Personality, Financial Self Efficacy and Investment Decisions: The Role of Need for Cognition and Individual Moods

By

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Certificate

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A THESIS SUBMITTED IN THE PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE OF THE
DOCTOR OF PHILOSOPHY IN FINANCE

We accept this thesis as conforming to the required standard

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2019

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This thesis entitled "***Personality, Financial Self Efficacy and Investment Decisions: The Role of Need for Cognition and Individual Moods***" submitted by ***Baqir Husnain*** in partial fulfillment of the requirements for the PhD degree with the specialization in Finance, has been completed under my guidance and supervision. I am satisfied with the quality of student's research work and allow him to submit this thesis for further process as per IIU rules and regulations.

Dr. Syed Zulfiqar Ali Shah
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DEDICATON

To my parents who fed me when I was hungry, gave me strength when weak, protected me in danger, and taught me to walk on my feet.

I dedicated to my loving parents.

Acknowledgement

While I alone am responsible for this thesis, it is nonetheless at least as much a product of years of interaction with, and inspiration by, a large number of friends and colleagues as it is my own work. For this reason, I wish to express my warmest gratitude to all those persons whose comments, questions, criticism, support and encouragement, personal and academic, have left a mark on this work. I also wish to thank those institutions which have supported me during the work on this thesis. Regrettably, but inevitably, the following list of names will be incomplete, and I hope that those who are missing will forgive me, and will still accept my sincere appreciation of their influence on my work.

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Dated: 01-01-2019 ***Baqir Husnain***

ABSTRACT

Using theories from personality psychology and the theory of planned behavior, this study investigated those personality variables and psychological mechanisms through which individual investor intends to make investment decisions. The main purpose of this study was to examine the relationship between big five personality traits (Extroversion, Neuroticism, Conscientiousness, Openness to Experience and Agreeableness) and Investment decisions (Short term and long term). This study also examined the moderating effects of need for cognition, individual mood and mediating effects of financial self-efficacy between the study variables.

Data was collected from 506 individual investors by using a questionnaire. Investors were selected from Pakistan Stock Exchange. Mediation analysis was performed using Hayes (2013) PROCESS macro in SPSS. Results of the study supported a positive relationship between openness to experience, extraversion and short term investment decision. Similarly a positive relationship existed between neuroticism, conscientiousness and long term investment decisions. The results from bootstrapping supported the mediation hypothesis and financial self-efficacy mediated the relationship between

agreeableness, openness to experience and short term investment decision. Further the results also supported the mediating effect of financial self-efficacy between neuroticism, conscientiousness and long term investment decision.

To test the moderation hypotheses step-wise regression analysis techniques were used. The results confirmed the moderating effect of need for cognition for extrovert & neurotic investors on financial-self efficacy. The result of the study also supported the modrating role of mood on short term investment decisions. In conclusion this study has made an integrated attempt to examine the combined effect of personality, cognition and mood on an individual's short and long term investment decisions. Drawing on the findings we discussed some implications for the policy makers including investment marketers, investment advisors and offered an advice to investors in addition to discussing some limitations and future directions.

Key words: Big Five, Financial Self Efficacy, Investment decision, Mood, Need for Cognition.

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Chapter 1

INTRODUCTION

This preliminary chapter articulates a general idea of the research. It entails a summary of the key research questions, problem statements, rationale, objectives, significance and justification of the study. It also briefly introduce the title of work along with definitions of key variables and while presenting a brief review aims to deduce gap for the present work, hence, completing its justification.

1.1 Background of the Study

Traditional finance theories based on economic model of rationality have remained somewhat inefficient in answering the questions such as why the rational investor behaves so irrationally. This has generated a whole new wave of inquiry in finance termed as 'behavioral finance' which incorporates certain aspects of psychology literature to explain individual's decision-making related to financial issues under the conditions of uncertainty. Talking about the types of people, Thaler (2017) refers that people in standard finance are considered as rational individuals. On the other hand, the behavioral finance theorist treats them as normal human-beings influenced by all psychological factors of the environment. Behavioral finance theory argues about the aspects of human nature which can bound or limit his/her rationality while making an investment decisions (Jain, Jain & Jain, 2015). Inspired by the early work of Kahneman & Tversky (1979) on cognitive biases that may affect an investor's rationality, many researchers have conducted studies to explain the

effects of these biases on individual's investment decision-making (Barber & Odean, 2013; Mishra & Metilda, 2015; Tekce, Yilmaz & Bildik, 2016).

The personality of an individual plays a crucial role in building his/her cognition that may affect the decision-making process (Fuller et al., 2018). Ample studies have been carried out on the effects of personality traits on an individual's investing behavior. Researchers have explored the relationship between 'Big-Five' personality traits and perceptual errors (Sadi, Asl, Rostami, Gholipour, & Gholipour, 2011). They also have directly assessed the effect of these personality traits *i.e.* Neuroticism, Agreeableness, Openness to Experience, Conscientiousness and Extraversion on short-term and long-term investment intentions (Mayfield, Perdue, & Wooten, 2008).

In his seminal work on the psychology of investing, Nofsinger (2012) argued that the investment decision, particularly investment in stocks under the condition of uncertainty, is a difficult task because the investor has to gather and analyze the information about alternative stocks. Several dispositional factors can affect this analysis. Researchers from varying disciplines have tried to explain the individual investor behavior in variable perspectives. The study of rationality and irrationality of individual investor has remained the focus of economists since long (Barberis, 2018). Within this domain, social environment has been the focus of sociologists when explaining the individual investor and its norms. However, psychologists defined individual investor behavior by focusing on personality traits and individual characteristics (Strauss, 2017). Experts have identified multiple factors that are affecting investment decision due to the reason of differences in their personality (Salovey, Stroud, Woolery, & Epel, 2002). Moreover, researchers believe that traditional methods to create investor profiles ignore the fact that an investor has no or

little control over his/her behavior and may even indulge in such investment plans which are not in accordance to his/her goals. Financial advisors should adjust their investment programs on the basis of their clients personality type, in order to reduce the biases affect which they face while making investment decisions (Pompian & Longo, 2004). Every individual has a unique personality that varies from each other. Durand, Newby & Sanghani (2008) demonstrated that investment choices are linked with the investor's personality and can have a profound effect on its investment outcomes.

The Big-Five model is the most renowned among the various theories described by the researchers (Rizvi & Fatima, 2015). Allport & Allport (1921) also supported this personality model and further over the 95 years multiple researchers have used this model to measure the personality traits. The work of Allport & Allport (1921) was extended by other researchers such as (Eysenck, Eysenck & Barrett 1985). The Big-Five model is known as the best practical set of traits to explain and reveal the differences in individualistic behavioral (Saucier & Srivastava, 2015). This study makes an attempt to understand the effect of Big-Five personality traits (Neuroticism Agreeableness, Openness to Experience, Conscientiousness and Extraversion) on investment decisions through one's financial self-efficacy and draws its theoretical underpinnings on the basis of the assumptions of the theory of planned behavior. It is identified in this theory that behavior is a function of one's intentions where these intentions are formed on the basis of the attitudes towards that behavior and the subjective norms that he holds about that behavior plus the perceived behavioral control or self-efficacy (Fishbein & Ajzen, 2011).

Self-efficacy is a confidence of an individual in his abilities to perform a certain tasks (Tice, Bratslavsky & Baumeister 2018). Self-efficacy has been studied in different

domains like career, academic settings and efficacy beliefs of entrepreneurs. Similarly in the field of finance, it is believed that some people have more confidence than the others and can manage their finances well. Farrell, Fry & Risse (2016) empirically evaluated the explanatory potency of the concept of financial self-efficacy in predicting women's personal finance needs. They defined "financial self-efficacious individuals are those people who are confident in managing the financial decisions". These people, on encountering a financial challenge, are likely to master these challenges rather than avoiding them. However, this ability can be moderated by an individual's need for cognition (NFC). The NFC is defined as 'an individual's dispositional tendency to engage in and enjoy thinking' (Petty, Cacioppo & Feng, 1984). The NFC may accelerate the use of logical thinking. People with certain personality traits may have a low need for cognition and this may reduce their trust in their capabilities because they are not ready to handle complex challenges and since they do not enjoy thinking so it is likely that they will not sort out further information to solve the problem at hand (Rudolph, Greiff, Strobel & Preckel, 2018).

Furthermore, an individual's mood also has a profound effect on the choices he considers while making decisions (Yap et al., 2017). Affect, mood or emotions are the terms used interchangeably, hence, mood can be positive and negative as well. Previous studies have shown that positive affectivity may result in concentration of investment portfolio and high negativity may result in investment in a more diversified portfolio (Chan & Park, 2013). They assessed the moderating effects of mood on an individual's financial self-efficacy and on his short and long-term investment decisions.

1.1.1 Definitions of Key Variables

Big-Five Personality Traits (Independent Variable) as per Norman (1967), Smith (1967), Goldberg (1981), and McCrae & Costa (1987):

a) **Extraversion** "Sociable, gregarious, assertive, talkative and active."
b) **Neuroticism "**Anxious, depressed, angry embarrassed, emotional, angry, worried and insecure."
c) **Agreeableness** "Courteous, flexible, trusting, good-natured, cooperative, forgiving, softhearted and tolerant."
d) **Conscientiousness** "Careful, thorough, responsible, organized, plan full, hardworking and achievement oriented."
e) **Openness to Experience** "Imaginative, cultured, curious, broad minded, intelligent and artistically sensitive."

Financial Self-Efficacy (Mediating Variable) "Individuals who have a greater sense of self-assuredness in their financial management capacities are more likely to approach any financial difficulties they encountered as challenges to be mastered rather than as threats to be avoided" (Farrell et al., 2016).

Similar another description by De Meza, Irlenbusch & Reyniers (2008) explained financial self-efficacy in a manner in which psychological traits contained mental accounting and budgeting, information overload and procrastination, regret and risk aversion.

Need for Cognition (Moderating variable) "Need for cognition is defined as an individual's dispositional tendency to engage in and enjoy thinking (Petty, Cacioppo & Feng 1984)."

Individual Mood (Moderating Variable)"An individual's mood is a term used to define an emotional situation and describes an affective state and can be based on positive and negative valence" (De Dreu, Nijstad & Knippenberg, 2008).

Investment Decisions (Dependent Variable) "where individual investor is independent to decide to invest either in short term (within a year) or long term investing (more than a year) or in both of them" (Mayfield, Perdue & Wooten 2008).

1.2 Theoretical Foundation

1.2.1 Self-Efficacy Theory and Theory of Planned Behavior

Self-efficacy is the belief an individual has in his/her capabilities to perform a certain task (Bandura, 1977). The Personality traits of an individual are inherent to his/her character (McCrae & Costa, 1999). However, an individual's self-efficacy develops through cognition, motivation and affection and then effects his behavior (Skinner, 2018). These self-efficacy beliefs may allow inherent personality traits to develop into behavior. The construct of self-efficacy is vital part of Bandura's self-efficacy theory and also forms an integral part of the theory of planned behavior (Fishbein & Ajzen, 2005). Bandura's self-efficacy theory is based on the proposition that certain psychological procedures can have a profound effect on how an individual's self-efficacy is formed and further strengthened. Having a sense of self-efficacy explains what kinds of goals an individual

sets for himself. It determines how individual's feel, think, motivate them and behave. Such beliefs are produced through processes of cognition, motivation, affection and selection (Bandura, 1982). Among these processes cognition and affective arousal are of particular interest to the present study. Thinking patterns play a major role in guiding an individual's behavior and can aid or hinder decision making and help in firming self-efficacy beliefs. Similarly stress and depression can affect individual's affective states resulting in various emotional reactions that can affect the actions he takes both directly and indirectly (Tice, Bratslavsky & Baumeister, 2018).

