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Role of Loss Aversion, Representativeness, and Overconfidence in Investment Decision-Making

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Abstract

This study investigates how behavioral biases loss aversion, representativeness, and overconfidence influence investment decisions in Nepal's stock market. Using a descriptive and causal research design, data were collected via structured questionnaires from 120 individual investors. Analysis through SPSS revealed that overconfidence has a significant positive impact on investment decisions, while loss aversion and representativeness showed moderate but insignificant effects. These findings highlight the critical role of psychological factors in shaping investor behavior, offering insights for financial advisors and policymakers to mitigate bias-driven risks.

Keywords: Behavioral Finance; Loss Aversion; Overconfidence; Stock Market; Nepal.

INTRODUCTION

Traditional financial theories assume rational decision-making, but behavioral finance introduces psychological biases as key drivers of investor actions (Almansour, Elkrghli, & Almansour, 2023). In Nepal's volatile stock market, understanding these biases loss aversion (prioritizing loss avoidance over gains), representativeness (relying on past patterns), and overconfidence (overestimating predictive abilities) is vital (Kandel, Basnet, & Aryal, 2024). This study addresses gaps in localized research by examining how these biases affect Nepalese investors, providing actionable strategies to enhance decision-making frameworks. Psychologist Daniel Kahneman and economist Vernon Smith, who won a Nobel Prize in 2002, pioneered this concept. They, along with psychologist Amos Tversky, coined the term "behavioral finance" in the 1980s. Essentially, behavioral finance explores how people's psychology affects their financial decisions in different financial situations, shedding light on the stock market's behavior (Nofsinger, 2001; Padmavathy, 2024).

Investor behavior is an element of behavioral finance, a field focused on analyzing and anticipating how psychological decision-making systematically influences financial markets. By merging individual conduct with market dynamics, behavioral finance applies concepts from psychological research and economic theory to explore these interactions (Fromlet, 2001; Sapkota, 2022). According to Benartzi and Thaler (1995), loss aversion bias stems from individuals' asymmetric responses to guaranteed gains and losses. When presented with certain profits, people tend to avoid risks, whereas they become risk-seeking when confronted with potential losses. This reflects a psychological asymmetry where the distress caused by losing a specific amount outweighs the pleasure of gaining the same amount. In their seminal work, Tversky and Kahneman (1992) conducted extensive research into the phenomenon of loss aversion bias. Their groundbreaking studies illuminated how individuals exhibit a marked aversion to losses, often making decisions that prioritize avoiding losses over acquiring equivalent gains. This cognitive bias, they argued, plays a pivotal role in shaping human behavior across various domains, including finance, leading to suboptimal choices and influencing market dynamics.

Representativeness bias involves judging events or objects by their perceived similarity to established categories or patterns, leading individuals to overestimate their likelihood regardless of actual statistical probability. In their seminal research, Kahneman

and Tversky (1972) defined this cognitive bias, demonstrating that people often evaluate event probabilities based on how closely an event aligns with mental prototypes or stereotypes rather than objective data. This cognitive bias, they argued, significantly influences judgment and decision-making across various domains. Barberis (2013) conducted an extensive review and assessment of thirty years of prospect theory, a framework closely related to representativeness bias. This work offered insights into how individuals frame choices and assess probabilities in economic decision-making. Gigerenzer and Brighton (2009) delved into the concept of "Homo heuristics," exploring why biased minds often make better inferences. Their research shed light on representativeness bias and its role in shaping cognitive processes.

Overconfidence arises when investors overstate their expertise due to past market success, prompting them to downplay risks and adopt unwarranted optimism, often resulting in poorly diversified portfolios. This bias manifests as an inflated belief in the accuracy of one's knowledge or abilities, a phenomenon highlighted by Hvide (2002). Langer (1975) examined the concept of illusion of control, a related aspect of overconfidence bias. Her work showed how individuals often overestimate their ability to control outcomes in uncertain situations, a phenomenon with direct relevance to investment decision making. Daniel, Hirshleifer, and Subrahmanyam (1998) explored how overconfidence can lead to speculative bubbles in financial markets. Their research suggested that overconfident traders may fuel asset price bubbles by overestimating the value of assets, ultimately contributing to market inefficiencies and mispricing.

Investment decision making is a fundamental process that underpins financial markets and drives economic growth. It involves individuals, institutions, and corporations allocating capital to various assets, such as stocks, bonds, real estate, and more, with the goal of generating returns (Demirel, Leendertse, & Volker, 2022; Shrestha et al., 2024). But, in this study, we only study individual's investment decision in stock.

