

BEHAVIORAL FINANCE: UNDERSTANDING INVESTOR OVERCONFIDENCE IN THE NEPAL STOCK EXCHANGE

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CERTIFICATION OF AUTHORSHIP

I hereby corroborate that I have researched and submitted the final draft of dissertation entitled **“Behavioral Finance: Understanding Investor Overconfidence in the Nepal Stock Exchange.”** The work of this dissertation has not been submitted previously for the purpose of conferral of any degrees nor it has been proposed and presented as part of requirements for any other academic purposes. The assistance and cooperation that I have received during this research work has been acknowledged. In addition, I declare that all information sources and literature used are cited in the reference section of the dissertation.

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REPORT OF RESEARCH COMMITTEE

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We, the undersigned, have examined the dissertation entitled “**Behavioral Finance: Understanding Investor Overconfidence in the Nepal Stock Exchange**” presented by Mr. Madan Dahal for the degree of Master of Business Studies (MBS Semester) and conducted the Viva voce examination of the candidate. We hereby certify that the dissertation is worthy of acceptance.

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ABBREVIATIONS

AB	:	Anchoring Bias
BB	:	Behavioral Biases
HB	:	Herding Behavior
ID	:	Investment Decision
LA	:	Loss Aversion
NEPSE	:	Nepal Stock Exchange
OB	:	Optimism Bias
OCB	:	Overconfidence Bias
SPSS	:	Statistical Package for the Social Sciences
TU	:	Tribhuvan University

ABSTRACT

This study is interested in behavioral finance specific investor overconfidence and consequent behavioral biases at the Nepal Stock Exchange (NEPSE). This study presumes powerful biases like overconfidence, anchoring, loss aversion, optimism, and herding against descriptive and causal-comparative research design. The principal data were collected from 400 active investors of Kathmandu Valley on structured questionnaires and descriptive statistics have shown the intuition about patterns, variability and trends of such biases. Correlation analysis has established all the biases to be positively correlated with the investment decisions, and their contributions towards investor behavior have been uncovered. Regression analysis also showed that overconfidence, anchoring, and loss aversion had a highly significant effect on investment choices, pointing towards their enormous influence on investor choices. However, herding or optimism was not a statistically significant predictor of investment choices, pointing towards conformity with the group or excessively optimistic estimates to be an important driver in NEPSE investment. The variables attributed the respondents to be likely to be male, between the ages of 20–30 years, bachelor's degree holder of education, and with job and monthly compensation of Rs. 20,000–40,000 having an investment experience of 1–6 years. These are of special interest as regards the role of behavioral biases and demographics in influencing Nepalese stock market decision-making and consequent effects on investor education and market strategy.

Keywords: *Behavioral finance, investment decision, overconfidence bias, anchoring bias, loss aversion, optimism bias, herding behavior, Nepal Stock Exchange*

CHAPTER – I

INTRODUCTION

1.1 Background of the Study

Behavioral finance was a field that used both finance theory and behavioral theory of psychology to explore how psychological factors affected financial choice. In contrast to other instances of finance literature, which had presumed investors to think logically upon objectivity data, behavioral finance recognized that affect and cognitive shortcuts would cause irrational choice and hence market inefficiencies and anomalies. Kunwar (2021) mentioned the importance of behavioral finance in terms of why behavioral biases like overconfidence, herding, and loss aversion affected market imbalance and instability in investors' choice. That knowledge was necessary as to show where and when the markets were suboptimal and investors took bad financial choices (Tversky & Kahneman, 1974; Thaler, 1980).

Biases such as loss aversion and anchoring have been demonstrated to have a strong influence on investment decision-making. Anchoring may have occurred where investors were anchored on initial information, leading to inefficient updating of new information and mispriced assets (Chhetri et al., 2024; Tversky & Kahneman, 1974). Loss aversion discouraged risk-taking by investors because of greater pain of loss than pleasure of gain, and to compensate for forgone opportunity in trading in risky markets (Kahneman & Tversky, 1979; Barberis & Thaler, 2003). These cognitive shortcuts have the propensity to dominate rational analysis in prompting investors to retain poorly performing assets or avoid lucrative but risky opportunities. As such, market inefficiencies may persist, fueled by behavioral biases rather than fundamental valuations.

Overconfidence, undoubtedly one of the deadliest biases, was an investor overestimating his/her ability, knowledge, and acquaintance of future market trends. Priangga (2024) explained how overconfidence made investors think that they have superior information or superior knowledge than the market and thus went ahead to make bold investment decisions with risk-taking. Overconfident investors over-traded, more than can be explained by the investment's fundamentals. It hurt worst in

risk-prone markets, where investors over-estimated risks and failed to diversify the portfolio as much as they could. Zhang (2023) further added that over-confident investors over-estimated their capability and under-estimated risk in the market and thus generated volatility in the market and financial performance poor overall.

The second most significant behavioral bias was herding behavior, in which investors followed others, especially when the market was unfavorable, and lost their own discretion. This resulted in market bubbles or crashes because the asset price was artificially being propped up or the assets were being offloaded in huge numbers (Kartini & Nahda, 2021). Optimism bias entails investors predicting more positively toward future investments and less risk and over-risk exposure and thus taking irrational decisions (Chhetri et al., 2024).

Individual investors were acted upon by cognitive and affective biases and generated inefficiencies in the financial market. Poudel et al. (2024) led towards identifying such psychological factors to predict market trends along with developing ways to reverse their negative effect. Behavioral finance articulated anomalies in the financial market more effectively than its traditional models with deeper financial dynamic understanding.

Nepal only had a single secondary market, i.e., Nepal Stock Exchange (NEPSE), which was the center of Nepal's financial system since it was an institution with a platform to trade security, stock, and bond. NEPSE operated from 1993 and was one of the channels for savings mobilization and investment in Nepal. Being a new and developing market, NEPSE had some issues to be addressed, specifically concerning its increasing number of retail investors. Rawat (2023) explained how new investors, not knowing NEPSE and without any knowledge regarding market forces, exhibited an overconfidence bias behavior, among other biases, that affected irrational investment choices. The biases usually took the forms of overtrading, mispricing of assets, and inappropriately ignoring a response to the state of the market, leading to weak investment performance and higher market volatility (Barberis & Thaler, 2003).

Psychological impact of overconfidence was most dominant in the case of NEPSE. Overconfident investors in NEPSE ignored good information and market signals

based on the assumption that their own information was superior to others. This failure of objectivity resulted in overtrading, where investors were making too many transactions on an emotional rather than wise basis. Not only was it affecting individual portfolios, Priangga (2024) noted, but it also had an effect on the overall issue of volatility in the market, and so the market became even more volatile. In addition, the overconfident investors were less likely to diversify their holdings or take proper risk management, thus were more susceptible to losing money, especially when the market shifted in an unpredictable manner (Odean, 1998).

The effects of overconfidence and other psychological biases also had an impact on the way investors reacted to market news, especially negative news. Overconfident investors anchored, not adjusting their perceptions despite bad news for the market, or they rejected the applicability of bad news altogether. Denial of bad signals was the cause of market volatility because investors held on to their investments even in the face of obvious market declines. There was a need to determine the relationship between overconfidence and response to bad news in order to develop ways of avoiding biases (Zhang, 2023). Through this, investors would be in a position to make better decisions and avoid common errors due to emotional and cognitive biases (Odean, 1998).

Research on biases and behavioral finance were necessary to improve investing processes, both at individual portfolio levels and in the overall market. Shrestha (2024) assumed that heightened awareness of behavioral biases would be a key factor in enhancing the financial literacy of investors so that they employ more rational and efficient decision-making processes. In NEPSE's case, awareness of these biases and their effects on decision-making was a key factor in making the market efficient, less volatile, and stable for investment (Shefrin, 2000).

This study is designed to examine the effect of overconfidence, anchoring, loss aversion, optimism and herding behavior on investment decision-making in NEPSE. With these biases, the study is designed to provide guidelines on how investors can reduce the effects of these biases and make sound decisions. The study will also assist in designing measures to improve investor behavior, and therefore the stability and efficiency of the Nepal Stock Exchange.

1.2 Problem Statement

Behavioral finance, a synthesis of orthodox theory and psychological literature, attempted to explain how cognitive and emotional heuristics shaped investor taste and market behavior. Several theories had explained the pervasiveness of behavioral patterns. Prospect Theory by Kahneman and Tversky (1979) suggested that investors detested losses more than they cherished gains and therefore were loss-averse in nature. Heuristic Theory demonstrated how investors were using cognitive shortcuts, hence encouraging overconfidence and biased thinking. Framing theory demonstrated the influence of framing information when investors make investment decisions, and Banerjee's Herding Behavior Theory (1992) demonstrated how investors herd in case uncertainty emerges. Fama's (1970) Classic Market Theory was premised on the postulate of rationality and efficiency, which was most often contrary to what actually existed in most of the psychological-based research.

During a period when behavioral finance was disturbing the globe, it failed to attract even modest attention in the Nepalese environment. Kunwar (2021), Rawat (2023) and Sapkota and Chalise (2023) studies illustrated that investor behavior, i.e., overconfidence, herding, and market-based bias, was a significant factor in influencing investment performance and investment decision in Nepal. Similarly, Poudel et al. (2024) and Shrestha (2019) affirmed overconfidence bias and loss aversion bias in individual investors, especially novice investors. The aforementioned research studies did not elaborate at length on the combined influence of various cognitive and emotional biases on investment decision-making. A few of the biases, namely anchoring and optimism, though relevant, have been significantly understated in Nepalese research studies.

In the NEPSE, behavioral biases such as over-trading, emotional investment, and herd following are extremely prevalent among individual investors. Yet, Nepalese research to date focuses on one bias in isolation, without considering how a portfolio of related behavioral biases can simultaneously influence investor choice.

In contrast, the literature abroad has analyzed such behaviors exhaustively. Metwally (2023) and Zhang (2023), for instance, reiterated that overconfidence creates skewed investment decisions and high trading activity. Arik and Sri (2021) reiterated that

optimism bias and overconfidence have positive effects on investment decisions, in light of financial knowledge. Talreja (2024) and Fahim et al. (2019) argued that overconfidence, loss aversion, and herding behavior have irrational effects. Sabir et al. (2019) mentioned that herding occurs because of overconfidence and prior investment experience, finance knowledge might control the effects. Bakar and Yi (2016) also determined that some biases such as conservatism, availability bias, and overconfidence are the culprits for poor investment decisions.

Despite international evidence, there is no comprehensive Nepalese literature that discusses how anchoring, overconfidence, herding, optimism, and loss aversion collectively influence investment decision-making in NEPSE. Anchoring bias significantly influences price expectations but remains understudied, and the combined influence of loss aversion and optimism bias on risk-taking has not been studied. Although herding is common in market volatility, its direct impact on individual investment decisions in Nepal has not been adequately researched. Existing studies have not confirmed these biases as separate determinants and their direct effect on investment decision-making, which limits effective investor education, regulatory actions, and market reforms.

The current research attempts to address these lacunae by examining the impact of anchoring bias, overconfidence bias, herding behavior, optimism bias, and loss aversion on investment decision-making in the NEPSE. The research examines individual as well as collective effects of these biases on investor decision-making. The research attempts to provide deeper empirical insights into investor psychology in the Nepalese context and inform better investment practices and market transparency. To guide this investigation, the following research questions are proposed:

- i. What is the current situation of behavioral finance and investors' overconfidence in Nepal Stock Exchange?
- ii. Is there any relationship between anchoring bias, loss aversion, overconfidence bias, optimism bias and herding behavior with investment decision?
- iii. How do anchoring bias, loss aversion, overconfidence bias, optimism bias and herding behavior impact on investment decision?

1.3 Objectives of the Study

The general objective of this study is to investigate behavioral finance: understanding investor overconfidence in the Nepal Stock Exchange. Therefore, to achieve this general study's objective and address the research issues, the specific objectives of the study are as follows:

- i. To assess the current situation of behavioral finance and investors overconfidence in Nepal Stock Exchange.
- ii. To examine the relationship between anchoring bias, loss aversion, overconfidence bias, optimism bias and herding behavior with investment decision.
- iii. To analyze the effect of anchoring bias, loss aversion, overconfidence bias, optimism bias and herding behavior on investment decision.

