



## **Behavioral Bias and Investment Decisions: A Moderating Role of Financial Literacy on Individual Investors of Nepal**

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### **Abstract**

**Purpose:** The objective of the study was to examine the influence of behavioral biases (overconfidence, herding bias, disposition effect) on individual investment choices. The study explored the relationship between financial literacy and investment decisions, and whether financial literacy moderated the relationship between behavioral biases and investment decisions.

**Methods:** The study used a descriptive cross-sectional analytical research design, where primary data were gathered using a structured questionnaire based on a five-point Likert scale. The questionnaire was administered in both an online format, developed by link (Google Forms), and as a physical questionnaire to the investors who trade in a variety of securities listed in the Nepal Stock Exchange (NEPSE). Using a convenience sampling method, responses from 235 participants were collected. The data were analyzed through Partial Least Squares Structural Equation Modelling with SMART-PLS 4 software.

**Findings:** The results revealed a significant relationship between behavioral biases (disposition effect, herding bias, and overconfidence bias) and investment decision-making. A significant relationship between financial literacy and investment decisions was found. The study found



that financial literacy did not moderate the relationship between overconfidence bias, herding bias, disposition effect, and investment decisions.

**Implications:** The findings suggest that financial literacy programs in Nepal should integrate behavioral finance principles and emphasize experiential learning to help investors recognize and manage biases. Tailored initiatives addressing gender, age, and experience differences can enhance effectiveness. Regulators like SEBON should improve market transparency and promote long-term investment incentives to reduce speculative and emotionally driven decisions.

**Research Ethics:** Informed consent from the survey participants was collected by making them aware of their role in the survey, the research purpose, procedure, and use of data gathered. To uphold confidentiality, the survey-maintained anonymity and did not ask for personal information.

**Keywords:** disposition effect, financial literacy, herding bias, investment decision, overconfidence bias

## 1. Introduction

While investment decisions impact individual financial well-being and the overall economy, standard financial theories including the Capital Asset Pricing Model (CAPM) and the Efficient Market Hypothesis (EMH), are built upon a core assumption: investors are rational decision-makers who process all information logically and optimize risk-return trade-offs ([Hodnett & Hsieh, 2012](#)). In other words, they view investors as utility-maximizing individuals who cognitively render decision-making without emotion. However, this assumption has been challenged by the rise of behavioral finance, which embeds psychology and cognitive aspects of financial decision-making ([Hilton, 2001](#)).

Behavioral finance challenges the assumption of rationality, asserting that cognitive biases and emotion drive investors toward suboptimal decisions making and irrational behavior. Behavioral finance suggests that investor behavior can frequently be inconsistent with classical economic principles because of psychological influences ([Adil et al., 2022](#)). Investment decisions are significantly influenced by behavioral biases such as overconfidence, herding, and disposition effect. Overconfidence bias manifests when investor exhibit an inflated assessment of their market knowledge, expertise, or predictive capabilities, frequently resulting in overtrading and heightened risk exposure ([Poudel et al., 2024](#)). Herding bias refers to investors abandoning their own analysis to emulate the decisions of peers or the crowd, a behavior often motivated by fear of missing out or social pressure ([Poudel & Poudel, 2024](#)). The disposition effect characterizes the suboptimal practice of selling assets that have gained value too early while retaining depreciating assets for extended periods, a phenomenon largely attributed to psychological aversion to realizing losses ([Hildebrandus et al., 2023](#)).

When viewed from the Nepalese context, these behavioral biases are particularly important. Over the last few years, the Nepalese stock market has gone through numerous fluctuations and has been inefficient, yet the number of individual investors continues to increase. Many of these retail investors make their way into the market without sufficient financial knowledge or much thought on their strategic plan. Therefore, while making individual investment decisions, their behavior is primarily based on emotions of investment process and is susceptible to several psychological biases ([Thapa, 2024](#)). This indicates a significant gap in the readiness of the investors and, most importantly, understanding behavioral factors that drive them.

Financial literacy emerges as a very important potential moderating factor. It refers to knowledge and skills to make an informed, confident, and effective financial decision, consideration of investment-specific risks, and consideration of diversity and time horizon for planning ([Adil et al., 2022](#)). Financially literate investors may be better at recognizing their biases and implementing a more systematic, logical, and planned approach to managing their portfolio. Specifically, financial literacy can serve to moderate the impact of behavioral biases on investment decision-making, contributing to more financial choices ([Adiputra et al., 2023](#)).

The primary objective of this study is to empirically analyze the effects of identified behavioral biases – namely overconfidence, herding bias and the disposition effect- on individual investment decision processes. Concurrently, it investigates the nexus between financial literacy and investment behavior with a specific focus on evaluating financial literacy moderates the impact of these behavioral biases on investment decision making. The findings are expected to provide valuable insights for investors and policymakers seeking to formulate effective strategies that enhance financial decision quality and foster sustainable economic prosperity.

## **1.1 Literature Review and Hypothesis Development**

### **1.1.1 Theoretical review**

This study is primarily based on three major behavioral theories, including prospect theory, mental accounting theory, and regret theory.

#### **a. Prospect Theory**

Kahneman & Tversky's (1979) prospect theory explains how people evaluate possible gains and losses under uncertain situations. Unlike traditional economic models that assume rational behavior, this theory shows that people are loss-averse—they experience the pain of losses more intensely than the pleasure of equivalent gains ([Levy, 1992](#)). Individuals become risk-averse when dealing with gains but become risk-taker when facing potential losses. This theory explains behavioral biases such as the disposition effect, where investors hold onto losing stocks hoping to recover losses. This theory rejects classical finance's rationality assumption and is fundamental to explaining the irrational investor behaviour observed in real markets.

