Impact of Risk Perception, Overconfidence Bias and Loss Aversion on Investment Decision-Making

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ABSTRACT

This study investigates how overconfidence, loss aversion, and perceptions of risk affect investment decisions in the Nepal Stock Exchange. Making investment decisions is a complicated process that is influenced by several psychological elements. Using structured questionnaires, data was collected from individuals actively involved in stock trading. Employing a quantitative approach, the research utilizes a descriptive research design and conducts multiple regression analyses. Findings reveal that risk perception significantly impacts investment decisions, with individuals perceiving higher risks displaying a greater propensity to invest in high-risk assets. Additionally, overconfidence bias positively influences investment decisions, indicating that individuals with higher confidence levels tend to favour riskier investments. Loss aversion bias plays a significant role, as individuals averse to losses prefer investments that minimize potential losses. These results underscore the substantial impact of behavioural biases on investment decision-making, with overconfidence bias exhibiting the most significant influence, followed by risk perception and loss aversion bias. The findings emphasize the importance of psychological biases in understanding investment behaviour. Investors, financial advisors, and policymakers can all benefit from understanding how risk perception, overconfidence, and loss aversion affect investment decisions. Investors can improve portfolio performance, lessen the chance of financial crises, and make more informed decisions by identifying and correcting these biases. Therefore, to encourage more effective and efficient investment decision-making processes, it is critical to increase awareness of these biases and develop measures to mitigate their negative consequences. Conducting more studies to examine these biases' additional dimensions and how they affect investment decisions is advisable.

INTRODUCTION

Standard finance, typically referred to as traditional finance, is based on the (EMH) Efficient Market Hypothesis (Fama, 1970). Eugene Francis Fama presented a landmark article in 1965, introducing the Efficient Market Hypothesis (EMH), which states that stock market returns exhibit excessive fluctuations that depart from the average. Vaidya *et al.* (2022) stress the significance of testing the normality of daily returns within the Nepalese stock market, particularly within the framework of the EMH theory. The assumption of normality in stock market returns serves as a foundational premise for the EMH theory. According to traditional financial theory, investors are presumed to act with complete rationality when making financial decisions.

However, it is acknowledged that emotions and psychological factors can occasionally impact these decisions, leading to irrational behavior (Kahneman & Tversky, 1979). Latif *et al.* (2011) stated that many stock markets deviate from the rules of EMH, leading to anomalies. The occurrence of anomalies calls into question the idea of market efficiency and emphasizes the need for more study into the behavioral elements and causes of these anomalies. Behavioral finance represents a paradigm shift in the field of finance, departing from the traditional assumption of rationality among investors and instead integrating insights from psychology to understand financial decision-making (Kahneman & Tversky, 1979).

Risk perception, overconfidence, and loss aversion are just a few examples of psychological biases that have been found to have a significant impact on investment decision-making. The subjective assessment of potential risks connected to an investment opportunity is known as Risk Perception. Risk perception depends on a person's knowledge, past experiences, and individual risk tolerance (Solvic, 1987). According to Broihanne, Merli and Roger (2014), investors with high-risk perceptions are more likely to allocate funds to low-risk assets, while investors with low-risk perceptions are more likely to allocate funds to high-risk ones. Nagriwum *et al.* (2023) observed that on the Ghana Stock Exchange, gender and nationality diversity significantly influence earnings quality in non-financial listed companies, while age diversity has no any notable impact.

Overconfidence is defined as having a high conviction in one's judgment, cognitive powers, rational thinking, and intellect. It frequently causes people to overestimate their knowledge and their ability to foresee properly (Pompian, 2012). Overconfidence is a common bias that influences financial decisions. It alludes to people's propensity to think highly of themselves and the precision of their

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judgments. Overconfident investors frequently assume they have superior knowledge and forecasting abilities, which causes them to take unwarranted risks and follow unfavorable investment strategies (Odean, 1998).

Overtrading, insufficient portfolio diversification, and irrational expectations of investing returns can all be caused by the overconfidence bias. Another psychological bias that has a significant impact on financial decision-making is loss aversion. It describes people's propensity to prioritize risks over benefits. According to Kahneman and Tversky (1979), the pleasure experienced from a comparable gain is less keenly felt than the pain of suffering a loss. Someone tends to reject a significant loss, so he also tends to concentrate on preventing a loss while gaining profit (Pompian, 2012).

