

**PERSONALITY TRAITS AND OVERCONFIDENCE BIAS OF INDIVIDUAL  
INVESTORS IN NEPALESE STOCK MARKET**

By:

**Kapil Pudasainee**

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## RECOMMENDATION

## CERTIFICATION

## **DECLARATION OF AUTHENTICITY**

I, Kapil Pudasainee, declare that this Graduate Research Project is my own research work and that it has been fully and properly acknowledged wherever it has been taken from other sources. I further acknowledge that if it is discovered that I have significantly misinterpreted material submitted to SOMTU, any credits provided to me on that basis may be revoked.

.....

Signature:

Name:

Date:

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## ABBREVIATIONS

A	Agreeableness
AVE	Average Variance Extracted
C	Conscientiousness
CR	Composite Reliability
E	Extroversion
EMH	Efficient Market Hypothesis
Max.	Maximum
Min.	Minimum
N	Neuroticism
OB	Overconfidence Bias
OE	Openness to Experience
S.D.	Standard Deviation
SPSS	Statistical Package for the Social Sciences
SEM	Structural Equation Model
VIF	Variance Inflation Factor

## **EXECUTIVE SUMMARY**

The primary objective of this study is to examine the impact of the big five personality traits on the overconfidence bias of individual investors in the Nepalese stock market. The population of this study are the individuals who invest in secondary market in Nepal stock exchange. The sample size for this survey is 394 which has been derived by using the metric developed by Godden in 2004.

This research is based on primary data collection. Questionnaire were distributed on printed form as well as through emails, and social media. The sampling technique that has been adopted in this research is convenience sampling technique. Moreover, Correlational analysis has been used to examine the relationship between big five personality traits and overconfidence bias. Similarly, path analysis has been used to test the impact of personality traits on the overconfidence bias.

Study found that all of the big five personality traits: extroversion, agreeableness, conscientiousness, openness to experience and neuroticism have significant positive relationship with overconfidence bias. Similarly, findings suggests that there exists significant positive impact of extroversion, conscientiousness, openness to experience, and neuroticism on overconfidence bias except agreeableness.

Since the components of big five personality traits that is openness, conscientiousness, extraversion, and neuroticism have significant positive impact on overconfidence bias of the individual investors, a financial advisor should take in consideration these factors while making investment strategies for their clients.

Furthermore, investors should also take in consideration about their own personality types before making any investment decisions on secondary equity market.

## CHAPTER I

### INTRODUCTION

#### 1.1 Background of the Study

Since the 1950s, the traditional finance model has dominated the field of finance world, with people assumed to behave rationally when they make their financial decisions. Fama (1970) stated that the stock prices adjust quickly to the new information so that investors can't generate abnormal or above-average returns in efficient capital market. Standard finance theories such as Modern Portfolio Theory (Markowitz, 1952) and Efficient Market Theory (Fama, 1970) validated the rational investor hypotheses and efficient markets. According to modern portfolio theory, investors are reasonable and risk averse, preferring minimal risk over excessive risk for a given degree of reward. This is based on the idea that risk-averse investors might construct portfolios to maximize or optimize projected market return given a certain degree of risk, emphasizing that increased risk comes with better return (Markowitz, 1952). Financial prices, as per the efficient market hypothesis integrate every information available, and may be regarded as accurate estimates of real investment value throughout all periods. The efficient market hypothesis assumes that investors act rationally, accurately maximize expected utility, as well as evaluate every existing evidence. (Fama,1970). These theories argue that retail investors make entirely rational and asset-maximizing investing decisions, and that stock prices are determined by retail investors. Yet, various researchers over the last several decades have demonstrated that the predictive capacity of conventional finance theory is insufficient to explain individuals' observations and experiences in the stock market in reality. It has already been demonstrated that investor attitude and activities vary from simple rational model predictions. As a result, Kahneman and Tversky (1979), like many other scholars, proposed that studying psychology and other social science theories aids in a greater knowledge of stock exchanges.

Behavioral finance evolved as a distinct subject that focuses on mixture of psychological elements and finance in order to gain a greater knowledge of household investors' financial decision-making procedure and its influences on the capital market (Ricciardi & Simon, 2000). Humans are known to make decisions primarily on their intuitions and emotions instead of gathering enough information to allow good decision making. Previous Studies have indicated that irrational investment decisions are made by individual investors. Behavioral finance has been influenced by psychology of human mind and affects financial decision made by them (Shefrin, 2001). The behavioral finance descriptive model indicated

how market players act and behave in practice. Behavioral finance proponents argued that market participants did not always act rationally. Because of several psychological biases, investors in financial markets cannot always process all essential information.

Under conditions of risk and uncertainty, psychological factors can cause people to depart from rational decision-making processes by displaying cognitive biases (Baker & Wurgler, 2007). Shefrin (2001) classified behavioral biases in two broad categories: biases caused by heuristics and biases caused by frames. Heuristic driven biases include anchoring, representativeness, overconfidence, herding, naive reinforcement learning, and availability. Overconfidence may lead to high expectations and may become a barrier to effective decision making. According to Gigerenzer, Hoffrage, and Kleinbolting (1991), overconfidence occurs when confidence judgements are greater than the relative frequencies of accurate responses. Overconfidence was defined by Odean (1999) as an investor's inclination to overestimate the precision of their information regarding the value of an asset. Overconfidence will increase trading volume, and market depth (Odean, 2002).

Studies suggest that investor personality is one of the characteristics that contribute to perceptual biases (Rad & Chirani, 2014). Various aspects such as environment, mood, emotion, and cognitive influence individuals' financial decisions. All of these variables combine to form one's personality. The combination of such factors distinguishes one person from another. Everyone has a distinct set of feelings, ideas, and behaviors that are produced by a relatively stable mix of personality traits. The first modern traits theory was found by Allport and Odbert (1936) who suggested 4,500 words that could describe personality of human beings. Cattell (1957) narrowed down the traits and identified 16 factors or dimensions of personality: reasoning, warmth, rule-consciousness, emotional stability, dominance, liveliness, perfectionism, sensitivity, alertness, abstractedness, privateness, sociable boldness, anxiety, readiness to change, self-reliance, and stress. Later, these factors eventually became known as the Big Five; i.e., Openness to experience, Conscientiousness, Extroversion, Agreeableness, and Neuroticism (Goldberg, 1990).

The current study focuses on analyzing the impact personality traits on overconfidence bias of individual investors in Nepal stock exchange. The Big Five Factor model is the most generally used personality category, and it consists of five personality traits: extraversion, agreeableness, and conscientiousness, openness to experiences, and neuroticism (Digman, 1990).

## **1.2 Statement of Problem**

Previously, few studies have been conducted in foreign capital market relating personality traits and overconfidence bias. Zaidi and Tauni (2012) investigated the link between investor personality traits, demographics, and overconfidence bias in the Lahore Securities market and discovered that investment experience is strongly related to overconfidence bias.

Jency (2017) examined the impact of the big five personality factors on individual investors' overconfidence bias. The results of the research showed that extraversion, openness, agreeableness, and conscientiousness all influence overconfidence bias while neuroticism has no impact on stock market investors' overconfidence bias.

In the context of Nepal, there have few studies that studied personality traits with various other factors like trading behavior, job involvement, job satisfaction and demographics (Adhikari, 2019; Dangol & Shrestha, 2018). Yet, just a few studies have been undertaken in Nepal to explore the influence of personality factors on individual investors' overconfidence bias. Hence, this study intends to fulfill gap by examining the impact of personality traits on overconfidence bias of individual investors in Nepal stock Exchange.

Therefore, this research tries to give answer to following research questions:

- Is there any impact of personality traits on overconfidence bias of individual investors?
- What is the status of Nepalese individual investors in terms of big five personality traits?
- Is there any association between personality traits and overconfidence bias?
- Is there any influence of extroversion, agreeableness, conscientiousness, openness to experience and neuroticism on overconfidence bias of investors?

## **1.3 Research Objectives**

### **1.3.1 General Objectives**

The major goal of this research is to investigate the impact of the Big Five personality traits on the overconfidence bias of individual investors in the Nepal stock exchange.

### **1.3.2 Specific Objectives**

The specific objectives are as below:

1. To explore the status of different personality traits of Nepalese individual investors.

2. To examine the relationship between personality traits and overconfidence bias.
3. To determine the impact of extroversion on overconfidence bias of individual investors.
4. To estimate the impact of agreeableness on overconfidence bias of individual investors.
5. To examine the impact of conscientiousness on overconfidence bias of investors.
6. To determine the impact of openness to experience on overconfidence bias of investors.
7. To evaluate the impact of neuroticism on overconfidence bias of individual investors.

#### **1.4 Research Hypothesis**

The hypotheses of the study would be as follows:

Extraversion: An extrovert is someone who is extroverted and enjoys talking in public and in social situations. Extraverted investors are optimistic and actively participate, according to Costa and McCare (1992). Extroverted investors value positive information rather than negative information as relative to introverted investors (Noguchi, Gohm, & Dalsky, 2006). Previous research found that investors with high levels of extroversion have a positive association with herd behavior (Lin, 2011). Studies also found that extraversion positively influences overconfidence bias (Jency, 2017; Zaidi and Tauni, 2012). Therefore, extroverted individuals who invest in stocks focusing on other investors' opinions and hold losing shares since they feel certain that they would maximize their own net worth. To study the association between extroversion personality traits and overconfidence bias, we formulate the following hypothesis:

**H1: There is significant impact of extroversion on the overconfidence bias.**

Agreeableness: Individuals that score high on this personality feature are able to work well with others and get along with their group members because of their friendly and cooperative attitude. The findings of studies on the relationship between the big five personality traits and overconfidence bias are inconsistent. Some research shows positive associations, while others report negative or no relationships. Lin (2011) found that agreeableness and overconfidence bias were unrelated. Meanwhile, Zaidi and Tauni (2012) concluded that agreeableness and overconfidence have a positive association. Bashir, Azam, Butt, Javed, and Tanvir (2013) discovered a positive correlation between agreeableness and herd



behavior. The following hypothesis is proposed to investigate the relationship between agreeableness personality traits and the overconfidence bias.

**H2: There is significant impact of agreeableness on overconfidence bias.**

Conscientiousness: Individuals who have high degrees of conscientiousness take individual responsibility for their work and activities. Conscientious persons act with the possibility of future consequences in mind. Lin (2011) established a connection between conscientiousness and overconfidence. Because conscientious people are careful, they overestimate the worth of their investments. Zaidi and Tauni (2012) discovered a relationship among conscientiousness and overconfidence. Past study has found that conscientiousness has a positive association with herd behavior as well as overconfidence bias (Bashir et al (2013). Some studies, however, conclude that conscientiousness has no positive significant association with overconfidence bias. (Kubilay & Bayrakdaroglu, 2016). Therefore, we formulate the below hypothesis to measure the associations between conscientiousness personality trait and overconfidence bias.

**H3: There is significant impact of Conscientiousness on the overconfidence bias.**

Openness to Experience: The readiness to explore new things is known as the openness to experience. Individuals with low degree of openness are confident only in familiar surroundings. Individual who is adaptable to new ideas is ready to take risks with their assets (De Bortoli, Da Costa Jr, Goulart, & Campara, 2019) Previous study discovered that investors who possessed the personality trait 'openness to experience' had a positive association between overconfidence and herd behavior bias (Lin, 2011). When compared to other sorts of investors, these investors are overconfident.

Investors with this personality trait are eager to learn as much as possible and are more willing to consider the advice of others while making investment decisions. In contrast, Zaidi and Tauni (2012) discovered no statistically significant correlations between openness to experience and overconfidence bias. According to Kubilay and Bayrakdaroglu (2016), openness to experience has no significant association with herd behavior bias, while persons who are open to experience are influenced by overconfidence bias. Past research studies show that Individuals whom are ready to new adventures are more inclined to invest in equities rather than in less risky sovereign savings. (Brown & Taylor, 2014). Although the research indicates a significant association between openness to experience and overconfidence bias, we discovered an opposite relationship: as a result, we formulate the

following hypothesis to investigate the association between the openness to experience personality trait and overconfidence bias:

**H4: There is a significant impact of ‘openness to experience’ on the overconfidence bias.**

Neuroticism: This personality feature assesses people's emotional stability. Individuals with a high level of this attribute are anxious and overthinkers. These people are pessimistic who often become dissatisfied due to their tendency to overthink simple matters. Past research has discovered that investors with high levels of neuroticism bias has a highly significant strong correlation with crowd behavior (Bashir et al., 2013; Lin, 2011), suggesting that people buy certain companies because they are affected by the actions of another people (family, friends, coworkers) to invest in specific stocks. This is due to their lack of confidence in their own investment selections. Previous research has shown a negative association among neuroticism and overconfidence bias (Bashir et al., 2013; Zaidi and Tauni, 2012). Other studies showed no association between neuroticism and overconfidence bias (Jency, 2017; Kubilay & Bayrakdaroglu, 2016). As a result, we formulate the following hypothesis to investigate the association between neuroticism and overconfidence bias.