#### **b. Mental Accounting**

Mental Accounting, developed by Thaler in 1985, refers to the tendency of individuals to categorize money into separate "accounts" based on its source or purpose, rather than treating it as interchangeable ([Thaler, 1999](#)). This cognitive bias leads to irrational decision-making, such as treating windfall gains differently from earned income or taking unnecessary investment risks within certain mental budgets. In investing, this theory explains behaviors like overconfidence and non-optimal diversification, as investors may overvalue certain assets or treat them independently, ignoring the overall portfolio context. Mental accounting highlights how subjective mental frames, rather than objective financial principles, often guide individual investment choices.

#### **c. Regret Theory**

Regret Theory suggests that individuals anticipate the emotional impact of regret when making decisions and thus choose options that minimize future regret ([Loomes & Sugden, 1987](#)). In investment behavior context, this can result in investors retaining depreciating assets to shrink acknowledging suboptimal choices, phenomenon referred to as the disposition effect. Rather than focusing solely on potential returns or losses, investors consider how they might feel if an alternative decision had yielded better results. This emotional forecasting can lead to

suboptimal investment strategies, as fear of regret causes investors to hold onto underperforming assets or exit profitable ones prematurely.

### 1.1.2 Empirical Review

#### a. Overconfidence bias and Investment decisions

Overconfidence bias, characterized by an inflated belief in one's knowledge, predictive accuracy, or control over outcomes, is a prevalent and consequential cognitive distortion in investment decisions. [Poudel et al. \(2024\)](#) suggest that overconfidence positively affects investment decisions, meaning that investors who overestimate their knowledge about investing often act on riskier choices or make decisions more often. [Rawat \(2024\)](#) also noted a moderate positive nexus between overconfidence and investment decisions, with greater overconfidence leading to increased investment decisions or activity. [Ahammed and Tazminur \(2024\)](#) also demonstrated the significant impact of overconfidence on individuals who are retail investors, once again lending support to the importance of this bias. However, not all findings are the same. As noted by [Adiputra et al. \(2023\)](#), there is no influence of overconfidence on investment decisions, so other factors may also determine how strong the influence of overconfidence is on such decisions. Furthermore, [Adil et al. \(2022\)](#) indicated that gender played a role in overconfidence, as overconfidence influenced investment decisions for men significantly, while for women there was no statistically significant effect.

*H1: The overconfidence bias and investment decisions has a significant relationship.*

#### b. Herding bias and Investment decisions

Herding bias refers to an investor's choice to follow the crowd rather than their reasoning, often leading to uninformed financial decisions. [Abideen et al. \(2023\)](#) found that herding significantly influences investors, especially in volatile markets, where poor herding decisions led to poor outcomes. [Sinha and Shunmugasundaram \(2022\)](#) found herding to be significantly associated with investment decisions and found that many investors were acting on what others were doing rather than their logic. [Thapa \(2024\)](#) found that herding behavior and investment decisions has positive relationship. However, several studies paint contradictory pictures. [Adiputra et al. \(2023\)](#), [Poudel et al. \(2024\)](#), and [Poudel and Poudel \(2024\)](#) found that there was no effect of herding bias on investors' investment choices, particularly among Nepalese millennials. [Runtuwene and Sibilang \(2024\)](#) found herding to also be insignificant for Generation Z investors.

*H2: Herding bias and investment decisions has a significant relationship.*

#### c. Disposition effect and Investment decisions

The disposition effect describe that investors are more likely to sell their gaining assets (winners) too soon and hold on to the assets that have losing in value (losers). [Thapa \(2024\)](#) found a positive relationship between disposition effect and investment decisions, showing that the bias could impact portfolio management by investors through specific behavioral improvements in decision-making. [Prasetyo et al. \(2023\)](#) indicated that the disposition effect was significant among Generation Z investors and that feelings outweighed rational thought in decision-making, especially for younger investors. Conversely, [Adil et al. \(2022\)](#) found that the disposition effect was not significant among males, which implies that cognitive differences may exist between and among the genders.

*H3: The disposition effect and investment decisios has a significant relationship.*

#### **d. Financial literacy and investment decisions**

Financial literacy constitutes a fundamental determinant of sound investment decisions-making, as it provides individuals with the requisite knowledge and competencies to evaluate financial alternatives and manage associated risks effectively. [Poudel et al. \(2024\)](#) identified a positive relationship between financial literacy and investment decisions. Likewise, [Adil et al. \(2022\)](#) demonstrated that this relationship holds consistently across both male and female investors, suggesting that the impact of financial literacy transcends gender differences. In a similar vein, [Suresh \(2024\)](#) affirmed that financial literacy contributes to improved quality in financial decision-making. Collectively, these findings justify that higher financial literacy enabling investors to make informed, rational choices, thereby minimizing dependence on cognitive biases or speculative behavior in financial markets.

***H4: The financial literacy and investment decisions has a significant relationship.***

#### **e. Moderating role of financial literacy in relationship between behavioral bias and investment decisions**

Financial literacy has been examined as a moderating variable in the relationship between overconfidence bias and investment decision-making. [Adil et al. \(2022\)](#) demonstrated that financial literacy significantly moderated this relationship for both male and female investors. Their findings indicate that higher levels of financial literacy, particularly among male investors are less influenced by overconfidence bias, thereby mitigating its impact on investment decisions. This suggests that financial literacy can serve as a protective factor, reducing the detrimental effects of cognitive biases in financial behavior. [Poudel et al. \(2024\)](#) showed that financial literacy negatively moderated behavioral biases, including overconfidence, by weakening the negative impact on investment behavior. This indicates that as financial literacy increases, investors can label and control overconfidence, which facilitates making more rational investment decisions. Conversely, [Hildebrandus et al. \(2023\)](#) presented a contrasting view, noting that financial literacy did not have a moderation effect between overconfidence and male investment decisions; however, a moderating effect was observed among female investors.