The roots of theory of planned behavior are embedded in the theory of reasoned action (Tan, Ooi & Goh 2017). The theory of reasoned action identifies behavior as a function of an individual's intentions and intentions are formed on the basis of the attitudes towards that behavior and the subjective norms he/she holds about that behavior. Ajzen (1987) later added a third variable to the theory of reasoned action termed as perceived behavioral control. When an individual perceives a certain behavior to be under his volitional control then his behavior can be predicted from this intention towards that behavior however when there is variance in the degree of control then perceived behavior control should be taken into account to predict behavior (Fishbein & Ajzen, 2005). In a meta-analysis of the theory of planned behavior researchers have pointed to the fact that perceived behavior control accounts for an additional 2% of variance in behavior (Armitage & Conner, 2001). Further research studies have also highlighted the relevance of perceived behavioral control particularly when studying individual investment in stock markets (Pascual-Ezama & Scandroglio, 2014) since an individual while making

investment decisions takes into account a variety of factors while opting for various investment portfolios (Oberlechner & Hocking, 2004). In the social cognitive theory Bandura used the term self-efficacy for Perceived behavioral control (Martin, Burns & Collie, 2017). Self-efficacy is the confidence in one's ability to perform a behavior. Bandura further argued that Self efficacy is a cognitive motivation factor and is dependent on the context acts as a mediating mechanism (Bandura, 1982). In this study, relevant to investment decisions the construct of financial self-efficacy (Farrell et al., 2016) is employed to predict the investment behavior of individuals.

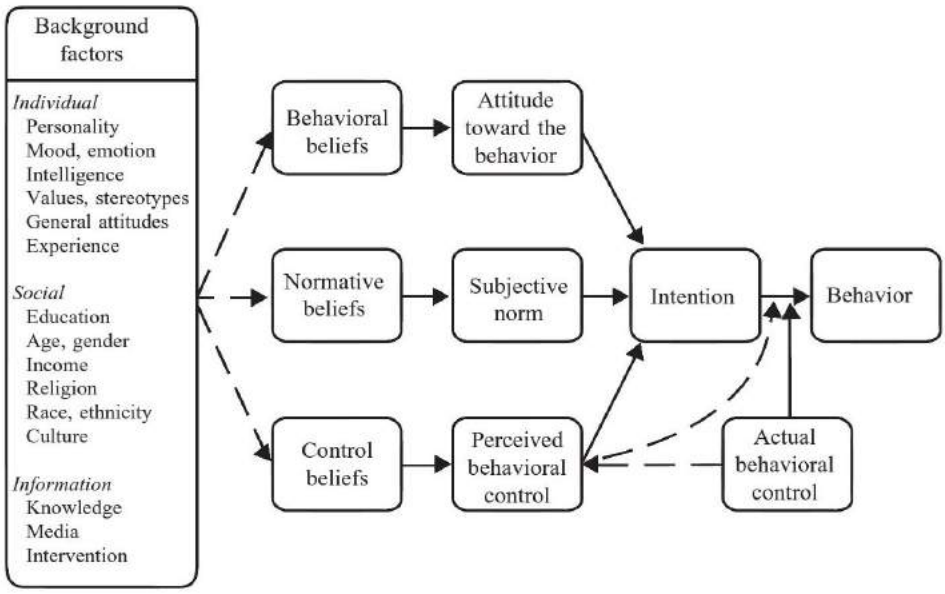

Figure 1: Reasoned Action & Planned Behavior Theory

1.3 Research Gap and Rationale of the Study

Researcher of behavioral finance defined human behavior, an unclear and unpredictable in nature. There are many factors effecting human behaviors including mood,

emotions, social interaction and self-deception as given above. Measurement of these factors has remained a challenge for investment decision makers since ages. Cognitive, motivational and personality factors are some of the psychological influences (Yalcin, Tatoglu & Zaim, 2016).

Previous research streams on behavioral finance have been overwhelmed with studies related to various behavioral biases that can lead to a rational investor behaving irrationally. However, the fact that an individual's personality has also a very important role in the various decisions he/she makes, still remains intact. Numerous studies are available where researchers have studied the effect of an individual's personality traits on his/her investment decisions. Recently, Oehler, Horn & Wendt (2017) collected data from undergraduate business students in an experimental asset market to see the impact of extraversion, neuroticism on an individual's investment decisions. Likewise, Pak and Mahmood (2015) analyzed the association between personality traits and investment decisions through risk taking attitude of an individual. Rizvi and Fatima (2015) examined the data recorded from 100 stock exchange investors to assess the relation between investment types and big five personality traits. The above research evidence points to the fact that personality does affect an individual's investment decisions, however, personality of an individual is multifaceted and complex and certain other variables continuously remain at work within an individual's personality. As, Krueger et al. (2000) put forward that in order to observe an individual's behavior, it is necessary to examine his intention towards that behavior. Since their intention is a better predictor of behavior compared to distal constructs like the traits of an individual's personality or demographics, resultantly, an important question remains unanswered "What cognitive and/or psychological

mechanisms aid an individual's personality in opting for the specific choices related to his/her investment portfolio?"

Farrell and colleagues studied the effect of financial self-efficacy on personal finances of women and called for the significance of studying the determinants of financial self-efficacy in both men and women (Farrell et al., 2016).

Keeping all above in perspective, the present study addresses the issues unexplored in previous studies. A distinctive feature of this study is that it provides a strong theoretical base by employing the theory of planned behavior (Ajzen, 1991) and data collected from the real investors of Pakistan Stock Exchange. Founded on theory of planned behavior, the present study has identified that an individual's financial self-efficacy is an intervening variable to study the effect of some personality traits on an individual's short and long-term investment decisions. Furthermore, the moderating effects of NFC and an individual's mood on this relationship will be explored thereby providing a research link between psychology of a personality and behavioral finance which previous researches have largely ignored. In specific, this study particularly investigates the Big-Five personality traits (Extraversion, Neuroticism, Openness to Experience, Agreeableness and Conscientiousness) on investment decisions of investors of Pakistan's equity market. Data was collected through field survey from individual investors of Pakistan Stock Exchange in order to explore the hypotheses of this study.

1.4 Significance of the Study

1.4.1 Theoretical Significance

This study adds to the literature of behavioral finance which is currently in its nascent stage but where researchers have focused too much of their attention to certain biases and perceptual errors affecting individual's decision making relevant to financial issues. However, an individual's investment decision can also be affected by a host of factors. The perceptual errors which may contemplate him/her to make certain decisions may be inherent to his/her personality.

Numerous empirical studies contemplating the relationship between various personality traits and individual's investment decisions are available in literature. But most of these lack strong theoretical underpinnings and there is a dire need to understand why certain individual's with a particular set of traits exhibits a particular financial behavior. Few studies have made an attempt to understand investor behavior by studying his/her investment intentions under the umbrella of the theory of planned behavior. This study combines personality psychology theories, self-efficacy theories and the theory of planned behavior to explore those psychological mechanisms through which individual's intend to make investment decisions.

In doing so it has made an integrated attempt to examine the combined effect of personality, cognition and emotion on an individual's short term and long term investment decisions and has provided further evidence of psychological and cognitive states that can be a cause of the irrational behavior of the investor.

1.4.2 Practical Significance in General and in Context of Pakistan

With most studies relevant to behavior finance theory conducted in developed economies, this study is an attempt to offer valuable insight to individual investors, financial advisors to various big companies and the government as well about certain dispositional factors affecting investor behavior in emerging economies like Pakistan. Traditional methods to prepare individual investor profiles are too much inclined towards their risk tolerance and ignore investor personality and other variables. This study gives an insight to financial advisors and investors about an individual's traits, cognition, belief and mood while making financial decisions.

By investigating these underlying dispositional tendencies of individuals this work is contributing to our understanding of the market microstructure. Policy makers can design policies to educate individual investors since striking a balance between institutional and individual investors is necessary in the stock market. So that wealth is not accumulated in a few hands and is equally distributed among all players. This will not only benefit individuals but will contribute to the overall progress of the economy as well.

In Pakistan's perspective, the performance of the equity market has been outstanding in the year 2016. According to a report by Kanwal (2016), Pakistan's equity market topped the Asian stock markets in the year 2016 and it ranked 5th among the best performing stock exchanges with a 43.05% gain. These rankings were provided by Bloomberg L.P which is US-based private firm providing financial information and insights to the companies. The rankings were made on the basis of currencies, equities, commodities and bonds. The aforementioned information makes it inevitable that Pakistan

Stock Exchange and its investors may be navigated in terms of behavioral finance. Pakistan Stock Exchange provides a reliable, liquid and efficient digitized marketplace for its investors (Kanwal, 2016). The current study opted to study the dispositional characteristics of the investors of Pakistan's equity market based on its performance, so that it could be investigated that what kind of personalities these investors have and how it effects their investment decisions.

1.5 Problem Statements

Government's aggressive spending and investment in infrastructure has made Pakistani financial markets attractive to investors. Even though faced with embedded pessimism, Pakistan offers a number of chances to increase an individual's wealth and investment in the stock market as one such golden opportunity. Given the untapped human capital of 180 million, strong-listed companies enjoying higher earnings, elevated growth rates and increasing urbanization are key reasons to invest.

Individual investors, however, with little financial knowledge and apparently basing all their decisions on market price of the share and company reputation need to be aware of the role of cognitive and emotional psychology in their investment decisions. The current methods employed by investors and financial advisors to create investment profiles of their clients are too much inclined towards assessing the risk behavior, however of equal importance is the personality of the investor making the decision and this area remains largely unexplored by both academia and practitioners. Individual investors have little financial knowledge and apparently base all their decisions on market price of the share and company reputation.

The severity of the problem is more intense in developing markets. Unlike their developed market peers of Europe and USA, Asian cultures allow for more perceptual errors in decision making in financial markets. Keeping this in view, there is a dire need at the individual level to understand the effect of personality, cognition and emotion and since it will also affect how these investors respond to the market in future. Financial advisors can devise appropriate asset allocation strategies and government too can devise legislation to encourage stock market participation for further boost of the economy. This study particularly investigates the personality traits of extraversion, neuroticism, openness to experience, agreeableness and conscientiousness on investment decisions of investors of Pakistan's equity market

According to a report by Kanwal (2016), Pakistan's equity market topped the Asian stock markets in the year 2016 and it ranked 5th among the best performing stock exchange with a 43.05 % gain in 2016. This makes the Pakistan Stock Exchange and its investors an Interesting area of inquiry and especially in a country with so much political instability, changing markets and unpredictability which can have profound effects on the moods of individual of investors, it is imperative to understand what effects individual moods on their need for cognition can have on their investment decisions.

1.6 Research Questions of the Study

This study makes an attempt to answer the following six basic research questions:

Research Question 1:

Is there a relationship between the extraversion, neuroticism, openness to experience, agreeableness, and conscientiousness with financial self-efficacy?

Research Question 2:

Is there a relationship between the extraversion, neuroticism, openness to experience, agreeableness, and conscientiousness with investment decision?

Research Question 3:

Does financial self-efficacy mediate between the extraversion, neuroticism, openness to experience, agreeableness, and conscientiousness with short and long-term investment decisions?

Research Question 4:

Does need for cognition moderate between extraversion, neuroticism, openness to experience, agreeableness, conscientiousness and financial self-efficacy?

Research Question 5:

What relationship exists between financial self-efficacy and short and long term investment decisions?

Research Question 6:

Does individual mood moderate between financial self-efficacy and short term and long term investment decisions?

1.7 Objectives of the Study

- To study the relationship between Big Five personality traits (Extraversion, Neuroticism, Openness to experience, Agreeableness and Conscientiousness) on investment decisions.

- To study the relationship between Big Five personality traits (Extraversion, Neuroticism, Openness to experience, Agreeableness and Conscientiousness) and financial self-efficacy.
- To study whether financial self-efficacy mediates the relationship between Big Five personality traits (extraversion, neuroticism, openness to experience, agreeableness and conscientiousness) short and long term investment decisions.
- To study the combined effect of need for cognition and Big Five personality types (extraversion, neuroticism, openness to experience, agreeableness and conscientiousness) on financial self-efficacy.
- To study the relationship between financial self-efficacy and short and long term investment decisions.
- To study the combined effect of individual mood and financial self-efficacy on short and long term investment decisions.