**H5: There is significant impact of neuroticism on overconfidence bias.**

### **1.5 Scope and Significance**

The purpose of this study is to examine the effect of personality factors on retail investors' overconfidence bias in the Nepal stock market. This study is important for individual investors, financial advisors, and students. The research will aid in the selection and training of appropriate applicants for these programs. The findings of this study suggest that while providing financial advice, investment advisors should consider the personal qualities of individual individuals. Investor personality traits might be used by financial planners and advisers to efficiently satisfy the client's financial needs and advise them on suitable financial services. This work will also be useful for future scholars, particularly students who want to perform research on this issue. They can get significant insight by working on the methods and findings of this study.

This study is also significant from an academic standpoint. From an academic standpoint, the study adds to the existing body of knowledge, particularly in the Nepalese context, where, to the best of the researcher's knowledge and information, such a study regarding the

impact of personality traits on behavior bias using the Structural Equation Model has never been conducted. The work also paves the way for future research in this and related areas.

The contribution of this study in the existing literature is till date no research is conducted in Nepalese outlook regarding the influence of personality traits on overconfidence bias of investors. Thus, the current study can be taken as reference for further research in the same field in future.

### **1.6 Limitations of the study**

- Because the researcher used a non-probability sampling technique, the results of this research cannot be fully generalized.
- The current research is limited to one third world country (Nepal), and including other developing and developed countries could broaden the study's findings.
- This research is fully based on quantitative data, results and findings.
- The time frame of this study is short.
- Because an online technique was employed to gather data/responses, accountability may be poor.

### **1.7 Outline/ structure of the Report**

The present thesis comprises three main sections with five chapters:

- Preliminary section
- Body of the report
- Supplementary section

The title page, certification and statement of authenticity, acknowledgement, list of contents, list of tables, list of figures, abbreviations, and executive summary comprise the preliminary section.

Similarly, the body of the report consists of another five-section; introduction, literature review, and theoretical framework research methodology, analysis, and results. This is followed by discussions, conclusions, and implications. The final section of the report contains a reference and appendix.

The first chapter covers the study's introduction, which presents the theoretical foundation of personality traits and overconfidence bias. It also comprises a statement of the research problem, the objective of the investigation, research objectives, the rationale of the research report, the importance of the study, the study's limits, and the structure of this thesis.

Similarly, the second chapter comprises the literature review and theoretical framework. A literature review consists of a review of empirical studies, research articles, and a thesis or dissertation and also presents an overall scenario of the study that relates to the objectives of the study.

In the same way, the third chapter is the research methodology that explains the tools and techniques used in the study. This chapter deals with research design, sample size and population, source of data, data collection techniques, and data analysis. It also deals with the reliability of research tools and techniques and ethical considerations of the study.

The fourth chapter describes the analysis and result of the study. It represents the analysis of quantitative data using statistical tools that defines the various tables, figures intended to answer the objectives and research questions of the research. Finally, the last chapter deals with the discussion, conclusion, and implications of the study.

## CHAPTER II

### RELATED LITERATURE AND CONCEPTUAL FRAMEWORK

This chapter presents the reviews of behavioral finance of earlier studies conducted in different countries in different time period. This chapter mainly focuses on the related literatures of behavior finance, Big five model of personality traits, overconfidence bias and other literatures on relationship between these variables.

#### 2.1 Theoretical Review

##### 2.1.1 Traditional Finance

A stock's price equals its "fundamental value" in an ideal context since frictions do not exist and agents appear to be rational. The fundamental value is defined as the "discounted sum of predicted future cash flows," assuming that investors are capable of appropriately processing all available information and that the discount rate is compatible with the acceptable preference specification (Barberis & Thaler, 2003). The Efficient Markets Hypothesis (EMH), which endorses the view that real prices represent basic values, asserts that prices are correct because they are determined by agents who have rational preferences and comprehend Bayes' law, which deals with conditional probabilities. Furthermore, an efficient market is one in which average returns cannot be greater than those justified by the risk, regardless of the investing approach used (Barberis & Thaler, 2003). Though, not all individuals are rational, the markets are supposed to be rational, according to EMH.

In the 1970s, traditional finance theory of efficient markets emerged as the recognized framework for market behavior. Conventional financial theories, including Efficient Market Theory (Fama, 1970) and Modern Portfolio Theory (Markowitz, 1952), argued that investors are logical and make decisions based on readily available information. According to the theory, investors think and behave rationally when buying and selling financial instruments, utilize all available information to form rational expectations, and therefore prices are accurate reflecting fundamental values. In turn, markets are efficient and stable and the overall economy is systematically moving toward general equilibrium. Standard finance is a set of knowledge based on Miller and Modigliani's arbitrage ideas. Markowitz's portfolio principles, Sharpe, Lintner, and Black's capital asset pricing theory, and Black, Scholes, and Merton's option-pricing theory (Statman, 1992). Traditional finance approaches are based on assumptions that are no longer valid in today's world. It is founded on ideas about how buyers should interact in financial markets instead of how actually they behave in practice.

Traditional finance theories use models in which market players are assumed to be totally rational to describe the financial market. When investors learn new knowledge, they update their beliefs and select normatively acceptable options. Unfortunately, certain market actions may not be justified over time within this concept. This was also claimed that certain market actions might be best understood by concepts under which individuals act illogically (Barberis & Thaler, 2002).

### **2.1.2 Behavioral Finance**

In the 1980s, a new discipline called as Behavioral Finance emerged, which integrated psychological and behavioral concepts with traditional theories of finance to explain why investors and market participants make irrational decisions. Behavioral finance is a new finance discipline that challenges the classic finance belief that investors are rational. Psychological, demographic, interpersonal, contextual, and source-related aspects all impact investors' investing decisions. Personality is classified as a psychological element. The Efficient Market Hypothesis explains how investors should make investment choices; how behavioral finance investigates how realistic investors operate in the market (Peter, 1996).

The phrase "Behavioral Research" first emerged in the accounting literature in 1967, and the foundation of behavioral research in accounting is human judgment theory. This theory is concerned with psychological issues (Kadijeh, Mohsen, & Zohreh, 2016). Behavioral research has been used in accounting and auditing since 1974. Ashtn published an experimental study on auditors' opinion on internal controls in 1974. Since 1974, there has been a revolution in behavioral research in accounting, particularly in the theory of human judgment and, in particular, in the audit subject, because opinion is so important in the audit process. However, the development of behavioral research in the domain of financial accounting by introducing contract theory in the 1980s has faded and been eclipsed.

When making financial decisions, investors do not use their rational judgment. By incorporating human nature factors into financial markets, behavioral finance explains why market players depart from optimal investment decisions (Barber & Odeab, 1999). Kahneman and Tversky (1979) made substantial contributions to the subject of behavioral finance with their work on prospect theory. Previously, it was assumed that when individuals make decisions, they assess the overall evolution of each alternative's accumulated total impact of profits and losses. The utility notion was employed by the researchers as the satisfaction of every choice, and they stated that individual chose the options that optimize their utility. However, prospect theory demonstrated that individual perceive losses and

gains separately and formulate decisions based on projected earnings or deficits instead of genuine earnings or deficits. Behavioral Finance describes the emotional and cognitive elements that drive individual, group, and organizational decision-making (Ricciardi & Simon, 2011).

Thaler (1999) described Behavioral Finance as an open-minded orientation to financial knowledge. Behavioral finance is the study of psychological influences on capital market behavior. Therefore, behavioral finance is a perspective that questions two fundamental financial standard assumptions; the economically rational man and rational markets as well efficient markets. By concentrating on individual investors and their methods of acquiring and utilizing financial information, behavioral finance proposes a paradigm change from Markowitz and Sharp's standard finance theory. Therefore, behavioral finance investigates how different psychological qualities influence how people or organizations perform as investors, analysts, and portfolio managers. It is becoming an essential aspect of the decision-making process since it has a significant impact on the performance of investors (Banerjee, 2011). It attempted to comprehend how emotions and cognitive mistakes impact individual investor behavior (Kengatharan & Kengatharan, 2014).

Pompian (2006) classified behavioral finance into two categories: micro- and macro-Behavioral Finance. Micro behavioral finance investigates investors' behavioral biases, the most well-known of which are overconfidence, mental accounting, and risk taking, while macro behavioral finance investigates financial market anomalies and inefficiencies. Indeed, this category includes issues such as overreaction, underreaction, arbitrage restrictions, and price bubble. The constraints in arbitrage and cognitive psychology are two components of behavioral finance. Unlike traditional finance, behavioral finance argues that the market does not take advantage of all arbitrage opportunities due to constraints, and that the hedging process is incomplete. Thus, deviations from intrinsic price are possible at any time, but investors do not use them. This could be because trading has a higher cost and risk than arbitrage earnings. Cognitive psychology and the lack of complete rationality explain various behavioral and psychological biases in investor behavior. These biases, when compared to optimal behaviour, may lead to the failure to make intelligent decisions. Intuitive approaches, self-deception, and social interactions are examples of behavioral biases. (Raei & Fallahpoor, 2004).

### **2.1.3 Investors Personality Traits**

Investor behavior is heavily influenced by psychographic factors. Gender, age, investor life cycle stage, income, and other factors are among them. One of the most important factors influencing individuals' behavior is their own personality (Sadi, Asl, Rostami, Gholipour, & Gholipour, 2011). Barnewall (1987) classified investors in two categories to assist financial analysts in knowing the characteristics of their customers. They cover both active and passive investors. Passive investors become passive without putting in much effort. They became wealthy by putting other people's money at risk rather than their own, or by inheriting their parents' fortune. Active investors, on the other hand, have amassed wealth by putting their own money at risk. Passive investors require a high level of security, whereas active investors are more risk tolerant.

Personality refers to how a person engages, feels, and acts with others and is typically exhibited via visible qualities (Crysel, Crosier, & Webster, 2013). It impacts risk-taking behaviors in several aspects of a human's life, including the social, gamble, and investment choices (Soane, Dewberry, & Narendran, 2010). Personality is the structure of distinctive attitudes, beliefs, and actions that differentiates one person from others and persists through time and in many settings (Phares, 1991). Personality traits are mostly comprised of 18,000 elements, creating a conceptual nightmare for psychologists (Allport & Odbert, 1936). Cattell (1943) simplified the 4500 trait words into 35 dimensions, but Eysenck (1994) proposed three: extraversion, neuroticism, and psychoticism. Following that, personality traits are advised to be reduced to sixteen dimensions (Cattell & Mead, 2008). More crucially, the Big Five covering five major domains was proposed. Openness to new experiences (O); for example, broad interests, inventiveness, and understanding. Conscientiousness (C); for example, being orderly, comprehensive, and planned. Extraversion (E), for example, being chatty, lively, and forceful. Affection (A); for example, empathetic, kind, and affectionate. Neuroticism (N); for example, being tense, moody, or anxious. The Big Five is currently the most popular because it is simple and can capture, at a high level of abstraction, the similarities between most extant systems of personality traits. According to Goldberg (1990), five prominent personality traits known as the "big five" emerged, and personality studies could be structured around these five strong elements. Similarly, extraversion is the first dimension in the five-personality model. Extraverts are friendlier, more active and spontaneous, less dysphoric, less contemplative, and more self-focused than introverts (Watson & Clark, 1997). The model's second dimension is



agreeableness. Many aspects of agreeableness include socially preferred trust, compassion, willingness to help, and friendliness. Individuals who have disagreeable trait seem to be more cynical, self-centered, and rude (Costa & McCrae, 1992). The third component of the five-factor personality framework is conscientiousness, which is described as being meticulous, attentive, and cautious as well as being planned and structured. It is also related to success, order, and perseverance, together with self-control. Costa and McCrae (1992) investigate neuroticism's fourth dimension in six sub-aspects: anxiety, rage, melancholy, self-consciousness, vulnerability, and irresponsibility. People who have a high neuroticism score are likely to experience a number of issues, including unpleasant emotions and physical symptoms. Openness to experience, the model's last dimension, focuses on imagination, innovation, and originality (Zhao & Seibert, 2006). People who aren't willing to try new things are more likely to be closed-minded and conservative. Since it includes taking risks, choosing a new experience might be viewed as a cognitive stimulation.

#### **2.1.4 Overconfidence Bias**

Overconfidence can be defined simply as a misguided belief in one's own reasoning, judgment, and cognitive abilities (Sadi, Asl, Rostami, Gholipour, & Gholipour, 2011). Individual investors may define extremely small confidence ranges for their own predictions, a condition known as Prediction Overconfidence, while investors may consider themselves to be very sure and accurate in their judgments, a condition known as Certainty Overconfidence. Many investors believe they are better than others, and this preference to believe they are better than others can lead to overconfidence bias, which can eventually lead to excessive trading. Overconfidence is the tendency for people to overestimate their own knowledge, abilities, and the accuracy of their information (Bhandari & Deaves, 2006).