[Hayat and Anwar \(2016\)](#) determined that financial literacy negatively moderated herding bias and reduced the effect that herding had in influencing investment decisions of investors. According to [Adil et al. \(2022\)](#) financial literacy affected herding behavior with female investors, who appeared more conservative in their response to herding and were more likely to make independent investment decisions rather than follow the crowd. However, the moderation was statistically not significant for male investors. [Hildebrandus et al. \(2023\)](#) also supported this gender difference with the finding that there were no moderating effects for males.

[Hildebrandus et al. \(2023\)](#) reported no moderating effect of financial literacy on the disposition effect for either male or female investors. Conversely, [Adil et al. \(2022\)](#) identified a significant negative moderating effect of financial literacy on the disposition effect specially among female investors. Their findings suggest that women with higher levels of financial literacy are less prone to the disposition effect when making investment decisions. However, for male investors, the moderating role of financial literacy was not statistically significant, indicating a gender-specific influence in mitigating this behavioral bias.

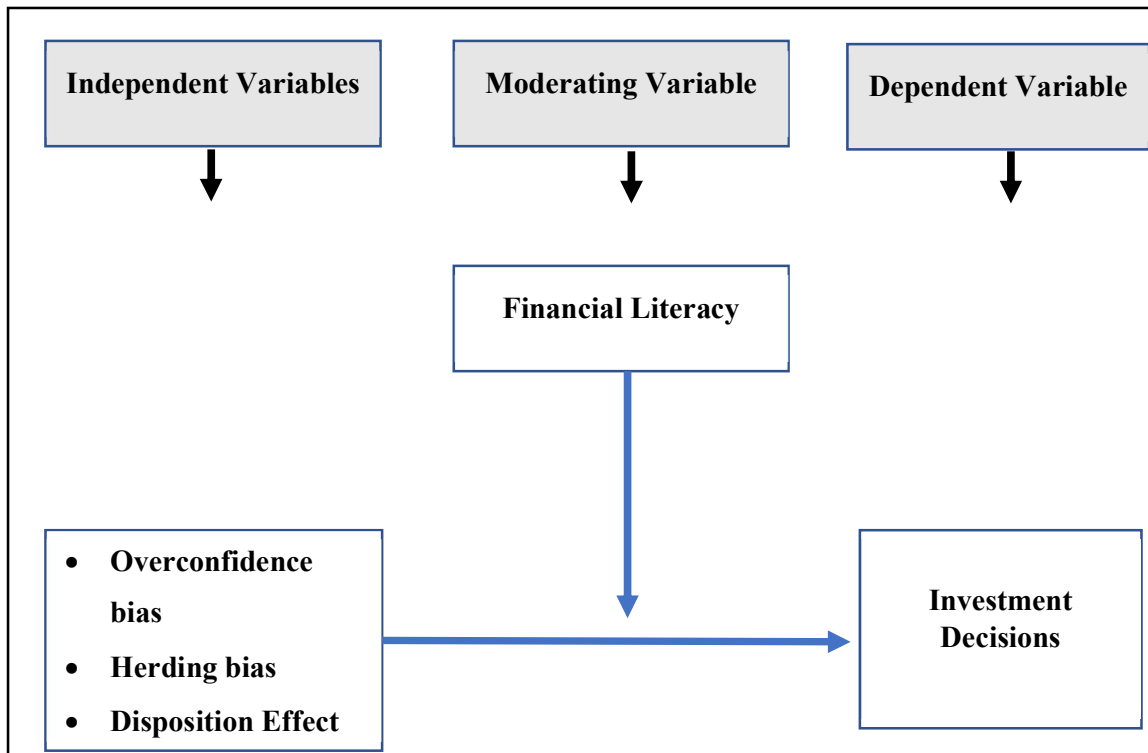
***H5: Financial literacy moderates the relationship between overconfidence bias and investment decisions.***

***H6: Financial literacy moderates the relationship between herding bias and investment decisions.***

**H7: Financial literacy moderates the relationship between disposition effects and investment decisions.**

### 1.2 Conceptual Framework

The conceptual framework for the present study is informed by the models proposed by [Mahmood et al. \(2024\)](#) and [Hayat & Anwar \(2016\)](#). Both studies conceptualize overconfidence bias, herding bias and the disposition effect as independent variables, financial literacy as a moderating variable, and investment decisions as the dependent variable. This framework underscores the role of behavioral biases in shaping investment behavior, while recognizing financial literacy as a critical moderating factor that can influence the strength and direction of these relationships.



**Source:** *Mahmood et al. (2024) and Hayat & Anwar (2016)*

The variables, including overconfidence, herding, disposition effect, and financial literacy, are relevant in the Nepalese context as they reflect the evolving investment behavior of a developing market. Studies highlight that behavioral biases positively affect the investment decision making and financial literacy plays a critical moderating role. For example, it has been previously identified that millennials in Nepal make decisions independently, indicating a transition towards more rational investing. Given the increasing accessibility of the market and financial literacy initiatives, it can be argued that these variables are valid in examining how behavioral elements influence investment decisions in Nepal’s developing financial landscape.