Someone who overreacts to losses is likely to focus more on avoiding losses than on trying to make a profit with their investments. The combined impacts of risk perception, overconfidence, and loss aversion on investment decisions deserve investigation even if each of these factors has been researched separately. As an example, overconfidence can increase the impact of loss aversion, making investors even warier of prospective losses and thus encouraging irrational risk-taking behaviors (Barber & Odean, 2001).

Understanding how these biases interact and interact with one another helps give an in-depth understanding of the underlying mechanisms influencing investor behavior. This study adds to the corpus of knowledge in Behavioral finance by expanding our understanding of how risk perception, overconfidence, and loss aversion affect investing decisions. It also has practical ramifications for investors and financial professionals. The ultimate objective is to encourage more educated, logical, and efficient investment decision-making processes, which will result in better portfolio performance and a more robust financial ecosystem.

LITERATURE REVIEW
Overconfidence Bias

Overconfidence bias is the tendency of people to overestimate their abilities, knowledge, and the accuracy of their judgments or conclusions (Barber & Odean, 2001). Overconfident investors frequently have unrealistic expectations for their investments' outcomes, resulting in overestimated rewards and underestimated investment hazards. Due to overconfidence bias, inadequate portfolio diversification, excessive trading, and poor investment performance may occur (Odean, 1998). Research has repeatedly shown that investors across a range of markets and investment groups exhibit an overconfidence bias. For instance, Barber and Odean (2001) discovered that ordinary investors frequently exhibit greater levels of overconfidence in their trading skills than professional investors. The prevalence of this bias was further highlighted by Grinblatt and Han (2001) finding that overconfidence is prevalent among both beginner and experienced investors.

Overconfidence is a common cognitive distortion that leads investors to overestimate their abilities and knowledge in the financial domain (Kumar Dahal, 2022). Due to this bias, people tend to overestimate their abilities and frequently overlook important facts and data, leading them to believe they are better than established norms (Kartini & Nahda, 2021). Dangol and Manandhar (2020) have identified overconfidence bias as one of the four heuristic biases they analyze. A common cognitive bias that influences investment decision-making is overconfidence bias, which is characterized by overestimation, over-placement, and over-precision. "The failure to acknowledge the bounds of one's knowledge" is how it is characterized (Dangol & Manandhar, 2020). The research also finds a strong correlation between overconfidence bias and irrationality in investing decision-making. Overconfidence bias, as highlighted by Tamang (2022), leads investors to overestimate their analytical skills and the reliability of their information. This can adversely affect investment decisions by causing investors to overlook risks and make overly optimistic assessments, ultimately undermining portfolio performance. Due to the overconfidence bias, Nepalese investors in initial public offerings (IPOs) tend to overestimate their investment abilities (Tamang, 2022).

Risk Perception

As people assess and understand the potential risks connected to various investment possibilities, risk perception plays a vital role in investment decision-making. According to Wynne (1987), risk perception is an appraisal that is subjective and impacted by one's own experiences, knowledge, and risk tolerance. Depending on how they perceive risk, different investors may assess the same investment opportunity uniquely. According to Weber and Milliman's (1997) research, those who perceive risk more highly tend to manage their portfolios more cautiously, selecting low-risk investments. On the other hand, investors who see risk less favorably can be more willing to accept greater amounts of risk. These results underline the importance of risk perception in influencing investing decisions. Hui and Sang (2024) demonstrated that combining textual and financial indicators increases the accuracy of risk assessment, and deep learning is essential for improving financial risk prediction and supporting strategic decision-making.

Sapkota (2022) suggests that risk perception plays a crucial role in influencing investors' decisions to invest in stocks. Investors may hesitate to invest if they perceive higher risk, whereas lower perceived risk may encourage investment. Hamid *et al.* (2013) found that risk propensity positively affects risk-taking behavior, thereby impacting stock investment decisions. Individuals who are more willing to take risks are more likely to engage in riskier investment strategies when it comes to stocks. The study by Vaidya *et al.* (2022) explores the correlation between risk tolerance and demographic factors such as gender, education, age, income, and occupation. The findings

reveal that men exhibit a higher inclination towards risk-taking compared to women. Moreover, educated individuals tend to display a greater appetite for risk. Additionally, the research highlights that age plays a significant role in determining risk tolerance levels. Furthermore, it suggests that investors with lower wealth levels tend to have lower risk tolerance levels in contrast to wealthier investors (Vaidya *et al.*, 2022).