1.4 Rationale of the Study

This study is timely and useful since it answers a recent need in the literature by investigating the impact of cognitive biases specifically overconfidence, anchoring, herding, and loss aversion on investment selection in the context of the Nepal Stock Exchange (NEPSE). Though behavioral finance has been extensively researched in the developed world, empirical studies within developing countries such as Nepal have been sparse, where investor psychology could be even higher with market inefficiencies, lower transparency, and no financial literacy. The NEPSE prism of this study presents localized data suitable for examining investor behavior in emerging markets where affect and cognitive bias would control market movement. The findings will have implementation implications for a number of groups of stakeholders: private investors can make more informed decisions, financial planners can formulate investor psychology-based plans, and policymakers can formulate the appropriate interventions to promote rational investing. In addition, the research offers justification for using patterns of financial literacy, building expertise in finance experts, and tools of policy in reducing the negative consequences of irrationality, hence resulting in a secure, sound, and efficient Nepalese financial system. Having filled knowledge gaps and best evidence practices, the research has the potential to instigate confidence among investors as well as engender sustainable economic growth.

1.5 Limitations of the Study

Like other studies, this study has also some limitations which are as follows:

- i. This study has employed a descriptive and causal comparative research design.
- ii. This study has selected all investors of Nepal Stock Exchange within Kathmandu Valley as the population, while 400 educated and knowledgeable respondents have been selected as the sample size. The design of this study is convenience sampling.
- iii. This study has based on primary data collection, with the data source being a questionnaire distributed to individual investors. The instrument used for data collection is a Google Form and online survey in 2025.
- iv. This study has analyzed data through demographic profile analysis, reliability statistics, descriptive statistics, correlation analysis and regression analysis.
- v. This study is based on independent variable including anchoring bias, loss aversion, overconfidence bias, optimism bias and herding behavior while investment decision as dependent variable.

CHAPTER – II

LITERATURE REVIEW

This chapter literature review has involved the examination of research studies on overconfidence understanding in behavioral finance and investors within the context of the Nepal Stock Exchange (NEPSE), establishing an evidence base by indicating the available literature on the topic. It presents an exhaustive analysis of prior work in this field. The chapter has been organized into two main sections: the theoretical review, where theories underpinning investor overconfidence and its influence on investment decisions have been elaborated, and the empirical review, which discusses and examines results of research studies conducted in previous years that have investigated the role overconfidence plays in influencing investor behavior and market processes in various markets, including emerging ones such as Nepal. Further disintegration of these two subtopics is explained below.

2.1 Theoretical Review

Theoretical review explains theories about behavioral biases in investment choices and how psychological factors like overconfidence, anchoring, herding bias, optimism bias and loss aversion affect the behavior of investors. The review explains vital theories such as prospect theory, heuristic theory, framing theory, market theory and herding behavior theory explaining the behavior of markets, sentiment, and cognitive biases to refine prevailing theories and where there could be research gaps. Key theories are:

Prospect Theory

Prospect Theory was proposed by Kahneman and Tversky (1979) for explaining how investors make risk-related choices. The major assumption is that people process gains and losses in an asymmetrical way, with the loss having a larger psychological impact than comparable gains referred to as loss aversion. This is opposed to the expected utility theory, which assumes rational choice. Kahneman and Tversky concluded that individuals feel the sting of loss more than twice the value of the pleasure of gain. Tversky and Kahneman (1992) and Barberis et al. (2001) later tested the hypothesis and confirmed that loss aversion plays a role in investment behavior in

taking risk-averse decisions in gains and risk-seeking in losses. This theory is relevant to the Nepal Stock Exchange (NEPSE) since it explains how optimistic investors purchase losing stocks in hope of a recovery, generating inefficient markets and influencing investment decisions.

Heuristic Theory

Heuristic Theory was formulated by Tversky and Kahneman (1974) to explain mental shortcuts that people employ while making decisions under uncertainty. The main assumption is that heuristics simplify hard decision-making but have the potential to create systematic mistakes or biases, such as overconfidence, especially in the stock market. De Bondt et al. (2008) assumed so and established that such belief prejudices distort investors' data processing to render their decisions more intuitive than logical, often omitting careful data analysis. Similarly, Barberis and Thaler (2003) postulated that heuristics strengthen cognitive biases so that investors overestimate probabilities and make incorrect conclusions that affect market stability. With regard to the Nepal Stock Exchange (NEPSE), the theory holds as investors use heuristics such as representativeness and availability, which reinforce overconfidence and lead to biased investment decisions, excessive risk-taking, and heightened market volatility.

Framing Theory

Framing Theory was constructed by Kahneman and Tversky (1981) and extended by other scholars such as Frensidy (2016). The theory assumes that the framing of information significantly affects decision-making, even when facts are not altered. Classical finance advocates rational decision-making regardless of the framing process; however, behavioral finance argues that power lies in framing to influence investors' minds and choices. Frensidy (2016) put this hypothesis to the test by placing the same facts about an individual in reverse order of characteristics and found that initial impressions significantly shaped decisions, thus establishing framing effects. Levin et al. (1998) also demonstrated the effect of positive or negative framing on risk attitude. Framing theory in the NEPSE shows that good or bad news will affect investor overconfidence to be excessively risky when good news is framed or to be too defensive with negatively framed news.

Market Theory

Market Theory, which is drawn from previous work by Fama (1970) and later refined by DeBondt and Thaler (1995) and Barber and Odean (2000), assumes that market forces such as price activity, investor sentiment, trading volume, and stock fundamentals drive investor behavior and decision. DeBondt and Thaler (1995) showed that good and bad news in the market trigger emotional reactions affecting investors' trading behavior, while Barber and Odean (2000) illustrated that investors overreact to short-term market stimuli relative to long-term financial fundamentals, and mispricing is usually the outcome. Waweru et al. (2008) tested these effects in emerging markets and discovered that the movement of prices, market news, and peer pressure cause irrationality, overconfidence, herding, and add to higher market volatility and inefficiencies. This theory can be applied to the current study as it explains how market forces of the environment interact with behavioral biases like overconfidence, anchoring, and optimism and thereby shape investment decisions on the Nepal Stock Exchange (NEPSE) and affect long-standing market inefficiency.

Herding Behavior Theory

Herding Behavior Theory, as described by Banerjee (1992) and extended by Ranjbar et al. (2014), demonstrates how investors follow the majority action rather than proceeding on their individual information or judgment, especially during uncertainty in the market. The theory takes into account that investors follow others because they believe group decisions are more certain and safer. Kumar and Goyal (2015) identified that herding occurs whenever investors are exposed to information asymmetry or uncertainty, thus they mimic other individuals' trades rather than making independent judgment. Waweru et al. (2008) set that herding results in market momentum and therefore stock prices can rise or fall irrationally beyond the underlying values, and this will result in distorting true market signals. Zahera and Bansal (2018) have observed herd behavior in both bull and bear markets, regardless of trading volume, raising market volatility and causing cycle swings. The theory is applicable to this research because it connects investor overconfidence with herd behavior, where imitation behavior at the Nepal Stock Exchange (NEPSE) is accountable for irrational investment decisions and market volatility, propelling overall market efficiency and investor welfare.

2.2 Empirical Review

Poudel et al. (2024) analyzed how behavioral biases such as overconfidence, disposition effect, herding, risk aversion, and financial literacy affect the investment decision-making of Nepalese investors. Data were collected from 338 participants following the convenient sampling method and descriptive statistics, ANOVA, independent sample t-tests, correlation, and linear regression analysis were employed to analyze data. Independent variables used included overconfidence, disposition effect, herding, risk aversion, and financial literacy, and a dependent variable used was investment decision-making. Findings indicated that overconfidence, disposition effect, and risk aversion significantly contributed to the investment decisions, whereas herding did not contribute significantly. Additionally, financial literacy was a moderator of such biases' impact, i.e., higher financial literacy reduced their negative effect on decision-making. The research concluded that improving financial literacy was at the heart of more rational investment decisions and recommended that other research identify other biases and moderator variables like gender and age.

Priangga and Purwanto (2024) explored the effect of financial literacy, overconfidence, and financial behavior on investment choices among students at the Faculty of Economics and Business, University of Pembangunan Nasional "Veteran" East Java. The research applied a quantitative method with a stratified random sampling technique and data gathered from 98 respondents who already had experience in making investment decisions. The data were analyzed using PLS. The independent variables quantified were financial literacy, overconfidence, and financial behavior, and the dependent variable was investment decisions. The findings indicated that financial literacy had no significant effect on investment decisions, but both overconfidence and financial behavior had a significant effect on investment decision. The conclusion was that overconfidence and financial behavior were strong predictors of investment decision but financial literacy was not significantly effective in influencing decisions. The above research underscored the role of psychological factors and consumption patterns in determining investment decisions among students. In keeping with this, this current study also examines overconfidence bias, amongst other psychological factors, to analyze their influence on investment decisions with respect to the stock market in Nepal.

Sudirman et al. (2024) recognized the role of overconfidence bias in investment decision-making, i.e., Sharia stock consideration. The research explored the correlation between overconfidence and irrational investing behavior in terms of cognitive bias and investing experience. The population of interest was 178 experienced investors with more than one year of experience, and the data were processed using simple linear regression. Overconfidence bias was the independent variable, and irrational investment decision-making was the dependent variable. The findings of the research indicated that overconfidence was positively and significantly correlated with irrational investment decisions. Sharia stock considerations were also used as a mediator, and it was seen that overconfidence led to riskier and less rational decisions, typically without considering gigantic risks. The research found overconfidence significantly with irrational investment behavior and suggested that future research might want to consider examining the mechanisms for the relationship in a broader population in an effort to have more generalizable results.

Talreja (2024) assessed the influence of behavioral biases in investment decision-making through a qualitative study, taking into account how behavioral biases such as herd behavior, loss aversion, and overconfidence affected investors' decision-making. A literature review was employed in the study to investigate and identify the influence of the identified biases on financial performance. The independent variables were the identified behavioral biases, and the dependent variable was investment decision-making. The study found that such biases led to irrational decisions, having a tendency to negatively impact financial results. The study concluded that it was necessary to find and overcome such biases in order to make better investment decisions and financial results. Such biases led to investors' tendency to blindly follow market trends, avoid risk in favorable situations, and overestimating their skill or capability. Therefore, the presence of such biases undermined good investment strategies and led to poor financial outcomes.

Metwally (2023) examined the effect of overconfidence bias on investor decision in the Egyptian stock market, with emphasis on the mediating role of information search. The study applied a quantitative approach, collected data from individual investors, and employed statistical tests to measure the impact of overconfidence bias (independent variable) on investors' decision-making (dependent variable). The

findings showed that overconfidence bias significantly impacted investors' decision-making and that information acquisition played a critical role in mitigating this impact. The study established that information acquisition practice could be improved to help investors make more sensible decisions and mitigate the negative effect of overconfidence bias, thereby enriching the literature of behavioral finance.

Rawat (2023) examined the effect of behavioral biases, e.g., market dynamics, herding behavior, and awareness factors, on investment decision-making in Nepal Stock Exchange. The study additionally explained the mediating role of investor sentiment (IS) among these factors. Market dynamics, herding behavior, and awareness factors were independent variables, while investment decision-making was the dependent variable. Quantitative method was employed using survey research design and a structured questionnaire for gathering primary data from 408 individual investors based on convenience sampling. Structural equation modeling was employed to test the hypotheses. Findings indicated that herding behavior had the greatest significant impact on investor sentiment, and all three independent variables had a significant impact on investment decision-making through investor sentiment. The study showed how identification and heightened awareness of investor sentiment would enhance Nepal's market decision-making and eliminate errors, promoting more informed, rational, and confident investment behaviors over time.

Sapkota and Chalise (2023) assessed how investor psychology affects equity investment demand within the Nepalese equity market. It was to determine how patterns in cognitions affected fiscal decision-making. A quantitative method employed a descriptive and analytical analysis. Data were gathered from 293 individual participants using a standardized questionnaire. Investor behavior was used as an independent variable, and equity investment decisions were used as a dependent variable. Psychological biases in a strong manner had an influence on investment behaviors, whereas gender differences did not have any influence. Irrational behaviors such as chronic trading, overreaction to market movements, and indecision in taking decisions were identified by authors as common causes of price volatility. As a countermeasure to these biases, the authors recommended financial education, expert guidance, and inclusion of courses in behavioral finance in curriculum studies.