## 2. Research Methodology

The study employed a descriptive cross-sectional analytical research design to examine and characterize existing behaviors and relationships among variables without any experimental manipulation. Primary data were collected using a structured questionnaire designed on a five-point Likert scale. The questionnaire was administered in both digital format

(via Google Forms) and physical copies, targeting investors engaged in trading securities listed on the Nepal Stock Exchange (NEPSE). A total of 250 participants were approached through a convenience sampling method, resulting in 235 valid responses—exceeding the minimum threshold of 200 respondents generally recommended for Structural Equation Modeling (SEM) ([Dash and Paul, 2021](#)).

Data analysis was conducted using Partial Least Squares Structural Equation Modeling (PLS-SEM) through the SMART-PLS 4 software. Convergent validity was assessed using the Average Variance Extracted (AVE), while discriminant validity was evaluated using the Fornell-Larcker criterion, cross-loadings, and the Heterotrait-Monotrait (HTMT) ratio. Internal consistency and reliability were examined using Cronbach’s alpha and composite reliability measures. To assess potential multicollinearity, the Variance Inflation Factor (VIF) was calculated. Hypotheses were tested using the bootstrapping method, and a multi-group analysis was performed to explore group differences in the structural relationships. This analysis also incorporated the moderating role of financial literacy, assessing its differential impact across investor subgroups.

## 2.1 Measurements

A five-point Likert scale was employed to evaluate the perception of respondents, where they expressed their agreement to the statements from a scale of 5 strongly agree to 1 strongly disagree. The items for herding behavior were adopted from [Almansour and Arabyat \(2017\)](#); [Kumari et al. \(2022\)](#); [Aryal \(2024\)](#); and [Lin \(2011\)](#); disposition effect ([Adil et al., 2022](#); [Aryal, 2024](#); [Lin, 2011](#)); overconfidence bias ([Aryal, 2024](#); [Lin, 2011](#)); financial literacy ([Butt et al., 2023](#)); and investment decisions ([Almansour and Arabyat, 2017](#); [Khawaja and Alharbi, 2021](#)).

## 3. Results

### 3.1. Reliability and Convergent Validity

Table 1 shows the Cronbach's alpha, Composite reliability and Average Variance extracted which tested the reliability and convergent validity of construct. The disposition effect had Cronbach’s alpha value of 0.671 (slightly below 0.7) but above the minimum acceptable value of 0.6, with CR = 0.819 and AVE = 0.601, suggesting that the items adequately measure the disposition effect construct. Financial literacy demonstrated good reliability ( $\alpha = 0.713$ , CR = 0.837, AVE = 0.632). Herding bias had a good level of internal consistency ( $\alpha = 0.808$ , CR = 0.874, AVE = 0.635). The investment decision construct also satisfied the reliability and convergent validity requirements ( $\alpha = 0.723$ , CR = 0.828, AVE = 0.547). Last, the overconfidence bias construct also met all threshold requirements ( $\alpha = 0.760$ , CR = 0.846, AVE = 0.580).

**Table 1:** *Reliability and Convergent Validity*

Variables	Cronbach's alpha ( $\alpha$ )	Composite reliability (rho c)	Average variance extracted (AVE)
Disposition effect	0.671	0.819	0.601
Financial literacy	0.713	0.837	0.632
Herding bias	0.808	0.874	0.635
Investment decision	0.723	0.828	0.547
Overconfidence bias	0.760	0.846	0.580

**Source:** *Survey Data (2024)*

According to [Ursachi et al. \(2015\)](#) any Cronbach's alpha above 0.6 is considered acceptable and [Dash and Paul \(2021\)](#) note that composite reliability (CR) should exceed 0.6 and Average Variance Extracted (AVE) should exceed 0.5. Thus it can be justified that all constructs had good reliability and provided adequate convergent validity for further analysis.

### 3.2 Discriminant Validity

Discriminant validity is a critical aspect of construct validity that confirms the distinctiveness of a given construct within a theoretical model. It ensures that the construct measures a concept that is empirically and conceptually different from other constructs, thereby minimizing the risk of excessive overlap. Discriminant validity is considered to be established when the square root of the Average Variance Extracted (AVE) for a particular construct exceeds its correlations with all other constructs in the model.

#### 3.2.1 Fornell & Laker Criterion

*Table 2: Fornell & Laker Criterion*

Variables	Disposition effect	Financial literacy	Herding bias	Investment decision	Overconfidence bias
Disposition effect	<b>0.775</b>				
Financial literacy	0.500	<b>0.795</b>			
Herding bias	0.268	0.284	<b>0.797</b>		
Investment decision	0.528	0.527	0.569	<b>0.740</b>	
Overconfidence bias	0.421	0.477	0.561	0.575	<b>0.762</b>

**Source:** *Survey Data (2024)*

The Fornell-Larcker criterion results in Table 2 confirm discriminant validity for all constructs, as the square root of the AVE values on the diagonal exceeds their highest correlations with other constructs. Specifically, the disposition effect's square root of AVE is 0.775, which is greater than its highest correlation of 0.528 with investment decision. Financial literacy shows an AVE square root of 0.795, higher than its maximum correlation of 0.527 with investment decisions. Herding bias has an AVE square root of 0.797, exceeding its highest correlation of 0.569 with investment decision. Investment decision's square root of AVE is 0.740, above its largest correlation of 0.575 with overconfidence bias. Finally, overconfidence bias presents an AVE square root of 0.762, greater than its highest correlation of 0.577 (with investment decision). These results indicate that all constructs are distinct and exhibit adequate discriminant validity.

