-making (Hypothesis 5). The negative effect indicates that financial literacy weakens the influence of behavioral biases on investment decisions. This implies that women faculty with higher financial literacy are better able to control the effect of the behavioral biases. Financial literacy helps investors understand risk, predict returns, diversify investments, choose the best investment alternatives, and thereby reduce emotionally



driven decisions (Adil et al., 2022; Lusardi & Mitchell, 2014; Mahmood et al., 2024; Malik et al., 2026).

In summary, the findings show that investment decision-making among women faculty is not influenced solely by behavioral biases; it also depends on risk perception and financial literacy. The present study contributes to the existing behavioral finance literature by advancing the establishment of a mediated-moderated framework. It also highlights the need for financial literacy programs that focus not only on investment awareness but also on recognizing the biases, evaluating the risks, and making independent financial decisions.

5.1 Theoretical contributions

Theoretically, the study contributes to the existing behavioral finance literature by developing a mediated moderated model of investment decision-making. Unlike simple direct effect models, this study explains how behavioral biases influence investment decisions through risk perception and how financial literacy weakens this influence. The focus on women faculty from developing countries makes a pivotal contribution to the literature on behavioral finance. While extant research has reported the influence of behavioral biases on individuals' investment decisions, relatively few studies have focused on women, especially in the context of employees in HEIs. As women are becoming increasingly financially literate, this study investigates the moderating role of financial literacy and makes a significant contribution to the burgeoning literature on behavioral finance. The conceptual model, built on the theoretical foundations of BFT, prospect theory, and overconfidence theory, is validated by the results and adds to existing studies, particularly in the context of women faculty in developing countries such as India.

5.2 Practical implications

From a policy perspective, the findings highlight the need for targeted financial literacy programs for women academicians in specific areas, as well as for women in general. The financial literacy initiatives should be made more practical and behaviourally oriented. Investor education in the form of training programs should not be limited to explaining the financial products, their pros and cons, but it should also help investors identify behavioral biases, how to diversify investments, long-term financial planning, retirement planning, tax saving, understand risk evaluation, return assessment, and how to avoid emotional investment decisions. Investor protection agencies, educational institutions, financial institutions, and investor awareness bodies should design practical and targeted training programs for women faculty to improve investment confidence and decision quality.

5.3 Limitations and scope for further research

This study is not without limitations. First, the study is limited to women faculty working in HEIs in India and hence the results cannot be generalizable across all other countries. Secondly, the sample is from Bengaluru City and hence the findings may not be generalized to all women investors, other professional groups, or geographical locations. Second, the study focuses only on three behavioral biases, such as herding bias, loss aversion bias, and overconfidence bias; hence, further studies may include other behavioral biases such as anchoring bias, mental accounting, and framing effect.

Third limitation is that this research is based on structured questionnaire responses, which may not fully capture the personal and social factors. Future studies may include additional factors to uncover the deeper reasons for investment behavior. In addition, interviews and focus group



discussions can be used. Researchers may also examine digital financial literacy and family influence exclusively in shaping women's investment decision-making.

5.4 Conclusion

The study concludes that behavioral biases, risk perception, and financial literacy are important factors that significantly influence investment decision-making among women faculty in Bengaluru City. Risk perception acts as an important mediating variable, showing that behavioral biases influence investment decisions. Behavioral biases significantly shape risk perception, which in turn influences investment decisions. This shows that psychological factors affect investment choices by shaping how risk is perceived.

Financial literacy plays a moderator role by reducing the influence of behavioral biases and improving rational investment behavior. The findings suggest that financially literate women faculty are better able to evaluate risk, compare investment alternatives, and make informed financial decisions. On the whole, the study contributes to the existing behavioral finance literature and also highlights the importance of behavioral awareness and financial literacy in strengthening investment decision-making among women professionals through financial education programs.