Albert and Raffia first demonstrated overconfidence in 1969 and Bazerman and Moore (2009) define two factors. The first refers to a person's propensity to overestimate his own abilities (Cesarini, Sandewall, & Johannesson, 2006). Overconfidence in our talents may cause us to ignore fresh information or perspectives. Similarly, exaggeration of knowledge accuracy is a second overconfident tendency, which encourages managers to be too hopeful about positive outcomes (Hilton, Renger, Cabantous, Charalambides, & Vautier, 2011). In investigating three forms of overconfidence, Moore and Healy's criteria of overconfidence were adopted by Hilton et al. (2011). Overestimation includes overestimating the precision of one's information, overestimating the quality of one's performance, and overestimating one's position in a group.

Due to overconfidence, investors traded excessively in technological stocks during the 1990s technological bubble. Investors were confident that holding a concentrated position in technological stocks would result in a high return. When it comes to stock selection, investors were often overconfident. As a result, trading volume was excessive. Investors who make much trading earn lesser returns than average trader (Odean, 2002).

Overconfidence-influenced investment decisions are frequently "detrimental" to investors. Overconfident traders trade higher than rational investors, according to research, lowering their expected utilities (Barber & Odean, 1999). Odean (1999) found that experienced investor credit his achievement to his knowledge, talents, and decision-making abilities, which leads to overconfidence. Overconfidence has a negative impact on "forecasting accuracy," and when stock profits is high, it contributes to a rise in turnover and faster trading (Metwally & Darwish, 2015). Markets underreact to significant information and overreact to "salient" but unimportant information as a result of overconfident traders (Odean, 2002). Overconfidence is indeed the cause why, investors trade actively while overlooking vital information, and this ignorance impacts pricing. (Daniel & Hirshleifer, 2015).

## **2.2 Empirical Review**

Human behavior can be influenced by both psychological and environmental factors (Endler & Magnusson, 1976). In the 2000s, Michael M. Pompian and John M. Longo used the Myers-Briggs Type Indicator personality test to reveal that shareholders of all genders and personality types might fall victim to various investing biases such as overconfidence bias. Researchers recommended that financial advisers acknowledge gender and investor personality category as significant factors in customer profiling, and those elements can be used in developing investing plan that can mitigate the negative impacts of investment biases (Pompian & Longo, 2004).

Bashir, Azam, Butt, Javed, and Tanvir (2013) examined the impact of demographics and personality factors on financial behavioral biases and risk-taking behavior in Pakistan. The questionnaire survey approach is utilized to collect data from a sample size of 225 finance students, bankers, and investors. Except for the disposition impact, the study revealed that the big five personality traits have a significant association with overconfidence bias, herd behavior, and risk taking.

Jency (2017) again investigated the Impact of Investor's Personality Traits on Overconfidence Bias. Individual investors' personality traits and overconfidence bias were

evaluated using a questionnaire. The study's sample was drawn from among stock market investors, and the research was carried out employing multiple regression analysis. The study concluded that overconfidence bias of the individual investors is influenced by extroversion, agreeableness, openness to experience and conscientiousness except neuroticism.

Zaidi and Tauni (2012) investigated the associations between investor personality traits, demographics, and overconfidence bias in Pakistan. To achieve the objective, survey technique is being employed, and a questionnaire was distributed to 200 randomly selected retail investors, 170 of whom were used for analysis. The collected data was entered into SPSS and various analytical tools were employed to achieve the study's results. The authors found an association between overconfidence bias and agreeableness, extroversion, and conscientiousness, as well as a negative association among overconfidence bias and neuroticism. The results revealed a link between an investor's investment experience and overconfidence bias.

Sadi, Ghalibaf, Rostami, Gholipour, and Gholipour (2011) employed the Big Five personality model to link behavioral biases to investor personality traits on Iran's stock exchange. The Study's findings revealed that extroversion is positively correlated to hindsight bias and conscientiousness is negatively correlated to randomness bias. It was also found that there was a link between neuroticism and randomness bias, commitment escalation, and availability bias. It was also discovered that openness to experience positively related to hindsight bias and overconfidence bias, but negatively with availability bias. Finally, agreeableness is unrelated to any perceptual error.

Lin (2011) used the big five model to investigate the association between investor personality traits and behavioral biases. Few personality traits and demographic factors have been strongly associated. He discovered that neuroticism is positively correlated to the disposition effect and herding, but not to overconfidence bias. The disposition effect and overconfidence bias are all associated with extraversion, openness, and conscientiousness, but not with herding behavior. Lastly, investors with agreeableness traits were immune to behavioral bias.

Trang and Khuong, (2017) studied the associations between personality traits, perceived risk, uncertainty and investment performance in Vietnam. In this research researchers used in-depth interview from experts having at least of 10 years of investing experience as well

as collected response from 430 respondents. Two separate exploratory factor analysis was used for dependent and independent variable. Results showed that Conscientiousness and perceived uncertainty have a direct impact on investment performance. Moreover, through the mediation effect of perceived uncertainty, openness, extraversion, and neuroticism have an indirect impact on investment performance.

Akhtar and Das (2020) investigated the effect of psychological biases in moderating the relationship between personality characteristics and individual investors' perceived investment success. According to the findings of this study, personality factors have a considerable effect on financial risk tolerance, financial overconfidence, and perceived investment performance.

Kumar, Dudani, and Latha (2021) examined the relationships between behavioral biases and the five key personality traits. To investigate the relationship between biases and personality, an exploratory study is designed. The psychological bias questionnaire was evaluated using confirmatory factor analysis (CFA), and structural equation modeling was employed for path analysis. According to this study, extroversion has a significant negative impact upon overconfidence bias while openness to experience has a significant positive impact on overconfidence bias. They also found that conscientiousness, agreeableness, and neuroticism had no influence on overconfidence bias.

Dangol and Shrestha (2018) investigated the influenced of personality traits and demographics with behavior biases in investment decisions. The questionnaire survey approach is utilized to obtain data from 134 respondents. The findings revealed a strong association between five personality traits and all three behavioral biases. Likewise, the findings revealed that behavioral biases in individual investors have a weak association with majority of the demographic characteristics.

Smith and Roberts (2007) investigated the association between social investment and personality variables. The study applied the meta-analytic approach to analyze cross-sectional patterns of association under social investment in four roles: job, family, religion, and volunteerism, along with the personality trait categories of agreeableness, conscientiousness, and emotional stability. Based on the findings, the level of involvement in social roles across these domains is positively associated to agreeableness, conscientiousness, and emotional stability. and low psychoticism. The social investment in volunteer activity was positively related to conscientiousness.

Schaefer, Williams, Goodie and Campbell (2004) studied the association between personality traits and overconfidence. The result found that extraversion and overconfidence have a positive relationship, although openness leads to confidence however it does not lead overconfidence. Parameswari and Krishnan (2015) studied the impact of personality traits on investors' attitude toward investment. According to the findings of the study, personality traits have no significant influence on an investor's attitude toward investment because individual investor wisely invests in a diverse portfolio with the goal of avoiding risk.

Ozer and Mutlu (2019) investigated the effects of personality traits on financial behavior in Turkey and Personality qualities such as conscientiousness, openness to experience, and agreeableness were discovered to have a substantial and significant effect on financial behavior. However, extraversion and neuroticism have no influence on financial behavior.

Durand, Newby, Tant, and Trepongkaruna (2013) investigated how personality traits are related to capital market phenomena, specifically overconfidence and overreaction of individual investors in international stock exchange. The researchers did an analysis of how personality traits influence investment and discovered that personality factors are linked to overconfidence and overreaction in capital markets.

Durand, Newby, and Sanghani (2008) discovered that the big-five personality is associated with traders' trading behavior in a sample size of 21 stock investors from Australian stock exchange. The researcher further reached the conclusion that there is a positive relationship between negative emotion and trading frequency and there was a negative association between extraversion and trading.

Mayfield, Perdue, and Wooten (2008) investigated many psychological predictors of long-term and short-term investing intentions, with a particular emphasis on the big five personality category. The researchers discovered that people who are high in extroversion prefer to focus on short-term investments, whereas people who are high on openness prefer to focus on long-term investments.

Openness to new experiences, on the other hand, did not predict short-term investment. Study concluded that investors with high neuroticism do not engage in short-term investment while risk-averse individuals avoid long-term investment. Hence, it is possible to deduce that investor personality traits influence their investment intentions.

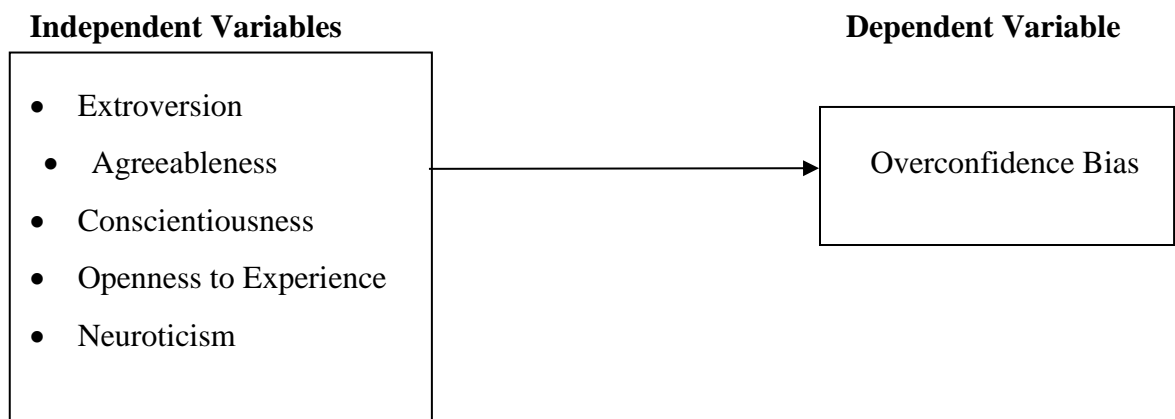
### 2.3 Research Gap

In the context of Nepal, there very few research works that have studied on the personality traits and overconfidence bias of investors. Dangol and Shrestha (2018) revealed that investors five personality traits have a significant relationship with behavioral biases i.e., overconfidence, herding and disposition effect. Adhikari (2019) presented empirical evidence showing the link between information sources and trading behavior is influenced by individual investor personality factors. Individual investors with extraversion, agreeableness, and neuroticism raised their trading frequency due to word-of-mouth communication, whereas assistance from financial specialists decreased trading frequency of neurotic type investors. Considering the prior research, it is necessary to explore the effect of the big five personality traits on the overconfidence bias of individual investors in the Nepalese stock market. Therefore, Structural Equation Modeling is used in this study to assess the impact of personality traits (Extraversion, Conscientiousness, Agreeableness, Neuroticism, and Openness to Experience) on an individual investor's Overconfidence bias, which can influence his/her decision-making behavior in the share market.

### 2.4 Development of Conceptual Framework

**Figure 1**

*Conceptual Framework*



Source: Kumar, Dudani, and Latha, (2021)

Figure 1 shows the framework of this study. In this framework Extroversion, Agreeableness, Conscientiousness, Openness to Experience and Neuroticism are the independent variable whereas Overconfidence Bias is taken as dependent variable. This framework was taken from the study of Kumar, Dudani, & Latha (2021). The major purpose of this study is to

look at how personality traits affect individual investors' overconfidence bias in the Nepalese stock market.

## **2.5 Operational Definition of Variables**

### **2.5.1 Big Five Personality Traits**

Personality refers to the collection of different characteristics of an individual like emotional, cognitive, and motivational characteristics which determine how investors differentiate themselves and respond to their environment and makes decision (Dole & Schroeder, 2001). Different personality traits have been used by researchers throughout different times. However, most of the researchers use big five personality models to measure personality traits (Dole & Schroeder, 2001). The Big Five model is widely used as compared to other models of personality traits because it has a high acceptance rate in applied research (Barrick & Mount, 1991). The Big Five model of personality was divided into 5 different traits namely: Extraversion, Agreeableness, Conscientiousness, Openness to experience and Neuroticism.

#### **Extraversion**

Extraversion measures the degree to which individuals are dominating, assertive, energetic, active, talkative, and enthusiastic (Costa & McCrae, 1992). Extraverted individuals are cheerful and pleasant, they appreciate people and large groups, and they love adventure and excitement. Low Extroversion people prefer to spend more time alone and are classified as quiet, reticent, and self-sufficient. Salespeople, according to Costa and McCrae (1992), are paradigmatic extraverts. In this study, extroversion has been measured in ratio scale with 7 items Likert-scale questionnaire by asking respondents to select their level of agreement for the given statements.