1.8 Organization of the Dissertation

This dissertation is documented in a sequence of five chapters. Chapter one provides an overview, justification, gap analysis and objectives of the study along with theoretical, managerial and contextual significance. It also depicts a theoretical framework/proposed model of this research.

Second chapter describes a detailed literature review. The first section explains personality traits and its association with investment decision. Furthermore, the model used for the measurement of personality traits and their impact on financial decision has also

been depicted. The Big-five model has widely been discussed and how each personality trait has a link with financial self-efficacy. It also entails the financial self-efficacy and its role in the investment decisions. In the second portion the moderating role of need for cognition and individual mood on the personality of an individual has been explained. This portion also includes the mediation role of financial self-efficacy in the short term/long term investment decisions. At the end, the background theory of planned behavior is explained that how our model is supported by the theoretical frame-work.

The third chapter explains the methodology of the study in detail. Preparation of study instrumentation, pilot study, pre-testing, and research design, population, sample details followed by data collection tools and all measures used in the study have been elaborated.

The fourth and fifth chapters of the document explain results of this study and their discussion, respectively.

1.9 Chapter Summary

The introductory chapter is endeavored to give a wide description of the thesis. It includes the main study problem as well as its associated research queries. Next it consists of justifications of the study, pursued by a short explanation of the research strategy implemented in responding to the primary research problems. Important definitions, parameters of the scope, theoretical framework of the research in addition to its assumptions have been mentioned. The chapter following ahead presents an overview of the literature review relevant to the background of the study and deduces the gap thus attained for the present study.

Chapter 2

LITERATURE REVIEW AND THEORETICAL FRAMEWORK

This chapter aims to present a broad review of literature conducted in relation to study topic. It elaborates the effects of personality on the decisions of individual investor First it gives an overview of role of Big-five personality traits on investment decisions. Next, it explains how financial self-efficacy construct is aligned with the theoretical framework of the study. With the literature support in this chapter theory of planned behavior has been elaborated in context of the study. The moderating variables need for cognition and mood are explained and linkage is built with the study on the basis of the past literature. At the end, the chapter deduces a gap for the present study hence, justifying the need of this study.

2.1 Personality traits and Investment Decisions

In their quest to gain a better picture of financial markets, economists and finance analysts have been struggling to uncover those factors that affect the behavior of an individual investor. It becomes an interesting question and area of special interest for scholars and practitioners how and why some individual plays better at the stock markets than others? Answers to such questions have been provided by Kahneman & Tversky (1979) in explaining the psychological biases related to an investor behavior. Such findings have started a whole new wave of inquiry in behavioral finance and researchers started

looking for other psychological and cognitive factors that may depict individual's behavior while he/she manages his/her finances.

Investor personality has a substantial role in building their cognition and psychology that may affect his/her decision making. Plentiful studies have been carried out to evaluate the effects of personality traits on investing behavior of an investor. The personality of one individual is different from that of another. Durand, Newby & Sanghani (2008) demonstrated that personality of the investors is associated with their investment choices and outcomes. In a study by Conlin et al. (2015), personality scores with specific subscales of traits combined with socio-economic status of investors were explored to understand the stock participation of different individuals.

Hence, the classical view of analyzing investor behavior towards financial decision- making purely on the basis of cognitive abilities is helpful in interpretation of risk analysis decision. However, studying the non-cognitive side of investor behavior supported in the literature of psychology, behavioral economics and neuro-sciences might be more beneficial, especially the personality traits in defining the financial decision making (Bucciol & Zarri, 2017).

Psychology defines personality as 'comparatively permanent pattern of behavior, thoughts and feelings'. These features under certain circumstance respond in certain ways which distinguish an individual from one another (Maslej, Oatley & Mar, 2017). It is difficult to draw the clear line that differentiates the personality and cognition, however, in order to understand the potential and significant effect of public policy, market incentive and education on individual financial decision study of non-cognitive determinants is very important.

The research studies of economics showed a large impact of personality traits on the economic activity. Personality acts as a predictor of social, criminal and health status of an individual. Moreover, the economic activity is also linked with it because of its high influence on human behavior. The literature of management and psychology has discussed a lot about the Big-Five model of personality. Lonnqvist, Verkasalo, Walkowitz & Wichardt (2015) considered it 'the broadest construct of personality models' which carries variety of personality attributes. The Big-Five posits comprehensive categorization of five personality traits *i.e*. Openness to experience, Conscientiousness, Extraversion, Agreeableness and Neuroticism.

Extraversion: Individual high in this personality trait is considerd as energetic, friendly, talkative, gregarious and aggressive. The individual is friendly in nature and finds comfort-level with relationship. These individuals enjoys the company of others and staying with them makes them feels them loving and satisfied. However, individuals low in this trait possess introvert personalities. They usually remain at a low profile and avoid social environment . But their inadequate social participation may not be considered their shyness or counted in sadness. Introverts require significantly less stimulation compared to extraverts and prefer to spend time alone (Shukla & Pradhan, 2011).

Agreeableness: Theoretically, personality variable termed as 'agreeableness' explains about individuals who tends to accept thoughts of other people and ideas. Individuals found highly agreeable are cooperative, comfortable and sympathetic as well as trust-worthy. They accept other people's thoughts in order to maintain peace, harmony and social well-being. They enjoy getting together in others company. Sometimes they happen to be friendly, considerate and prefer to be helpful and useful for others.

Occasionally, they might sacrifice their interests over those of the others. On the contrary, individuals low in this trait are less organized and not much cooperative and stay distracted most of the times (Costa & McCrae, 1992).

Conscientiousness: This personality dimension includes those individuals who are dependable, persistent, reliable and organized. Conscientiousness means a preference for structured, organized instead of impulsive, unpredictable behavior. It affects the way wherein we manage, control and direct our desire, stimulation, habits and tendencies. Conscientious people are likely to avoid problems, stress and attain high levels of accomplishment and good results through purposeful planning. People who rank low in this personality trait tend to be distracted, disorganized and unreliable (Costa & McCrae, 1992).

Neuroticism: This personality trait tends to experience those emotions which are considered negative like anxiety, anger or depression. Neurotic people are emotionally reactive and easily prone to stress. They very likely percept and consider normal situation as difficult, dangerous, threatening and frustratingly hopeless. It keeps them in this state of mind and in bad mood for longer period of time. These issues in emotional regulation reduce capabilities of the neurotic's to think without doubts, make clear decisions, and deal efficiently with pressure. On the other hand, individuals with low neuroticism are less easily distressed and less emotionally reactive (Costa & McCrae, 1992).

Openness to Experience: This aspect entails appreciation for art, feelings, adventure, creativity, curiosity and wide range of experience (Costa & McCrae, 1992). It covers one's range of passions and fantasies with innovative ideas. Highly open individuals are curious, imaginative and unconventional. People who find themselves open to

experience are pleased with art and are too sensitive to attractiveness and elegance. They are more imaginative, innovative and even more conscious of their feelings.

Various studies regarding personality traits and investment decisions Tauni, Fang, & Iqbal (2017) utilized the Big-Five personality framework and found that investors trade stocks more frequently and are prone to psychological trait of sensation seeking. Moreover, they argued that trading decision involves investor personality characteristics which formulates the financial choices, thus, supporting the behavioral finance theory that investors are non-rational and cannot process all market information because of various psychological influences.

During the past decade, it has been noticed that personal variations may be explained by a hierarchical process comprised of a few traits; among these effects, the Big-Five model has acquired distinctive dominance. The Big-Five model is known as probably the most detailed, empirical, data-driven research study in the historical past of personality psychology (Rizvi & Fatima, 2015). Big-Five factors is a group of five wide dimensions of a personality that have been scientifically found to define human personality at the highest possible degree (Seibert & DeGeest 2017).

In the same way, Mueller and Plug (2006) highlighted the relation between Big-Five personality attributes as well as earnings psychological aspects and correlated that an individual's personality appears to play a pivotal role with respect to an individual's attitude towards portfolio monitoring. In another research, Gherzi et al. (2014) termed individual investor as hyper-vigilant markets because due to change in market either in positive or negative direction, they react suddenly and start monitoring its portfolio.

The trait theory of personality is one of the widely used theories across many disciplines. The accurateness of this theory is accepted in psychological literature. A number of studies are available which provide ample evidence in relation to this theory's predictive power in explaining heterogeneity in human behavior. The personality traits are also studied with perceptual errors (Sadi et al. 2011) and have directly assessed the effect of Big-Five personality traits with short-term investment decision and also with long-term investment decisions. Mayfield et al. (2008) and Brown & Taylor (2014) used data from a household panel survey and analyzed the relationship between personality traits and decision-making with specific focus on unsecured debt and financial assets. Based on above discussion extracted from previous studies, following has been hypothesized in this study:

Hypothesis 1a:

There is a positive relation between extroverts and short-term financial decisions.

Hypothesis 1b:

There is a positive relation between agreeableness and short-term financial decisions.

Hypothesis 1c:

There is a positive relation between openness to experience and short-term financial decisions.

Hypothesis 1d:

There is a positive relation between neuroticism and long-term financial decisions.

Hypothesis 1e:

There is a positive relation between conscientiousness and long-term financial decisions.

Most of these studies have directly assessed the effect of various personality traits on investor's behavior, however, there is still a dearth in our understanding of how and through which psychological mechanisms personality affects an individual's investment decisions? In the section to follow, it has been identified that financial self-efficacy and need for cognition acts as specific variables intervening with an individual's personality traits to explain his investment intentions.

2.2 Big-Five Personality Types and Financial Self-Efficacy

2.2.1 Extraverts and Financial Self-Efficacy

Self-efficacy is recognized as a significant source which reveals an exclusive capability of humans to acquire from experience to handle interesting life situations. Bandura (1993) defines self-efficacy as a 'belief of a person that helps to reach at some desired outcome'.

The beliefs of self-efficacy have substantial impact on the feelings of an achievement. When someone experiences success, this may lead to institute self-efficacy, boost his/her motivation and abilities as well as widen his/her interest (Bandura, 1977). So, according to this point of view, there are certain personality traits which play integral role. Individuals having personality traits of extraversion and conscientiousness but with low neuroticism have been found highly self-efficacious (Hoyle & Gallagher, 2015).

The research (Tauni et al. 2017) implemented the Big-Five personality method and reviewed results of 541 Chinese stock investors. The outcomes of this research recommended that trading behavior is positively associated with neuroticism and extraversion. Similarly, investors with extraversion trait invest in the stock markets more intensively whenever they get information through words-of-mouth communication.

Conlin et al. (2015) used data from one wave of the British household panel survey and found that some Big-Five personality traits (in particular conscientiousness, extraversion and agreeableness) correlate with the amount of unsecured debts and savings. They also checked the correlation between the Big-Five traits and the holding of specific assets. While examining the sample of couples, they examined significant and negative correlation of extraversion with stock holding. One the other hand, when analyzing the data of singles for stock holding they found negative and significant relationship with agreeableness.

Extravert people feel more positive towards life Yik, Russell & Steiger (2011) by spending most of their time in social interactions. Furthermore, extra pleasure is experienced by individuals possessing high level of extraversion (Lucas & Baird, 2004) and they adopt active and dynamic specific processes and mechanisms. This was linked with increase in quality of life and healthy decision making.

Durand et al. (2013) observed a negative relation of trading with extraversion. According to their study, extraverted people do not trade frequently because of their tendency to have higher bid-ask spread. So extraverts are characterized as being sociable, talkative and active which gives them higher confidence in their abilities as compared to introverts but they also give importance to external clues while making decisions. Mount

et al. (1998) reported that extrovert individuals make rational decisions and are emotionally stable and thus have low levels of depression and anxiety. These characteristics make them risk tolerant as being resilient in coping with the risk thereby giving them more confidence in their abilities to manage finances well. Extraverts are optimistic and may consider a high probability of success in their financial decision making ability (Keil et al., 2007) hence it is hypothesized that:

Hypothesis 2a: There is a positive relation between extroverts and financial self-efficacy.