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Appendix A: Survey Instrument with sources of Constructs

Constructs	Items	Questions	Sources
Overconfidence Bias (OCB)	OCB1	I believe that my financial knowledge is sufficient to make good investment decisions.	Odean (1998); Barber and Odean (2001)
	OCB2	I trust my own judgement more than expert advice while making investment decisions.	Odean (1998); Chaitra and Madhavi (2025)
	OCB3	I believe I can identify profitable investment options better than many other investors.	Barber and Odean (2001); Iram et al. (2026)
	OCB4	I usually feel confident about predicting the outcome of my investment decisions.	Chaitra and Madhavi (2025); Iram et al. (2026)
	OCB5	I depend on my previous investment experience while making new investment decisions.	Odean (1998); Barber and Odean (2001)
Loss Aversion Bias (LAB)	LAB1	I feel more worried about losing money than happy about gaining the same amount from investments.	Kahneman and Tversky (1979); Zhou (2023)
	LAB2	I prefer safer investment options even when risky investments may offer higher returns.	Kahneman and Tversky (1979); Nguyen et al. (2025)
	LAB3	The fear of financial loss prevents me from investing in market-linked instruments.	Zhou (2023); Malik et al. (2026)
	LAB4	I avoid changing my investment choices when I feel there is a possibility of loss.	Kahneman and Tversky (1979); Mahmood et al. (2024)
	LAB5	I feel uncomfortable investing in options where returns are uncertain.	Zhou (2023); Nguyen et al. (2025)
Herding Bias (HB)	HB1	I consider the investment decisions of my colleagues, friends or family members before making my own investment decision.	Bikhchandani et al. (1992); Ali et al. (2024)
	HB2	I feel more confident investing in an option when many people around me are investing in the same option.	Bikhchandani et al. (1992); Nguyen et al. (2025)
	HB3	I tend to follow popular investment trends when I am uncertain about market conditions.	Ali et al. (2024); Wang et al. (2024)
	HB4	Opinions shared by peers or colleagues influence my choice of investment avenues.	Rajput and Samdariya (2024); Baskoro et al. (2024)
	HB5	I consider an investment safer when many investors are choosing the same option.	Bikhchandani et al. (1992); Wang et al. (2024)
Risk Perception (RP)	RP1	I carefully consider the level of risk before selecting any investment option.	Ahmad and Shah (2022); Malik et al. (2026)
	RP2	I perceive market-linked investments as risky because their returns are uncertain.	Nguyen et al. (2025); Malik et al. (2026)
	RP3	My investment decisions are influenced by how safe or unsafe I consider an investment option to be.	Ahmad and Shah (2022); Mahmood et al. (2024)
	RP4	I avoid investment options when I feel the chances of losing money are high.	Zhou (2023); Nguyen et al. (2025)
	RP5	I evaluate the possibility of loss before making any investment decision.	Kahneman and Tversky (1979); Malik et al. (2026)



Financial Literacy (FL)	FL1	I understand the relationship between risk and return before making investment decisions.	Lusardi and Mitchell (2014); Adil et al. (2022)
	FL2	I am aware of different investment avenues such as fixed deposits, gold, mutual funds and market-linked products.	Lusardi and Mitchell (2014); Banerjee et al. (2025)
	FL3	I can compare investment options based on risk, return, liquidity and time period.	Adil et al. (2022); Mahmood et al. (2024)
	FL4	My financial knowledge helps me avoid emotional or biased investment decisions.	Lusardi and Mitchell (2014); Malik et al. (2026)
	FL5	I understand the importance of diversification while making investment decisions.	Lusardi and Mitchell (2014); Mahmood et al. (2024)
Investment Decision-Making (IDM)	IDM1	I make investment decisions after carefully evaluating risk and return.	Mahmood et al. (2024); Malik et al. (2026)
	IDM2	I analyze available financial information before selecting an investment option.	Ali et al. (2024); Malik et al. (2026)
	IDM3	I choose investment avenues that match my financial goals and future needs.	Rajput and Samdariya (2024); Baskoro et al. (2024)
	IDM4	I compare different investment alternatives before making a final decision.	Mahmood et al. (2024); Iram et al. (2026)
	IDM5	I make investment decisions independently after considering relevant financial information.	Iram et al. (2026); Banerjee et al. (2025)