Zhang (2023) examined the influence of overconfidence bias on investment policy in behavioral finance studies. The study sought to describe how overconfidence affects investors' decision-making process, more precisely how it affected trading activity, return volatility, and market efficiency. The study employed empirical analysis and literature review and estimated the covariance of overconfidence bias and investment returns. Overconfidence bias had previously been employed as the independent variable and investor strategic decisions as the dependent variable. Data revealed that overconfidence bias influenced return patterns variably during the early, peak, and declining stages. It was observed that such bias led to the better-than-average effect (BTAE) and illusion of control, both of which influenced trading activity and market trends. In addition, the study introduced the contrarian investment approach (CIS) as a viable means of surmounting overconfidence bias, discussed its significance in maximizing investment approaches, and highlighted the significance of market stability.

Drews (2022) tested predictors of overconfidence by U.S. investors and the relationship between overconfidence and seeking financial advice. The study tested data from the 2018 NFCS Investor Survey using a quantitative method and accounted for the impact of financial literacy, demographics, and overconfident behavior on investor preference using logistic regression. The independent variables in the research included financial literacy, demographics, and overconfidence, and the dependent variable quantified was overconfident investor behavior. The research findings addressed a positive relationship between portfolio value and overconfidence, taking advice, and conducting research activities. Overconfidence registered higher tendencies among male, young, and low-income investors. The findings analyzed the use of self-awareness to identify biases to avoid financial mistakes. Financial planners examined such findings to help clients thwart overconfidence threats, whereas governments debated the addition of financial literacy in schools to improve financial decision-making.

Nugraha et al. (2022) examined the influence of financial behavior and financial literacy on investment decision-making. This quantitative study evaluated active students at Mercu Buana University, Jakarta, with a sample size of 43 respondents who were selected through purposive sampling. Data were collected through

questionnaires distributed via Google Forms and analyzed through the PLS (Partial Least Square) method with SmartPLS 3.0 software. Financial behavior and financial literacy were used as independent variables, and investment decision was used as the dependent variable. Financial literacy was found to have a positive effect on investment decisions with a path coefficient value of 0.338, whereas financial behavior had more influence with a path coefficient value of 0.509. The study elucidated that financial literacy and behavior had a significant impact on investment choices.

Ul-Abdin et al. (2022) offered an overview of the determinants of overconfidence bias and its influence on investment performance, taking into account the mediating effect of risk propensity. The study examined the impact of three cognitive biases, i.e., illusion of control, overconfidence, and self-attribution, on investment performance and explained their indirect relationship through risk propensity. The three cognitive biases (self-attribution, overconfidence, and illusion of control) acted as independent variables, while the investment performance acted as the dependent variable. The research relied on a mixed research design to evaluate the research model being tested. The research confirmed the three cognitive biases had positive impacts on risk propensity and also on investment performance, with illusion of control being the best predictor. The study addressed the dominant effect of cognitive biases on investment outcomes, and as such, led practitioners and investors to keep their guard up against such biases in decision-making.

Arik and Sri (2021) observed the influence of optimism bias and overconfidence on investment decisions in stocks, in which financial literacy acts as a moderating variable. The study quantified active students of the Faculty of Economics and Business at Udayana University who are stock investors, based on non-probability sampling with an accidental sampling approach. The analysis was conducted by employing Partial Least Square (PLS). The independent variables were optimism bias and overconfidence bias, and the dependent variable was stock investment decisions. The findings evaluated that both optimism and overconfidence bias significantly positively affected stock investment decisions. Additionally, financial literacy did not moderate the effect of overconfidence on investment decisions but moderated the effect of optimism bias on investment decisions. The study explained that enhancing

financial literacy can help investors, especially new investors, to minimize investment losses caused by biases.

Kunwar (2021) examined how behavioral factors affect the investment performance of individual investors in the Nepalese stock market. The study carried out a questionnaire survey of 203 investors in Kathmandu and Pokhara, whereby Exploratory Factor Analysis (EFA) was used via Principal Component Analysis and Varimax rotation with a view to analyzing the underlying dimensions of investor behavior. Four investor behavior factors were revealed by the study, namely heuristics, prospects, market factors, and the herding effect, whereby the adequacy of the data was tested using KMO and Bartlett's Test of Sphericity. Heuristics, prospects, market factors, and the herding effect were independent variables, and investment performance was the dependent variable. The result showed that heuristics and market factors' behavioral biases affected investment performance significantly, and the most positive impact was from heuristics. However, herding behavior and prospects did not lead to improved investment performance. The study emphasized that investor behavior, particularly heuristics and market features, significantly impacts investment outcomes and recommended the need for policies for minimizing behavioral biases that can harm the stock market.

Naveed and Taib (2021) surveyed the effect of overconfidence bias and self-attribution bias on individual investor decisions based on the moderating role of information acquisition. The study evaluated cross-sectional data collected from 390 individual investors of the Pakistan Stock Exchange based on a cluster sampling technique and employed SmartPLS 3.0 for structural equation modeling. The overconfidence bias and self-attribution bias were the independent variables while investor decision was the dependent variable. The findings took into account that these behavioral biases distorted the rationality of investor decision and information acquisition strongly moderated the association between overconfidence bias and investor decision-making. The study controlled for the function of information acquisition in mitigating overconfidence bias, providing valuable implications for policymakers and investors to make more informed choices and have improved access to information.

Hala et al. (2020) examined the financial conduct of investment decisions between real and financial assets using financial conduct and prospect theory. The research aimed to test the interaction between herding behavior, overconfidence, loss and regret aversion, and financial literacy in decision-making for real asset investments. 220 respondents of real estate auction at the State Assets and Auction Service Office in Makassar, South Sulawesi, Indonesia were surveyed through a questionnaire with 23 items to measure the concerned variables. Data were quantified in the study through Partial Least Square – Structural Equation Modeling (PLS-SEM) to measure the feasibility of data and formulate the hypotheses that were created. Independent variables included herding behavior, overconfidence, loss and regret aversion, and financial literacy, whereas the dependent variable was real asset investment decision. The results showed that loss and regret aversion had a positive and significant impact on investment decisions, and financial literacy was not significant. The study also recorded a slight difference in decision-making among real asset and financial asset investors, whereby decision-making in the financial asset category was not as advanced as it was for real assets. The study underscored the importance of psychological influences to investment decision and suggested that understanding the factors would result in better investment selection.

Pokharel and Baral (2020) have analyzed the effect of behavioral variables on investment decisions in the Nepalese stock market. Four independent variables like heuristic, prospect, market, and herding were taken into consideration and their connection with the dependent variable, performance of the investments in the Nepal Stock Exchange (NEPSE). Primary data were gathered from 120 investors who had invested in listed companies. Correlation analysis in the study identified that the market variable had a very significant influence on investment performance while heuristic (for example, bias like anchoring, overconfidence, and availability bias), herding behavior (for example, stock trading behavior and rate of herding), and prospect theory (for example, loss aversion and mental accounting) showed no significant relationship with investment performance. The study revealed that while market conditions influence investment returns, no other behavioral biases were found to be effective predictors of investment performance within the context of Nepal, suggesting the dominant role of external market factors over individual psychological influences.

Fahim et al. (2019) examined how overconfidence influences investment decision-making and whether religiosity and perceived risk have a mediating effect on the relationship in the Pakistan Stock Exchange. The study collected data using the formal questionnaire and systematic sampling method from 156 investors. Overconfidence was used as the independent variable and investment decisions as the dependent variable. The findings revealed that there was a strong effect of overconfidence on investment decision, with no moderating risk perception or religiosity effect. Overconfidence was found to have a direct influence on decision-making, with risk perception and religiosity having no influence on this, with strong implications for investors and recommendations for future studies.

Sabir et al. (2019) studied the impact of overconfidence and investment experience on individual investor herding in the Pakistan Stock Exchange with financial literacy as a moderating factor. The quantitative approach employed the survey questionnaires technique in obtaining data from 352 investors. The measurement and structural equation models were assessed with the Partial Least Squares (PLS) technique. Prior investment experience and overconfidence served as the independent variables, and herding was the dependent variable. Prior investment experience and overconfidence as significant predictors of investors' herding behavior were corroborated by the findings, and financial literacy moderated the relationship between the cognitive biases and herding behavior. This research added to the behavioral finance literature by providing evidence that cognitive determinants are strong predictors of herding behavior, adding new insights into investor behavior in the Pakistani stock market.

Shrestha (2019) analyzed the impact of overconfidence bias on investment decision-making in the Nepalese stock market. The aim of the research was to analyze the impact of overconfidence in affecting people's investment decisions. Descriptive and analytical approach was followed, and the data were collected by questionnaire survey. Overconfidence bias was taken as the independent variable and investment decision as the dependent variable. The findings showed that female investors, highly educated individuals, and those with net assets between Rs 2 and 5 million exhibited high overconfidences, believing they possessed superior investment abilities, which led to increased trading activity. The study reaffirmed that overconfidence plays a decisive role in investment decisions and can result in suboptimal strategies and

outcomes, especially when investors ignore risks, misinterpret market signals, or rely too heavily on personal judgment rather than objective analysis and diverse information sources.

Trehan and Sinha (2018) studied the participation of overconfidence biases in investment decision-making among individual investors in Lucknow. The authors described numerous overconfidence characteristics such as self-attribution, optimism, better-than-average effect, miscalibration, illusion of control, experience, and trading frequency. The individual investor was polled using a 5-point Likert scale standardized questionnaire, and statistical analysis was conducted on the outcome. The result confirmed that overconfidence played a significant role in investment decisions, including stock picking, portfolio management, and expected future returns. Overconfident investors, it was confirmed, overestimated performance, leading to more trading, risk taking in assuming risks, and excessively optimistic prediction of future performance. The study confirmed that psychological biases shape investor behavior, highlighting the need for awareness to improve investment decisions.

Bakar and Yi (2016) evaluated the impact of psychological biases like overconfidence, conservatism, availability bias, and herding behavior on investment selection in the Malaysian stock market. The study interviewed 200 active investors in the Klang Valley and Pahang with a view to placing a quantitative value on the effects of these biases on investment choices. Results showed that overconfidence, conservatism, and availability bias influenced investment choices significantly, and herding behavior influenced to a slight extent. The study also placed a quantitative measure on gender difference in the impact of psychological factors on decision-making, whereby results revealed the existence of divergent effects for male and female investors. The study focused on psychological biases as an investment determinant factor and assumed that investors should be more cognizant of these biases to enable them to make better-informed decisions and offer market performance. It also recommended that financial educators correct such biases in order to facilitate better investment choices.

Table 1

Summary of Review

Author(s)	Variables	Methodology	Major Findings
Poudel et al. (2024)	Dependent: Investment decision Independent: Overconfidence, Disposition effect, Herding, Risk aversion, Financial literacy	Descriptive statistics, ANOVA, t-tests, correlation, regression Convenient sampling (338 respondents)	The study found that overconfidence, disposition effect, and risk aversion significantly influence investment decisions. Financial literacy moderates the impact.
Priangga and Purwanto (2024)	Dependent: Investment decision-making Independent: Financial literacy, Overconfidence, Financial behavior	PLS (Partial Least Square) Stratified random sampling (98 respondents)	Overconfidence and financial behavior significantly influenced investment decisions. Financial literacy had no significant effect.
Sudirman et al. (2024)	Dependent: Irrational investment decision-making Independent: Overconfidence bias	Simple linear regression Sample size: 178 investors (at least 1-year experience)	Overconfidence significantly affects irrational investment decisions. Sharia stock considerations moderate this relationship.
Talreja (2024)	Dependent: Investment decision-making Independent: Herd mentality, Loss aversion, Overconfidence	Literature analysis	Biases like herd mentality, loss aversion, and overconfidence lead to irrational decisions, negatively affecting financial outcomes.
Metwally (2023)	Dependent: Investor decision-making Independent: Overconfidence bias	Quantitative approach Statistical analysis	This study found that Overconfidence significantly distorts decision-making, while information acquisition moderates this effect.