### 3.3 Factor Loadings

**Table 3:** *Factor Loading*

		DPE	FL	HD B	ID	OC B	FLxHB D	FLxOC B	FLxDP E
Disposition effect	DPE 1	0.793							
	DPE 2	0.757							

	<b>DPE 3</b>	0.774						
Financial literacy	<b>FL1</b>		0.712					
	<b>FL2</b>		0.868					
	<b>FL3</b>		0.798					
Herding bias	<b>HDB 1</b>			0.795				
	<b>HDB 2</b>			0.824				
	<b>HDB 3</b>			0.832				
	<b>HDB 4</b>			0.734				
Investment decision	<b>ID1</b>				0.716			
	<b>ID2</b>				0.805			
	<b>ID3</b>				0.744			
	<b>ID4</b>				0.690			
Overconfidence bias	<b>OCB 1</b>					0.719		
	<b>OCB 2</b>					0.809		
	<b>OCB 3</b>					0.809		
	<b>OCB 4</b>					0.703		
Interaction terms	<b>FL x HDB</b>						1.000	
	<b>FL x OCB</b>							1.000
	<b>FL x DPE</b>							1.000

**Source:** *Survey Data (2024)*

Table 3 indicates strong item reliability for all constructs, as the factor loadings for most constructs are statistically strong, exceeding the cut-off point of 0.7, which suggests that the indicators are a good representation of the respective latent variable. The disposition effect (DPE) items load between 0.757 and 0.793, providing a uniform measurement. Financial literacy (FL) loading values are equally high, ranging from 0.712 to 0.868, suggesting that both items also have sound indicator reliability. Herding bias (HDB) items load from 0.734 to 0.832, confirming good, representativeness of the construct. The overconfidence bias (OCB) items load from 0.703 to 0.809, which confirms adequate reliability. Finally, the interaction terms (FL x HDB, FL x OCB, FL x DPE) demonstrate the top loading value of 1.000, reflecting their computed nature in moderation analysis. Overall, the factor loading values confirm the

measurement model fits as required. All of the investment decision (ID) items' factor loading range from 0.690 to 0.805. While ID4 has the loading value of 0.690 (below 0.7), the item was retained in the model as CR and AVE values surpassed the recommended threshold values of 0.7 and 0.5, respectively. According to [Hair et al. \(2017\)](#), values of factor loadings can be acceptable between the range of 0.5 and 0.7, as long as the CR and AVE are acceptable, which supports the inclusion of ID4 in the final model.

### 3.4. HTMT Ratios

**Table 4:** *HTMT ratios*

	DPE	FL	HDB	ID	OCB	FL x OCB	FL x HDB	FL x DPE
DPE								
FL	<b>0.717</b>							
HDB	0.348	<b>0.365</b>						
ID	0.747	0.707	<b>0.739</b>					
OCB	0.591	0.652	0.716	<b>0.765</b>				
FL x OCB	0.544	0.732	0.310	0.548	<b>0.451</b>			
FL x HDB	0.516	0.535	0.194	0.407	0.335	<b>0.806</b>		
FL x PDE	0.492	0.656	0.453	0.534	0.525	0.805	<b>0.681</b>	

*Source: Survey Data (2024)*

The HTMT ratios in Table 4 indicate the discriminant validity of the constructs, with all values falling below the recommended threshold of 0.9, which suggests good discriminant validity. The largest HTMT ratio of 0.806 is between FL x HDB and FL x OCB, which is significantly below 0.9. The other ratios (DPE x ID = 0.747, OCB x ID = 0.765, FL x DPE = 0.717) also remained well within each constructs own threshold ratio guidelines, demonstrating no construct overlaps too closely with another. Overall, the low to moderate ratios across all possible pairs (of constructs) suggest that the latent variables are measuring unique concepts. All this contributes to the soundness of the structural model, which reduces the chance of multicollinearity. Overall, the HTMT analysis suggests and confirms the construct's discriminant validity for this study.

### 3.5. Structural Model Assessment

#### 3.5.1 Collinearity Test (Inner VIF)

The Variance Inflation Factor (VIF) is a diagnostic tool used to detect multicollinearity among independent variables in a regression model. It quantifies the extent to which the variance of a regression coefficient is inflated as a result of linear correlations with other predictor variables. Higher VIF values indicate greater multicollinearity, which can compromise the stability and interpretability of regression estimates.

**Table 5:** *Test of collinearity*

Items	VIF
DPE1	1.366
DPE2	1.389
DPE3	1.222
FI1	1.380
FI2	1.566
FI3	1.346
HDB1	1.673
HDB2	1.960
HDB3	1.971

HDB4	1.360
ID1	1.356
ID2	1.532
ID3	1.420
ID4	1.266
OCB1	1.448
OCB2	1.562
OCB3	1.607
OCB4	1.323
Financial literacy x Herding bias	1.000
Financial literacy x Overconfidence	1.000
Financial literacy x Disposition effect	1.000

Source: Survey Data (2024)

According to [Hair et al. \(2011\)](#), VIF values must be below 5 to confirm no serious multicollinearity issues. All reported VIF values in the table 5 range between 1.000 and 1.971, well below the threshold of 5, demonstrating that in the given data set there is no any multicollinearity issue.

### 3.5.2 Hypothesis Testing

The structural model was evaluated using the bootstrapping technique with 5,000 resamples to assess the statistical significance of the path coefficients and to test the proposed hypotheses. This non-parametric resampling method enhances the robustness of the results by providing confidence intervals and significance levels, thereby supporting the validation of the structural relationships within the model.