In the context of the stock market in Nepal, Rana (2019) highlights the profound impact of perceived risk on investors' behaviour. Specifically, investors in Nepal demonstrate a heightened sensitivity to financial risk and the potential for opportunity loss compared to other forms of risk. This emphasis on financial risk and opportunity loss significantly influences their investment decisions. Moreover, varying levels of risk perception among investors lead to divergent investment behaviours within the Nepalese stock market. Understanding and managing risk perception is crucial for investors to make informed investment decisions in the stock market of Nepal (Rana, 2019).

Loss Aversion

Another psychological bias that has a significant impact on financial decision-making is loss aversion which Kahneman and Tversky identified. According to Kahneman and Tversky (1979), loss aversion is the propensity for people to prioritize costs over benefits. A loss causes more pain than a similar gain, which causes greater pleasure. This asymmetry in the perception of risk and reward has significant implications for investment behavior, leading to conservative decision-making and reluctance to realize losses. Loss-averse investors exhibit risk-averse behavior and tend to hang onto losing assets for extended periods, according to research by Shefrin and Statman (1985). They discovered that fear of losses can result in poor investing decisions and decreased

portfolio performance. Odean (1998) investigated loss aversion, a Behavioral bias influencing investors' decisions to sell assets. He found that investors often resist selling assets that have declined in value, driven by a preference to avoid losses over acquiring gains. This reluctance affects individual trading behavior in financial markets, underscoring the significant impact of loss aversion on investment decisions.

Barberis *et al.* (2001) found that losses following gains are perceived as less distressing, while losses following losses are particularly painful. This bias can lead investors to hold onto losing investments longer than warranted, a phenomenon known as the disposition effect. Recognizing and addressing loss aversion is crucial for improving investment decisions and market efficiency. Loss aversion is a psychological principle where the fear of loss is considered to be twice as impactful as the potential for an equivalent gain (Pompian, 2012). Like this, a study by Edwards and Roy (2017) revealed that risk-averse investors are more likely to exhibit herding behavior, following the decisions of others rather than making their investments. This suggests that risk aversion influences not only the investment decisions themselves but also how investors make those decisions, leading to herding behavior in the stock market.

Despite individual research on risk perception, overconfidence, and loss aversion, understanding their interaction in influencing investment decisions is crucial. Overall, research suggests that factors like overconfidence, loss aversion, and risk perception significantly impact investors' decision-making processes. Recognizing the interplay between these biases can provide insights into investor behavior. Future studies should continue exploring the influence of these biases on investment decisions and develop strategies to mitigate their effects.
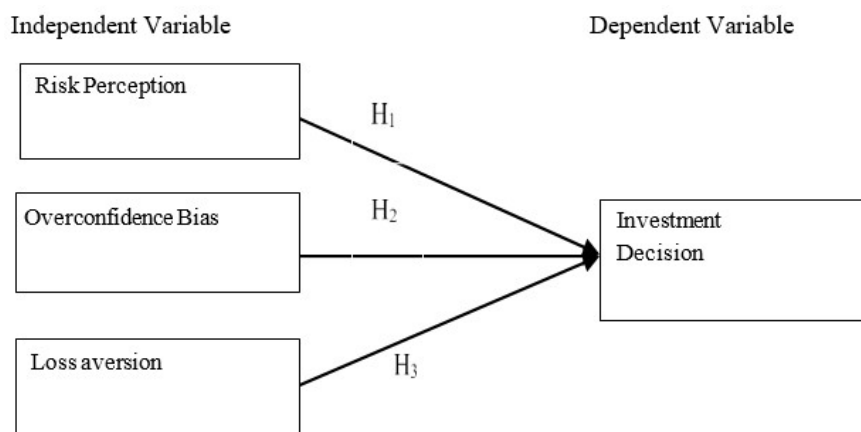
Conceptual Framework

Figure 1: Conceptual Framework
Source: Nur Aini & Lutfi (2019)

The conceptual framework shows the connections and interactions among overconfidence, loss aversion, and perception of risk in investing decision-making. It offers a structured analysis of the crucial factors and elements necessary

to comprehend how these biases affect the procedures and results of investment decision-making. A conceptual model has been prepared and presented in Figure 1.