#### **Agreeableness**

Individuals with a high Agreeableness attribute are compassionate, trustworthy, altruistic, and gullible. The upper side of Agreeableness shows someone with a cooperative character and ideals, as well as a desire for constructive interpersonal connections. A person on the low end of the agreeableness scale is manipulative, self-centered, distrustful, and cruel. (Costa & McCrae, 1992). Though agreeableness can help people be perceived as trustworthy and build pleasant, collaborative working connections, it can also reduce the tendency to drive hard bargains, look out for one's own self-interest, and influence or manipulate others for one's own advantage. Agreeableness has been measured in ratio scale with 7 items Likert-

scale questionnaire by asking respondents to select their level of agreement for the given statements in this research.

### **Conscientiousness**

Conscientious people are dedicated, well-organized, dependable, persistent, and on scheduled. Conscientiousness is defined as an individual's level of organization, tenacity, hard work, and drive in the pursuit of goal attainment. Many academics define conscientiousness as a wide personality trait comprised of two major components: achievement motivation and dependability (Mount & Barrick, 1995). In our analyses, we evaluate Conscientiousness as a unitary construct as well as the two key components of Conscientiousness independently. Conscientiousness has been measured in ratio scale using 7 items Likert-scale questionnaire by asking respondents to select their level of agreement for the given statements in this study.

### **Openness to Experience**

Individual with a high Openness score is creative, innovative, imaginative, contemplative, and unconventional. Someone with a low Openness score is conventional, has narrow interests, and is unanalytical. Openness is associated with intellect, particularly components of intelligence associated with creativity, like divergent thinking (McCrae, 1987). Open people are those who are open to new experiences and ideas. The breadth, depth, originality, and complexity of an individual's mental and experiential life are described by openness to experience (as opposed to closed-mindedness). In this regard, openness to experience has been measured in ratio scale using 5 items Likert-scale questionnaire by asking respondents to select their level of agreement for the given statements in this research study.

### **Neuroticism**

Individual disparities in adjustment and emotional stability are represented by neuroticism. Neurotic people are more prone to experience anxiety, anger, sorrow, self-consciousness, impulsiveness, and fragility (Costa & McCrae, 1992). People who have a low Neuroticism score are self-assured, peaceful, even-tempered, and relaxed. Neuroticism contrasts emotional stability and even-temperedness with negative emotions such as anxiety, nervousness, sadness, and tenseness. Neuroticism has been measured in ratio scale with 6 items Likert-scale questionnaire by asking respondents to select their level of agreement for the given statements in this study.



### **2.5.2 Overconfidence Bias**

Behavioral finance is classified into two types: macro and micro. Micro behavioral finance is concerned with individual biases, whereas macro behavioral finance is concerned with financial market anomalies. Overconfidence bias is one of the most common micro-biases. Individuals that are overconfident overestimate their talents, information, and understanding, which leads to poor decision making. Excessive optimism, confirmation bias, and the illusion of control can all contribute to overconfidence. Due to these biases, an investor believes that her decision will result in a preferred outcome and chooses only information that validates her pre-existing ideas (Manazir, Noreen, Asif, & Aziz, 2016). Overconfidence bias has been measured in ratio scale with 4 items Likert-scale questionnaire by asking respondents to select their level of agreement for the given statements.

## CHAPTER III

### RESEARCH METHODS

The previous chapters conferred the hypothesis of this study and their development through review of the prevailing literature. This chapter introduces the analysis method used to deal with the propositions. It describes in depth the general research design used by the researcher. It includes sample size and population, sources of data, data collection technique, data analysis and interpretation of data. It also deals with reliability of the data collection instruments and ethical considerations with the study. Finally, it shows the overall basic framework of methods and technique that are utilized in the study.

#### 3.1 Research Design

Kinnear and Taylor (1996) describe research design as follows: It is the plan that is executed to conduct the research and it assures that the study is relevant to the topic and will employ cost-effective methods. The research design has been associated with the research questions that intend to test the relation and impact of big five personality traits, that is, Openness, Conscientiousness, Extraversion, Agreeableness and Neuroticism on personality traits of individual investors in Nepalese stock market. A quantitative and explanatory research design has been used in the study in which descriptive research was used to describe the variables of personality traits and overconfidence bias. It has helped to accurately and systematically provide information about the population, situation, or phenomenon to the readers.

Similarly, explanatory research design helps to determine the impact the impact of personality traits on overconfidence bias of individual investors in Nepal stock exchange. Self-administered survey has been carried out with the set of closed ended questionnaire which gives quantitative records. IBM SPSS and Smart PLS have been used to analyze the data. Since records are accrued at unique factor of time, the studies turn into cross-sectional in nature.

#### 3.2 Population and Sample

Individual investors with experience in Nepal's secondary market of stock exchange comprise the population for this study. Non-probabilistic convenience sampling is used to collect the desired data. The sample size for the study will be above 385 respondents which has been identified by the metrics developed by Godden in 2004, which is if the population is above fifty thousand then with a 5 percent margin of error the minimum sample size should

be at least 385 (Godden, 2004). So, in this study sample size of 394 individual investors is taken for the study.

### **3.3 Source of Data and Data Collection Plan**

The researcher has adopted the primary method of data collection. After the questions were constructed, 338 responses were collected via the online medium using google form and the remaining 56 responses were collected via printed questionnaires.

### **3.4 Instrumentation**

The study relied on primary data sources. To acquire all of the relevant information from the investors, a questionnaire was employed. The questionnaire was separated into three parts. After studying the literature on behavioral finance, the questionnaire was created. The questionnaire was based on the studies of Ozer and Mutlu (2019) and Kumar, Dudani, and Latha (2019). The first section of the questionnaire was for sample demographic profile, which included gender, age, educational background, monthly income level, and stock market experience, marital status, investors' province, and portfolio size. The second half includes questions about personality traits such as extroversion, agreeableness, conscientiousness, openness to experience, and neuroticism, while the third segment includes questions about overconfidence biases.

### **3.5 Data Analysis**

Valid responses were segregated and selected for further analysis when the data gathering method via questionnaire dissemination was completed. Microsoft Excel, SPSS software, and Smart PLS were used to test and evaluate the obtained data. In the first phase, for descriptive statistics, SPSS is used to assess data reliability with Cronbach's alpha and to perform preliminary analysis of data such as mean and standard deviation. To measure the normality of the data, Shapiro-wilk statistic is used along with the histogram.

Secondly, Measurement Model Analysis was used to examine the convergent and discriminant validity. Composite Reliability with a minimum threshold of 0.70 and AVE with a minimum threshold of 0.50 have been established for convergent validity. Furthermore, in the case of discriminant validity, the Fornell-Larcker Criterion, Cross Loadings, and Heterotrait-Monotrait Ratio were utilized, with a value of less than 0.90.

Similarly, Correlation analysis was done to determine the degree to which the big five personality factors correlates to overconfidence bias and multiple regression analyses were

performed to examine the influence of the big five personality factors on individual investors' overconfidence bias.

### 3.6 Reliability Analysis

Cronbach's alpha was calculated for all six variables to determine internal consistency. Table 1 demonstrates that the overall alpha for every sub - scale is greater than 0.6, indicating a moderate level of consistency (Cronbach, 1951). The surveys were per-tested using responses from 45 different investors as sample. The questionnaire was distributed after ensuing the correct reliabilities.

**Table 1**

*Reliability analysis*

Variable	No. of Items	Cronbach's Alpha
Extroversion	7	0.879
Agreeableness	7	0.946
Conscientiousness	7	0.903
Openness to Experience	5	0.927
Neuroticism	6	0.905
Overconfidence Bias	4	0.862

### 3.7 Ethical Consideration

In studies, ethical situation is decisive. Honesty and fairness should be a non-negotiable value in the research study. While conducting the survey and drafting the report, both ethics and standards are maintained. The norms and regulations were carried out, and no unethical acts were carried out through the survey or report writing, as per the university's standards. Responses were submitted with the consent of the participants. Respondents were told that the study's aim is for academic purposes only and for the sake of this specific study alone. They are also assured that their replies would be kept totally confidential. The researcher told the respondents that their participation in the study was entirely voluntary, and that they might withdraw at any moment without explanation. Even if for some reason there was a refusal by respondents to take part in the survey, this was respected.

The participants suffered no injuries or physical or psychological abuse during the investigation. During the interview, the researcher, on the other hand, tried to develop and maintain a flexible, pleasant, and collaborative environment. Participants were notified that

their personal information would be treated confidentially and wouldn't be disclosed to third parties. Participants were also promised that the information they submitted would be used solely for research purposes. Likewise, the researcher guarantees that relevant citations and references were used and that there will be no plagiarism. To honor the original authors of the ideas and thoughts presented in this study, sources have been accurately cited.

## CHAPTER IV

### ANALYSIS AND RESULTS

This chapter discusses data background in order to provide an overview of the data collected. It presents the result obtained from the analysis performed after the data was collected. The results of various frequencies, correlation and regression are presented and five hypotheses are tested.

#### **4.1 Demographic Profile of the Respondents**

The demographic profile of respondents from the Nepalese stock market is shown in Table 2. Respondents were divided into several demographic categories that include gender, age, educational level, monthly income, experience in stock exchange, marital status, province and portfolio size. This study consists of 394 respondents in total. Out of 394 respondents, majority were male (68.5%) and the remaining 31.5% were female. In the table it can be observed that the great majority of responses are between the ages of 20 and 29. (55.1%), followed by 22.8 percent belong to 30-39 years, 13.2 percent belong to 40-49 years, 4.8 percent belong to below 20 years and 4.1 percent belong to 50 and above years. In terms of educational qualification, 5.6% of the respondents have educational qualification of up to SLC/SEE level, 16.2% of the respondents have Intermediate level education, 44.2% have bachelor's degree and 34 percent of respondents have master's and above degree. This shows that the respondents are either young or adult with good educational background. Respondents were from diverse monthly income; however, majority (47.2%) have monthly income of Below Rs. 30,000 followed by monthly earning 30,001 to 60,000 (27.7%), monthly earning 60,001 to 90,000 (13.2%), monthly earning 90,001 to 120,000 (6.1%), and monthly earning above 120,000 (5.8%). Regarding the experience in stock market, 45.7% of the respondents had been working for 1-3 years in the stock market as investor. It is followed by more than 5 years (19.8%), 3-5 years (18.8%), and only 15.7% of the respondents had been working for less than 1 year. On the basis of marital status majority (58.6%) of the respondents were unmarried, 40.4 percent of the respondents were married and only 4% of the respondents were divorced. Regarding the permanent address of the respondents, majority were from Bagmati province (43.7%) and least from Karnali province (4.1%). It is followed by 18.3% of Lumbini, 13.7% of Gandaki, 9.4% of province one, 5.6% of Madhesh and 5.3% of sudurpashchim province. Out of the 395 respondents, only 2.3% described themselves as big investor in term of portfolio size. Majority (69.3%) of the respondents were small investors followed by 28.4% medium investors.

**Table 2***Respondent's Profile*

		Number of Respondents	Percent
Gender	Male	270	68.5
	Female	124	31.5
Age	Below 20	19	4.8
	20-29	217	55.1
	30-39	90	22.8
	40-49	52	13.2
	50 or above	16	4.1
Educational Level	SLC/SEE or below	22	5.6
	Intermediate	64	16.2
	Bachelor's Degree	174	44.2
	Master's Degree or above	134	34
Monthly Income	Below 30,000	186	47.2
	30,001-60,000	109	27.7
	60,001-90,000	52	13.2
	90,001-120,000	24	6.1
	Above 120,000	23	5.8
Experience	Less than 1 year	62	15.7
	1-3 years	180	45.7
	3-5 years	74	18.8
	More than 5 years	78	19.8
Marital Status	Married	159	40.4
	Unmarried	231	58.6
	Divorced	4	1
Province	Province one	37	9.4
	Madhesh Province	22	5.6
	Bagmati Province	172	43.7
	Gandaki Province	54	13.7
	Lumbini Province	72	18.3
	Karnali Province	16	4.1
	Sudurpashchim Province	21	5.3

Portfolio Size	Small Investor	273	69.3
	Medium Investor	112	28.4
	Big Investor	9	2.3
Total		394	100%

## 4.2 Descriptive Statistics of Investors personality Traits

One of the primary objectives of this study is to evaluate the various personality traits of Nepalese individual investors. For this, the respondents were asked to rate their level of agreement on a variety of personality trait-related items. These rating were given using a five-scale metric: 1- Strongly Disagree, 2- Disagree, 3- Neutral, 4- Disagree and 5- Strongly Agree. Mean and standard deviation were used to assess the different personality traits perceived by individual investors. The mean and standard deviation of the all items of personality traits is reported in table 3-7.