Figure 1: Bootstrapping Results

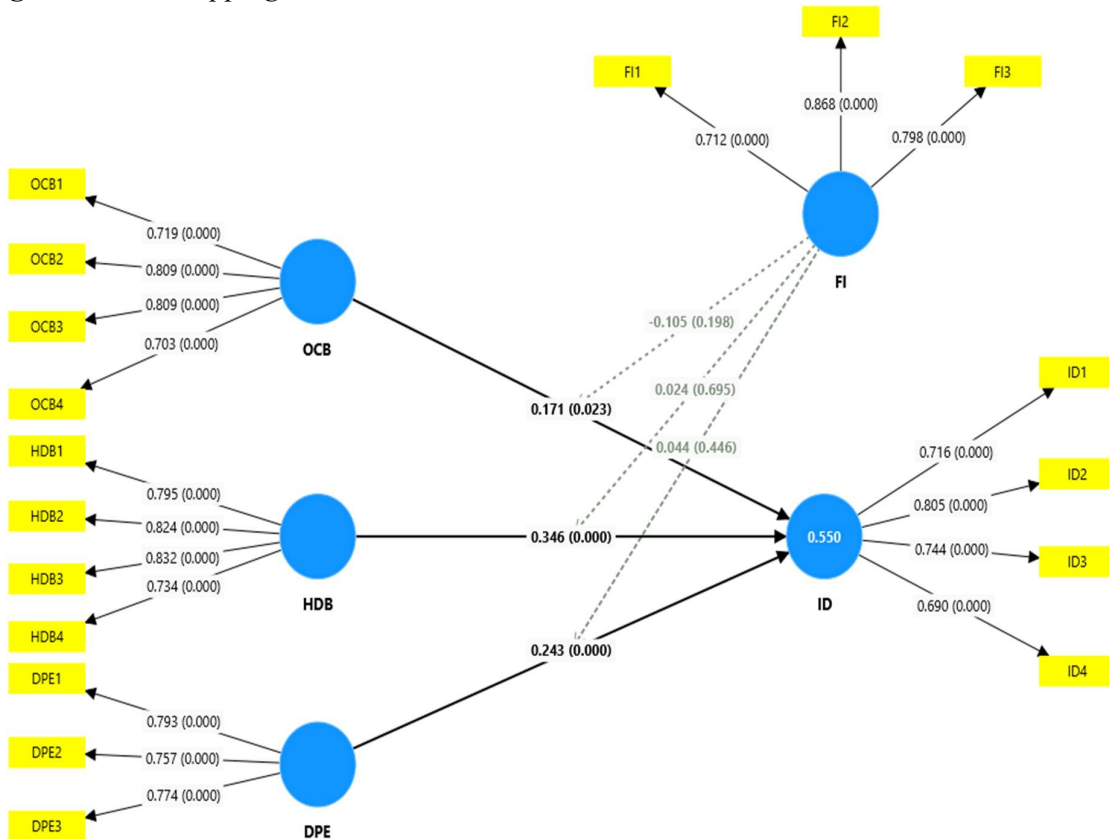


Figure 1 shows the factor loading, path coefficient, P-value, and R-square. The factor loading for each statement of OCB (OCB1, OCB2, OCB3, and OCB4) is 0.719, 0.809, 0.809, and 0.703, respectively. Likewise, the factor loading for each statement of HDB (HDB1, HDB2, HDB3, and HDB4) is 0.795, 0.824, 0.832, and 0.734, respectively. 0.793, 0.757, and 0.774 are the factor loadings for each statement of DPE (DPE1, DPE2, and DPE3), respectively. Similarly, each statement of FL (FL1, FL2, and FL3), the factor loading is 0.712, 0.868, and 0.798, respectively, and the factor loading of ID (ID1, ID2, ID3, and ID4) is 0.716, 0.805, 0.744, and 0.690, i.e., equals to 0.70. The factor loading of each statement of each variable is more than 0.70.

The value of the path coefficient for the independent variables, i.e., OCB, HDB, and DPE, on the dependent variable ID is 0.171, 0.346, and 0.243, respectively. All the values of the path coefficient are positive. It indicates that the effects of the independent variable on the dependent variable are positive. The path coefficients of financial literacy on the relationship between behavior bias factors (OCB, HDB, and DPE) and ID are -0.105, 0.024, and 0.044, respectively. It indicates that FL negatively affects the relationship between overconfidence bias and investment decisions, and financial literacy does not moderate the relationship between HDB, DPE, and ID.

P-values in the relationship between OCB>ID, HDB > ID, and DPE >ID are 0.023, 0.000, and 0.000, respectively, which are less than 0.05. It indicates that the behavioral bias factor significantly affects the ID. The P-value of the moderating effect of FL is 0.198, 0.695, and 0.446, which are greater than 0.05. It indicates that financial literacy doesn't moderate the relationship between behavioral bias factors (OCB, HDB, and DPE) and ID. The value of R-squared is 0.550. It indicates that 55% of the total effects in investment decisions occur by OCB, HDB, DPE, and FL. 45% of the effects are caused by other factors that aren't included in this model.

**Table 6:** *Hypothesis Testing*

	<b>Original Sample (O)</b>	<b>Standard Deviation (STDEV)</b>	<b>T Statistics ( O/STDEV )</b>	<b>P Values</b>
DPE -> ID	0.243	0.054	4.515	0.000
FL -> ID	0.177	0.069	2.580	0.010
HDB ->ID	0.346	0.063	5.526	0.000
OCB ->ID	0.171	0.075	2.275	0.023

Source: *Survey Data (2024)*

**H1: There is a significant relationship between the disposition effect and investment decisions.**

Table 6 shows a positive beta value of 0.243, a T-statistic of 4.515, and a p-value of 0.000, which is less than 0.05. Therefore, there is a significant relationship between disposition effect and investment decision, and H1 is accepted.