2.2.2 Neuroticism and Financial Self-Efficacy

Durand et al. (2008) reported positive association between negative emotion and trading frequency, which is at par with the argument that neurotic investors are disposed to trade more often to lessen the feelings of unpleasantness due to external stimuli. For better long-term financial planning, investment and retirement plans, a high conscientiousness and emotional strength are the personality factors that influcence the decsion of an an individual. However, low neuroticism helps in better financial planning and commitments to future goals (Yalcin, Tatoglu & Zaim, 2016).

People with an increased level of neuroticism are more pessimistic, stressed and generally more depressed. They often pay extra focus on negative information and substantively feel more depressed and less focused on positive information (Noguchi , Gohm & Dalsky, 2006) than people with a low level of neuroticism. In a financial perspective, Niszczota (2014) found that investor from places with increased scores in neuroticism spend fewer in foreign stock market and foreign debts securites and claimed that more neurotic individuals would like to refrain from uncertainty that is related to

foreign investments . Gambetti and Giusberti (2012) discovered that anxious people choose less risky asset classes and protfolios compared to less anxious people.

Personality of neurotic individuals is marked by fear, aggression, pessimism, depression and anxious behavior (Costa & McCrae, 1992). Neurotic individuals tend to give more importance to the negative aspects of an information (Skevington, 1983; Dalsky, Gohm, Noguchi, & Shiomura, 2008). In countries where individuals score high on the neuroticism scale tend to avoid risk while investing in foreign markets (Niszczota, 2014) because they personally lack efficient methods to solve their problems and hence have less belief in their capabilities to make financial decisions. So, it can be inferred that:

Hypothesis 2b: There is a negative relation between neuroticism and financial self-efficacy.

2.2.3 Openness to Experience and Financial Self-Efficacy

Tauni et al. (2017) in their study concluded that investors who vary in their personality types may differ in their trading behavior because of using various ways to obtain information. Investors with openness traits invest more often if they get information from financial advisors. People who are high on the openness to experience trait are creative and intelligent individuals. They are inclined towards new things and readily accept and interpret new market information to keep their investment portfolios updated.

In a study on the behavioral biases and psychological traits (Lin, 2011) found that individuals characterized by a high degree of imagination and intellect were also prone to overconfidence bias. It can, hence, be assumed that such highly openness to experience individuals have strong confidence in their intelligence and will believe that they can

manage their finances well as compared to investors having lower openness to experience individuals.

Hypothesis 2c: There is a positive relation between openness to experience and financial self-efficacy.

2.2.4 Agreeableness and Financial Self-Efficacy

The study of Gennaioli, Shleifer & Vishny (2015) termed financial advice like the medical services which need money doctors (financial experts). The individual investors feel anxiety and are not that much expert to make its investment choices at own risk, therefore they rely on the advice of money doctors. This trust based relation on money doctor reduces the anxiety of investor and consequently changes individual behavior towards the perception of risk and investment management. The analysis of (Bucciol & Zarri, 2017) significantly revealed that agreeableness and anxiety are the personality traits that shape the portfolio choice.

Emotionally stable introvert people are found to borrow less and save more whereas the opposite is done by agreeable people (Nyhus & Webley, 2001). Agreeable individuals are friendly in nature; and trust and respect other individual's opinion. Costa and McCrae (1992) and Sadi et al. (2011) studied investor personality types in relation to their inclination towards perceptual errors and found that agreeable individuals are more prone to perceptual errors while making financial decisions. Since agreeable individuals are modest and courteous, they also find it difficult to manage their finances well and will seek advice from financial experts while making their investment decisions. This can also mean that they have little confidence in their ability to manage their own finances, hence:

Hypothesis 2d: There is a negative relation between agreeableness and financial self-efficacy.

2.2.5 Conscientiousness and Financial Self-Efficacy

Fang et al. (2017) found positive relationship of conscientiousness with investing behavior. These results also conform to those of Durand et al., (2013) who postulated that conscious people practice their efforts to attain desired outcomes and therefore trade more. While studying the association between personality traits of Finnish individuals and stock investing behavior, Conlin et al. (2015) identified that different personality traits are significant predictors of investor's stock market participation. The above-mentioned research has found how variances in investor's psychological traits lead to differences in their financial behavior.

The research by Pocnet, Dupuis, Congard & Jopp (2017) also has established that high conscientiousness describes a substantial amount of variation in people's quality of life. Conscientious individuals manage to overtake unforeseen challenges easily than individuals who are significantly less committed to achieving necessary life tasks. These people are focused towards life scenarios which are beneficial for quality of life particularly by setting higher dreams and a higher level of determination. They confront fewer stressors since they put in place extra proactive and organizational efforts to keep away from them. Conscientious people are better able to foresee and get ready for upcoming repercussions of potential adversities, and more prepared and self-disciplined (Pocnet et al., 2016).

Conscientiousness points out the manners by which individuals manage their behavior as well as cognitions. Its traits involve proficiency, uniformity, striving for achievement,

well organized and disciplined one, which ultimately results in those behavioral trends which lead to self-regulation. McCrae and Lockenhoff (2010) forecasted the use of these efficient techniques including behavioral engagement like problem-solving along with cognitive restructuring which affect the individual. Accordingly, Derryberry et al. (2003) linked these techniques with conscientiousness to address boring, nasty jobs with high level of conscientiousness and disengage from negative thoughts and acts as well.

These individuals are cautious, thorough-going, responsible, organized, well planned, hardworking and achievement-oriented (Barrick & Mount, 1991). These characteristics give the individual a certain level of confidence in their financial management abilities as well. Highly conscientious individuals have well-defined investment goals. Such individuals are highly structured and go for thoughtful analysis and also depict strong intentions to invest in short term and long term investment portfolios (Mayfield et al., 2008). Hence, it is expected that they will also have a strong relation with financial self-efficacy.

Hypothesis 2e: There is a positive relation between conscientiousness and financial self-efficacy.

2.3 Financial Self-Efficacy and Investment Decisions

De Meza, Irlenbusch & Reyniers (2008) described financial self-efficacy as a set of psychological traits that includes mental accounting or budgeting information overload, procrastination, regrets and risk aversion. The self-efficacy is an individual's belief in his capabilities that he can perform a certain task. A plethora of researches have been conducted on self-efficacy specifically in this work domain (Bandura, 1997). The

organizational researches have studied the relationship between self-efficacy and work-related performance (Judge, Jackson, Shaw, Scott, & Rick, 2007).

A research (Montford & Goldsmith, 2016) was conducted in US people with a view to analyze investment psychology of male and females and to assess the reason why women make investment quite conservatively. They further worked on human behavior of investing by evaluating the association among the gender and investment risks along with the role of financial self-efficacy. The research revealed that as compared to men, women make less risky investments and financial self-efficacy is positively related to the level of risk taken within investment portfolios. Furthermore, gender differences affect the influence on investing and pension saving techniques, wealth accumulation and portfolio choices (Chatterjee, Finke & Harness, 2011). Financial self-efficacy is not affected entirely by level of financial literacy or financial abilities alone. Instead, elements for instance personality, family background, interpersonal and social norms and frames of reference also give rise to one's financial self-efficacy (Hira, 2010).

Researchers have also studied efficacious individuals in academic settings (Elias & Loomis, 2002) and have examined the relationship between perceived self-efficacy and perceived stress (Ebstrup, Eplov, Pisinger, & Jorgensen, 2011). In a study on entrepreneurial self-efficacy, (Chen, Greene, & Crick, 1998) the researchers argued that individuals who are high on entrepreneurial self-efficacy also tend to exhibit more financial control. In a study conducted by (Farrell et al., 2016) on the financial self-efficacy of women, it was found that those women who were confident in their abilities to handle their finances well also held a diverse portfolio of financial products. In the theory of planned behavior, It has been argued that when individuals believe that the behavior is in their

control and they have the ability to exhibit a certain behavior then perceived behavior control or self-efficacy can directly predict behavior (Fishbein & Ajzen, 2005).

Hypothesis 3: There is a positive relation between financial self-efficacy and short-term and long-term investment decisions.

2.4 Moderating Role of Need for Cognition in Big Five Personality Types-Financial Self-Efficacy

Need for cognition is defined as 'personality feature'. It was introduced to explain individual differences in motivation for cognitive working. It is also expalined as 'dispostional tendency of an individual by which he enjoys thinking' (Cacioppo & Petty 1982). It has direct impact on the efforts devoted to cognitive elaboration (Cacioppo, Petty, Feinstein, & Jarvis, 1996). Therefore, individuals who have high need for cognition perform better in complex situations, and their learning abilities are high they have good idea persuasiveness towards over all attitude. More precisely, individuals have more often innovative behavior who are high in NFC .

Individual knowledge , expertise and capabilites vary and are linked with the high and low level of need for cognition. Furthermore, it has also been studied that need for cogniton is linked with innovative behaviour. The association of creative personality, openness to experience and cognitive styles have been found by different reseachers (Madjar, 2008). Specifically, if cognition is associated with innovative behavior, the standard focus continues to be on cognitive ability instead of one's motivation with regard to cognition. Ryff (2014) revealed that individuals who are high in NFC are less involved with irrelevant factors as compared to those having less NFC.

Cacioppo and Petty (1982) related need for cognition with two personality traits, openness to experience and conscientiouness. They futher added that need for cognition is linked with innovative behavoiur and ready to captivate innovative thoughts when associated with openness to experiences. They also added that individals high in NFC enjoy cognitive activites and found postive relationship between openness to expereince and NFC. Since NFC is a personality construct therfore they also recommended its link with conscientiouness. This area is identified and defined as conscious structured and focused which means that a conscious, structured individual who is high in NFC theorized to create a inclination to take part in cognitive activity thus a positive relationship is expected among conscientiouness and NFC.

Epstein (1994) explained NFC as a contstruct of his rational thoughts generated on the basis of his experience Furthermore, logical and experience based thoughts were counted as information processing counters which affect individual views about themselves. So, individual who believe more on their experiential than logical form are assumed to have more scattered self-concepts. They are controlled by emotions rather than logic. On the basis of this idea, individuals who are inclined towards more in experiential than logical mode are expected to be low in NFC. They stated that NFC is negtively associated with one of the Big-Five personality traits *i.e.* neuroticism, because it is counted as emotional instabilty.

An individual who has high NFC will also have more confidence in his own ideas as contrary to individuals with low NFC and hence, to support their opinions they are able to present a large number of arguments (Sadowski & Cogburn, 1997). In the theory of planned behavior (Fishbein & Ajzen, 2005), self-efficacy is said to be affected by a number

of background variables including an individual's personality. Individuals differ from each other based on their personalities and hence possess different cognitive styles as well. Different researchers have examined the association of NFC and personality traits. The findings of these studies have stated that extraverts, openness to experience and conscientious individuals have a high NFC and agreeable and neurotics have a low NFC (Woo, Harms & Kunce, 2007) .

Based on Bandura (1997), causal models on the relationship between self-efficacy and NFC, it is advocated that individuals who possess such personality traits that are high in NFC will enjoy thinking and this may result in stronger and more confident beliefs to perform a certain task or successful behavior as compared to individuals who are low on NFC. Elias and Loomis (2002) found that students with a high NFC also exhibited strong efficacy beliefs and demonstrated better academic grades. In this study it is also proposed that a high NFC investor will enjoy thinking and will have more confidence in his ability to manage his finances as compared to an individual who has a low NFC.

Hypothesis 4a: Need for cognition will moderate the relation between extraversion, conscientiousness, openness to experience and financial self-efficacy such that it will be strong when NFC is high.

Hypothesis 4b: Need for cognition will moderate the relation between agreeableness, neuroticism and financial self-efficacy such that it will be weak when NFC is low.