The following hypotheses have been proposed:

Research Hypothesis
Risk Perception and Investment Decision
Investments with higher degrees of risk often have the potential for higher returns, which is a well-known phenomenon (Chung & Chuwonganant, 2014). Investors who choose riskier assets often have the potential to earn higher profits if those investments perform well. This principle underscores the importance of balancing risk and potential reward in investment decisions. Sapkota (2022) states that risk perception has a significant positive influence on stock investment decisions among investors. According to research by Hamid *et al.* (2013), risk propensity has a positive impact on risk-taking behavior, which influences stock investment decisions. The study conducted by Aren and Zengin (2016) emphasizes the substantial influence of an individual's risk perception on their investment decisions, indicating that people's perceptions of risks directly shape their investment behavior.

H1
There is a significant positive impact of risk perception on investment decisions.

Overconfidence Bias and Investment Decision
Barber and Odean (2001) found that average investors often display higher degrees of overconfidence in their trading abilities compared to experienced investors. Sapkota (2022) states that overconfidence has a significant positive influence on stock investment decisions among investors. In behavioral economics, overconfidence bias the tendency for people to overestimate their abilities has received a great deal of research (Kumar Dahal, 2022). Overconfidence bias has a considerable impact, causing people to make decisions based on an exaggerated sense of confidence that, while improving investment decisions, carries a high risk (Gurung *et al.*, 2024). Aryal (2021) concludes that the only factor significantly affecting Nepali investors' investment performance is overconfidence bias.

According to Dangol and Manandhar (2020), investors and financial professionals need to be aware of the impact of overconfidence bias to make more rational investment decisions. Overconfidence bias, in particular, has been identified as a common cognitive bias that affects investment decision-making and can lead to suboptimal outcomes (Dangol & Manandhar, 2020). These findings highlight the importance of understanding and managing overconfidence bias in investment decision-making to improve rationality and avoid suboptimal outcomes. Pandit (2021) highlights how overconfidence bias influences investment decisions, leading investors to overestimate their forecasting accuracy due to illusions of knowledge and control. Despite the lack of significant association with experience levels, overconfidence bias can affect various aspects of investment behaviour, such as trading frequency and decision-making, potentially causing security prices to deviate from fundamentals.

This underscores the importance of investors critically evaluating their confidence levels to mitigate the impact of overconfidence on their strategies (Pandit, 2021). Overconfidence bias has a notable influence on investment decision-making, as individuals tend to overrate their competencies and misinterpret data (Tamang, 2022). This tendency can result in investors assuming undue risks and making less-than-ideal investment selections. Additionally, those affected by overconfidence bias may place less emphasis on fundamental or technical analyses, instead turning to sources like social media or personal networks for investment insights. Recognizing overconfidence bias is pivotal for fostering sound investment decisions. A comprehensive understanding of personal biases, including overconfidence bias, is imperative for achieving favourable investment outcomes (Tamang, 2022). Various studies, including Adielyani and Mawardi (2020), Desrita (2022), Madaan and Singh (2019), and Sapkota (2022), have consistently found that overconfidence, which leads individuals to overestimate their own abilities, has a significant positive impact on stock investment decisions.

H2
There is a significant positive impact of overconfidence bias on investment decisions.

Loss Aversion on Investment Decision
Prospect theory explains the loss aversion bias, which is characterized by the tendency to quickly sell winning stocks and retain losing stocks (Odean, 1998). According to Kahneman and Tversky (1979), loss aversion is the propensity for people to prioritize costs over benefits. Their psychological theory provides a thorough understanding of how emotions and cognitive biases impact financial decisions by clarifying how people evaluate possible losses and gains. Jain *et al.* (2020) pinpointed loss aversion as one of the primary biases influencing investment decisions, which is further supported by Sapkota (2022). Loss aversion, positively associated with stock investment decisions (Sapkota, 2022), has consistently been found to have a significant positive impact on stock investment decisions across multiple studies (Hossain & Siddiqua, 2022; Khan, 2017; Kumar & Babu, 2018; Mahina *et al.*, 2017). Prospect theory explains investors' risk-averse tendency to hold losing stocks and sell winning stocks. Compared to a gain of the same dimension, loss causes more fear. People prioritize possible losses over equivalent profits because they perceive gain and loss as unbalanced factors, a tendency known as loss aversion (Gurung *et al.*, 2024).

H3
There is a significant positive impact of loss aversion on investment decisions.