Rawat (2023)	<p>Dependent: Investment decision-making</p> <p>Independent: Market factors, Herding behavior, Awareness factors</p>	<p>Survey research design, Structural equation modeling</p> <p>408 respondents</p>	<p>The finding of this study is that herding behavior has the greatest impact on investor sentiment, significantly influencing investment decision-making, often leading to irrational choices and market volatility.</p>
Sapkota and Chalise (2023)	<p>Dependent: Equity investment decision-making</p> <p>Independent: Investor behavior</p>	<p>Quantitative approach</p> <p>Descriptive and analytical research design, Structured questionnaire (293 respondents)</p>	<p>The finding of this study reflects that Investor behavior significantly impacts investment decisions, with no significant gender influence. Irrational behavior drives market volatility.</p>
Zhang (2023)	<p>Dependent: Investment strategy</p> <p>Independent: Overconfidence bias</p>	<p>Literature review and empirical methods</p>	<p>The study found Overconfidence affects trading behavior, return yield, and market efficiency. Contrarian strategy could counteract this bias.</p>
Drews (2022)	<p>Dependent: Overconfident investor behavior</p> <p>Independent: Financial literacy, Demographics, Overconfidence</p>	<p>Logistic regression</p> <p>NFCS Investor Survey (2018)</p>	<p>Overconfidence is linked with higher portfolio value, seeking financial advice, and research activities, particularly in younger, male, lower-income investors.</p>
Nugraha et al. (2022)	<p>Dependent: Investment decision-making</p> <p>Independent: Financial literacy, Financial behavior</p>	<p>PLS (Partial Least Square)</p> <p>Purposive sampling (43 students)</p>	<p>Financial literacy and financial behavior both positively influence investment decisions, with behavior having a stronger impact, suggesting practical financial actions and habits outweigh theoretical knowledge in decision-making, especially among young investors.</p>

Ul Abdin et al. (2022)	<p>Dependent: Investment performance</p> <p>Independent: Illusion of control, Overconfidence, Self-attribution</p>	Mixed methodology	Cognitive biases significantly influence investment performance through risk propensity, with illusion of control being the strongest predictor.
Arik and Sri (2021)	<p>Dependent: Stock investment decisions.</p> <p>Independent: Overconfidence bias, Optimism bias.</p>	Non-probability sampling, PLS analysis.	Overconfidence and optimism bias positively affect investment decisions; financial literacy moderate's optimism bias.
Kunwar (2021)	<p>Dependent: Investment performance.</p> <p>Independent: Heuristics, Prospects, Market factors, Herding effect.</p>	Survey with 203 investors, EFA with PCA and Varimax rotation.	Heuristics and market factors significantly impact investment performance. Herding and prospects do not.
Naveed and Taib (2021)	<p>Dependent: Investor decision-making.</p> <p>Independent: Overconfidence bias, Self-attribution bias.</p>	Cross-sectional data, 390 investors, SmartPLS 3.0 for SEM.	The study found that biases distort investor decisions, and information acquisition moderates the impact of overconfidence.
Hala et al. (2020)	<p>Dependent: Investment decisions in real assets.</p> <p>Independent: HB, OB, LAB, FL.</p>	Data from 220 respondents, PLS-SEM analysis.	Loss and regret aversion significantly impact decisions; financial literacy does not.
Pokharel and Baral (2020)	<p>Dependent: Investment performance.</p> <p>Independent: Heuristic, Prospect, Market, Herding.</p>	Survey with 120 respondents, Correlation analysis.	Market factors significantly affect investment performance; other biases have no significant impact.

Sabir et al. (2019)	Dependent: Herding behavior. Independent: Overconfidence, Past investment experience.	Survey with 352 investors, PLS analysis.	Overconfidence and experience drive herding behavior, while financial literacy moderates this relationship by enabling more informed decision-making.
Shrestha (2019)	Dependent: ID. Independent: Overconfidence bias.	Survey-based analysis.	Overconfidence significantly influences investment decisions, particularly among women and educated investors.
Fahim et al. (2019)	Dependent: ID. Independent: Overconfidence. Moderating: Risk perception, Religiosity.	Questionnaire survey with 156 investors.	Overconfidence significantly affects decisions, but risk perception and religiosity do not moderate this relationship.
Trehan and Sinha (2018)	Dependent: Investment decisions. Independent: Overconfidence biases.	Survey with structured questionnaire, Statistical analysis.	Overconfidence significantly influences decision-making in investment choices and portfolio management.
Bakar and Yi (2016)	Dependent: ID. Independent: Overconfidence, Conservatism, Availability bias, Herding behavior.	Survey with 200 investors, Statistical analysis.	Overconfidence, conservatism, and availability bias affect decisions; herding behavior does not.

(Source: <https://scholar.google.com>)

2.3 Research Gap

Previous studies in behavioral finance, e.g., by Poudel et al. (2024) and Priangga and Purwanto (2024) had a predominantly broader population in mind and general market conditions without accounting for a specific stock exchange such as the Nepal Stock Exchange (NEPSE). Although research such as Sapkota and Chalise (2023) and Sudirman et al. (2024) surveyed a variety of investor types, none of them reached out

to the educated and knowledgeable demographic of investors in Kathmandu, which has been the focus of this research. Furthermore, the majority of these researches were conducted using different types of generic surveys based on either secondary information or minimal respondent samples. In comparison, this study used a purposive sampling approach in selecting 400 NEPSE investors, and this adds another targeted and relevant perspective. According to the nature of the data, other authors like Talreja (2024) and Zhang (2023) have used literature-based or secondary data, whereas this study has been based entirely on primary data collected through a Google Form survey, which provides a direct implication regarding the investor's behavior in the Nepalese context. With regards to the method of analysis, the majority of the studies used simpler statistical methods like correlation analysis (Pokharel and Baral, 2020), while this study uses a more advanced approach by using descriptive statistics and regression analysis to examine relationships between investment decisions and behavioral biases. Insofar as variables are concerned, previous research works like those of Arik and Sri (2021) and Hala et al. (2020) have been content with examining generic biases like overconfidence and herding behavior but have not, to a large extent, examined the cumulative influence of anchoring bias, optimism bias, and loss aversion along with overconfidence in one model. This study has been in a position to bridge these gaps by looking at the combined effect of these biases within the NEPSE context and using a more targeted methodology.

CHAPTER – III

RESEARCH METHODOLOGY

The research methodology segment has detailed the strategies, instruments, and techniques used to examine data and compile findings related to the topic “Behavioral Finance: Understanding Investor Overconfidence in the Nepal Stock Exchange.” It has involved a thorough exploration to identify the most suitable research method for uncovering new information on this topic. To achieve the study's objectives, the researcher has employed the following methodology.

3.1 Research Design

Based on the specific objectives of the study, this research has employed both descriptive and causal-comparative research designs. The descriptive research design has been utilized to assess the current situation of behavioral finance and investor overconfidence in the Nepal Stock Exchange, thereby addressing the first objective. To fulfill the second objective, which examines the relationship between anchoring bias, loss aversion, overconfidence bias, optimism bias, and herding behavior with investment decision, and the third objective, which analyzes the effect of these behavioral biases on investment decision, the causal-comparative research design has been applied. This design enables the study to explore the relationships and effects of various behavioral biases on investors' investment decision. Hence, these two research designs have been purposefully selected to align with the study's objectives, while other research designs have been excluded.

3.2 Population and Sample, and Sampling Design

The population for this study includes investors of the Nepal Stock Exchange (NEPSE) within the Kathmandu Valley. Since there is no exact data available regarding the total number of investors in the area, a sample size of 384 respondents has been determined using Cochran's formula (1977), which is widely used in similar research to calculate an appropriate sample size when the population size is unknown. However, during the data collection phase, responses have been obtained from 400 respondents and thus the study has been conducted using the revised sample size of 400. Due to limitations in time, accessibility, and resources, the researcher has

employed a convenience sampling technique to select participants. This non-probability sampling method allows the researcher to efficiently gather data from readily available investors who are actively participating in the Nepal Stock Exchange within Kathmandu Valley. Although convenience sampling may limit the generalizability of the findings, it is appropriate for exploratory studies where the population frame is unclear and rapid data collection is necessary. The formula used for determining the sample size is as follows:

$$n = \frac{z^2 pq}{e^2}$$

Where;

n = Sample size for infinite population

Z = Critical value of desired confidence interval

p = Estimated proportion of an attribute that's present in population

e = Level of significance

With Confidence Interval of 95% and 5% level of significance

Here,

Z = 1.96, p = 0.5, q = 0.5, e = 0.05

Now,

$$n = \frac{(1.96)^2 0.5 \times 0.5}{0.05^2} = 384$$

Based on Cochran's 1977 formula, the ideal sample size is 384; however, the study has selected 400 respondents to account for potential errors in the stochastic model, adding an extra 16 respondents.

3.3 Nature and Sources of Data, and the Instrument of Data Collection

This study on “Behavioral Finance: Understanding Investor Overconfidence in the Nepal Stock Exchange” has utilized primary data collected through structured surveys and questionnaires administered to investors of the Nepal Stock Exchange (NEPSE) within Kathmandu Valley. The data sources have consisted of active investors, providing insights into their investment decision-making processes and biases. The instrument used for data collection has been a questionnaire, which includes multiple-choice and Likert scale questions designed to gather information on independent variables such as overconfidence bias, anchoring bias, loss aversion, optimism bias and herding behavior, with the dependent variable being investment decision.

3.4 Method of Analysis

Method of analysis refers to the techniques used to interpret data, such as regression, correlation, and descriptive statistics. This study has analyzed the impact of behavioral finance factors on investment decision-making in NEPSE using SPSS Version 29 for demographic profile analysis, reliability statistics, descriptive statistics and inferential statistics. Key characteristics like minimum, maximum, mean, and standard deviation have been summarized through descriptive statistics. Inferential statistics has involved to correlation and regression analysis where correlation analysis has explored relationships between independent variables with dependent variable and regression has analyzed the impact of independent variables including overconfidence bias, anchoring bias, loss aversion, optimism bias, and herding behavior on the dependent variable, investment decision-making. The tools for analysis include:

A. Reliability Test

The researcher has evaluated the reliability of each study variable, with the findings presented in Chapter 4's results section. Reliability pertains to the extent to which a research method yields consistent and stable outcomes. In this study, Cronbach's alpha has been used to assess the questionnaire's reliability, with values above 0.7 considered satisfactory for social science research, indicating acceptable to excellent internal consistency.

B. Respondent's Demographic Profile

This study has included demographic data from individual investors in the Nepal Stock Exchange (NEPSE) within Kathmandu Valley, covering a range of backgrounds. It details the number of participants and their demographic information, including gender, age, level of education, nature of employment, monthly income, and years of investment experience. The research has provided insights into how these demographic factors influence investment decision-making, helping to identify potential patterns in decision-making based on these variables. Additionally, the survey response rates have been reported, showing the number of questionnaires distributed and returned, along with the overall response rate. The respondent profile has been presented in the Chapter 4 results section.

C. Descriptive Statistics

Descriptive statistics have been fundamental in analyzing key variables related to behavioral finance factors and their impact on investment decision-making in the Nepal Stock Exchange (NEPSE). Specifically, the independent variables, including overconfidence bias, anchoring bias, loss aversion, optimism bias, and herding behavior, have been examined alongside investment decision-making as the dependent variable. This analysis has provided insights into the minimum, maximum, mean and standard deviation (SD) of these variables, aiding in the understanding of their distribution and variability. These statistical measures have been instrumental in assessing the central tendencies and dispersion of the data, setting the stage for a more detailed study of how these factors influence investor behavior in NEPSE. The following are the findings from the descriptive statistics:

Arithmetic mean

The arithmetic mean, or average, represents the central value of a dataset. It is calculated by adding all the values together and dividing by the number of values. This measure helps summarize data by indicating the typical value within a dataset, making it a common and useful descriptive statistic for understanding overall trends. It provides a straightforward way to gauge the general level of data, though it may be influenced by outliers or extreme values.

The formula for the arithmetic mean is as follows:

$$\text{Arithmetic mean } (\bar{X}) = \frac{\sum X}{n}$$

Where,

\bar{X} = Arithmetic mean

n = Total number of values in the dataset

$\sum X$ = Sum of all values in the dataset

Standard deviation

Standard deviation measures the variation or dispersion of a dataset. It quantifies how far data points deviate from the mean or average value, with smaller values indicating less variability and larger values showing greater spread or inconsistency. Calculated as the square root of variance, it is widely used in finance, research, and quality

control for assessing consistency, reliability, and risk management across various applications.