Lee and Veld-Merkoulova (2016) demonstrate that loss aversion significantly influences investor decisions, leading to reduced equity allocation in portfolios. Investors prone to this bias exhibit a disproportionate focus on avoiding losses, which often overshadows rational portfolio diversification strategies. Conversely, Shah et al. (2018) found no statistically meaningful link between representativeness bias and investor choices or perceptions of market performance. In contrast, Parveen et al. (2020) provided empirical

evidence that overconfidence positively correlates with higher stock market returns, reflecting its role in driving risk-tolerant behavior. Collectively, these studies illustrate how investment behavior is shaped by an interplay of cognitive-emotional factors, with biases like loss aversion and overconfidence exerting measurable yet divergent effects. However, while the role of behavioral biases is increasingly acknowledged, gaps persist in understanding their precise mechanisms, differential impacts across contexts, and long-term financial implications (Neupane et al., 2025; Karki et al., 2024). This study seeks to address this gap by examining the distinct behavioral biases (i.e. loss aversion bias, representativeness bias and overconfidence bias) prevalent in investment decision-making and assessing their overall impact on investors' financial outcomes.

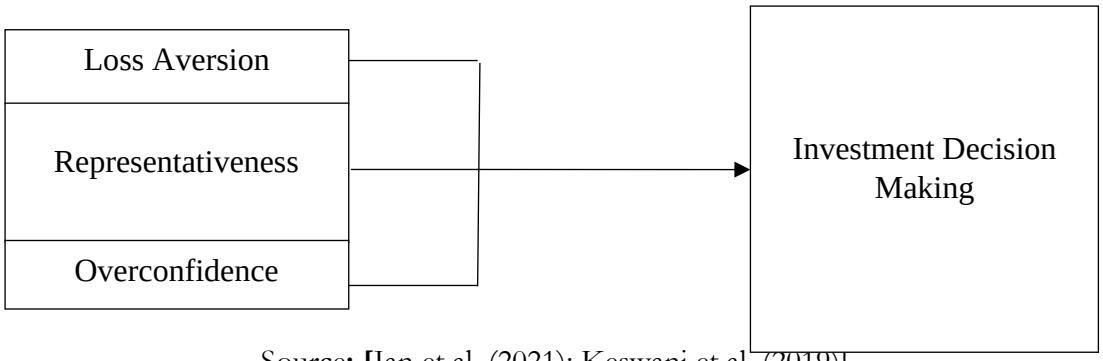
The critical research questions essential to accomplishing the study's aims are outlined as follows:

- What is the current status of behavioral biases on investment decision making?
- Is there any relationship between loss aversion, representativeness bias, overconfidence and investment decision?
- What is the impact of loss aversion, representativeness bias, and overconfidence investment on decision making?

The primary objective of this study is to investigate how investment decision-making processes influence investors' financial outcomes by evaluating their broader implications.

The specific purposes of the study are as follows:

- To explore the current status of behavioural biases on investment decision making.
- To examine whether there is any relationship between loss aversion, representativeness bias, overconfidence and investment decision.
- To assess the impact of loss aversion, representativeness bias, overconfidence investment on decision making.



Source**: [**Jan et al. (2021); Keswani et al. (2019)]

Figure 1. Conceptual frame

There is relation between investment decision making and their variables (i.e., Loss Aversion, Representativeness and Overconfidence) Jan et al. (2021); Keswani et al. (2019). So, this research assumes the following alternative hypotheses (H_A):

- H1: Loss aversion bias influences investment decision making
- H2: Representativeness bias influences investment decision making
- H3: Overconfidence bias influences investment decision making.

METHODS

The study aimed at assessing the impact of behavioural biases on investment decision making. The research objective was accomplished through a descriptive and explanatory research design (Mahat, et al., 2024: Shrestha et al., 2025). The research framework, which places this study within the field of quantitative research, was developed by conducting a thorough examination of the body of current literature and using a positivist methodological approach. The selection of quantitative approaches was guided by three principles: Initially, in accordance with Creswell's (2009) focus on simple hypothesis design, which was thoroughly verified by the study's verified hypotheses (H1-H3). Secondly, a representative sample is used to improve the results' generalizability. Third, thorough empirical testing and interpretation were guaranteed by the methodical examination of quantitative data obtained through structured questionnaires. This study examines diverse investment patterns across demographic groups in Kathmandu Valley, employing a sample of 120 participants aged 18–65 years. Primary data were collected through a structured questionnaire containing 17 closed-ended questions, each using a 5-point Likert scale (1 = Strongly Disagree to 5 = Strongly Agree) to assess respondents' agreement with behavioral

statements. The self-administered survey, distributed online via Google Forms, captured responses from individuals of varied ages, genders, occupations, and educational backgrounds. Frequency analysis summarized demographic profiles and investment preferences, while Cronbach's alpha (α) evaluated the questionnaire's internal consistency, a statistical measure of reliability indicating how well items collectively measure a construct (Mukaka, 2012). Descriptive statistics highlighted central tendencies and variability in key variables. Correlation analysis identified associations between variables, and multiple regression models (analyzed using SPSS 25) tested relationships between predictors and outcome variables.