### 4.2.1 Descriptive statistics of Extroversion

**Table 3**

*Descriptive statistics for Extroversion*

Opinion Statements	N	Min.	Max.	Mean	S.D.
In the community, I feel very comfortable.	394	1	5	3.792	0.898
I enjoy interacting with strangers.	394	1	5	3.454	0.927
I always initiate the conversation.	394	1	5	3.218	0.987
I consider myself to be extroverted.	394	1	5	3.411	0.927
I prefer to be in the forefront.	394	1	5	3.594	0.869
I try to get people's attention.	394	1	5	3.315	1.033
It makes me delighted to be the focus of attention.	394	1	5	3.497	1.047
				<b>3.469</b>	<b>0.729</b>

Table 3 exhibits the descriptive statistics of Extraversion under the study. Extroversion has a mean score of 3.469 and a standard deviation of 0.729, indicating that the majority of participants are extroverts. Besides, all items of extroversion including overall mean score of extroversion seems to be little higher than neutral.



#### 4.2.2 Descriptive Statistics of Agreeableness

**Table 4**

*Descriptive statistics for Agreeableness*

	N	Min.	Max.	Mean	S.D.
I understand human emotions and problems.	394	1	5	3.825	0.827
I look after people.	394	1	5	3.853	0.790
I devote some time to the others.	394	1	5	3.810	0.811
I can understand how people are feeling.	394	1	5	3.815	0.846
I work well with others.	394	1	5	3.718	0.768
I assist others in feeling better.	394	1	5	3.726	0.782
I help people feel relaxed.	394	1	5	3.650	0.781
				<b>3.771</b>	<b>0.626</b>

Table 4 exhibits the descriptive statistics of Agreeableness under the study. The mean score of agreeableness is 3.771, with a standard deviation of 0.626, indicating that typical responders are kinder and more cooperative in social interactions. Besides, all items of agreeableness including overall mean score of agreeableness seems to be little higher than neutral.

#### 4.2.3 Descriptive Statistics of Conscientiousness

**Table 5**

*Descriptive statistics for Conscientiousness*

	N	Min.	Max.	Mean	S.D.
I always do my tasks on time.	394	1	5	3.975	0.822
I am always willing to accept responsibility.	394	1	5	3.830	0.893
I am meticulous in my attention to detail.	394	1	5	3.909	0.773
I work following a routine to meet my obligations.	394	1	5	3.622	0.824
I take extra care in my job.	394	1	5	3.997	0.740
In my profession, I accept responsibility.	394	1	5	4.086	0.753
I am usually in charge.	394	1	5	3.954	0.750
				<b>3.910</b>	<b>0.615</b>

Table 5 exhibits the descriptive statistics of Conscientiousness under the study. Conscientiousness has a mean score of 3.910 and a standard deviation of 0.615, indicating

that the majority of respondents are conscientious from neutral point, this demonstrates they are extremely skilled, self-disciplined, and actively involved in decision making. Besides, all items of conscientiousness including overall mean score of conscientiousness seems to be little higher than neutral.

#### 4.2.4 Descriptive Statistics of Openness to Experience

**Table 6**

*Descriptive statistics for Openness to Experience*

	N	Min.	Max.	Mean	S. D.
I enjoy experimenting with new things.	394	1	5	4.008	0.802
I am open to fresh concepts.	394	1	5	4.086	0.818
I'd like to be one of the first to test out new products.	394	1	5	3.579	0.989
I am not scared to experiment.	394	1	5	3.802	0.830
I am open to new ideas.	394	1	5	4.051	0.760
				<b>3.905</b>	<b>0.666</b>

Table 6 exhibits the descriptive statistics of openness to experience under the study. The mean value of openness is 3.905, with a standard deviation of 0.666, indicating that the majority of participants are liberal from neutral point, which portrays they are more open to the new ideas and novelty. Besides, all items of openness including overall mean score of openness seems to be higher than neutral.

#### 4.2.5 Descriptive Statistics of Neuroticism

**Table 7**

*Descriptive statistics for Neuroticism*

	N	Min.	Max.	Mean	S.D.
I am easily stressed.	394	1	5	3.096	1.046
My emotion swings a lot.	394	1	5	3.168	1.054
I am often irritated.	394	1	5	2.972	1.025
I am just furious.	394	1	5	2.602	1.049
I am frequently depressed.	394	1	5	2.931	1.010
I am easily annoyed.	394	1	5	3.099	1.050
				<b>2.978</b>	<b>0.853</b>

Table 7 exhibits the descriptive statistics of neuroticism. The mean value of Neuroticism is 2.978 with standard deviation of 0.853 which suggests that average respondents do not tend towards neuroticism, showing the little optimistic outlook. Besides, mean value of half of the items are less than three and remaining half of the items are more than three.

### 4.3 Descriptive Statistics of Investors overconfidence Bias

**Table 8**

*Descriptive statistics for Overconfidence Bias*

	N	Min.	Max.	Mean	S.D.
My market forecast is more accurate than that of my family and friends.	394	1	5	3.155	1.041
I believe I can forecast future rates better than most investors.	394	1	5	3.201	0.987
My investment success is due to my market expertise and insight.	394	1	5	3.739	0.933
With my expertise and skills, I can construct a stock portfolio that outperforms the market.	394	1	5	3.556	0.937
				<b>3.412</b>	<b>0.824</b>

Table 8 exhibits the descriptive statistics of overconfidence bias. The mean is 3.412, with a standard deviation of 0.824, indicating that typical responders are little overconfident, showing that they believe they can perform well than the average market. Besides, all items of overconfidence including overall mean score of overconfidence bias seems to be little higher than neutral.

#### 4.4 Normality Test

**Table 9**

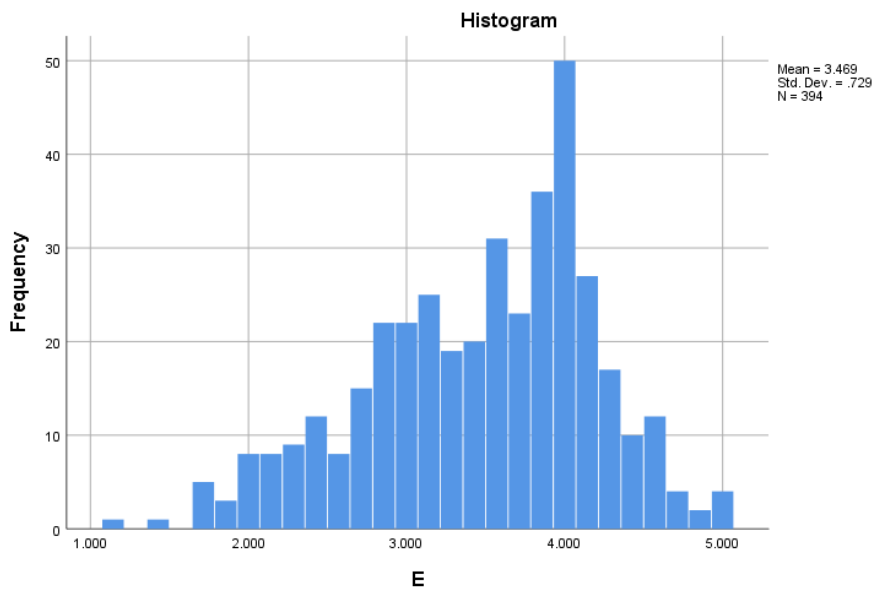
*Shapiro-Wilk Test of Normality*

Latent Variable	Shapiro-Wilk		
	Statistic	Df	Sig.
Extroversion	0.972	394	0.000
Agreeableness	0.918	394	0.000
Conscientiousness	0.893	394	0.000
Openness to Experience	0.932	394	0.000
Neuroticism	0.962	394	0.000
Overconfidence Bias	0.971	394	0.000

Shapiro-wilk test is done to assess the normality of the data. Table 9 shows that the significance value of all the variables  $P < 0.01$ , as a result null hypothesis of data normality is rejected. Hence, the variables are not normally distributed. According to Hair, Sarstedt, Ringle, and Mena (2012) PLS-SEM is used when the data is not normal. Hence, the use of PLS-SEM is more justified as data is not normal.

**Figure 2**

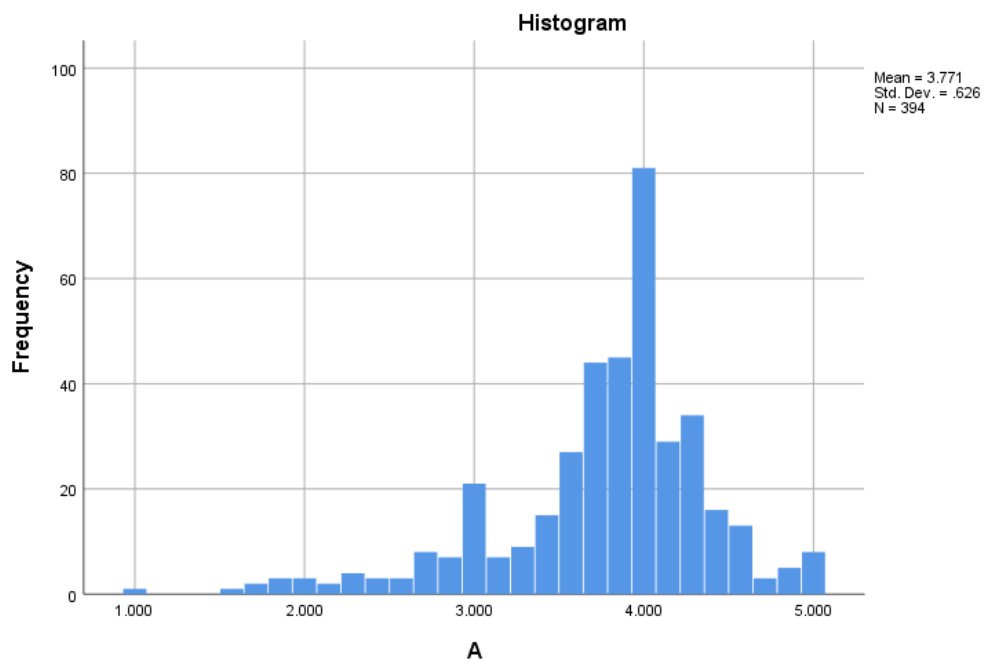
*Histogram of Extroversion*



As shown in Figure 2, the data set for Extroversion is left skewed and thus not normally distributed.

**Figure 3**

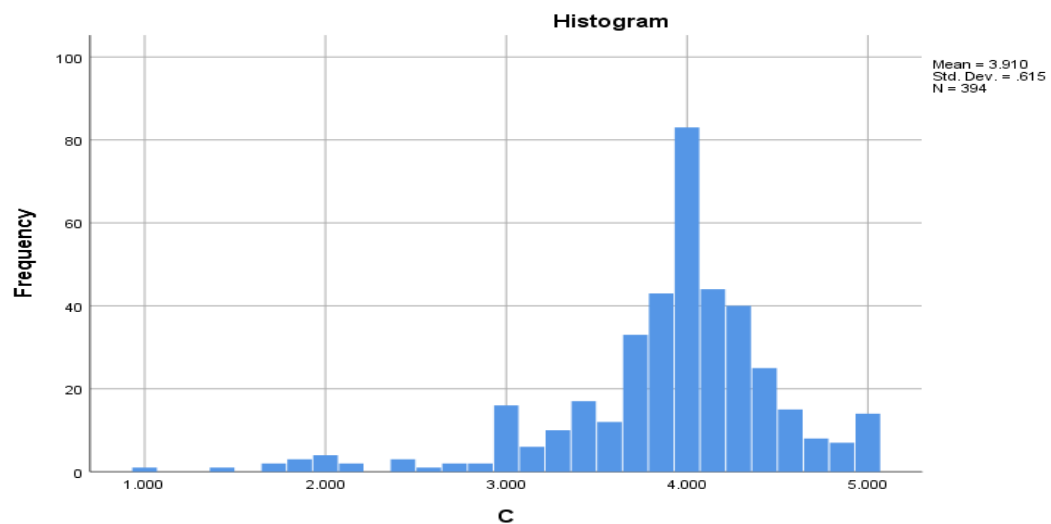
*Histogram of Agreeableness*



As shown in Figure 3, the data set for Agreeableness is left skewed and thus not normally distributed.