The formula for the Standard deviation is as follows:

$$\text{Standard deviation } (\sigma) = \sqrt{\frac{\sum(X-\bar{X})^2}{n-1}}$$

Where,

X Represents each individual data point in the dataset

\bar{X} Represents the mean (average) of the dataset

n is the total number of data points in the dataset

D. Inferential Statistics

Inferential statistics have employed correlation and regression analysis. Correlation has analyzed the relationship between independent variables such as OCB, AB, LA, OB, and HB with the dependent variable, ID. Regression analysis has been employed to examine their influence on investment decisions. Inferential statistics include:

Correlation analysis

Correlation analysis evaluates the strength and direction of relationships between variables. A positive correlation means both variables increase together, while a negative correlation indicates one increases as the other decreases. The correlation coefficient (r) ranges from +1 (perfect positive) to -1 (perfect negative), with 0 showing no linear relationship. This helps assess variable relationships and informs decision-making.

The Pearson correlation coefficient (r) is calculated using the formula:

$$r = \frac{n(\sum XY) - (\sum X)(\sum Y)}{\sqrt{[n(\sum X^2) - (\sum X)^2]} \sqrt{[n(\sum Y^2) - (\sum Y)^2]}}$$

Where;

n = The number of data pairs

$\sum XY$ = The sum of the product of each pair of scores

$\sum X$ And $\sum Y$ = The sums of X and Y scores respectively

Regression analysis

Regression analysis quantifies the impact of independent variables on a dependent variable, measuring how changes in predictor variables influence outcomes. By using

regression coefficients (β), it determines the magnitude and direction of each variable's effect while controlling for others. This technique helps assess the significance of different factors, clarifying their contribution to variations in outcomes. Widely applied in forecasting, trend analysis, and impact evaluation, it plays a crucial role in fields such as economics, social sciences, and decision-making processes.

Model specification

In this model, the dependent variable is investment decision-making, influenced by several independent variables, including overconfidence bias, anchoring bias, loss aversion, optimism bias, and herding behavior.

The model is represented as:

$$ID = \beta_0 + \beta_1 OCB + \beta_2 AB + \beta_3 LA + \beta_4 OB + \beta_5 HB + \epsilon_{it}$$

Where;

β_0 = Intercept/ constant term

ID = Investment Decision

OCB = Overconfidence Bias

AB = Anchoring Bias

LA = Loss Aversion

OB = Optimism Bias

HB = Herding Behavior

ϵ_{it} = error term of the stochastic model

Betas ($\beta_1, \beta_2, \beta_3, \beta_4, \beta_5$) are the parameters of the model

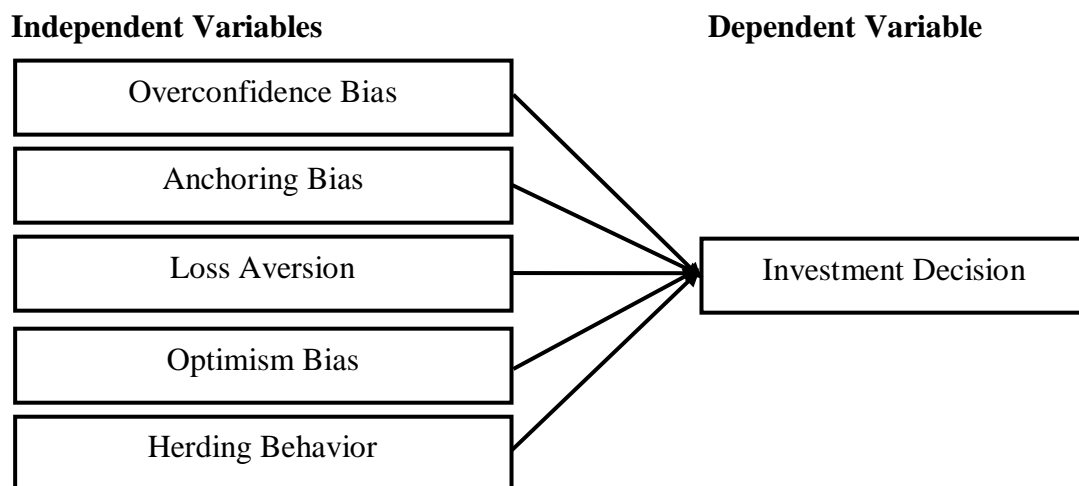
3.5 Research Framework and Definition of Variables

In the research framework of this study on "Behavioral Finance: Understanding Investor Overconfidence in the Nepal Stock Exchange," the independent variables consist of various psychological factors such as Organizational Citizenship Behavior (OCB), Attitude Bias (AB), Loss Aversion (LA), Overconfidence Bias (OB), and Herding Behavior (HB). These psychological factors are believed to significantly influence investor decisions, affecting how they perceive risk, make investment choices, and react to market information. The dependent variable in this framework is investment decision-making, which captures how these biases shape the choices of investors in the Nepal Stock Exchange (NEPSE). Specifically, the study seeks to

examine how each of these cognitive and emotional biases distorts investor judgment, leading to decisions that may not align with rational financial theories. The research framework, illustrating the relationships between the independent variables and the dependent variable, is presented in the following figure:

Figure 1

Research Framework



Modified from:

(Source: Kunwar, 2021; Kartini & Nahda, 2021; Hala et al., 2020)

Definitions of Study Variables

Dependent Variable

Investment Decision

Investment decision-making is the process by which individuals choose where to allocate their funds in financial markets, considering the potential risks and returns associated with various investment opportunities. In this study, investment decision-making is influenced by several psychological biases, which can cause investors to deviate from rational decision-making models. These biases include overconfidence, loss aversion, and optimism, which shape how investors perceive risks, rewards, and market conditions. According to behavioral finance theory, these biases result in suboptimal decision-making, where investors may overestimate their abilities, avoid risks, or place unrealistic expectations on future returns (Kahneman & Tversky, 1979). Understanding how these biases impact investment decisions is critical to understanding the dynamics of financial markets, particularly in emerging markets like the Nepal Stock Exchange (NEPSE).

Independent Variables

Overconfidence Bias

Overconfidence bias refers to the tendency of investors to overestimate their knowledge, abilities, and predictions regarding market outcomes, which can lead to overtrading and excessive risk-taking. This bias occurs when investors believe they possess superior knowledge or insights that others do not, often resulting in a failure to properly assess risks. Overconfidence has been shown to contribute to inflated expectations of returns, leading to decisions that deviate from optimal investment strategies (Barber & Odean, 2001). In the context of the Nepal Stock Exchange, overconfidence may manifest in investors' willingness to invest without adequate research or consideration of market conditions, potentially leading to poor financial outcomes.

Anchoring Bias

Anchoring bias occurs when individuals rely too heavily on an initial piece of information (the "anchor") when making subsequent judgments, even when that information is irrelevant. In the context of investment decision-making, anchoring bias can influence investors to base their decisions on past prices or initial assessments of an investment's value, without adjusting adequately for new information. Tversky and Kahneman (1974) demonstrated that this bias leads to distorted decision-making, as investors may fixate on previous stock prices or market trends and fail to adjust their expectations in light of more relevant data. In the Nepal Stock Exchange, investors might anchor their investment decisions to historical stock prices or past market trends, potentially leading to suboptimal investments.

Loss Aversion

Loss aversion refers to the psychological phenomenon where individuals experience the pain of losses more intensely than the pleasure of equivalent gains. According to prospect theory, developed by Kahneman and Tversky (1979), people are more motivated to avoid losses than to achieve gains of the same size. In the context of investment decision-making, loss aversion can cause investors to hold on to losing investments for too long or avoid taking necessary risks, as they are disproportionately sensitive to losses. In the Nepal Stock Exchange, loss aversion might result in investors' reluctance to sell underperforming stocks or their tendency

to avoid higher-risk investments, even if those investments could yield higher returns in the long term.

Optimism Bias

Optimism bias is the tendency for individuals to believe that they are less likely to experience negative outcomes and more likely to experience positive outcomes than others. In investment decision-making, optimism bias can lead investors to overestimate the potential returns on their investments while underestimating the associated risks. This bias often results in overly aggressive or risky investment strategies, based on an overly positive outlook on market conditions. Sharot (2011) found that optimism bias is widespread and influences decision-making in a variety of domains, including financial markets. In the Nepal Stock Exchange, optimism bias could cause investors to make overly optimistic investment choices, disregarding potential market downturns or risks.

Herding Behavior

Herding behavior refers to the tendency of individuals to mimic the actions of others, especially when they are uncertain about their own decisions. In financial markets, herding can lead to market bubbles and crashes as investors follow the crowd, often disregarding their own research or analysis. Bikhchandani et al. (1992) demonstrated that herding behavior can result in irrational market movements, as investors base their decisions on the actions of others rather than on fundamental information. In the Nepal Stock Exchange, herding behavior could manifest as investors rushing to buy or sell stocks based on the actions of others, contributing to volatile market conditions and potentially leading to financial losses.

CHAPTER – IV

RESULTS AND DISCUSSION

This chapter has presented the results and discussion of primary data collected through a questionnaire to analyze key research questions related to “Behavioral Finance: Understanding Investor Overconfidence in the Nepal Stock Exchange.” Respondents have been profiled based on demographic factors such as gender, age, level of education, nature of employment, monthly income, and years of investment experience. The independent variables, including anchoring bias, loss aversion, overconfidence bias, optimism bias, and herding behavior, have been analyzed in relation to the dependent variable, investment decision. The reliability of each variable has been tested, and both descriptive and inferential statistics have been applied for analysis. Descriptive statistics, including mean, standard deviation, and frequency distributions, have summarized the demographic data. Correlation and regression analyses, performed using SPSS Version 29, have explored the relationships and impact of independent variables on investment decisions. This chapter has integrated results and discussions to examine how these factors have influenced investor behavior and decision-making in the Nepal Stock Exchange.

4.1 Results

This section has presented the collected data and their analysis using statistical tools such as SPSS and Excel. It has included the results of the reliability tests for study variables, along with the demographic details of the respondents. The data have been examined through descriptive statistics for each variable, followed by a summary of the findings, correlation analysis, and regression analysis. The detailed presentation of the data and results has been provided as follows:

A. Results of Reliability Test

Reliability measures the degree to which a research method generates consistent and stable outcomes. To evaluate the internal consistency, reliability, and effectiveness of the questionnaire items, the Cronbach's alpha test has been utilized. In most social science research, a Cronbach's alpha of 0.7 or higher is considered the standard. The widely recognized standards for interpreting Cronbach's alpha are as follows:

Above 0.9: Excellent

0.8 – 0.9: Good

0.7 – 0.8: Acceptable

0.6 – 0.7: Questionable

0.5 – 0.6: Poor

Below 0.5: Unacceptable

Table 2 *Reliability Test of Study Variables*

Study Variables	No of Items	Cronbach's Alpha
Overconfidence Bias	5	0.709
Anchoring Bias	5	0.638
Loss Aversion	5	0.710
Optimism Bias	5	0.611
Herding Behavior	5	0.697
Investment Decision	5	0.757

(Source: SPSS Version 29)

Table 2 presents the reliability test results for the study variables. All variables, including overconfidence bias, anchoring bias, loss aversion, optimism bias, herding behavior, and investment decision, have demonstrated satisfactory internal consistency, with Cronbach's alpha values ranging from 0.611 to 0.757. Overconfidence bias (0.709), loss aversion (0.710), and investment decision (0.757) exceed the standard threshold of 0.7, indicating acceptable reliability. Anchoring bias (0.638), optimism bias (0.611), and herding behavior (0.697) fall slightly below the threshold but remain within the acceptable range for further analysis.

B. Results of Respondent's Demographic Profile

This section has discussed the respondent's demographic profile in the context of Behavioral Finance: Understanding Investor Overconfidence in the Nepal Stock Exchange, along with the analysis and interpretation of primary data collected through questionnaires. It has provided information about the demographic characteristics of the respondents, including gender, age, level of education, nature of employment, monthly income, and years of investment experience. The respondents' demographic profile has been presented in the following table.