RESULTS AND DISCUSSION

The study highlight that the majority of the respondents are male (i.e., 67.5%) followed by female respondents (i.e., 32.5%). Majority of the respondents were their bachelor's degree (i.e., 46.7%) followed by high school degree (i.e., 33.3%) and master's degree which goes around 18.3%. The remaining of the respondents does not have any kind of degree or they fall under the category of "below high school." Large number of respondents was representing the age category of 18-25 (i.e., 41.7%). 39.2% belongs to the age category of 26-45 years. 15% belongs to the age category of 46-55 years, around 4.1% of the respondents belong to the age category of 56-65 years. Most of the people 45% of the respondents are employed, followed by 34.2% who are students, 18.3% are self-employed and remaining are retired individuals.

Table 1. *Descriptive Analysis*

Code	Variables	Mean	Std. Deviation
IDM	Investment Decision Making	4.17	0.935
LA	Loss Aversion	4.11	0.942
REP	Representativeness	4.16	0.801
OC	Over Confidence	4.01	1.081

[Source: Calculation Based on SPSS]

Table 1 expressed descriptive analysis where Investment Decision Making is 4.17, Loss Aversion is 4.11, Representativeness is 4.11, and Over Confidence is 4.01. This indicates that the Investment Decision Making has the highest mean of 4.17, whereas Over

Confidence has the lowest mean of 4.01. Similarly, standard deviation of Investment Decision Making is 0.935, Loss Aversion is 0.942, Representativeness is 0.801, and Over Confidence is 1.081. This indicates that Representativeness has the lowest standard deviation of 0.801, which explains that the value in the representativeness are near from the mean.

Correlation analysis was employed to identify relationships between variables. For variables measured through structured multiple-choice responses, Pearson's correlation coefficient was applied. A correlation matrix was constructed to evaluate the strength and direction of associations among the variables. A positive correlation indicates a proportional relationship, where an increase in one variable corresponds to an increase in the other. Conversely, a negative correlation reflects an inverse relationship, with one variable increasing as the other decreases (Sharma & Chaudhary, 2018). The magnitude of correlations was interpreted as follows: coefficients of 0.30 (weak), 0.60 (moderate), and 0.90 (strong).

Table 2. *Correlation Matrix*

Construct	Correlation	Investment Decision Making
Investment Decision Making	Pearson Correlation	1
Loss Aversion	Pearson Correlation	.466**
Representativeness	Pearson Correlation	.457**
Over Confidence	Pearson Correlation	.622**

[Source: Calculation Based on SPSS]

Table 3 presents the Pearson's correlation coefficients for the examined variables, revealing moderate associations between loss aversion (0.466), representativeness (0.457), and overconfidence (0.622) with investment decision-making.

Prior to conducting regression analysis, key assumptions were validated through diagnostic tests for normality, linearity, multicollinearity, and error independence. Regression analysis evaluates the effect of independent variables on the dependent variable while controlling for other predictors, as outlined by Sharma and Chaudhary (2018). The results of this analysis are summarized in Table 3.

Table 3. *Coefficients*

Independent variables	Coefficients value of beta	Sig.
(Constant)	0.164	.000
Loss Aversion	0.121	.177
Representativeness	0.106	.257
Over Confidence	0.075	.001

Result variable Investment Decision Making R = 0.644; R^2 = 0.414; Adj. R^2 = 0.399; S. E. = 0.5412; F-Value = 27.341; p-value of F test = 0.001. Sig. at 5% level

[Source: Calculation Based on SPSS]

Table 3 indicates a statistically significant model, with a p-value of 0.001 (equivalent to the conventional alpha level of 0.05) and a robust F-statistic of 27.341. These results confirm that the regression model effectively explains the relationship between the dependent variable and the predictor variables. The R^2 value of 0.414 suggests that 41.4% of the variability in investment decision-making is accounted for by the combined effects of loss aversion, representativeness, and overconfidence.

Form Table 3, p-value of Overconfidence approach are significant at 5% level of significance. So, H3 is accepted. Over Confidence is influence by Investment Decision Making. P-value of loss aversion and representativeness are not significant at 5% level of significance. So, H1 and H2 are not accepted. Loss aversion and representativeness do not influence the investment decision making.

CONCLUSION

The research found that investment decisions are not solely determined through perfect rationality, there is a prominent role of behavioral biasness among investors as well. Based on the findings, Loss aversion and representativeness bias is seemed to have positive but insignificant impact on investment decision making. This study reveals divergent findings on behavioral biases' influence on investment decisions compared to prior research. While overconfidence exhibits a significant positive impact consistent with Jan et al. (2021), who identified a similar effect in Pakistan's foreign exchange market, the results for loss aversion and representativeness differ. Loss aversion shows a positive but statistically insignificant association with investment decisions here, contrasting with Jan et al. (2021), who reported a significant positive relationship. Similarly, representativeness displays a

positive yet insignificant effect in the current analysis, aligning with Gamage (2021)'s findings in the Colombo Stock Exchange but diverging from Jan et al. (2021)'s conclusion of a significant impact. These discrepancies highlight potential contextual or methodological variations in how biases manifest across markets.

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