2.5 Mediating Role of Financial Self-Efficacy between Big Five Personality Types and Investment Decisions

An investor's personality has been of interest to behavioral finance researchers in understanding his investment behaviors. A number of researches have conducted work regarding the relationship between personality types and individual investor behavior (Mayfield et al., 2008; Chitra & Sreedevi, 2011). While contemplating the theory of planned behavior, the authors made addition to the theory of reasoned actions by adding a number of predictor variables also termed as 'background factors' at the individual, social and information level (Figure 1). It was further argued that these variables cannot be direct predictors of behavior and their effect on behavior can be understood through certain psychological mechanisms. Self-efficacy is considered as such a cognitive mechanism that can explain the effects of certain personality variables on behavior. Bandura (1982) argued that self-efficacy is not a particular trait pertaining to an individual's personality, rather it is dependent on the situation and context and acts more like a 'cognitive mediator of action'.

Individuals, who are extroverts by personality, more sociable and gather information from the external environment, will be confident in their ability to handle financial matters. Highly conscientious individuals are self-confident in their analytical skills and possess a high level of financial self-efficacy. Individuals who are open to experiences enjoy doing complex things and are expected to have a high financial self-efficacy. On the other hand, agreeable individuals rely heavily on opinion of others and neurotics are risk averters because they seem to be more threatened from the environment so they are also expected to have a low financial self-efficacy.

Canadian study (Rothwell, Khan, & Cherney, 2016) navigated the interactions of financial knowledge, financial self-efficacy, savings outcomes and identified that financial self-efficacy mediates the relationship among financial knowledge and investment. This correlation of financial knowledge and retirement saving passes mediated through financial self-efficacy. Similarly, in the US national survey, an increase in financial self-efficacy was associated with an 8% point increase in the probability of emergency savings (Babiarz & Robb, 2014).

Pocnet et al. (2017) developed a significant relationship of personality traits on quality of life and added that self-efficacy and emotion regulation mediates this relationship. The personality analysist analyzed that various personality factors influence the happiness and un-happiness of life. Particularly neuroticism, extraversion and conscientiousness are the important and best predictors of mental health both positive and negative affects.

In a study conducted by (Farrell et al., 2016) on the financial self-efficacy of women, it was found that those women who were confident in their abilities to handle their finances well also held a diverse portfolio of financial products. Chen, Greene & Crick (1998) studied the self-efficacy behavior of entrepreneurs and contended that entrepreneurs who had more confidence in their abilities as an entrepreneur exhibited more marketing, management and financial control skills. Based on the above reasons and studies it can be hypothesized that:

Hypothesis 5: Financial self-efficacy will mediate the relationship between Big-Five personality types and short-term and long-term investment decisions

2.6 Moderating Role of Individual Mood on Financial Self-Efficacy and Investment Decisions

Mood is a temporary feeling at any particular time and thus has a great influence on trading decisions. Due to studies conducted by researchers and literature regarding the link of stock returns with environmental factors such as length of the day and weather, this supposition that mood affects the investors behavior has gained common acceptance. A topic which has most recently observed a lot research attention is how the investor's mood is shaped through different social, cultural and religious events. Generally, the evidence signifies that emotion and mood play a vital role in shaping investor behavior. Shu (2010) claims that the greater the complication of a decision's outcome, the greater is the impact of mood in decision making. An optimistic mood could carve optimistic investors ready to accept riskier investment decisions (Gavriilidis, Kallinterakis & Tsalavoutas, 2016).

In the study of Finland on domestic investors, it was concluded that mood has impact on the investor behavior. When in a better mood, individuals are optimistic regarding stocks or we can say that they have greater risk tolerance. They are disposed to buy stocks rather than selling when the external environment is favorable such as longer day time or more sunshine (Kaustia & Rantapuska, 2016).

A lot of research has been carried out both in lab and in field to evaluate the role of mood in decision-making under risk conditions (Lepori, 2015). As a result, it is revealed that mood easily influences an individual's attitude toward risk and their choices. In the laboratory research, subject mood are studied by manipulation through exposure to external stimuli such as movie clips, music /sounds and short stories. Field studies, on the other hand, focus upon mood impact on investment decision, outcome of stock market assumes

that environmental factors trigger mood and can change the optimism about portfolio choices (Al-Hajieh, Redhead & Rodgers, 2011).

The 'portfolio monitoring' involves variety of psychological factors which an individual carries in its attitude and the investor's monitoring becomes more vigilant towards its investment with the positive and negative returns in the market (Bucciol & Zarri, 2017). The discussion regarding whether investor's mood influences the stock market, behavioural finance and asset pricing has been a concern of significant interest in economics and finance and many studies report statistically significant effects (Kim, 2017).

Loewenstein (2000) relates decision-making with the emotions, feelings and narrated that they often change the behavior of an individual in a direction entirely different from his experienced behavior by weighing the long-term benefits. So, equity pricing is speculated with different factors of behavior like emotion of an investor because they are one of the major components in deciding the equity stock selection. Social mood has impact on the stock market prices and investor is fully influenced with the stock market behavior. There are certain environmental factors which are influencing the stock market like weather, body biorhythms, access to correct information and herding behavior. These factors influence the equity price and the investor decisions are also manipulated and guided by them. Though it happens that people may like to enjoy some state of feeling and moods such as the present weather, sunshine etc., which instigate them in decision making because they feel that these influenced environmental factors will help them in taking complex and risky decisions in a better manner. Thus, equity investment decisions are considered to be partially manipulated with the factors influencing mood.

An individual's mood has a profound effect on the choices he considers while making decisions. Researchers in psychology and finance have studied the effects of mood on individual decision making in a variety of ways. Some researches induced the participant's mood by showing various movie clips, stories or music (Johnson & Tversky, 1983) while others have studied the effects of weather like sunshine in generating the mood of investors (Hirshleifer & Shumway 2003). In the field of finance, researchers have used the terms mood, feelings and emotions interchangeably.

The theory of planned behavior has been criticized for contemplating behavior as too rational and not giving emotions and feelings due importance (Armitage, Conner, & Norman, 1999). Researchers (Fishbein & Ajzen, 2005) argued that emotions can effect behavior indirectly and call for more research on how emotions and feelings can induce behavior. Feelings play a significant role in one's life and act as dominant entities that can both hinder and facilitate decision making. Two perspectives with respect to the role of feelings on decision making have emerged in literature. One is that an individual's feeling or his mood can create different biases, this is called the 'feeling-as-bias-inducer' effect. On the other hand feelings can also improve the process of decision making, this perspective is known as 'feeling-as-decision-facilitator' (Seo & Barrett, 2007).

When people experience positive or pleasant affective states, they don't process information conclusively and remain flexible in their approach and, therefore, assume more risk and invest in concentrated portfolios (Chan & Park, 2013) as compared to individuals experiencing unpleasant moods or negative affective states, who tend to analyze information more systematically (Conway & Giannopoulos, 1993) and invest in diversified portfolios in order to mitigate their risk. Researchers have even created hypothetic

scenarios to study the effect of emotions on real life investment decision- making (Gambetti & Giusberti, 2012). A number of studies have shown that positive mood induced by watching a comedy movie can be followed by a more risk resistant behavior (Lepori, 2010). Based on the affect infusion model which maintains that individuals become prone to risk when they experience a pleasant affective state (Forgas, 1995) so it is hypothesized that:

Hypothesis 6a: Individual mood will moderate the relation between financial self-efficacy and investment decisions such that highly efficacious people in pleasant mood will be inclined towards short term investment decisions.

Hypothesis 6b: Individual mood will moderate the relation between financial self-efficacy and investment decisions such that low efficacious people in unpleasant mood will prefer long term investing.

2.7 Theoretical Framework of the Study

The theory of behavioral finance explains that in real life individual investor is influenced by psychological factors. Both rational and emotional aspects combine together and form a complicated domain of investment behavior. Other than psychological, there are sociological and demographic factors as well that are involved in the study of investment behavior. So it seems that behavioral finance gives a better framework and more realistic conditions to evaluate investor attitude (Mak & Ip 2017).

A number of researchers have used the theory of planned behavior to explain the investment choices an individual makes. East (1993) studied the application for shares in privatized industries and reported that the application for shares was accurately predicted

by measured intention. Intention was in turn an outcome of attitude, subjective norm, perceived control and past behavior. Alleyne and Broome (2011) studied the investment intentions on a sample of undergraduate students. Shanmugham and Ramya (2012) investigated the impact of social factors on individual trading behavior and Cuong and Jian (2014) studied the investment behavior of individual investors in Vietnamese stock market. This study has also employed the theory of planned behavior as its underlying theory to explain the relationship between study variables and will study the effect of personality traits (background factors: Figure 1) on an individual's financial self-efficacy (Perceived Behavioral Control: Figure 1) in predicting his/her investment intentions.

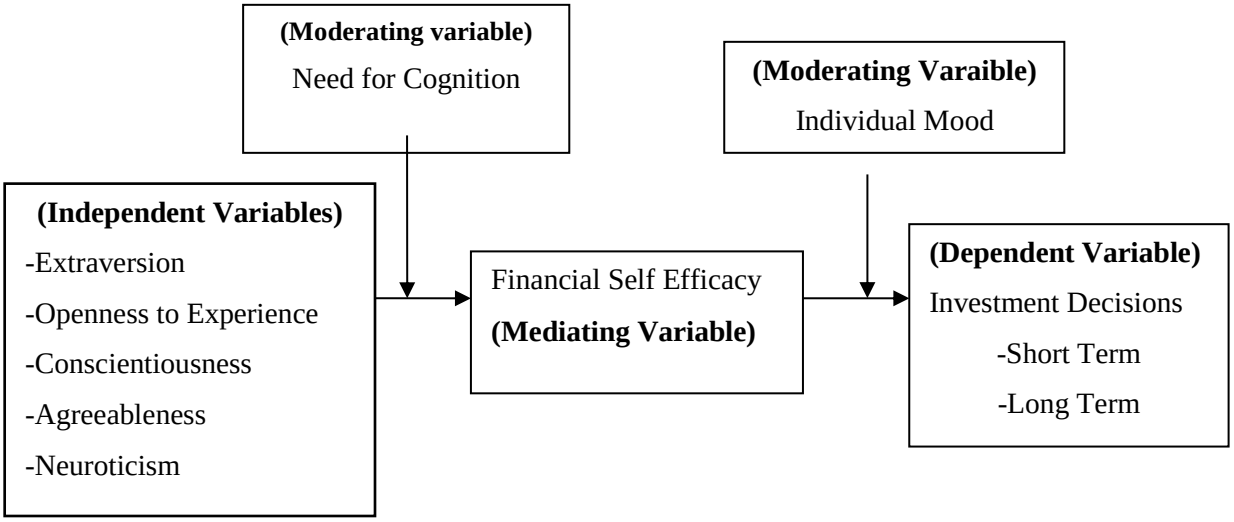

Figure 2: Proposed Theoretical Framework of the Study

2.8 Chapter Summary

The foregoing review of literature has provided a basis for building a conceptual model that can be used to evaluate the identified variables. The review of personality traits

suggests that investor is influenced by his personality traits. The literature discussed in this chapter is relevant to adoption of financial self-efficacy as mediating variable. Similarly, the literature also supports the idea that NFC and mood play important role in strengthening and weakening the relationship in their investment decision. From the preceding literature review and particularly because of the theoretical support, a conceptual framework based on a more variable-oriented model has been proposed to meet the objectives of the present study. This conceptual model is discussed in the following chapter, together with the proposed hypotheses that need to be tested to evaluate the model.

Chapter 3

RESEARCH METHODOLOGY

Following the development of the research model and hypotheses presented in preceding chapter, this chapter elaborates the methods used for measuring variables, validating the model and testing the hypotheses. This chapter begins with the justifications of the selected research paradigm and methodology used to address the main research questions introduced earlier in Chapter 1. Next, this chapter provides an overview of the research design, identifies the study population, specifies domains of constructs, addresses the measurement of items and presents the questionnaire survey. It also articulates the instrument development process, a data collection plan and the techniques used in data analysis.