**H2: There is a significant relationship between financial literacy and investment decisions.**

The table shows a positive beta value of 0.177, a T-statistic of 2.580, and a p-value of 0.010, which is less than 0.05. Hence, financial literacy has a significant relationship with investment decisions, and H2 is accepted.

**H3: There is a significant relationship between the herding bias and investment decisions.**

The beta coefficient is positive at 0.346, the T-statistic is 5.526, and the p-value is 0.000, which is less than 0.05. This indicates a significant relationship between herding bias and investment decision, so H3 is accepted.

**H4: There is a significant relationship between overconfidence bias and investment decisions.**

The beta value is 0.171 (positive), the T-statistic is 2.275, and the p-value is 0.023, which is less than 0.05. These results confirm a significant relationship between the overconfidence bias and investment decisions, and H4 is accepted.

**3.6 Moderating Analysis**

The data were measured independently in the modified model to examine the moderating effect of financial literacy. The partial least squares bootstrapping algorithm was used to confirm the moderating influence of financial literacy in the behavioral bias factor (herding bias, disposition defect, and overconfidence bias) and financial literacy.

**Table 7: Moderating Analysis**

	Original Sample (O)	Standard Deviation (STDEV)	T Statistics ( O/STDEV )	P Values
FL x OCB -> ID	-0.105	0.082	1.287	0.198
FL x HDB -> ID	0.024	0.062	0.392	0.695
FL x PDE -> ID	0.044	0.058	0.762	0.446

Source: Survey Data (2024)

**H5: Financial literacy moderates the relationship between overconfidence bias and investment decisions.**

The results, as highlighted in Table 7, highlight a negative beta of -0.105, a T-statistic of 1.287, and a p-value of 0.198, which is greater than 0.05. Therefore, financial literacy does not moderate the relationship between overconfidence bias and investment decisions. As a result, H5 is rejected.

**H6: Financial literacy moderates the relationship between herding bias and investment decisions.**

The results indicate a beta of 0.024, a T-statistic of 0.392, and a p-value of 0.695, which is greater than 0.05. Therefore, financial literacy does not moderate the relationship between herding bias and investment decision. Thus, H6 is rejected.

**H7: Financial literacy moderates the relationship between disposition effects and investment decisions.**

A positive beta coefficient of 0.044, a T-statistic of 0.762, and a p-value of 0.446, which is greater than 0.05, are observed. This indicates that financial literacy does not moderate the impact of disposition effects on investment decisions, rejecting H7.

**4. Discussion**

The aim of this study was to analyze the relationship between behavioral biases (overconfidence bias, herding bias, and the disposition effect) and individual investment decisions in Nepal, while also considering the moderating role played by financial literacy. The results provided valuable insights into investor behavior and how psychological factors shape their action in the Nepalese financial market.

The findings revealed a significant relationship between the three behavioral biases (disposition effect, herding bias, and overconfidence bias) and investment decision-making. This is consistent with [Thapa \(2024\)](#) and [Prasetyo et al. \(2023\)](#), who also found that the disposition effect exerted a positive influence on portfolio decisions, particularly among Gen Z investors. This finding indicates that emotional attachment to previous investment decisions (e.g., selling winners too early and holding onto losers) remains relevant for investors in Nepal. The significance of herding bias in this study reinforces the implications of [Sinha and Shunmugasundaram \(2022\)](#) and [Abideen et al. \(2022\)](#), who noted that investors are generally inclined to follow the majority in the overall market, especially when uncertainty and volatility exist. The fact that the Nepalese market is relatively small, illiquid, and information asymmetric could lead to increased reliance on herding behavior because there is typically an asymmetry in accessing reliable financial information, which, coupled with social pressure, results in greater reliance on peer networks. Investors in Nepal rely on informal sources of information including their social and peer connections, brokers, and online sites, so it is expected that they would contribute to herding behavior or mimic other people's investments.

The significant relationship of overconfidence bias and investment decisions, as verified in this study, supports the results of [Poudel et al. \(2024\)](#) and [Rawat \(2024\)](#), who found a positive association between overconfidence and increased trading. It suggests that Nepalese investors might overestimate their financial know-how and form riskier and more active investment decisions. The rise in popularity of online platforms for trading in Nepal may further amplify this bias, as it provides these individuals with a false sense of control and awareness.

Furthermore, the study confirms a significant positive association between financial literacy and investment decisions, which aligns with prior findings from [Suresh \(2024\)](#) and [Adil et al. \(2022\)](#). This demonstrates that financial know-how plays a role by providing an avenue for decision-making, reducing reliance on heuristics. In Nepal, where formal financial trading education is still largely non-existent, groups with greater financial literacy will be better equipped to evaluate investment risks and opportunities more objectively.

The major contradiction with prior studies concerns the moderating effect of financial literacy, which in this study indicated financial literacy did not moderate the relationship between overconfidence bias, herding bias, or disposition effect and investment decisions. This conclusion contradicts several other studies, including [Poudel et al. \(2024\)](#) and [Adil et al. \(2022\)](#), who concluded that financial literacy weakens the influence of overconfidence and herding bias, particularly among female investors. Furthermore, [Hayat and Anwar \(2016\)](#) emphasized the potential for financial literacy to mitigate the herding bias by promoting independent decision-making. The stark rejection of the moderation hypotheses found in this study likely reflects contextual realities in Nepal. Financial literacy is generally posited to enable investors to make financially independent, rational decisions; however, these findings suggest that knowledge alone may not be sufficient to override deeply ingrained behavioral tendencies among Nepalese investors.