**Figure 4**

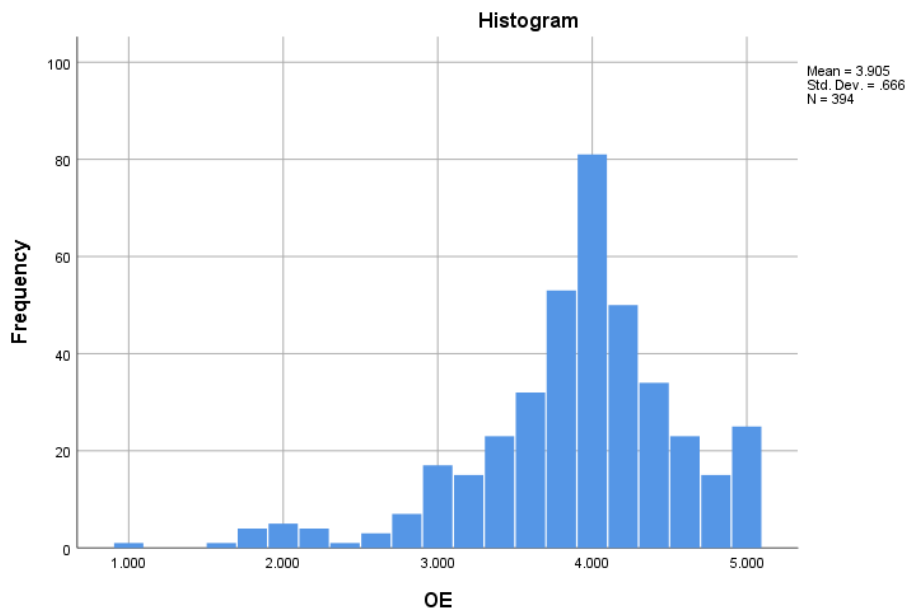
*Histogram of Conscientiousness*



As shown in Figure 4, the data set for Conscientiousness is left skewed and thus not normally distributed.

**Figure 5**

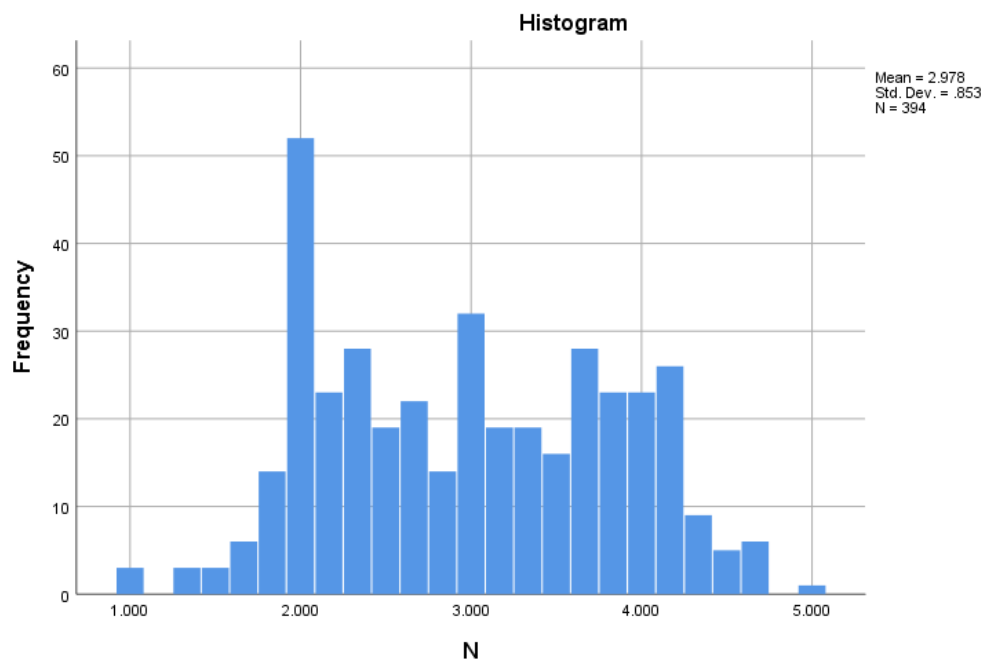
*Histogram of Openness to Experience*



As shown in Figure 5, the data set for Openness to Experience is left skewed and thus not normally distributed.

**Figure 6**

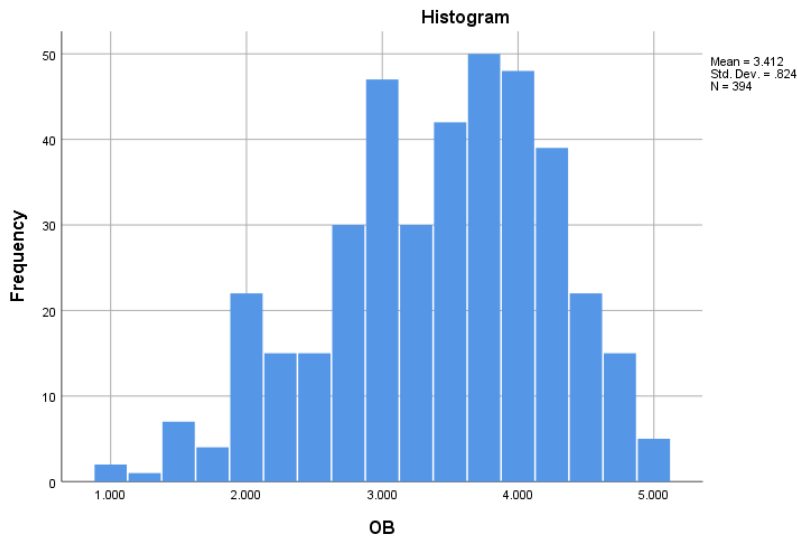
*Histogram of Neuroticism*



As shown in Figure 6, the data set for Neuroticism is right skewed and thus not normally distributed.

**Figure 7**

*Histogram of overconfidence Bias*



As shown in Figure 7, the data set for Neuroticism is left skewed and thus not normally distributed.

#### **4.5 Measurement Model**

The measurement model is the component of the model that investigates the link between latent variables and their measurements. Confirmatory Factor Analysis (CFA) was used to evaluate the measurement model in this research. CFA tests include construct reliability and validity, discriminant validity, formative construct validity (resource constraint), and collinearity statistics (VIF).

##### **4.5.1 Convergent Validity**

Smart-PLS is used to validate and test construct reliability. Cronbach's alpha and composite reliability are used to assess internal consistency. The Average Variance Extracted (AVE) is used to test the convergent validity (Fornell & Larcker, 1981). The recommended cut-off value for Cronbach's alpha and Composite Reliability is 0.70 (Hair et al., 2014). Table 9 demonstrates that all constructs have Cronbach's alpha and composite reliability higher than 0.7, showing that construct reliability has been established.

For convergent validity, the researcher analyzes both AVE and Outer loading. According to Hair et al. 2014 factor loading for all items should be higher than 0.5. Similarly, each

construct's AVE should be larger than 0.5. (Hair et al., 2014). The table shows that all of the outer loading factors are greater than 0.5, indicating that the indicator is reliable. Similarly, each construct's AVE is greater than 0.5, which indicates convergent validity.

**Table 10**

*Construct Reliability and Validity*

	Loadings	Latent Variables	Cronbach Alpha	CR	AVE
E1	0.714	Extroversion	0.88	0.91	0.58
E2	0.772				
E3	0.753				
E4	0.747				
E5	0.748				
E6	0.807				
E7	0.787				
A1	0.774	Agreeableness	0.89	0.92	0.61
A2	0.801				
A3	0.788				
A4	0.797				
A5	0.758				
A6	0.800				
A7	0.747				
C1	0.795	Conscientiousness	0.89	0.91	0.60
C2	0.79				
C3	0.766				
C4	0.703				
C5	0.800				
C6	0.815				
C7	0.748				
OE1	0.865	Openness to experience	0.86	0.90	0.63
OE2	0.831				
OE3	0.717				
OE4	0.752				
OE5	0.804				
N1	0.839	Neuroticism	0.90	0.93	0.67
N2	0.779				
N3	0.852				
N4	0.785				
N5	0.853				
N6	0.816				



OB1	0.833	Overconfidence Bias	0.87	0.91	0.72
OB2	0.870				
OB3	0.829				
OB4	0.849				

#### 4.5.2 Discriminant Validity

Discriminant validity is analyzed to ensure that the specific constructs in our model differ significantly from the other measured items in our model. The study's discriminant validity is assessed using cross loading, Fornell-Larcker Criterion, and HTMT ratios.

##### Cross Loadings

Cross loading is one method for determining discriminant validity. The outer loading of a construct should be bigger than all of its cross-loadings on other connected constructs, according to Hair et al (2017a). Table 10 shows that each item has the highest load with its associated construct. Since, all of the construct items scored higher on their respective constructs than others, the discriminant validity has been established.

**Table 11**

##### *Cross Loadings*

	A	C	E	N	OE	OB
A1	<b>0.774</b>	0.448	0.339	-0.020	0.321	0.213
A2	<b>0.801</b>	0.484	0.450	0.022	0.375	0.312
A3	<b>0.788</b>	0.429	0.389	0.029	0.312	0.280
A4	<b>0.797</b>	0.458	0.315	0.052	0.327	0.267
A5	<b>0.758</b>	0.412	0.468	0.021	0.292	0.266
A6	<b>0.800</b>	0.468	0.445	0.018	0.400	0.289
A7	<b>0.747</b>	0.353	0.435	-0.006	0.307	0.252
C1	0.443	<b>0.795</b>	0.340	-0.074	0.386	0.326
C2	0.480	<b>0.790</b>	0.312	-0.103	0.460	0.266
C3	0.410	<b>0.766</b>	0.275	-0.035	0.417	0.308
C4	0.373	<b>0.703</b>	0.304	-0.069	0.407	0.212
C5	0.432	<b>0.800</b>	0.262	-0.050	0.431	0.299
C6	0.486	<b>0.815</b>	0.313	0.020	0.420	0.343
C7	0.403	<b>0.748</b>	0.280	0.005	0.438	0.283
E1	0.440	0.475	<b>0.714</b>	-0.052	0.384	0.364
E2	0.431	0.258	<b>0.772</b>	-0.036	0.369	0.321
E3	0.348	0.180	<b>0.753</b>	-0.013	0.252	0.232
E4	0.368	0.233	<b>0.747</b>	-0.006	0.261	0.285
E5	0.340	0.237	<b>0.748</b>	-0.037	0.232	0.301

E6	0.415	0.311	<b>0.807</b>	-0.007	0.271	0.326
E7	0.417	0.286	<b>0.787</b>	0.000	0.308	0.355
N1	0.015	-0.017	-0.035	<b>0.839</b>	-0.050	0.099
N2	0.040	-0.033	-0.077	<b>0.779</b>	0.002	0.088
N3	0.022	-0.051	-0.066	<b>0.852</b>	-0.018	0.094
N4	-0.012	-0.058	0.041	<b>0.785</b>	-0.012	0.127
N5	0.047	-0.050	-0.001	<b>0.853</b>	-0.037	0.101
N6	0.015	-0.044	-0.032	<b>0.816</b>	-0.001	0.113
OE1	0.413	0.504	0.354	-0.006	<b>0.865</b>	0.371
OE2	0.370	0.468	0.311	-0.031	<b>0.831</b>	0.317
OE3	0.261	0.332	0.343	-0.007	<b>0.717</b>	0.265
OE4	0.295	0.371	0.253	-0.004	<b>0.752</b>	0.244
OE5	0.344	0.454	0.310	-0.042	<b>0.804</b>	0.339
OB1	0.273	0.285	0.342	0.153	0.316	<b>0.833</b>
OB2	0.276	0.314	0.385	0.106	0.329	<b>0.870</b>
OB3	0.322	0.338	0.307	0.141	0.297	<b>0.829</b>
OB4	0.305	0.352	0.373	0.040	0.382	<b>0.849</b>

### Heterotrait-Monotrait Ratio (HTMT)

The Heterotrait-Monotrait Ratio (HTMT) correlations ratio is defined as the average of the associations of the items assessed across the construct compared to the average value of the item correlations of the same construct (Hair et al., 2019). High HTMT value indicate problems with discriminant validity. For structural models with constructs, (Henseler, Ringle, & Sarstedt, 2015) proposed a threshold value of 0.90. All of the HTMT ratios in table 11 are less than 0.90. As a result, discriminant validity has been established.

**Table 12**

*HTMT Ratios*

	A	C	E	N	OE	OB
A						
C	0.625					
E	0.58	0.421				
N	0.049	0.081	0.066			
OE	0.482	0.618	0.448	0.058		
OB	0.391	0.427	0.468	0.145	0.448	

### **Fornell and Larcker Criterion**

The Fornell and Larcker criterion is the third technique to measure the discriminant validity. The square root of AVE for each latent variable should be bigger than the other correlation coefficients among the latent variables (Fornell and Larcker, 1981). The bold letters highlighted in the table represents the square root of AVE. As seen in table 12, the square root of AVE has a greater correlation value than the other components. As a result, discriminant validity has been established.

**Table 13**

*Fornell-Larcker Criterion*

	A	C	E	N	OE	OB
A	<b>0.781</b>					
C	0.56	<b>0.775</b>				
E	0.523	0.384	<b>0.762</b>			
N	0.023	-0.053	-0.029	<b>0.821</b>		
OE	0.429	0.543	0.396	-0.023	<b>0.795</b>	
OB	0.347	0.381	0.417	0.129	0.392	<b>0.846</b>

### **4.5.3 Collinearity Test**

The presence of collinearity is detected using VIF. According to Hair, Ringle and Sarstedt (2011), the maximum value of VIF is 5, and if VIF exceeds 5, collinearity exists. The table 13 shows that all of the VIF values are less than 5, as a result there is no collinearity among explanatory variables.