3.1 Research Paradigm

Positivism leads to quantitative strategy. Basically, this methodology requires the collecting of scientific data which is specific and even based upon measurement which is usually examined by using statistical tools so that the results can be generalizable. Padgett (2016) explained the positivism approach as a single reality which is understandable, measureable and result oriented as well. In this study, a standard survey methodology is adopted to obtain data on nine variables which reveals the scientific realism model that in turn, pursues for the approximate truth than the actual truth. Therefore, most understandable and perceivable reality which provides outcomes that are probability true is accepted by scientific realism (Sankey, 2016). The assumptions shared by the scientist

community through investigation are known as research paradigm. In the fields of Marketing and Information, maximum research studies are based on positivistic assumptions considering reality as a social construct analyzed by the people on the basis of their participation (Lincoln & Guba 2000).

3.2 Sample Selection and Unit of Analysis

In this study, individual investors are the unit of analysis. Specifically, this study scrutinizes the effects of individual investor's personality traits on investment decision. As shown in the research design, it would have been desirable to use actual investors; however, due to constraints such as cost and time in pursuing their contribution, personal and professional contacts were availed to access the individual investors of Pakistan Stock Exchange (Karachi, Lahore & Islamabad).

3.3 Preparation of Survey Instruments

For the preparation of survey instruments, a careful approach was followed. Initially, present literature on management and behavioral finance was studied and construct-measurements were developed based upon these studies. The measurement scales used in this study were mostly adapted from previously validated scales. A five - point 'Likert Scale' was opted enabling the respondents to place their view without any difficulty.

3.4 Pilot Study and Pretesting

A Pilot Study was conducted to evaluate the reliability of the instrument for this study. The following goals were considered through this study:

(1) To assess the time utilized in filling the questionnaire confirming that the length of the instrument is reasonable

(2) To evaluate the validity and authenticity of instruments context

(3) Continued improvement/amendment of the instrument

The respondent's confidentiality was guaranteed for the pilot study. Based on the pilot study, few amendments were made so as to improve the accuracy of the instrument. About 50 individual investors of Pakistan Stock Exchange from Islamabad participated in the pilot study. It was observed that an average of 20 minutes was taken to complete the survey which was a little more than the predicted length of time. Therefore, a few items were removed to shorten the instrument for the full-scale survey. However, dropping of these items from the instrument did not compromise the research model considering that most measurements were composed of more than 05 items. Therefore, the shortened version of the instrument was opted for the final survey which was expected to substantially decrease the time spent in answering the survey. Despite the fact that the procedures were designed from the extant literature, it was important to carry out the validity and reliability tests because they are applied in a different perspective in this study. So, a wide range of literature review has been performed to ensure the validity and reliability of the construct. Three faculty members from Finance and Management were consulted for a pre-test study and were requested to evaluate the instrument. On the basis of their judgments and

suggestions, minor modifications were performed for more clarity of concept and questions.

3.5 Survey Instrument and Reliability

The questionnaire consisted of five sections, beginning with measurement of the Personality traits. Since five personality dimensions are viewed in Big-Five so this section was further sub divided into five personality types. The second part of the questionnaire involves mood questions. The third part was about short-term and long- term investment decision. The financial self-efficacy and NFC were the fourth and fifth section of the questionnaire, respectively. Using Cronbach's alpha reliability coefficients, all the variables were computed and found in the range of 0.67 and above 0.70 Cronbach's alpha score.

3.6 Context of the Study

The present study was conducted in the environment of Pakistan. An attempt was made to explore the role of possible factors like personality traits, investor financial self-efficacy and NFC to understand the investment decisions of individual's investing in the stock markets.

Pakistan's Stock Market benchmark equity 100 index has beaten major Asian economies this year in stock market performance (Economic Survey of Pakistan 2016-2017). Government's aggressive spending and investment in infrastructure has made Pakistani market attractive to investors. Even though faced with embedded pessimism,

Pakistan offers a number of chances to increase an individual's wealth and investment in the stock market is one such golden opportunity. Given the untapped human capital of 180 million, strong listed companies enjoying higher earnings growth rates and increasing urbanization are key reasons to invest (Soomro, 2013).

3.7 Research Design

This study used primary data. The data was collected personally through administered questionnaires with the help of which we assessed our variables being personality traits, investment decision, NFC, financial self-efficacy and individual mood of the respondents. Based on the prior studies we used well-established tools and models to estimate the hypothesized relationships.

3.8 Population and Sample

In order to test the proposed hypothesis, the selected population was individual investors associated with Pakistan Stock Exchange who hold shares and/or have invested in long-term securities. Sampling category was the non-probability-based convenience sampling and individual investors were randomly selected from Karachi, Lahore and Islamabad.

Due to resource constraints, difficulty in accessing the target audience and time constraints, a representative sample was chosen for this study (n = 506) and data was collected from these investors through questionnaires.

In this study, both personal and professional contacts have been used to access the investors. The questionnaires were developed in English language. In Pakistani organizations, English language is thought to be adequate for surveys as validated by previous studies which have found good reliability (Raja, Johns & Ntalianis, 2004).

The participant of the survey was ensured of confidentiality of their response. The questionnaires were accompanied with a cover-page in which the research objectives were defined and explained. It was shared with the participants that aggregate results will be reported and participation is purely on voluntary basis. It was ascertained that the respondent's name will not be published at any stage of the research.

3.9 Instruments-Measurement of Variables

To confirm that scientifically appropriate instruments with good psychometric properties are used in the present study, researcher emphasized the use of properly authenticated instruments. Therefore, available instruments were used in the present study where the instrument had been tested and validated in earlier studies. We also carried out reliability analysis so as to ensure that the scale had good psychometric properties and the measures had reliability and high validity. The questionnaire consisted of about 65 items divided into various sub-sections described below:

3.9.1 Big-Five Personality Traits

The personality traits are measured through (Costa & McCrae, 1992) scale . This scale is tested through previous research studies, so it is considered as a valid tool for measuring

the personality traits. This scale contains 05 different questions for the analysis of one personality type. Each item was scaled at five points 'Likert Scale'. The respondents were asked different questionnaires which define their actions, liking and personality behaviors. The responses ranged between 'strongly agree to 'strongly disagree'.

3.9.2 Investment Decisions

We adopted (Mayfield et al., 2008) a scale to measure the behavior of individual investor towards investment decision. It contained two sections each containing 05 questions for short-term investment decision and similarly 05 questions for long-term investment decisions. The question response ranged between 'strongly agree' to 'strongly disagree'.

3.9.3 Financial Self-Efficacy

To measure the construct variable of financial self-efficacy, six-item scale was developed (Lown, 2011) for this study. The respondents were asked statements which defined their self-perceived capability and attitude to handle their finances. These statements also depicted their confidence-level to manage financial matters. 'Likert Scale' with response range was between 'strongly agree' to 'strongly disagree'.

3.9.4 Need for Cognition

The scale used by Petty, Cacioppo & Feng (1984) and Wu, Parker & De Jong (2014) was adopted to find the construct variable need for cognition of an individual investor. The respondents were asked questions to rate the level they agreed to with these

statements. These statements defined their satisfaction-point which they felt from thinking. The response ranged between ‘strongly agree’ to ‘strongly disagree’.

3.9.5 Individual Mood

Individual mood was determined by the scale used by (Watson, Clark & Tellegen 1988). The Mood Scale’ contained certain adjectives and terms which defined the respondent’s responses. The scale indicated how well each adjective or phrase described an individual mood state on the 05 following values ranging between ‘Very Slightly’ to ‘Extremely’:

Variable	Instrument Author(s)	Number of Items
Personality	(McCrae & Costa Jr., 1999; McCrae & Costa, 2003)	23
Financial Self Efficacy	(Lown, 2011)	06
Need for Cognition	(Petty et al., 1984; Wu et al., 2014)	06
Individual Mood	(Watson et al., 1988)	20
Investment Decision	(Mayfield., 2008)	10

3.10 Data Analysis

As conceptualized in the basic research design (Figure 2) mediation and moderation analysis was performed. Linear regression analysis was conducted to check the direct effect prior to mediation and moderation effects. The direct effect was later confirmed through SPSS using PROCESS macro of Hayes (2013). This technique is considered as best methods for analysis of moderation and mediation in SPSS.

The mediation model for the research study contains the personality traits of Big-Five as an independent variable. Financial self-efficacy has been treated as mediating

variable while short-term and long-term investment decisions have been treated as dependent variables. To check either mediation exists among personality traits and investment decision, Hayes (2013) provided technique is used for analysis. For confidence intervals of indirect effect, bootstrapping method was used. This process involves drawing samples repeatedly form the original one to find empirical estimation of sampling distribution. If the values between the confidence interval of indirect effect contains zero than mediation effects are considered as significant. The bootstrapped samples were made at 5000.

3.11 Econometrics Methodology

3.11.1 Effect of Personality traits on Investment Decisions

We have used different measures of personality traits namely, Neuroticism, Extraversion, Conscientiousness, Agreeableness and Openness to experience on investment decisions (Short-term and Long-term investment decisions) (Bandura 1982)

The impact of the above mentioned personality variables on the short-term investment decisions is given by the equation

$$SID_i = \beta_1 + \beta_2 EN_i + \beta_3 OE_i + \beta_4 AS_i + \varepsilon_i, \quad \textbf{3.1}$$

where SID_i is Short term Investment decisions, EN is Extraversion, AS is Agreeableness, OE is Openness to experience, ε is error term, i is individual investor and $\beta_1, \beta_2, \beta_3$ are coefficients. Similarly for the long term investment decision the equation is

$$LID_i = \beta_1 + \beta_2 CN_i + \beta_3 NM_i + \varepsilon_i, \quad \textbf{3.2}$$

Where LID_i is Long term Investment decisions, CN is Conscientiousness, NM is Neuroticism.

3.11.2 Big Five Personality Types and Financial Self-Efficacy

In this sub section we present the relationship between personality traits and financial self-efficacy. Accordingly the expression showing the relationship of personality traits and financial self-efficacy of an individual investor:

$$FSE_i = \beta_1 + \beta_2 EN_i + \beta_3 OE_i + \beta_4 AS_i + \beta_5 CN_i + \beta_6 NM_i + \varepsilon_i, \quad \textbf{3.3}$$

Where FSE_i is Financial Self-efficacy and $\beta_4, \beta_5, \beta_6$ are coefficients.

3.11.3 Financial Self-Efficacy and Investment Decisions

The relationship between financial self-efficacy and investment decision is presented as:

$$ID_i = \beta_1 + \beta_2 FSE_i + \varepsilon_i, \quad \textbf{3.4}$$

Where, ID is Investment decision (Short-term and Long-term investment decision)

3.11.4 Moderating Role of Need for Cognition in Big Five Personality Types-Financial Self-Efficacy

In this equation, the relationship between personality traits, NFC and financial self-efficacy is defined as:

$$FSE_i = \beta_1 + \beta_2 EN_i + \beta_3 OE_i + \beta_4 AS_i + \beta_5 CN_i + \beta_6 NM_i + \beta_7 NFC_i + \beta_8 NFC_i * EN_i + \beta_9 NFC_i * OE_i + \beta_{10} NFC_i * AS_i + \beta_{11} NFC_i * CN_i + \beta_{12} NFC_i * NM_i + \varepsilon_i \quad \textbf{3.5}$$

NFC_i =Need for Cognition, $\beta_i$are coefficients. $\beta_8\ through\ \beta_{12}$ represents the coefficients of interaction terms, positive value indicate high need for cognition while negative value indicate low need for cognition.

3.11.5 Mediating Role of Financial Self-Efficacy between Big-Five Personality Types and Investment Decisions

In this expression we defined the mediating role of financial self-efficacy with personality traits and investment decisions:

$$ID_i = \beta_1 + \beta_2 FSE_i + \beta_3 EN_i + \beta_4 OE_i + \beta_5 AS_i + \beta_6 CN_i + \beta_7 NM_i + \varepsilon_i \quad \textbf{3.6}$$

ID is short-term and long-term investment decision. While estimating short-term investment decision β_6 & β_7 equals to zero and in long-term investment decision. β_3 , β_4 & β_5 equals to zero.