One key explanation lies in the nature and depth of financial literacy in Nepal. Much of the financial education is primarily conceptual or academic; there has been less focus on behavioral finance or the psychological aspects of investment. While some investors may have familiarity with financial terms, a range of instruments, and basic principles of risk, they may lack the practical skills or emotional awareness to identify these biases, such as overconfidence or herding, or to manage them effectively. Therefore, even those with financial knowledge may continue to engage in biased decision-making.

In addition, the sociocultural context in Nepal plays a significant role. Many investment choices are influenced by peer-based networks, family/or intermediary opinions, and investors usually access informal sources of information. These factors prime individuals to exhibit

herding behavior, leading them to follow what others are doing regardless of their own financial evaluations. The strong emphasis on social conformity and trust in community advice may decrease individual reliance on rationality, even among financially literate investors. Moreover, limited exposure to market simulations or investment scenarios in schools means that there is no real-time practice of learned concepts. Without such practice, financial literacy remains detached from actual behavior in investment decisions, and investors may not be able to use their knowledge when it matters - in situations of uncertainty, emotion, or social pressure. Age and gender may compound this effect. Research has shown, for example, that young and female investors may be more risk averse or influenced by social factors regardless of their financial capability. In the Nepalese context, this issue is critical as women and youth are progressively engaging in investing.

The findings confirm the extant evidence of the direct influence behavior biases and financial literacy have on making investment decisions but contradict the notion that financial literacy can be used as an effective moderator in those decisions. This indicates there is a need for more sophisticated, behavior-based financial education programs in Nepal that educate as well as encourage self-regulation, critical thinking, and awareness of biases. From a policy perspective, this highlights a critical opportunity for regulators and other institutions engaged in financial literacy to include elements of behavioral finance into public financial literacy offerings. Interventions like simulations, case studies based on examples of cognitive errors, and gender training may be useful ways to reconcile awareness and behavior.

## **5. Conclusions**

This study examined the influence of behavioral biases—namely overconfidence, herding, and the disposition effect—on the investment decisions of individual investors in Nepal, as well as the moderating role of financial literacy. The empirical findings reveal that these behavioral biases significantly affect investment decision-making, suggesting that Nepalese investors, like their counterparts in other emerging markets, are not entirely rational and often depend on psychological heuristics when making financial judgments.

The evidence of the disposition effect illustrates investors' tendency to retain underperforming assets due to the emotional discomfort of realizing losses. Similarly, the pronounced impact of overconfidence and herding biases highlights investors' inclination to overestimate their knowledge and follow market trends without adequate independent analysis. Financial literacy, while positively associated with investment decision-making, was not found to moderate the relationship between behavioral biases and investment behavior. This outcome indicates that financial knowledge alone may not suffice to counteract deep-seated psychological tendencies within Nepal's investment landscape. Socio-cultural factors—such as dependence on informal advice networks, collective decision-making norms, and limited exposure to experiential learning—may further constrain the practical application of financial literacy. Collectively, these findings underscore a persistent gap between theoretical financial knowledge and real-world investment behavior among Nepalese investors.

## **6. Implications**

The results of this study hold important implications for investors, educators, and policymakers. Traditional financial literacy initiatives should be redesigned to incorporate principles of behavioral finance, emphasizing not only technical market knowledge but also the psychological factors that drive financial behavior. Training programs should employ case-based, experiential, and simulation-based learning methods that enable participants to identify and self-regulate biased decision patterns in real-time contexts.

Moreover, financial education programs should be tailored to demographic differences. Gender-sensitive initiatives could empower female investors to build analytical confidence and

autonomy, while youth-focused interventions might stress the importance of resisting peer influence and cultivating long-term investment discipline.

At the institutional and policy levels, regulators such as the SEBON should enhance transparency in market information and strengthen oversight of financial advisors and brokers to reduce reliance on informal or speculative sources. Promoting greater access to credible financial data will help mitigate herding tendencies and support more informed decision-making. Additionally, policy incentives that encourage long-term investment—such as tax benefits, pension products, or savings-linked investment schemes—could further discourage short-term, emotionally reactive trading behavior and foster greater market stability.

## 7. Limitations and Future Research Directions

Despite offering valuable insights into the behavioral and financial literacy dimensions of Nepalese investors, this study has several limitations. The sample comprised only active individual investors trading on the Nepal Stock Exchange (NEPSE), excluding inactive and institutional investors, which limits the generalizability of the results. The use of convenience sampling may have introduced self-selection bias, and reliance on self-reported data provides only a cross-sectional view that may be affected by recall or social desirability biases. Moreover, the modest sample size ( $n = 235$ ) constrained subgroup analyses that could have uncovered demographic or regional variations in investor behavior.

Future research should adopt probability-based or stratified sampling to enhance representativeness and apply longitudinal designs to capture behavioral changes over time. Incorporating objective measures of financial literacy and real trading data would strengthen analytical rigor. Expanding the behavioral scope to include biases such as loss aversion, framing, and mental accounting—and using mixed methods that combine surveys with interviews or focus groups—could provide deeper cultural and emotional insights. Comparative studies between retail and institutional investors are also recommended to better understand how professional and contextual factors influence investment behavior in Nepal.

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