**Table 14***Collinearity Statistics*

Items	VIF
A1	2.036
A2	1.998
A3	1.997
A4	2.097
A5	1.788
A6	2.088
A7	1.806
C1	2.035
C2	2.121
C3	1.850
C4	1.736
C5	2.171
C6	2.185
C7	1.754
E1	1.542
E2	2.04
E3	2.088
E4	1.801
E5	1.773
E6	2.415
E7	2.235
N1	2.515
N2	2.015
N3	2.678
N4	1.834
N5	2.652
N6	2.303
OE1	2.337
OE2	2.169
OE3	1.644
OE4	1.763
OE5	1.934
OB1	2.162
OB2	2.468
OB3	2.037
OB4	2.144

## 4.6 Structural Equation Model

SEM is a collection of statistical procedures used to assess and evaluate the correlations between observable and latent variables.

### 4.6.1 Association between Personality traits and overconfidence Bias

**Table 15**

*Association between Personality traits and overconfidence Bias*

	Overconfidence Bias	Extroversion	Agreeableness	Conscienti ousness	Openness to Experience	Neuroticism
Overconfidence Bias	1					
Extroversion	.408**	1				
Agreeableness	.343**	.511**	1			
Conscientiousness	.372**	.372**	.557**	1		
Openness to Experience	.383**	.390**	.417**	.535**	1	
Neuroticism	.129*	-0.032	0.024	-0.058	-0.022	1

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

\* Correlation is significant at the 0.05 level (2- tailed).

#### **Correlation Between Extroversion and Overconfidence Bias**

Extraversion and overconfidence Bias have a moderate degree of association ( $r=0.408$ ). The p-value is less than 0.05, indicating that the association between extraversion and overconfidence bias is significant. It indicates that as the degree or level of extraversion grows, so will the level of overconfidence bias.

#### **Correlation Between Agreeableness and Overconfidence Bias**

There is a weak correlation ( $r=0.343$ ) between agreeableness and overconfidence bias. Furthermore, the p-value for agreeability is less than 0.05, showing that the association is significant. It indicates that as the degree or level of agreeableness grows, so will the level of overconfidence bias.

#### **Correlation Between Conscientiousness and Overconfidence Bias**

There is a weak association ( $r=0.372$ ) between conscientiousness and overconfidence bias. Conscientiousness has a p-value less than 0.05, indicating that the association is significant. It indicates that as the degree or level of conscientiousness grows, so will the level of overconfidence bias.

### **Correlation Between Openness to experience and Overconfidence Bias**

The degree of correlation between openness and overconfidence bias is minimal ( $r=0.383$ ). The p-value for openness is less than 0.05, showing that openness and overconfidence bias are significantly related. It indicates that as the degree or level of openness grows, so will the overconfidence bias.

### **Correlation Between Neuroticism and Overconfidence Bias**

There is a very weak correlation ( $r=0.129$ ) between neuroticism and overconfidence bias. Furthermore, the neuroticism p-value is less than 0.05, indicating that the association is significant. It indicates that as the degree or level of neuroticism grows, so will the level of overconfidence bias.

#### **4.6.2 Model Fit**

Standardized Root Mean Square Residual (SRMR) is most appropriate and common criterion which is used in PLS-SEM path modeling to determine data and model fit (Henseler et al., 2015). A SRMR value of 0 represents a perfect model fit, while a value less than 0.08 indicates a good model fit (Henseler et al., 2015). In our case, our model value is 0.054, which indicates a good model fit.

#### **4.6.3 Model Predictive Capability**

The percentage variation in the dependent variable explained by all independent variables in a model is represented by R-squared (Wright, 1921). The R-squared value in the study obtained using PLS is 0.278. R-square 0.278, indicates that 27.8% of total variation in the overconfidence bias can be explained by extroversion, agreeableness, conscientiousness, openness to experience and neuroticism. The remaining 72.2 percent of variation is accounted for by others factors not explained in the model.

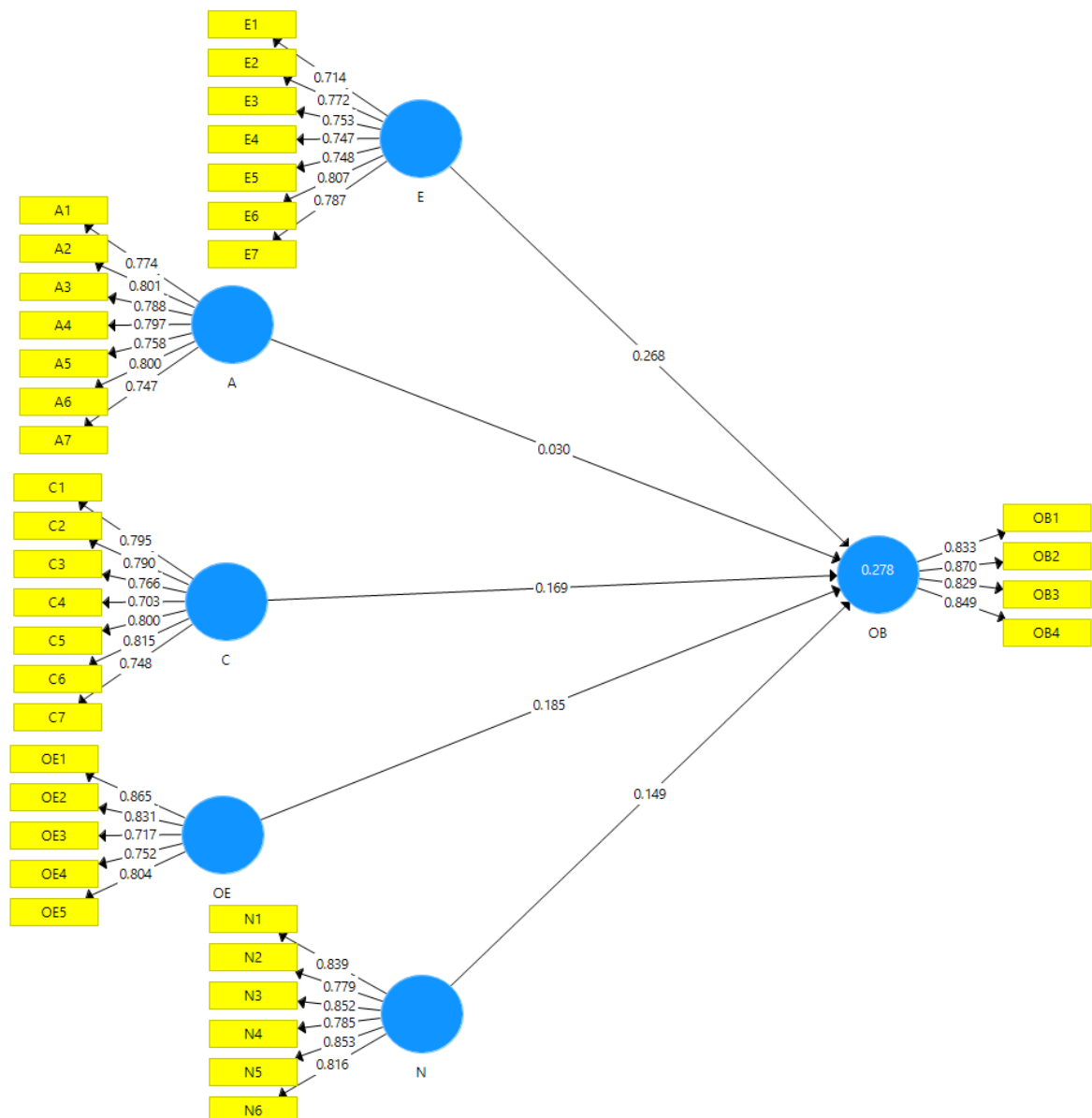
#### **4.6.4 Path Coefficient**

The final step of the study represents the structural model's path coefficient and path diagram. A Bootstrapping procedure with 5,000 samples is used for hypothesis testing for the structural model for this research study using two-tailed test. According to Kock (2015) two tailed test is appropriate when the direction of hypothesis is unclear i.e., positive or negative sign is not assumed in hypothesis. Table 15 shows that four out of five path coefficient p-values are less than 0.05, so all these four paths are significant at 95% confidence interval. But the path coefficient of agreeableness to overconfidence bias is insignificant as the p-value is greater than 0.05. Furthermore, extroversion has the strongest positive influence on overconfidence bias as the beta coefficient is 0.268, followed by

openness to experience, conscientiousness and neuroticism, as their beta coefficients are 0.185, 0.169 and 0.149 respectively. Extroversion is the strongest factor that influence overconfidence bias of investors, indicating that the investors high on extroversion tend to perceive they are better than others investors and make correct forecast about the future trends in the share prices and market.

**Figure 8**

*Path Diagram*



**Table 16***Path Coefficients*

	Beta Coefficient	Sample Mean	STDEV	T Stat.	P Values	Hypothesis
A -> OB	0.030	0.031	0.062	0.479	0.632	Rejected
C -> OB	0.169	0.172	0.061	2.787	0.005	Accepted
E-> OB	0.268	0.269	0.052	5.182	0.000	Accepted
N-> OB	0.149	0.155	0.043	3.429	0.001	Accepted
OE-> OB	0.185	0.186	0.063	2.929	0.003	Accepted

**4.6.5 Hypothesis Testing**

**H1:** There is significant impact of extroversion on the overconfidence bias.

The table 16 reveals that extroversion positively influences the overconfidence bias of individual investors. Thus, the hypothesis 1 is supported by the values, Beta ( $\beta$ ) = 0.268, and  $p < 0.05$ .

**H2:** There is significant impact of agreeableness on overconfidence bias.

Table 16 reveals that agreeableness have no significant impact on the overconfidence bias of individual investors. Therefore, the hypothesis 2 is not supported by the values, Beta ( $\beta$ ) = 0.030, and  $p > 0.05$ .

**H3:** There is significant impact of Conscientiousness on the overconfidence bias.

Table 16 shows that Conscientiousness positively influences the overconfidence bias of individual investors in Nepal Stock Exchange. Thus, the hypothesis 3 is supported by the values Beta ( $\beta$ ) = 0.169, and  $p < 0.05$ .

**H4:** There is a significant impact of openness to experience on the overconfidence bias.

Table 16 shows that openness to experience positively influences the overconfidence bias of individual investors in Nepal Stock Exchange. Thus, the hypothesis 4 is supported by the values Beta ( $\beta$ ) = 0.189, and  $p < 0.05$ .

**H5:** There is significant impact of neuroticism on overconfidence bias.

Table 16 shows that neuroticism positively influences the overconfidence bias of individual investors in Nepal Stock Exchange. Thus, the hypothesis 4 is supported by the values Beta ( $\beta$ ) = 0.149, and  $p < 0.05$ .



## 4.7 Major Findings

The major findings are:

1. The mean value of extroversion is 3.469. It indicates that average investors slightly tends toward the extroversion.
2. The mean value of agreeableness is 3.771 which suggests that average investors show more friendliness and cooperativeness in social interactions.
3. The mean value of conscientiousness is 3.910 which shows that the average investors tend towards conscientiousness from neutral point. It portrays they are highly competent, self-disciplined and display active involvement in decision making.
4. The mean value of openness to experience is 3.905 which shows that the average investors tend towards openness from neutral point. It means they are more open to the new ideas and novelty.
5. The mean value of neuroticism is 2.978, which suggests that average investors do not tend towards neuroticism, showing the optimistic outlook.
6. Among all five personality traits, Conscientiousness has the highest mean value of 3.910 and neuroticism has lowest mean value of 2.978. Similarly, openness to experience, agreeableness and extroversion have mean values of 3.905, 3.771 and 3.465 respectively. This shows that Nepalese individual investors tend more towards conscientiousness, openness, agreeableness and extroversion. However, investors are low on neuroticism among five personality traits, showing more optimistic outlook.
7. The mean value of overconfidence bias is 4.27 which suggest that average investors tend towards overconfidence, showing that they believe they are performing well than the average market.
8. Neuroticism has the highest standard deviation i.e., 0.853. It means there is highest variation in responses of neuroticism among other scales. Whereas, conscientiousness has the lowest standard deviation i.e., 0.615. it means there is low variation in responses of conscientiousness among other scales.
9. Shapiro-wilk test is done to assess the normality of the data. The significance value of all the variables is less than 0.05. Therefore, the data are not normally distributed.
10. The model is valid and reliable.
11. All of the values of VIF are less than 5. It indicates there is no collinearity among explanatory variables.