3.11.6 Moderating Role of Individual Mood on Financial Self-Efficacy and Investment Decisions

The role of individual mood as a moderating variable on financial self-efficacy and investment decisions is shown in the equation:

$$ID_i = \beta_1 + \beta_2 FSE_i + \beta_3 Mood_i + \varepsilon_i \quad \textbf{3.7}$$

3.12 Chapter Summary

This chapter has discussed and justified the research design approach employed in this study. A quantitative approach using a survey was used to confirm a theoretical model and test the proposed hypotheses. The survey was administered to individual investor of

Pakistan Stock Exchange. Therefore, the unit of analysis in this study is individual investor answering questions about their attitudes towards their investment decision. This chapter has also outlined the procedures followed in collecting the data, with consideration given to maximizing its reliability and validity. Instrument development utilized existing scales and measures. Hayes (2013) PROCESS macro has been used to analyze the data. Results of data analysis of these procedures are presented in the following chapter.

Chapter 4

RESULTS

Following the conceptualization of the research model presented in preceding chapter of Methodology and the measurement of variables, a data analysis of survey responses to verify and validate the model was conducted. Therefore, the purpose of this chapter is to provide a full interpretation of the data collected from the two questionnaire surveys. Results from data refinement and hypotheses-testing are presented. Towards the end of the chapter, the results of mediation analysis and moderation analysis are also presented

4.1 Descriptive Statistics

The result of means and standard deviation of the variables used in the study are shown in the Table 1. The relationship between personality and investment decision has been found through survey based study. Any abnormality in the data has been checked. Descriptive statistics including mean, standard deviations, correlation and reliability were done for all variables. A total of 506 individual investors were surveyed in this research. The average age of the investors who responded the questionnaire was M = 36.84, S.D = 12.27. The average experience of financing in the stock market was M = 7.12, S. D = 7.34 and on average investors had graduation degree as their academic background. So, it was easy for them to understand the questionnaire and the concept of this research study.

Table 1: Descriptive Statistics.

Variable	Mean	S. D
Age	36.84	12.27
Gender	1.22	.41
Experience	7.12	7.34
Education	2.19	.75
Income	3.61	1.58
Neuroticism	2.63	.88
Agreeableness	2.85	.84
Conscientiousness	3.87	.80
Extraversion	3.67	.70
Openness to Experience	3.63	.65
Need for Cognition	3.29	.65
Financial Self Efficacy	3.08	.69
Mood- Positive Affect	3.09	.60
Mood- Negative Affect	2.63	.71
Short term Investment	3.11	.77
Long Term Investment	3.39	.79

For Gender 1=Male 2= Female

4.2 Correlation Analysis

The results of Table 2 shows the correlation analysis of the variables used in the study. The correlation relationship of extroverts and short-term investment decision was positively correlated ($r = .213$, $p < 0.01$) whereas the association of agreeableness with short-term investment decision was positively correlated ($r = 0.119$, $p < 0.01$). Likewise, openness to experience was also positively correlated ($r = 0.255$, $p < 0.01$) with short-term investment decision. The results of neuroticism was positively correlated ($r = .001$, NS) but insignificant with long-term investment decision while conscientiousness significantly correlated ($r = 0.239$, $p < 0.01$) with-long term investment decision.

There was significant positive correlation of neuroticism ($r = 0.338$, $p < 0.01$), conscientiousness ($r = 0.092$, $p < 0.05$) and openness to experience ($r = 0.135$, $p < 0.01$) with financial self-efficacy and negative significant correlation with agreeableness ($r = -.254$, $p < 0.01$) while extraversion ($r = 0.007$, NA) was insignificantly correlated. Financial self-efficacy was positively correlated with short-term investment decision ($r = 0.202$, $p < 0.01$) and similarly with long-term investment decision ($r = 0.215$, $p < 0.01$).

The results showed that NFC was correlated but insignificantly with extraversion ($r = 0.227$, NS), conscientiousness ($r = 0.227$, NS). Openness to experience ($r = 0.231$, NS) was positively correlated and financial self-efficacy was positively correlated with NFC ($r = .310$, $p <0.01$). The results of NFC were significant with agreeableness ($r = 0.138$, $p < 0.01$) and neuroticism ($r = .057$, $p < 0.01$).

Individual mood–positive affect ($r = .102$, $p < 0.01$) was correlated with financial self-efficacy and significantly positively correlated with short-term investment decision ($r = .102$, $p < 0.01$) whereas individual mood with negative affect ($r = .244$, $p < .01$) was

correlated with financial self-efficacy. However, with long-term investment decision the correlation (r = .041, NA) existed but insignificantly. The alpha reliabilities of study variable are shown in the parenthesis in the table 4.2.

Table 2: Correlation and Reliabilities

No.	Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1	Age	1															
2	Gender	-.299**															
3	Experience	.508**	-.248**														
4	Education	-0.038	.148**	-0.083													
5	Income	.145**	-0.049	.108*	.309**												
6	Neuroticism	-0.017	0.071	-0.085	-0.033	-0.019	(0.79)										
7	Agreeableness	-0.049	0.04	0.025	-0.04	-0.022	-.276**	(0.71)									
8	Conscientiousness	0.024	0.015	0.041	0.012	0.017	-.165**	-.127**	(.73)								
9	Extraversion	-0.085	0.049	-0.007	0.062	0.042	-.128**	-0.069	.395**	(0.70)							
10	Openness to Experience	-.122**	0.079	-0.08	0.087	0.028	-0.029	-.172**	.370**	.424**	(.66)						
11	Need for Cognition	-0.055	-0.016	-0.008	-0.021	0.026	0.057**	.138**	.227**	.227**	.231**	(.67)					
12	Financial Self Efficacy	0.048	0.02	-0.023	-0.059	-0.056	.338**	-.254**	.092*	0.07	.135**	.310**	(.69)				
13	Mood- Positive Affect	0.03	-0.058	-0.037	0.038	.140**	0.048	-.157**	.140**	.172**	.254**	.213**	.102*	(.68)			
14	Mood- Negative Affect	0.029	-0.04	-0.06	0.075	.109*	.333**	-.266**	-.138**	-0.086	0.001	.106*	.244**	.579**	(.68)		
15	Short term Investment	0.04	-0.032	0.056	-0.039	0.004	0.059	.119**	.149**	.213**	.255**	.280**	.202**	.112*	0.024	(.69)	
16	Long Term Investment	0.004	-0.038	0.08	0.026	.102*	0.001	-0.071	.239**	.216**	.298**	.315**	.215**	.184**	0.041	.532**	(.74)

**. Correlation is significant at the 0.01 level (2-tailed). *. Correlation is significant at the 0.05 level (2-tailed),

N=506, Alpha reliabilities are presented in Parenthesis,

4.3 Confirmatory factor Analysis

In order to test the discriminant validity of big five personality traits, two confirmatory factor analyses (CFAs) were conducted in AMOS (Anderson & Gerbing, 1988). In the first CFA, a five-factor structure was tested with each item being loaded onto its respective personality trait. In the second CFA, a one-factor structure was tested with all items being loaded onto one factor. As shown in Table 3 the results of CFA suggested that a five-factor structure provided a better fit i.e., X^2/df = 1.989, Comparative Fit Index (CFI) = .93, Goodness of Fit Index (GFI) = .942, Tucker Lewis Index (TLI) = .91, and Root Means Square Error Approximation (RMSEA) = .04 as compared to a one-factor structure for personality traits i.e., X^2/df = 8.2, Comparative Fit Index (CFI) = .45, Goodness of Fit Index (GFI) = .72, Tucker Lewis Index (TLI) = .39, and Root Means Square Error Approximation (RMSEA) = .12. These results of CFA suggested that the five types of personality are distinct from each other and they should be used separately in all analyses.

Similarly, another set of CFAs was conducted for investment decision where a two-factor structure of investment decision was compared with a one-factor structure. As shown in Table 4, the results of CFA suggested that a two-factor structure provided a better fit i.e., X^2/df = 3.76, Comparative Fit Index (CFI) = .92, Goodness of Fit Index (GFI) = .951, Tucker Lewis Index (TLI) = .89, and Root Means Square Error Approximation (RMSEA) = .07 as compared to a one-factor structure for investment decisions i.e., X^2/df = 5.8, Comparative Fit Index (CFI) = .85, Goodness of Fit Index (GFI) = .921, Tucker Lewis Index (TLI) = .81, and Root Means Square Error Approximation (RMSEA) = .09. These results of CFA suggested that the dimensions of investment decision are distinct from each

other and they should be used separately in all analyses. Results of confirmatory factor analysis are given below.

Table 3 Confirmatory Factor Analyses (Big Five personality Traits)

Variables	No of items	X^2	Degree of Freedom	Comparative fit Index	Tucker Lewis Index	Root Means Square Error Approximation
Personality traits Five factors	**23**	**318.312**	**160**	**.930**	**.917**	**.044**
One factor	23	1399.255	170	.454	.390	.120

Table 4 Confirmatory Factor Analyses (Investment Decisions)

Variables	No of items	X^2	Degree of Freedom	Comparative fit Index	Tucker Lewis Index	Root Means Square Error Approximation
Investment decisions One Factor	10	206.155	35	.853	.811	.098
Two factor	**10**	**127.868**	**34**	**.920**	**.894**	**.074**

4.4 Main and Mediation Effects (Extraversion, Agreeableness, Openness to experience) with Short-term Investment Decision and through Financial Self-Efficacy the Mediating Variable

Study proposed a positive relation among Agreeableness, Extraversion and Openness to experience with short-term investment decision. So, the result of Hypothesis 1 shows that extraversion was significant and positively (β =. 219, $p < 0.05$) related with short-term investment decision as given in Table 5. The Hypothesis 2 as shown in the table 3 (β = -.065, Ns) *i.e*. Agreeableness was found insignificant and negatively associated with short-term investment decision. However, the Hypothesis 3 was significant and positive shown in the Table 5 (β =0.27, $p < 0.05$) *i.e*. Openness to experience is significant and positively related with short-term investment decision. Hence, the Hypothesis 1 and 3 were accepted while Hypothesis 2 got rejected as per the results.

Study also proposed positive relationship of financial self-efficacy between extraversion and openness to experience while negative relationship with Agreeableness. The results as per Table 5 show that Hypothesis 2a was positive but insignificant in relation *i.e*. Financial Self-efficacy was found to be positive but insignificant with extraversion (β =0.06, NS). The results of Hypothesis 2c was found positive and significant (β =0.14, $p < 0.05$) Table 3. The relationship of another Hypothesis 2d was found to be negative and significant (Table 5) (β =-.20, $p < .05$) which means financial self-efficacy is negatively associated with agreeableness.

Study further hypothesized that financial self-efficacy had positive relation with short-term investment decision. The result in Table 3 shows (β =.20, $p < .05$) that Hypothesis 3 is positive and significant. Therefore, Hypothesis 2d, 2c and 3 were accepted while the Hypothesis 2a got rejected as per results.

4.4.1 Bootstrap for Indirect Effect of Extraversion on Short-term Investment Decision through Financial Self-efficacy

Study proposed in Hypothesis 5 the mediating role of financial self-efficacy between the personality traits *i.e*. Extraversion on short-term investment decisions. The results in Table 5 show (β =0.069, NS) an insignificant and positive relation. The output contains the estimate of the indirect effect of Extraversion on short-term investment through financial self-efficacy. The indirect effect was 0.0143. A formal method of two-tailed test for significance of indirect effect was followed. On the basis of another assumption *i.e*. normal sampling distribution of the effect, the result produced on the 95% confidence interval. Since the value between the bootstrapped confidence interval of the estimated point does contain zero 0.0143 CI [-.0028, .0440] the mediating effect was considered as insignificant (Preacher & Hayes, 2008). Our analyses are based on 5,000 bootstrap samples. Therefore, our Hypothesis 5 with extraversion is rejected.