MATERIALS AND METHODS
The study's target population consists of investors who are involved in stock trading in the Nepal Stock

Exchange. The method of collecting primary data was through self-administered questionnaires. Since the objective was to investigate the influence of various biases on investment decision-making, the researcher specifically targeted respondents who were investors for a certain period, ensuring that non-investors were excluded from the sample frame. The data has been gathered using a cross-sectional survey approach because it was done at a particular moment in time. The 5-point Likert scale is used as the basis for the structured questionnaire's design. Using this scale, participants may express how much they agree or disagree with a set of statements or questions in a standardized way. Sections on demographic data, risk perception, overconfidence bias, loss aversion, and investment decisions were included in the questionnaire. To determine the sample size of the population, the rule of thumb proposed by Roscoe (1975) is used. Following this rule, 120 investors are taken as a sample. A closed-ended questionnaire was created and distributed to respondents, resulting in a sample of 120 respondents collected from NEPSE investors. This study has adopted a quantitative research method where a descriptive research design has been used to describe behavioral biases that affect the investment decisions of investors and a causal research design has been implemented to test the degree of impact of those independent variables on the dependent variable. Cronbach's Alpha was used to evaluate the instrument's reliability. The research design has enabled

descriptive analysis and hypothesis testing using multiple regression analysis between stated independent variables and dependent variables. To conduct further research, social science research software, SPSS, was utilized. Additionally, correlation and multiple regression tests were employed to explore the relationships between various variables in greater detail.

RESULTS AND DISCUSSIONS

The data analysis findings are presented and discussed in this section which includes reliability, correlation analysis, and regression analysis, summary of hypotheses, findings and conclusion.

Reliability

The reliability of the model was tested with the help of SPSS. This analysis is measured by Cronbach's alpha. Swkaran (2000) defines Cronbach's alpha as a reliability measure assessing the relationship between items on a scale. A value above 0.6 is typically deemed acceptable for reliability analysis, indicating sufficient correlation among scale items to reliably measure the same underlying construct. Cronbach's alpha values are generally interpreted on a scale where scores from 0.8 to 0.9 indicate excellent reliability, scores from 0.7 and 0.8 are considered good, and scores between 0.6 - 0.7 are acceptable. Higher values indicate greater internal consistency, signifying that the items are highly correlated.

Table 1: Reliability statistics

Factors on scale	Cronbach's Alpha	No. of Items
Risk perception	0.690	5
Overconfidence bias	0.763	5
Loss Aversion	0.613	4
Investment Decision	0.713	4

In Table 1, Cronbach's alpha of all 18 of these variables was above 6 which means that there was strong internal reliability was strong among the items. The reliability statistics table uses Cronbach's alpha to assess how consistently items within different scales measure their intended constructs. Risk perception achieves an alpha of 0.690 with 5 items, indicating moderately acceptable internal consistency. Overconfidence bias shows strong reliability with an alpha of 0.763 across 5 items, suggesting these items reliably measure overconfidence. Loss aversion exhibits lower but potentially acceptable reliability with an alpha of 0.613 from 4 items, indicating room for improvement in item consistency. Similarly, the investment decision scale demonstrates acceptable reliability with an alpha of 0.713 measured by 4 items, showing effectiveness in measuring investment tendencies. Overall, while all scales are acceptable for research purposes, enhancing the reliability of scales with lower alpha values, such as loss aversion, could improve

their accuracy in measuring psychological constructs.

Correlation

Correlation analysis is a statistical technique used to evaluate the strength and direction of the relationship between two variables. The outcome, known as the correlation coefficient, ranges from -1 to 1. A coefficient near 1 signifies a strong positive relationship, where an increase in one variable corresponds to an increase in the other. A coefficient near -1 indicates a strong negative relationship, where an increase in one variable corresponds to a decrease in the other. A coefficient around 0 implies no linear relationship between the variables. This analysis aids in understanding how variables are interconnected, supporting decision-making and predicting future trends. Significant correlations, often highlighted in studies, indicate statistically meaningful relationships that are unlikely to be due to random chance. The study measured the relationship between the variables using Pearson's coefficient of correlation.