12. Extroversion, agreeableness, conscientiousness, openness to experience and neuroticism have positive relationship with overconfidence bias. Among them extroversion has the highest correlation with overconfidence bias i.e.,  $r = 0.408$  whereas neuroticism has very low correlation with overconfidence bias i.e.,  $r = 0.129$ .
13. Extroversion, Conscientiousness, openness to experience and neuroticism have significant positive impact on overconfidence bias of individual investors in Nepalese stock market.
14. However, agreeableness has no significant impact on overconfidence bias of individual investors as P- value is greater than 0.05.
15. Extroversion has the strongest positive influence on overconfidence bias as its beta coefficient is 0.268, followed by openness to experience, conscientiousness and neuroticism, as their beta coefficients are 0.185, 0.169 and 0.149 respectively.
16. The model's calculated SRMR value is 0.054. It indicates a good model fit.
17. The R-square is 0.278, indicating that 27.8% of the total variation in the overconfidence bias can be explained by extroversion, agreeableness, conscientiousness, openness to experience and neuroticism.

## CHAPTER V

### DISCUSSION, CONCLUSION AND IMPLICATIONS

This chapter deals with the discussion, conclusion, and implication of the study. Whole study has been here summarized in brief and major conclusion of this research have been drawn. Being based on the evidence provided by the past scholars in the relating factors of the research the potential implications have been provided on the subject area.

#### 5.1 Discussion

The purpose of this research is to examine the impact of personality traits on the overconfidence bias of retail investors inside the Nepalese stock exchange. Similarly, the purpose of this study is to investigate the association between personality factors and overconfidence bias. For this objective, the impact of personality traits on overconfidence bias was analyzed. Individual investors' overconfidence bias was found to be positively associated with the big five personality traits of extroversion, agreeableness, conscientiousness, openness to experience, and neuroticism. The study's findings revealed that personality traits have a major influence on overconfidence bias.

The descriptive findings of the study show that there are more male investors than female in the Nepal stock exchange. In terms age, high number of young investors are participating in the market. Majority of the investors are bachelor's degree holder in terms of academic background. Similarly, almost half of the respondents fall under the income level category of below 30,000 per month. Almost 50 percent of the investors have trading experience between 1-3 years. In terms of marital status, majority of the respondents are unmarried. Most of the respondents are from Bagmati province and least from Karnali province. In terms of portfolio size, more than two-third of the investors assess themselves as small investor.

The study's empirical findings revealed that extroversion has a significant positive influence on individual investors' overconfidence bias in the Nepal stock market. It indicates that an extroverted investor will be overconfident in his or her financial selections. Such investors will make impulsive investing judgments. As a result, investors who socialize more actively will seek indications from what others are investing in. This finding is similar to the study of Jency (2017), Bashir et al. (2013) and Zaidi and Tauni (2012). However, this finding contradicts to the findings of Kumar et al. (2021). This finding might be different due to important factors like stock market size and other macroeconomic factors can significantly influence investor psychology.

The study's findings revealed that conscientiousness has significant positive impact on the overconfidence bias of retail investors. It indicates that individuals with high levels of conscientiousness always on the lookout for high-quality information that will increase their overconfidence bias. This finding is consistent with Jency (2017), Zaidi and Tauni (2012), and Bashir et al. (2013).

This study also discovered that the trait of openness to experience has a significant positive impact on investors' overconfidence bias. We find that openness raises the risk of an investor becoming overconfident in the capital market. An investor may develop a sense of pseudo knowhow by inviting new ideas and experience, developing overconfidence bias. This finding is consistent to findings of Lin (2011), Kumar et al. (2021), Jency (2017), and, Kubilay and Bayrakdaroglu (2016).

Further, study found that neuroticism have significant positive impact on the overconfidence bias. These findings contradict with the findings of Zaidi and Tauni (2012), Kumar et al. (2021), Jency (2017), and Lin (2011). These findings may vary between nations due to demographic factors, socioeconomic, cultural, and political variations.

However, agreeableness has no significant impact on the overconfidence bias. This discovery is similar with results Kumar et al. (2021) and Lin (2011). One reason that could define this result that agreeableness does not influence overconfidence bias because investors with agreeableness personality trait investing in highly regularized market think rationally and make their investment decisions through their own analysis rather than being influenced by others (Lin, 2011).

Among the five personality traits, Extroversion is the strongest variable that influence the investors overconfidence bias as it has the highest beta coefficient ( $\beta = 0.268$ ). It is followed by Openness to experience, Conscientiousness and Neuroticism as their beta values are 0.185, 0.169, and 0.149 respectively.

## 5.2 Conclusion

Stock market have become integral part of the Nepalese household investors as the participation in the primary as well as secondary market is increasing. However, these investors are not rational as compared to the investors of other developed market. One of the reasons of this irrationality is their behavioral bias, namely overconfidence. There are many factors that influence the overconfidence bias of the investors and one of them is their personality. In the study, the Big-Five personality model is used to analyze the influence of personality factors on the overconfidence bias of Nepalese retail investors. For the purpose of this study, sample size of 394 respondents were collected who have been investing in the secondary stock market and the responses have been analyzed through the method of correlation analysis and path analysis.

The results from the study shown that each of the five personality traits is positively correlated with the overconfidence bias of the investors. In others words, it has shown that all the big five personality traits i.e., Extroversion, Agreeableness, Conscientiousness, Openness to Experience and Neuroticism are positively correlated with the overconfidence bias. These findings indicate when big five personality traits increase, then the overconfidence bias of individual investors is also increases in the same direction.

Similarly, it has been found that overconfidence bias of individual investors is positively influenced by Extroversion, Conscientiousness, Openness to Experience and Neuroticism. However, Agreeableness has no significant impact on the bias. It indicates Individual investors who have personality traits like as extraversion, conscientiousness, openness to experience, and neuroticism are more vulnerable towards overconfidence bias than others. It also implies that an extroverted investor will be overconfident in his or her financial selections. Such investors will make impulsive investing judgments. As a result, investors who socialize more actively will seek indications from what others are investing in. Similarly, individuals with high levels of conscientiousness always on the lookout for high-quality information that will increase their overconfidence bias. We find that openness raises the risk of an investor becoming overconfident in the capital market. An investor may develop a sense of pseudo knowhow by inviting new ideas and experience, developing overconfidence bias. However, that the agreeableness does not influence overconfidence bias because investors with agreeableness personality trait investing in highly regularized market think rationally and make their investment decisions through their own analysis rather than being influenced by others

It is a well-known observation that everyone has a unique personality. Likewise, each investor may be influenced by psychological biases. Furthermore, each investor suffers from overconfidence bias to varying degrees. Individual investors are crucial in the stock market. However, individual investors are affected by various behavioral biases as well as the five personality traits. As a result, it is critical to comprehend individual investor behavior in order for them to make more informed investment decisions. Therefore, this approach to thinking decreases perception errors and improves the quality of their decisions. This study provides through understanding of the different personality types of individual investors which influence their overconfidence bias.

This research concludes that in financial investment decisions to be made by individual investors, it is very important that they should be aware of the possibility of facing with overconfidence bias by knowing their own personality types and should consider their own financial risk tolerances.

### **5.3 Implications**

#### **5.3.1 Practical Implications**

The results of the study suggest individual investor's overconfidence bias is influenced by Extroversion, Conscientiousness, Openness to Experience and Neuroticism. Whereas Agreeableness have no any significant impact on the overconfidence bias. This study has implication for financial advisor, individual investors regulators of the financial market.

The primary implications might be that financial advisors should take into account investors' profiles and the personality traits when designing optimal portfolios for them and making appropriate advice and tips in order to limit risk and make sensible decisions. Financial planners and advisers might use investor personality traits to efficiently meet customers' financial demands and guide clients on suitable financial services.

Another implication of this study could be important for individual investors. Individual investors are generally confident about their investments and profit that they are making. However, these investors frequently suffer significant losses from investments they make. In this situation, the research may help individual investors understand their personality type in order to overcome its negative impacts, enabling them to make productive and effective investment choices that can produce a positive return. Moreover, investors need to analyze the information about companies, the stock market, or economic developments. Thus,

selection of information processes obtained from social interactions must be strictly selected as well as possible. Investors should not immediately make decisions without their own self-analysis.

Lastly, regulators of the financial market should conduct financial literacy program considering the investors personality and psychology in order to prevent investors from heavy economic losses which occur from the irrational behavior during the bull and bear phases of stock market.

### **5.3.2 Implications for future research**

This study has used big five personality traits as personality assessment tools to test its impact on overconfidence bias of individual inventors in Nepalese stock market. Further research can be carried out by using other measures of personality traits such as Myers-Briggs type indicator as a means of assessing personality of investors. Furthermore, this study has employed convenient sampling techniques to measure the impact personality traits on overconfidence bias. Further study can be conducted by recruiting the sample through probability sampling techniques whose findings can be generalized effectively. Moreover, future research should take in considerations other factors affecting overconfidence bias such as investor's behavior, perception of risk and demographic factors.

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## Appendix

### Questionnaire

Respected Respondents,

I am Kapil Pudasainee, student of MBA from School of Management, Tribhuvan University. My final Graduate Research Project (GRP) is entitled “Personality Traits and Overconfidence Bias of Individual Investors in Nepalese Stock Market” as a partial fulfillment of Masters in Business Administration (MBA) degree. Please assist me by answering the following questionnaire. The information gathered through this questionnaire will be used solely for academic purposes and will be kept strictly secret. Filling out the questionnaire will take about 4-5 minutes of your time. If you have any query, you can contact me by mobile number or email address: 9861925866/ kapilpdsn97@gmail.com. Thank you for your valuable time and response!

### **Section A: Demographic Characteristics**

Please mark (✓) in the corresponding parenthesis as applicable.

Q1. Gender

- A. Male
- B. Female
- C. Others

Q2. Age

- A. Below 20
- B. 20-29
- C. 30-39
- D. 40-49
- E. 50 and Above

Q3. Education Level

- A. SLC/SEE or below
- B. Intermediate
- C. Bachelor's Degree
- D. Master's Degree and Above

Q4. Monthly Income

- A. 30,000 & below
- B. 30,0001-60,000
- C. 60,001-90,000
- D. 90,001-120,000
- E. Above 120,000

Q5. Experience In NEPSE

- A. Less than 1 year
- B. 1-3 years
- C. 3-5 years
- D. More than 5 years

Q6. Marital Status

- A. Married
- B. Unmarried
- C. Divorced

Q7. Permanent Address

- A. Province one (1)
- B. Madhesh Province (2)
- C. Bagmati Province (3)
- D. Gandaki Province (4)
- E. Lumbini Province (5)
- F. Karnali Province (6)
- G. Sudurpashchim Province (7)

Q8. How do you assess yourself as an investor in terms of portfolio size?

- A. Small Investor
- B. Medium Investor
- C. Big Investor



### Section B: Personality Traits

Please carefully read each question and choose your degree of agreement with each statement. Mark the relevant number from 1 to 5 with a tick (✓). Each statement is graded on a 5-point scale. On a 5-point scale, 1 means strongly disagree; 2 means disagree; 3 means neutral; 4 means agree; and 5 means strongly agree.

#### Q.9 Extroversion

S.N.	Statements	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
a.	In the community, I feel very comfortable.					
b.	I enjoy interacting with strangers.					
c.	I always initiate the conversation.					
d.	I consider myself to be extroverted.					
e.	I prefer to be in the forefront.					
f.	I try to get people's attention.					
g.	It makes me delighted to be the focus of attention.					

#### Q.10 Agreeableness

S.N.	Statements	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
a.	I understand human emotions and problems.					
b.	I look after people.					
c.	I devote some time to the others.					

d.	I can understand how people are feeling.					
e.	I work well with others.					
f.	I assist others in feeling better.					
g.	I help people feel relaxed.					

#### Q.11 Conscientiousness

S.N.	Statements	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
a.	I always do my tasks on time.					
b.	I am always willing to accept responsibility.					
c.	I am meticulous in my attention to detail.					
d.	I work following a routine to meet my obligations.					
e.	I take extra care in my job.					
f.	In my profession, I accept responsibility.					
g.	I am usually in charge.					

Q12. Openness to Experience

S.N.	Statements	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
a.	I enjoy experimenting with new things.					
b.	I am open to fresh concepts.					
c.	I'd like to be one of the first to test out new products.					
d.	I am not scared to experiment.					
e.	I am open to new ideas.					

Q.13 Neuroticism

S.N.	Statements	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
a.	I am easily stressed.					
b.	My emotion swings a lot.					
c.	I am often irritated.					
d.	I am just furious.					
e.	I am frequently depressed.					
f.	I am easily annoyed.					

### Section C: Overconfidence Bias

Please carefully read each question and choose your degree of agreement with each statement. Mark the relevant number from 1 to 5 with a tick (✓). Each statement is graded on a 5-point scale. On a 5-point scale, 1 means strongly disagree; 2 means disagree; 3 means neutral; 4 means agree; and 5 means strongly agree.

#### Q.14 Overconfidence Bias

S.N.	Statements	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
a.	My market forecast is more accurate than that of my family and friends.					
b.	I believe I can forecast future rates better than most investors.					
c.	My investment success is due to my market expertise and insight.					
d.	With my expertise and skills, I can construct a stock portfolio that outperforms the market.					