Table 3
Respondent's Demographic Profile

Demographic Factors	Options	Frequency	Percentage
Gender	Male	306	76.5
	Female	94	23.5
Age Group	Below 20 years	21	5.2
	20 years to 30 years	227	56.8
	31 years to 40 years	112	28.0
	41 years to 50 years	40	10.0
	Above 50 years	0	0
Level of Education	School Level	52	13.0
	Bachelor Level	226	56.5
	Master Level or Above	122	30.5
Nature of Employment	Student	92	23.0
	Employed	195	48.8
	Self-Employed	103	25.7
	Unemployed	10	2.5
Monthly Income Level	Below Rs. 20,000	104	26.0
	Rs. 20,000 to Rs. 30,000	92	23.0
	Rs. 30,001 and Rs. 40,000	103	25.8
	Rs. 40,001 and Rs. 50,000	70	17.5
	Above Rs. 50,000	31	7.7
Year of Investment	Less than 1 year	62	15.5
Experience	1 year to 3 years	156	39.0
	4 years to 6 years	162	40.5
	7 years to 9 years	20	5.0
	More than 9 years	0	0

(Source: Online Survey 2025; SPSS Version 29) $N = 400$; Percentage (%) = 100

Table 3 provides a detailed demographic profile of the respondents in the context of Behavioral Finance: Understanding Investor Overconfidence in the Nepal Stock Exchange. The gender distribution shows that 306 respondents (76.5%) are male, while 94 respondents (23.5%) are female. Age-wise, the majority of respondents, 227 (56.8%), fall within the 20 to 30 years age group, followed by 112 respondents (28%) in the 31 to 40 years range, and 40 respondents (10%) in the 41 to 50 years group. Only 21 respondents (5.2%) are under 20 years of age, and there are no respondents

above 50 years. In terms of educational qualifications, 226 respondents (56.5%) have completed their bachelor's degree, 122 respondents (30.5%) hold a master's degree or higher, and 52 respondents (13%) have only completed school-level education. When considering employment status, 195 respondents (48.8%) are employed, 103 respondents (25.7%) are self-employed, 92 respondents (23%) are students, and 10 respondents (2.5%) are unemployed. Regarding monthly income, 104 respondents (26%) earn below Rs. 20,000, 92 respondents (23%) earn between Rs. 20,000 to Rs. 30,000, 103 respondents (25.8%) earn between Rs. 30,001 and Rs. 40,000, 70 respondents (17.5%) earn between Rs. 40,001 and Rs. 50,000, and 31 respondents (7.7%) earn more than Rs. 50,000. Finally, in terms of investment experience, 156 respondents (39%) have 1 to 3 years of experience, 162 respondents (40.5%) have 4 to 6 years, 62 respondents (15.5%) have less than 1 year, and 20 respondents (5%) have 7 to 9 years of investment experience, while no respondents reported having more than 9 years of experience. This demographic breakdown offers a comprehensive understanding of the respondent base, providing valuable context for examining investor overconfidence and its impact on investment decision in the NEPSE.

C. Results of Descriptive Statistics

The descriptive statistics summarizes key characteristics of the data by examining the range, average, and variability of responses for the study's variables. To do this, the researcher has employed statistical metrics such as minimum (min), maximum (max), mean (average), and standard deviation (SD). The minimum value represents the smallest observed response, while the maximum value indicates the largest response. The mean is the average, calculated by summing all responses and dividing by the total number of observations, providing an overall central value. The standard deviation (SD) measures how spread out the responses are from the mean, indicating the degree of variation or consistency within the data. This analysis has focused on the independent variables, including overconfidence bias, anchoring bias, loss aversion, optimism bias, and herding behavior, as well as the dependent variable, investment decision. By assessing the range, average, and variability, the researcher has evaluated trend and scenario of these investor behavioral biases within decision-making. Descriptive statistics of each variable is provided below in the tables.

Table 4

Descriptive Statistics of Overconfidence Bias

Scale Items for Overconfidence Bias	Mean	S.D.
I tend to overestimate my ability to predict stock market movements.	3.6225	1.04773
I believe I have superior knowledge about stocks compared to other investors.	3.4325	1.10385
I often think my past investment decisions were better than they actually were.	3.4150	1.05620
I tend to invest in stocks with high risk because I am confident in my decision-making.	3.7475	0.97782
I believe that my expertise gives me an edge over other investors in the stock market.	3.4700	1.14559

(Sources: Online Survey, 2025; SPSS Version 29)

Table 4 reveals the descriptive statistics of overconfidence bias, highlighting key insights into investor perceptions of their abilities and decision-making. The mean values for the scale items range from 3.4150 to 3.7475, indicating a moderate tendency among investors to exhibit overconfidence. The highest mean value of 3.7475 suggests strong confidence in high-risk investments, as reflected in “I tend to invest in stocks with high risk because I am confident in my decision-making.” The standard deviation (S.D.) values range from 0.97782 to 1.14559, with the highest variation in “I believe that my expertise gives me an edge over other investors in the stock market” (S.D. = 1.14559). Investors also tend to overestimate their ability to predict market movements, as noted in “I tend to overestimate my ability to predict stock market movements” (M = 3.6225), and believe they possess superior knowledge, as in “I believe I have superior knowledge about stocks compared to other investors” (M = 3.4325). Additionally, “I often think my past investment decisions were better than they actually were” (M = 3.4150) highlights a tendency to view past choices too favorably. This reliance on past successes reinforces overconfidence, leading to riskier investments and excessive trading. Overall, the analysis reveals that investors generally overestimate their skills and confidence in stock market decision-making, though the strength of these beliefs varies.

Table 5

Descriptive Statistics of Anchoring Bias

Scale Items for Anchoring Bias	Mean	S.D.
I base my investment decisions heavily on the initial stock price I see, regardless of other factors.	3.6400	0.97353
When evaluating stocks, I tend to anchor my expectations on the past performance of that stock.	3.4325	0.86447
I often make decisions based on historical prices or market trends without considering current market conditions.	3.6950	0.91601
I find it difficult to adjust my expectations when new information contradicts my initial assumptions about a stock.	3.5900	1.02691
I rely on initial price information or estimates to guide my decisions about stock investments.	3.6375	1.11992

(Sources: Online Survey, 2025; SPSS Version 29)

Table 5 shows the descriptive statistics of anchoring bias, providing insights into how investors base their decisions on initial information. The mean values for the scale items range from 3.4325 to 3.6950, indicating a moderate tendency among investors to rely on initial stock prices and past performance. The highest mean value of 3.6950 suggests that investors are particularly influenced by historical prices and market trends, as reflected in “I often make decisions based on historical prices or market trends without considering current market conditions.” The standard deviation (S.D.) values range from 0.86447 to 1.11992, with the highest variation observed in “I rely on initial price information or estimates to guide my decisions about stock investments” (S.D. = 1.11992). Additionally, “I base my investment decisions heavily on the initial stock price I see, regardless of other factors” (M = 3.6400) and “I find it difficult to adjust my expectations when new information contradicts my initial assumptions about a stock” (M = 3.5900) highlight the reluctance to change perceptions despite new developments. This cognitive bias can lead to suboptimal investment decisions, such as holding onto stocks longer than necessary or misjudging entry and exit points. Overall, the analysis shows that investors tend to anchor their decisions on initial information, though the strength of this tendency varies.

Table 6

Descriptive Statistics of Loss Aversion

Scale Items for Loss Aversion	Mean	S.D.
I feel more distressed by losing money in investments than I feel satisfied by gaining the same amount.	3.5300	1.11004
I am reluctant to sell stocks that are performing poorly because I fear realizing a loss.	3.4700	0.95990
I tend to hold onto losing stocks in hopes that they will recover, rather than cutting my losses.	3.5700	1.11274
I am more likely to avoid investments that I perceive as risky due to the fear of losses.	3.4875	1.21595
I prefer to avoid risk even if the potential for gains is higher, due to my fear of losses.	3.3600	1.10383

(Sources: Online Survey, 2025; SPSS Version 29)

Table 6 exhibits the descriptive statistics of loss aversion, highlighting how investors' fear of losses affects their investment decisions. The mean values for the scale items range from 3.3600 to 3.5700, indicating a moderate tendency for investors to experience greater distress from losses compared to the satisfaction gained from equivalent profits. The highest mean value of 3.5700 suggests that investors are particularly inclined to hold onto losing stocks, hoping for a recovery, rather than cutting their losses. The standard deviation (S.D.) values range from 0.95990 to 1.21595, with the highest variation in "I am more likely to avoid investments that I perceive as risky due to the fear of losses" (S.D. = 1.21595), indicating diverse investor sentiment. Additionally, "I feel more distressed by losing money in investments than I feel satisfied by gaining the same amount" (M = 3.5300) and "I am reluctant to sell stocks that are performing poorly because I fear realizing a loss" (M = 3.4700) highlight the emotional impact of potential losses on decision-making. This psychological tendency can lead to suboptimal portfolio management, as investors may miss opportunities for better-performing investments. Moreover, such behavior can result in a disposition effect, where investors hold onto losing stocks too long and sell winning stocks too quickly, ultimately reducing overall portfolio returns. Overall, the analysis reveals that loss aversion significantly influences investment decisions, with varying levels of impact on individual investor behavior.

Table 7

Descriptive Statistics of Optimism Bias

Scale Items for Optimism Bias	Mean	S.D.
I believe that my investments will perform better than the average market returns.	3.6950	0.90500
I tend to assume that the market will improve, even when there are signals suggesting otherwise.	3.4075	0.83558
I am overly optimistic about the potential returns of the stocks I invest in.	3.7025	1.06151
I often believe that I can avoid losses due to my superior judgment and decision-making.	3.7700	0.86543
I expect that the market will recover quickly from downturns, even when conditions suggest otherwise.	3.7225	0.98383

(Sources: Online Survey, 2025; SPSS Version 29)

Table 7 demonstrates the descriptive statistics of optimism bias, highlighting how investors' positive expectations influence their decisions. The mean values range from 3.4075 to 3.7700, showing a tendency to expect better-than-average returns and quick market recovery. The statement "I believe that my investments will perform better than the average market returns" has a mean of 3.6950 and a standard deviation of 0.90500, indicating moderate variation. The statement "I tend to assume that the market will improve, even when there are signals suggesting otherwise" has a mean of 3.4075 and a standard deviation of 0.83558, showing consistent opinions. The statement "I am overly optimistic about the potential returns of the stocks I invest in" has a mean of 3.7025 and a standard deviation of 1.06151, reflecting strong confidence despite uncertainties. The statement "I often believe that I can avoid losses due to my superior judgment and decision-making" has the highest mean of 3.7700 and a standard deviation of 0.86543, suggesting strong confidence in personal decisions. Lastly, the statement "I expect that the market will recover quickly from downturns, even when conditions suggest otherwise" has a mean of 3.7225 and a standard deviation of 0.98383, emphasizing optimism about market resilience. Investors with strong optimism bias may underestimate risks, leading to overexposure to volatile stocks and risky behaviors. This bias may also cause investors to hold onto underperforming assets for too long, expecting a turnaround.

Table 8

Descriptive Statistics of Herding Bias

Scale Items for Herding Bias	Mean	S.D.
I tend to follow the investment choices of others when I am unsure about a stock.	3.4700	1.12573
I am more likely to invest in stocks that are popular among my peers or financial advisors.	3.6425	0.94971
When making investment decisions, I often look at what others are doing in the market.	3.8025	0.91136
I feel more comfortable investing in stocks that have a lot of attention or hype around them.	3.3850	1.16411
I believe that others' behavior in the stock market can influence my own investment choices.	3.6375	1.00180

(Sources: Online Survey, 2025; SPSS Version 29)

Table 8 displays the descriptive statistics of herding bias, highlighting how investors' decisions are influenced by others. The mean values range from 3.3850 to 3.8025, indicating a tendency to follow the crowd, especially when uncertain about a stock. The highest mean value of 3.8025 suggests a strong inclination to observe market trends before making decisions. The statement "I tend to follow the investment choices of others when I am unsure about a stock" has a mean of 3.4700 and a standard deviation of 1.12573, showing moderate variability. The statement "I am more likely to invest in stocks that are popular among my peers or financial advisors" has a mean of 3.6425 and a standard deviation of 0.94971, reflecting social influence in investment choices. The statement "I feel more comfortable investing in stocks that have a lot of attention or hype around them" has a mean of 3.3850 and the highest standard deviation of 1.16411, suggesting diverse opinions. The statement "I believe that others' behavior in the stock market can influence my own investment choices" has a mean of 3.6375 and a standard deviation of 1.00180, reinforcing the role of social influence. Investors exhibiting herding behavior may rely on trends and expert advice rather than independent research, leading to market bubbles or volatility. This bias may result in impulsive decisions, especially during uncertainty.