Table 2: Correlation

Variables	Mean	Std. Dev.	RP	OB	LA	ID
1. Risk perception (RP)	3.21	.804	1			
2. Overconfidence bias (OB)	3.45	.486	.446**	1		
3. Loss Aversion (LA)	2.93	.477	.063	.175	1	
4. Investment Decision (ID)	3.32	.484	.809**	.750**	.363**	1

**Correlation is significant at the 0.01 level (2-tailed)

Table 2 reveals relationships between variables: a moderate positive correlation exists between Risk perception and overconfidence bias, and a strong positive correlation is observed between risk perception and investment decision. The correlation table outlines the relationships between risk perception (RP), overconfidence bias (OB), loss aversion (LA), and investment decision (ID), including their means and standard deviations. RP, with a mean of 3.21 and a standard deviation of 0.804, shows significant correlations with OB (0.446**) and ID (0.809**). OB, having a mean of 3.45 and a standard deviation of 0.486, significantly correlates with RP (0.446**) and ID (0.750**). LA, which has a mean of 2.93 and a standard deviation of 0.477, significantly correlates with ID (0.363**). ID, with a mean of 3.32 and a standard deviation of 0.484, has significant correlations with RP (0.809**), OB (0.750**), and LA (0.363**). The significant correlations, denoted by **, indicate strong relationships among these variables, especially between RP and ID, and OB and ID.

These findings suggest that individuals perceiving higher risk levels may also exhibit greater overconfidence and make more investment decisions. The strong correlations (**, p < 0.01) affirm the reliability of these observed relationships, with less than a 1% chance that they are random. These results demonstrate how psychological factors such as risk perception and overconfidence bias significantly influence specific investment decisions, underscoring the crucial role of these traits in financial decision-making.

Regression

The regression analysis has been carried out to assess the impact of different independent variables on investment decisions. Regression analysis is a statistical technique used to investigate the relationships between a dependent variable and one or more independent variables, aiming to understand how variations in the independent variables influence the dependent variable. Popular types include simple linear, multiple linear, logistic, and polynomial regression. Essential elements are the dependent variable, independent variables, regression coefficients, and R-squared value. The steps involve specifying the model, estimating the coefficients, validating the model, and interpreting the results. In the context of investment decisions, regression analysis can evaluate how factors like interest rates and market volatility impact investment decisions, aiding in strategic planning and predictions.

Table 3: Regression

Models	Intercept	Regression Coefficients of			R²	F
		AB	PAB	OB		
1	1.756	0.487			.655	91.077
	(0.000) *	(0.000) *				(0.000)
2	0.745		0.746		.562	61.527
	(0.029) *		(0.000) *			(0.000) *
3	2.242			0.368	.132	7.286
	(0.000) *			(0.010) *		(0.010) *
4	0.508	0.357	0.483		.843	126.654
	(0.015) *	(0.000) *	(0.000) *			(0.000) *
5	0.865	0.475		0.318	0.75	71.541
	(0.001) *	(0.000) *		(0.000) *	3	(0.000) *
6	0.180		0.704	0.242	.117	4.853
	(0.638)		(0.000) *	(0.012) *		(0.010) *
7	-0.81	0.437	0.252	0360	.903	143.182
	(0.680)	(0.000) *	(0.000) *	(0.000) *		(0.000) *

*Denote that the results are significant at a 1 per cent level of significance

Table 3 presents the outcomes of regression analysis with 7 distinct models, showcasing intercepts, regression coefficients, R-squared values, and F-statistics for each. These models examine various combinations of independent variables with the dependent variable, providing insights into their strength and significance. The table presents multiple regression models analyzing the associations between predictors and a dependent variable. The R2 values indicate how well each model explains the variance in the dependent variable, with higher values suggesting a better fit. The F-statistics test the overall significance of the models, highlighting the strength of predictors in explaining variability.

Model 1 has an intercept of 1.756 and significant coefficients for AB and OB, explaining 65.5% of the variance with a highly significant F-statistic. Model 2 features an intercept of 0.745 with significant coefficients for PAB and OB, explaining 56.2% of the variance. Model 3 shows an intercept of 2.242 with a significant coefficient for PAB, explaining 13.2% of the variance. Model 4 displays an intercept of 0.508 with significant coefficients for AB, PAB, and OB, explaining 84.3% of the variance with a highly significant F-statistic. Model 5 indicates an intercept of 0.865) with significant coefficients for AB, PAB, and OB, explaining 75.3% of the variance. Model 6

shows an intercept of 0.180 with significant coefficients for PAB and OB, explaining 11.7% of the variance.

Model 7 features an intercept of -0.810 with significant coefficients for AB, PAB, and OB, explaining 90.3% of the variance with a highly significant F-statistic. Overall, these regression models assess the relationships between predictors (AB, PAB, and OB) and a dependent variable. The significance of intercepts, coefficients, R2 values, and F-statistics offers insights into the models' fit to the data and the predictive strength of the variables in explaining variability in the dependent variable. All models demonstrate statistical significance at a 5% level.

Summary of Hypothesis

A total of 3 hypotheses were examined and the outcomes are presented in Table 4. It was found that all these hypotheses were supported at a significance level of 5 per cent. In other words, most of the hypotheses yielded statistically significant results, indicating a strong relationship between the variables being tested. The significant findings highlight the interconnected nature of these variables and their impact on each other, supporting their theoretical underpinnings and suggesting potential implications for further research or practical applications in relevant domains.

Table 4: Summary of Hypothesis

Hypothesis	Results
H1: There is a significant positive impact of risk perception on investment decisions.	Supported
H2: There is a significant positive impact of overconfidence bias on investment decisions.	Supported
H3: There is a significant positive impact of loss aversion on investment decisions.	Supported

Findings

The research findings emphasize that behavioral biases, such as risk perception, overconfidence bias, and loss aversion, significantly shape investment decision-making processes. Risk perception plays a pivotal role as individuals who perceive higher risks tend to favor investments with potentially higher returns but also greater volatility. This reflects their willingness to take on risk based on their subjective assessment of market conditions and asset performance. Similarly, overconfidence bias influences investment decisions by leading individuals to overestimate their abilities and underestimate risks, thereby opting for riskier investments. Overconfidence bias can result in excessive trading and suboptimal investment outcomes, as highlighted in studies by Odean (2011) and others, which link overconfidence to increased trading frequency and poorer performance over time.

Loss aversion, on the other hand, manifests as a preference for investments that minimize potential losses rather than maximizing gains. Investors exhibiting this bias are more likely to avoid risky assets that could result in significant losses, even if those investments offer higher potential returns. This cautious approach is rooted in the psychological discomfort associated with financial losses, as documented by behavioral economists such as Kahneman and Tversky (1979). Overall, these

biases collectively exert substantial effects on investment decisions, particularly among active investors who frequently engage in financial markets. The consistency of these findings across various studies, including those by Odean (1998), Bondt and Thaler (1985), and Barber and Odean (2001), underscores the robustness of these behavioral influences in shaping investor behavior globally.

However, recent studies, such as Aryal (2021) work on Nepalese investors, provide nuanced insights into how cultural and regional factors can moderate these biases. Aryal (2021) findings suggest that while loss aversion is generally significant, cultural contexts may influence the extent to which investors are willing to tolerate losses. Such insights highlight the need for a comprehensive understanding of behavioral biases in diverse economic and cultural environments, informing more tailored investment strategies and policy interventions aimed at mitigating biased decision-making in financial markets.

CONCLUSION

The research findings underscore that investment decisions are significantly shaped by psychological factors such as risk perception, overconfidence, and loss aversion. Risk perception influences individuals to favor investments with higher potential returns but also higher

volatility, reflecting their subjective assessment of market risks. Overconfidence biases investors to overestimate their abilities and underestimate risks, leading them to favor riskier assets with potentially greater rewards. This tendency can result in increased trading and suboptimal investment outcomes over time, as documented in behavioral finance literature. Moreover, loss aversion plays a crucial role as investors tend to prioritize avoiding losses over seeking gains. This bias leads them to choose investments that minimize potential losses, even if those investments may offer lower returns compared to higher-risk alternatives. The psychological discomfort associated with financial losses, as outlined by Kahneman and Tversky's prospect theory, underscores why investors often make conservative decisions to protect against potential losses.

However, the study acknowledges several limitations. These include potential biases in self-reported data, which may skew the accuracy of responses regarding risk perception, overconfidence, and loss aversion. Additionally, concerns are raised about the representativeness of the sample used in the study, which may limit the generalizability of the findings to broader investor populations. The cross-sectional study design is also noted for potentially overlooking changes in biases and investment decision-making over time, suggesting a need for longitudinal studies to capture these dynamics more comprehensively. Despite these limitations, the research employs a systematic and rigorous approach to investigating how behavioral biases impact investor decisions. By shedding light on the roles of loss aversion, overconfidence, and risk perception in shaping investment behavior, the study contributes valuable insights to behavioral finance literature. These insights are crucial for financial professionals and investors seeking to better understand and navigate the complexities of market behavior influenced by psychological biases. Future research should continue to explore these biases across diverse markets and under varying economic conditions to deepen our understanding of their implications for investment outcomes.

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