Table 9

Descriptive Statistics of Investment Decision

Scale Items for Investment Decision	Mean	S.D.
I make my investment decisions based on my own research and analysis rather than following the crowd.	3.9175	0.82304
My investment decisions are influenced by my emotions, such as fear or excitement.	3.4075	0.86794
I tend to follow a systematic approach to investing rather than making impulsive decisions.	3.5375	1.03017
I often make decisions about which stocks to buy based on news and market trends.	3.5750	0.93088
My investment decisions are shaped by my personal goals and risk tolerance rather than external advice.	3.7350	1.07828

(Sources: Online Survey, 2025; SPSS Version 29)

Table 9 describes the descriptive statistics of investment decisions, highlighting the factors influencing investors' choices. The mean values range from 3.4075 to 3.9175, indicating that decisions are shaped by research, emotions, personal goals, and external factors. The highest mean of 3.9175 suggests that investors prefer making decisions based on their own research and analysis rather than following the crowd. Meanwhile, the mean value of 3.4075 reflects the influence of emotions such as fear or excitement on investment choices. The mean value of 3.5375 suggests that many investors follow a systematic approach rather than making impulsive decisions, while a mean of 3.5750 indicates that investment choices are also influenced by news and market trends. Additionally, the mean value of 3.7350 suggests that personal goals and risk tolerance play a significant role in decision-making. The standard deviations range from 0.82304 to 1.07828, showing moderate variability in responses. The highest standard deviation (1.07828) is associated with the statement "My investment decisions are shaped by my personal goals and risk tolerance rather than external advice," indicating diverse views on this aspect. Many investors also consider market trends and news, as reflected in the mean value of 3.5750. The findings suggest that while systematic approaches and independent research play a major role, emotions and external influences also shape investment decisions.

Table 10

Summary of Descriptive Statistics

Study Variables	N	Min	Max	Mean	S.D.
Overconfidence Bias	400	1.00	4.60	3.5375	0.72561
Anchoring Bias	400	2.00	4.80	3.5990	0.54603
Loss Aversion	400	1.80	4.60	3.4835	0.75069
Optimism Bias	400	2.20	4.60	3.6595	0.50971
Herding Behavior	400	2.20	5.00	3.5875	0.56047
Investment Decision	400	1.60	4.80	3.6345	0.57125

(Sources: SPSS Version 29)

Table 10 provides a summary of the descriptive statistics of the study variables, highlighting key statistical metrics such as the number of respondents (N), minimum and maximum values, mean, and standard deviation (S.D.) for each variable. Overconfidence bias has a mean of 3.5375 with a standard deviation of 0.72561, indicating moderate consistency in responses. Anchoring bias shows a mean of 3.5990 with a relatively low standard deviation of 0.54603, reflecting more consistent responses from participants. Loss aversion has a mean of 3.4835 and a standard deviation of 0.75069, suggesting that investors experience varying levels of sensitivity to loss. Optimism bias, with a mean of 3.6595 and a standard deviation of 0.50971, shows a high degree of agreement among respondents about the tendency to expect better returns. Herding behavior has a mean of 3.5875 and a standard deviation of 0.56047, suggesting a moderate level of conformity to others' investment choices. Finally, the investment decision variable, with a mean of 3.6345 and a standard deviation of 0.57125, indicates that respondents' investment decisions are influenced by a combination of factors, including biases and personal judgment. Additionally, the analysis suggests that biases such as optimism and anchoring have a stronger influence on investment decisions compared to other biases, given their higher mean values and lower variability. This finding underscores the significant role of cognitive biases in shaping investor behavior, potentially leading to systematic deviations from rational decision-making. Overall, the analysis shows that while there is a general tendency for biases and behaviors to influence investment decisions, the variability in responses suggests diverse investor perceptions and actions.

D. Results of Correlation Analysis

Correlation analysis was conducted to examine the relationships between independent variables such as overconfidence bias, anchoring bias, loss aversion, optimism bias, herding behavior, and the dependent variable, investment decision. This analysis aims to uncover how these biases influence investors' decisions and contribute to the overall decision-making process. Pearson's correlation method was applied using SPSS Version 29, and the results are presented in Table 11.

Table 11

Karl Pearson's Correlation Analysis of Study Variables

Study Variables	OCB	AB	LA	OB	HB	ID
OCB	1					
AB	0.648**	1				
LA	0.341**	0.380**	1			
OB	0.481**	0.525**	0.415**	1		
HB	0.558**	0.638**	0.302**	0.559**	1	
ID	0.512**	0.505**	0.368**	0.392**	0.452**	1

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

(Source: SPSS Version 29)

Table 11 depicts the correlation analysis results, showing the relationships between the independent variables such as OCB, AB, LA, OB and HB with the dependent variable ID. OCB shows a moderate positive correlation with ID at 0.512**, indicating that higher overconfidence leads to more confident investment decisions. AB also demonstrates a significant positive relationship with ID at 0.505**, suggesting that those who anchor their decisions based on initial stock prices are more likely to make investment decisions. LA exhibits a moderate positive correlation of 0.368** with ID, indicating that investors who are more loss-averse are also more cautious in making investment decisions. OB shows a positive correlation of 0.392** with ID, highlighting that more optimistic investors tend to make decisions with greater confidence. Finally, HB reveals a positive correlation of 0.452** with ID, signifying that investors who tend to follow others' behaviors are also more influenced by group actions in making investment decisions. All correlations are significant at the 0.01 level, underscoring the importance of these biases in influencing investment decisions.

E. Results of Regression Analysis

Regression analysis has been conducted to evaluate the impact of independent variables such as overconfidence bias, anchoring bias, loss aversion, optimism bias and herding behavior on investment decisions. The regression analysis includes model summary, ANOVA and coefficients to assess how these biases influence investment decision-making. The regression results are presented below.

Table 12

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.592 ^a	0.351	0.343	0.46320

a. Predictors: (Constant), OCB, AB, LA, OB, HB

(Source: SPSS Version 29)

Table 12 introduces the model summary of this study, showing an R-square value of 0.351. This indicates that approximately 35.1% of the variation in investment decision is explained by the independent variables: overconfidence bias, anchoring bias, loss aversion, optimism bias and herding behavior. The remaining 64.9% of the variance is attributed to other factors not included in the model. This suggests that while these biases have a significant influence on investment decisions, there are other unexamined factors also contributing to the decision-making process.

Table 13

Analysis of Variance (ANOVA^a)

	Model	Sum of Squares	df	Mean Square	F	Sig.
1	Regression	45.670	5	9.134	42.572	0.000 ^b
	Residual	84.534	394	0.215		
	Total	130.204	399			

a. Dependent variable: ID

b. Predictors: (Constant), OCB, AB, LA, OB, HB

(Source: SPSS Version 29)

Table 13 illustrates the analysis of variance (ANOVA) for the regression model. The significance value (Sig.) of the regression model is 0.000, which is less than the 1%

significance level (0.01). This indicates that the model is statistically significant, meaning that the independent variables: overconfidence bias (OCB), anchoring bias (AB), loss aversion (LA), optimism bias (OB) and herding behavior (HB) collectively have a significant impact on investment decisions (ID).

Table 14

Coefficients of Regression Analysis for Dependent Variable ID

Model	Unstandardized		Standardized	t	Sig.
	Coefficients		Coefficients		
	B	Sd. error	Beta		
(Constant)	1.209	0.190		6.358	0.000
OCB	0.198	0.044	0.252	4.520	0.000
AB	0.188	0.064	0.179	2.952	0.003
LA	0.121	0.035	0.159	3.465	0.001
OB	0.046	0.059	0.041	0.769	0.443
HB	0.128	0.058	0.126	2.199	0.028

a. Dependent variable: Investment Decision

(Source: SPSS Version 29)

$$ID = 1.209 + 0.198OCB + 0.188AB + 0.121LA + 0.046OB + 0.128HB + \epsilon$$

Table 14 highlights the results of the coefficients of regression analysis for the dependent variable investment decision. OCB has a significant positive impact on investment decisions ($\beta = 0.198$, $p = 0.000$), which is below the 1% significance level, indicating a strong positive influence on investment decisions. AB also positively impacts investment decisions ($\beta = 0.188$, $p = 0.003$), and since 0.003 is below the 1% significance level, it also shows a significant positive relationship. LA significantly affects investment decisions ($\beta = 0.121$, $p = 0.001$), with a significance level below 1%, suggesting that higher loss aversion leads to more cautious investment choices. OB however, does not significantly impact investment decisions ($\beta = 0.046$, $p = 0.443$), as the p-value is much higher than the 1% significance level, indicating no effect. Lastly, HB not significantly influences investment decisions ($\beta = 0.128$, $p = 0.028$), and since 0.028 is also more than 1% significance level, it is not significant. In summary, OCB, AB and LA all have a significant impact on investment decisions at the 1% significance level, while OB and HB do not.

4.2 Discussion

The main objective of this study is to analyze Behavioral Finance with a focus on understanding investor overconfidence in the Nepal Stock Exchange. The research has considered independent variables such as OCB, AB, LA, OB and HB and has evaluated how these factors influence the dependent variable ID. The respondent's profile has included details on gender, age, level of education, nature of employment, monthly income and years of investment experience. Data have been collected using a structured questionnaire distributed among 400 respondents to assess their perspectives on the biases influencing investment decisions. The analysis has employed descriptive, correlation and regression analysis to explore trends, relationships and effects among these variables, highlighting key factors that have significantly impacted investment decisions in the Nepal Stock Exchange.

The descriptive statistics reveal varying investor behaviors influenced by psychological biases. Overconfidence bias (mean = 3.54, S.D. = 0.73) shows moderate consistency because many investors tend to overestimate their knowledge and ability to predict market movements, leading to greater risk-taking. Anchoring bias (mean = 3.60, S.D. = 0.55) is more consistent as investors rely heavily on initial price information or past data when making decisions, causing a cognitive fixation. Loss aversion (mean = 3.48, S.D. = 0.75) varies as investors differ in their sensitivity to potential losses, with some being more cautious to avoid losses than others. Optimism bias (mean = 3.66, S.D. = 0.51) reflects strong confidence in positive returns, driven by hope and expectations of market growth. Herding behavior (mean = 3.59, S.D. = 0.56) indicates moderate conformity, where investors sometimes follow the majority to reduce perceived risk or due to lack of information. Together, these biases shape diverse investment decisions (mean = 3.63, S.D. = 0.57), balancing personal judgment and psychological influences.

Correlation analysis shows significant positive relationships between all biases and investment decisions. Overconfidence ($r = 0.512^{**}$) and anchoring ($r = 0.505^{**}$) show moderate correlations because investors' strong self-belief and reliance on initial information bias their judgment, increasing the likelihood of active investment choices. Loss aversion ($r = 0.368^{**}$) and optimism bias ($r = 0.392^{**}$) exhibit weak positive correlations, indicating that cautiousness and hopeful expectations influence

investment decisions but to a lesser extent. Herding behavior ($r = 0.452^{**}$) also shows a moderate correlation, as investors tend to follow others, believing that collective actions reduce individual risk. These correlations arise because each bias psychologically shapes perceptions of risk and reward, impacting decision-making in the stock market.

Regression results clarify the direct impact of biases on investment decisions. Overconfidence bias ($\beta = 0.198$, $p < 0.001$) has the strongest positive effect because investors who overestimate their abilities tend to make more frequent and confident investment decisions, sometimes ignoring contrary information. Anchoring bias ($\beta = 0.188$, $p = 0.003$) significantly impacts decisions as investors fixate on initial reference points, limiting their flexibility to adjust to new market information. Loss aversion ($\beta = 0.121$, $p = 0.001$) influences decisions by making investors more risk-averse, affecting how they balance potential gains against losses. In contrast, optimism bias ($\beta = 0.046$, $p = 0.443$) shows no significant effect, possibly because overly positive expectations do not always translate into actual investment behavior in this context. Herding behavior ($\beta = 0.128$, $p = 0.028$) also lacks a strong effect, suggesting that while some investors follow others, this tendency alone does not significantly determine their decisions in Nepal's stock market. Overall, these findings indicate that overconfidence, anchoring, and loss aversion are the key behavioral drivers shaping investor choices.

The correlation between Overconfidence Bias and Investment Decisions positive which is aligns with studies by Poudel et al. (2024); Naveed and Taib (2021); Metwally (2023), who found a positive influence of overconfidence on investment choices, contrasting with Sudirman et al. (2024), who highlighted its effect on irrational decisions. Similarly, Anchoring Bias positively correlates with ID, consistent with Poudel et al. (2024); Naveed and Taib (2021), but diverges from Priangga and Purwanto (2024), who found other biases more influential. Loss Aversion also shows a positive correlation with ID, in line with Poudel et al. (2024); Sudirman et al. (2024), though Hala et al. (2020) emphasized the limited role of financial literacy in decision-making. Optimism Bias positively correlates with ID, as seen in Arik and Sri (2021), but contrasts with Talreja (2024), who focused more on

other biases. Lastly, Herding Behavior positively correlate with ID, aligning with Sabir et al. (2019); Rawat (2023), but contradicts Pokharel and Baral (2020).

In current study, the regression results indicate that Overconfidence bias (OCB), Anchoring bias (AB) and Loss aversion (LA) all have a significant positive impact on investment decisions. This is consistent with the findings of Poudel et al. (2024); Naveed and Taib (2021); Rawat (2023), who also reported that these biases significantly influence investment choices. Similarly, Sudirman et al. (2024) highlighted the significant role of loss aversion, aligning with the current study's findings. However, Optimism bias (OB) and Herding behavior (HB) do not significantly impact investment decisions, which contrasts with the results of Arik and Sri (2021); Talreja (2024), who found a positive effect of OB and HB on investment decisions. This discrepancy suggests that the influence of OB and HB on investment decisions may vary across different studies.

CHAPTER – V

SUMMARY AND CONCLUSION

This chapter has comprised three sections: a summary of the study, the research conclusions, and the implications derived from both the summary and the conclusions.

5.1 Summary

This study has examined the Behavioral Finance: Understanding Investor Overconfidence in the Nepal Stock Exchange, focusing on behavioral biases such as overconfidence, anchoring, loss aversion, optimism, and herding. A descriptive and causal-comparative research design has been employed, with data collected from 400 active investors in the Kathmandu Valley using a structured questionnaire. Descriptive statistics, including min, max, mean and standard deviation have been used to analyze the trends and scenario of these biases, measuring their impact and variability on investment decisions. Correlation analysis has explored the relationships between the biases and investment decisions, revealing significant positive correlations. Regression analysis has further assessed the individual influence of each bias on investment decisions, identifying their contribution to investment behaviors. Demographic variables such as gender, age group, level of education, nature of employment, monthly income level and years of investment experience have been considered to provide context and additional insights into the behavioral patterns and decision-making processes. The study on Behavioral Biases: investor overconfidence in the Nepal Stock Exchange has shown that most respondents have been male, aged 20 to 30, and have held a bachelor's degree. Many have been employed, with incomes ranging from Rs. 20,000 to Rs. 40,000. The majority have had 1 to 6 years of investment experience, providing valuable insights into investor behavior and overconfidence in the NEPSE.

The descriptive statistics of the study variables has highlighted varying levels of investor behavior in the Nepal Stock Exchange. Overconfidence bias has shown moderate consistency, while anchoring bias has reflected more consistent responses. Loss aversion has indicated varying sensitivity to losses, and optimism bias has

suggested strong agreement in expecting positive returns. Herding behavior has demonstrated moderate conformity to others' choices. Investment decisions have been influenced by these biases, reflecting diverse investor perceptions and actions.

Correlation analysis has revealed positive relationships between all biases and investment decisions. Overconfidence, anchoring, loss aversion, optimism, and herding behavior have all shown moderate positive correlations with investment decisions. These relationships have been statistically significant, indicating that these biases have been related to how investors make decisions in the stock market.

Regression analysis has confirmed that overconfidence bias, anchoring bias, and loss aversion have significantly impacted investment decisions, suggesting that these biases have played a major role in shaping investor behavior. However, optimism bias and herding behavior have not shown significant impacts on investment decisions, indicating that factors such as following group behavior or overly optimistic expectations have not significantly influenced investment choices in the context of the Nepal Stock Exchange.

5.2 Conclusion

The first objective of this study is to assess the current situation of behavioral finance and investor overconfidence in the Nepal Stock Exchange, which has been fulfilled through descriptive statistical analysis. The analysis has provided an overview of investor behaviors, including overconfidence bias, anchoring bias, loss aversion, optimism bias and herding behavior, highlighting their varying degrees of influence. Demographic data has also been analyzed to offer context regarding the investor composition, including gender, age, level of education, nature of employment, monthly income level, and year of investment experience. This descriptive statistic has effectively addressed the objective by providing a comprehensive understanding of the current state of investor behavior in the Nepal Stock Exchange.

The second objective of this study is to examine the relationship between anchoring bias, loss aversion, overconfidence bias, optimism bias and herding behavior with investment decisions, which has been achieved through correlation analysis. The analysis has revealed that all the biases such as anchoring bias, loss aversion,

overconfidence bias, optimism bias, and herding behavior have shown positive correlations with investment decisions. These correlations indicate that as these biases increase, the likelihood of making certain investment decisions also rises. This correlation analysis has effectively addressed the objective by highlighting how each bias influences investment decision-making in the context of the Nepal Stock Exchange.

The third objective of this study, to analyze the effect of anchoring bias, loss aversion, overconfidence bias, optimism bias and herding behavior on investment decisions, has been achieved through regression analysis. The results have confirmed that overconfidence bias, anchoring bias and loss aversion have significantly impacted investment decisions, suggesting that these biases have played a major role in shaping investor behavior. On the other hand, optimism bias and herding behavior have not shown significant impacts on investment decisions, indicating that factors such as following group behavior or overly optimistic expectations have not significantly influenced investment choices in the context of the Nepal Stock Exchange.

5.3 Implications

This study on Behavioral Finance: Understanding Investor Overconfidence in the Nepal Stock Exchange offers several important implications for policymakers, financial practitioners, and academic researchers.

Implications for Policymakers

The findings emphasize the significant influence of behavioral biases especially overconfidence, anchoring, and loss aversion on investment decisions in the Nepal Stock Exchange. Policymakers should consider developing targeted investor education programs to raise awareness about these biases, helping investors recognize and mitigate their effects. Regulatory frameworks could also be enhanced to promote transparency and reduce practices that exacerbate biased decision-making, thereby contributing to a more efficient and stable capital market.

Implications for Practitioners

Financial advisors, brokers, and market intermediaries can leverage these insights to improve investment counseling by addressing common behavioral pitfalls among

investors. By recognizing that overconfidence and anchoring strongly shape investment choices, practitioners can tailor strategies to guide investors toward more rational and diversified portfolios. This understanding can also aid in risk assessment and forecasting by factoring in the behavioral tendencies influencing market movements.

Implications for the Academic Community

This study contributes to the limited behavioral finance literature focusing on emerging markets like Nepal. It highlights the need for further research into how specific biases affect investor decision-making within these unique market contexts. Academics are encouraged to explore interactions among various biases and extend investigations to other under-researched markets, enriching the global understanding of behavioral finance.

Scope for Future Research

Building on these findings, future studies could examine additional behavioral factors, such as the role of financial literacy or emotional influences on investment behavior. Longitudinal research could explore how biases develop or diminish over time or under different market conditions. Comparative studies between retail and institutional investors or across neighboring stock exchanges would also offer valuable insights into cultural and economic impacts on investor psychology.

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APPENDIX

Questionnaire

Dear Respondent,

I am Madan Dahal, an MBS student at Shanker Dev Campus, Putalisadak, Kathmandu. As part of my master's degree dissertation, I am conducting a study titled "Behavioral Finance: Understanding Investor Overconfidence in the Nepal Stock Exchange." I am collecting primary data for this research and kindly request your assistance in completing this questionnaire. The information you provide will be used solely for academic purposes. Therefore, I kindly ask you to take a few minutes to complete the following sections.

Section A: Demographic Information

1. Gender

- a) Male
- b) Female

2. Age Group

- a) Below 20 years
- b) 20 years to 30 years
- c) 31 years to 40 years
- d) 41 years to 50 years
- e) Above 50 years

3. Level of Education

- a) School Level
- b) Bachelor Level
- c) Master Level or Above

4. Nature of Employment

- a) Student
- b) Employed
- c) Self-Employed
- d) Unemployed

5. Monthly Income Level

- a) Below Rs. 20,000
- b) Rs. 20,000 to Rs. 30,000
- c) Rs. 30,001 to Rs. 40,000
- d) Rs. 40,001 to Rs. 50,000
- e) Above Rs. 50,000

6. Year of Investment Experience

- a) Less than 1 year
- b) 1 year to 3 years
- c) 4 years to 6 years
- d) 7 years to 9 years
- e) More than 9 years

Section B: Statements for Study Variables

The following statements are related to the variables, where the independent variables include overconfidence bias, anchoring bias, loss aversion, optimism bias and herding behavior while the dependent variable is investment decision, based on the study topic “Behavioral Finance: Understanding Investor Overconfidence in the Nepal Stock Exchange.” Each variable has been represented by five statements. Please select the option that reflects your level of agreement or disagreement. The responses will be measured on a five-point Likert scale, explained as follows:

Measurement of 5-Point Likert Scale

Likert scale items	Ratings
Strongly Agree	5
Agree	4
Neutral	3
Disagree	2
Strongly Disagree	1

Overconfidence Bias

Code	Statements	Ratings				
		5	4	3	2	1
OCB1	I tend to overestimate my ability to predict stock market movements.					
OCB2	I believe I have superior knowledge about stocks compared to other investors.					
OCB3	I often think my past investment decisions were better than they actually were.					
OCB4	I tend to invest in stocks with high risk because I am confident in my decision-making.					
OCB5	I believe that my expertise gives me an edge over other investors in the stock market.					

(Source: Author's Development)

Anchoring Bias

Code	Statements	Ratings				
		5	4	3	2	1
AB1	I base my investment decisions heavily on the initial stock price I see, regardless of other factors.					
AB2	When evaluating stocks, I tend to anchor my expectations on the past performance of that stock.					
AB3	I often make decisions based on historical prices or market trends without considering current market conditions.					
AB4	I find it difficult to adjust my expectations when new information contradicts my initial assumptions about a stock.					
AB5	I rely on initial price information or estimates to guide my decisions about stock investments.					

(Source: Author's Development)

Loss Aversion

Code	Statements	Ratings				
		5	4	3	2	1
LA1	I feel more distressed by losing money in investments than I feel satisfied by gaining the same amount.					
LA2	I am reluctant to sell stocks that are performing poorly because I fear realizing a loss.					
LA3	I tend to hold onto losing stocks in hopes that they will recover, rather than cutting my losses.					
LA4	I am more likely to avoid investments that I perceive as risky due to the fear of losses.					
LA5	I prefer to avoid risk even if the potential for gains is higher, due to my fear of losses.					

(Source: Author's Development)

Optimism Bias

Code	Statements	Ratings				
		5	4	3	2	1
OB1	I believe that my investments will perform better than the average market returns.					
OB2	I tend to assume that the market will improve, even when there are signals suggesting otherwise.					
OB3	I am overly optimistic about the potential returns of the stocks I invest in.					
OB4	I often believe that I can avoid losses due to my superior judgment and decision-making.					
OB5	I expect that the market will recover quickly from downturns, even when conditions suggest otherwise.					

(Source: Author's Development)

Herding Behavior

Code	Statements	Ratings				
		5	4	3	2	1
HB1	I tend to follow the investment choices of others when I am unsure about a stock.					
HB2	I am more likely to invest in stocks that are popular among my peers or financial advisors.					
HB3	When making investment decisions, I often look at what others are doing in the market.					
HB4	I feel more comfortable investing in stocks that have a lot of attention or hype around them.					
HB5	I believe that others' behavior in the stock market can influence my own investment choices.					

(Source: Author's Development)

Investment Decision

Code	Statements	Ratings				
		5	4	3	2	1
ID1	I make my investment decisions based on my own research and analysis rather than following the crowd.					
ID2	My investment decisions are influenced by my emotions, such as fear or excitement.					
ID3	I tend to follow a systematic approach to investing rather than making impulsive decisions.					
ID4	I often make decisions about which stocks to buy based on news and market trends.					
ID5	My investment decisions are shaped by my personal goals and risk tolerance rather than external advice.					

(Source: Author's Development)

Thank you for your participation and your valuable time!

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