4.4.2 Bootstrap for Indirect Effect of Agreeableness on Short-term Investment Decision through Financial Self-efficacy

Study proposed in Hypothesis 5 the mediating role of financial self-efficacy between the personality traits i.e. Agreeableness on Short term investment decisions. The results in Table 5 shows that (β = -.2084, $p < .05$) a significant and negative relation. The output contains the estimate of the indirect effect of Agreeableness on short term investment through Financial Self efficacy. The indirect effect is -.0423, a formal method of two tailed test for significance of indirect effect is followed. On the basis of another assumption i.e. normal sampling distribution of the effect, the result produces on the 95% confidence interval. Since the value between the bootstrapped confidence interval of the

estimated point does not contain zero -0.0423 CI [-.0787, -.0179] the mediating effect is considered as significant (Preacher & Hayes, 2008) and our analyses are based on 5,000 bootstrap samples. Therefore, our Hypothesis 5 with agreeableness is accepted.

4.4.3 Bootstrap for Indirect Effect of Openness to Experience on Short-Term Investment Decision through Financial Self-Efficacy

Study proposed in Hypothesis 5 the mediating role of financial self-efficacy between the personality traits *i.e*. openness to experience on short-term investment decisions. The results in Table 5 show ($\beta = .1.43$, $p < .05$) a significant and positive relation. The output contains the estimate of the indirect effect of openness to experience on short-term investment through financial self-efficacy. A formal method of two-tailed test for significance of indirect effect was followed. On the basis of another assumption *i.e*. normal sampling distribution of the effect, the result produced on the 95% confidence interval. Since the value between the bootstrapped confidence interval of the estimated point does not contain zero 0.0269 CI [.0069, .06374] the mediating effect was considered as significant (Preacher & Hayes, 2008). Our results are based on 5,000 bootstrap samples. Therefore, our Hypothesis 5 is accepted.

Table 5: Regression Results: Direct and Indirect Effects.

Mediation of financial self-efficacy in personality traits and short term investment decision

Direct and total effects variables	**B**	**SE**	**T**	**p**
Financial Self Efficacy regressed on Extraversion	.0690	.0440	1.567	.1176
Financial Self Efficacy regressed on Agreeableness	-.2084	.0354	-.5.889	.0000
Financial Self Efficacy regressed on Openness to experience	.1431	.0467	3.060	.0023
Mediation on Independent variable				
Short term investment regressed on Financial Self Efficacy	.2076	.0474	4.377	.0000
Dependent variable on mediation				
Short term investment regressed on Extraversion	.2196	.0470	4.672	.0000
Short term investment regressed on Agreeableness	-.0659	.0409	-1.6097	.1081
Short term investment regressed on Openness to experience	.2723	.0502	5.4219	.0000
Dependent variable on independent variable.				
Bootstrap results for indirect effects (of Independent variable on dependent variable through Mediation)				
	Effect	Boot SE	LL 95%CI	UL95 %CI
Indirect effect of Extraversion to Short term investment through financial self-efficacy	.0143	.0118	-.0028	.0440
Indirect effect of Agreeableness to Short term investment through financial self-efficacy	-.0423	.0148	-.0787	-.0179
Indirect effect of Openness to experience to Short Term investment through financial self-efficacy	.0269	.0139	.0069	.0637

N= 506, Unstandardized Regression coefficients are reported. Bootstrap samples size=5000, LL= Lower Limit; CI= Confidence interval; UL = Upper Limit, Age and experience were controlled in all analysis.

4.5 Main and Mediation Effects (neuroticism, conscientiousness with long term investment decision) and through Financial Self-efficacy the Mediating Variable

Study proposed a positive relation between Neuroticism and Conscientiousness with long-term investment decision. So, the result of Hypothesis 1d shows that neuroticism is insignificant and positive (β = .0727, ns) related to long-term investment decision as in Table 6. The Hypothesis 1e as shown in the table 6 (β =0.215, $p < 0.05$) *i.e.* Conscientiousness was found to be significant and positively associated with long-term investment decision.

Study also proposed the negative relationship of financial self-efficacy between neuroticism and positive relationship with conscientiousness. The results as per Table 6 show that Hypothesis 2b is negatively significant in relation *i.e*. Financial Self-efficacy was found to be significant and negatively related with neuroticism (β =-0.267, $p < 0.05$). The results of Hypothesis 2e were found positive and significant (β =.078, $p < .05$).

Study further hypothesized that financial self-efficacy has positive relation with or long-term investment decision. The result in Table 6 shows (β =.22, $p < .05$) that the hypothesis is positive and significant. Therefore, Hypothesis 1d, 1e, 2b, 2e, 3 were accepted.

4.5.1 Bootstrap for Indirect Effect of Neuroticism on Long-term Investment Decision through Financial Self-efficacy

Study proposed in Hypothesis 5 the mediating role of financial self-efficacy between the personality traits *i.e*. Neuroticism on long-term investment decisions. The results in Table 6 show (β =-0.072, $p < 0.01$) a significant and negative relation. The output contains the estimate of the indirect effect of Neuroticism on long-term investment decision

through financial self-efficacy. The indirect effect is 0.0736. On the basis of this assumption that ratio of indirect effect is normal to its standard error. A formal method of two-tailed test for significance of indirect effect was followed. On the basis of another assumption *i.e.* normal sampling distribution of the effect, the result was produced on the 95% confidence interval. Since the value between the bootstrapped confidence interval of the estimated point does not contain zero, 0.0736 CI [.0435, .1104] the mediating effect is considered as significant (Preacher & Hayes, 2008) and our results are based on 5,000 bootstrap samples. Therefore, our Hypothesis 5 with neuroticism was accepted.

4.5.2 Bootstrap for Indirect Effect of Conscientiousness on Long-term Investment Decision through Financial Self-Efficacy

Study proposed in Hypothesis 5 the mediating role of financial self-efficacy between the personality traits *i.e.* Conscientiousness on long term investment decisions. The results in Table 6 show ($\beta = .2154$, $p < .05$) a significant and positive relation. The output is the estimates of indirect effect of Conscientiousness on long-term investment *via* financial self-efficacy. The indirect effect was 0.0174. On the basis of this assumption that ratio of indirect effect is normal to its standard error. A formal method of two-tailed test for significance of indirect effect was followed. On the basis of another assumption *i.e.* normal sampling distribution of the effect, the result produced was on the 95% confidence interval. Since the value between the bootstrapped confidence interval of the estimated point does not contain zero, 0.0174 CI [.0018, .0441] the mediating effect was considered as significant (Preacher & Hayes, 2008). Our results are based on 5,000 bootstrap samples. Therefore, our Hypothesis 5 with agreeableness was accepted

Table 6: Regression Results: Direct and Indirect Effects.

Mediation of Financial Self Efficacy in Personality traits and Long term Investment decision.

Direct and total effect Variables	**B**	**SE**	**T**	**p**
Financial Self Efficacy regressed on Neuroticism	-.2679	.0332	8.065	.0000
Financial Self Efficacy regressed on Conscientiousness	.0789	.0382	2.064	.0395
Mediation on Independent variable				
Long term Investment regressed on Financial Self Efficacy	.2208	.0483	4.576	.0000
Dependent variable on mediation				
Long term investment regressed on Neuroticism	.0727	.0414	-1.755	.0789
Long term investment regressed on Conscientiousness	.2154	.0416	5.182	.0000
Dependent variable on independent variable.				
Bootstrap results for indirect effects (of Independent variable on dependent variable through Mediation)				
	Effect	Boot SE	LL 95% CI	UL 95 %CI
Indirect effect of Neuroticism to long term investment through financial Self efficacy	.0736	.0202	.0435	.1104
Indirect effect of Conscientiousness to Long term investment through financial self-efficacy	.0174	.0104	.0018	.0441

N= 506, Unstandardized Regression coefficients are reported. Bootstrap samples size=5000, LL= Lower Limit; CI= Confidence interval; UL = Upper Limit, Age and experience were controlled in all analysis.

4.6 Results for Main Effect and Moderation Regression Analysis for Need for Cognition

To test the Hypothesis 4 a, 4b, 6a, 6b moderation regression analysis were used. For this we entered the independent and moderating variables. Experience and age were recorded in the first step. Secondly, the independent and moderating variables were recorded. In the third and last step, interaction terms of independent and moderator variables were entered. On the basis of significance, the moderation was confirmed.

Study proposed the NFC as moderation between personality traits and financial self-efficacy. The results of Table 7 explain that at first step age and experience were entered. At the second step independent variables were entered *i.e.* Neuroticism, Extraversion, Openness to experience, Conscientiousness, Agreeableness and moderating variables *i.e.* NFC. Further in the third step, the product terms (Neuroticism × NFC), (Agreeableness × NFC), (Conscientiousness × NFC) (openness to experience × NFC) were kept to check moderation. The results of these interaction term shows (Neuroticism × Need for Cognition) was significant ($\beta = 0.449$, $p < 0.05$) and (Agreeableness × Need for cognition) also found as significant ($\beta = -0.605$, $p < 0.05$), but (Conscientiousness × Need for cognition) was insignificant ($\beta = -0.289$, NS) similarly (Extraversion × Need for Cognition) also remind insignificant which means no moderation($\beta = -.020$, NS) and (Openness to experience × Need for Cognition) also did not showed moderation ($\beta = -0.099$, NS) . The results show Hypothesis 4b was accepted whereas the Hypothesis 4a rejected in our study.

Table 7: Results for Main Effect and moderation Regression Analysis for Need for Cognition

Variables	Financial Self Efficacy		
	B	ΔR^2	Sig.
Step 1			
Age	.100		.322
Experience	-.046	.005	.0321
Step 2			
Neuroticism (N)	-.072		.700
Extraversion (E)	.023		.911
Openness to experience (O)	.117		.619
Conscientiousness (C)	.229		.057
Agreeableness(A)	.421		.256
Need for Cognition (NFC)	.634	.222	.072
Step 3			
Neuroticism x Need for Cognition	.449**		.047
Agreeableness x Need for Cognition	-.605**		.014
Conscientiousness x Need for Cognition	-.289		.347
Openness to experience x Need for Cognition	-.099		.795
Extraversion x Need for Cognition	-.020	.020	.950

Note. N = 506 p< .05, *** p< .001

4.7 Results for Main Effect and moderation Regression Analysis for Mood (Positive Affect)

Study proposed the individual mood (Positive Affect) as moderation between financial self-efficacy and short-term investment decision. The results of Table 8 explained that at first step age and experience were entered. Then at the second step independent variables were entered *i.e*. Financial self-efficacy and moderating variables *i.e*. Individual Mood-Positive Affect. Furthermore, in the third step the product terms (Financial Self Efficacy × Positive Mood). The results show that the interaction term was significant ($\beta = 0.086$, $p < 0.05$) which means the Hypothesis 6a was accepted in the study.

Table 8: Results for Main Effect and moderation Regression Analysis for Mood (Positive Affect)

Variables	Short term Investment		
	β	ΔR^2	Sig.
Step 1			
Age	-.007		.890
Experience	.062	.003	.224
Step 2			
Financial Self efficacy	.215		.000
Positive Affect	.153	.059	.005
Step 3			
Financial Self Efficacy x Positive Affect	-.086**	.004	.018

Note. N = 506 p< .05, *** p< .001

4.8 Results for Main Effect and moderation Regression Analysis for Mood (Negative Affect)

Study proposed the individual mood (Negative Affect) as moderation between financial self-efficacy and long-term investment decision. The results of Table 9 explain that at first step age and experience were entered. Then at the second step independent variables were entered *i.e*. Financial Self-Efficacy and moderating variables *i.e*. Individual Mood-Negative Affect. Further in the third step the product terms (Financial Self Efficacy × Negative Affect). The results show that the interaction term was insignificant (β= .72, ns) which means the Hypothesis 6b was rejected in the study.

Table 9: Results for Main Effect and moderation Regression Analysis for Mood (Negative Affect)

Variables	Long term Investment		
	B	ΔR^2	Sig.
Step 1			
Age	-.077		.121
Experience	.124	.008	.013
Step 2			
Financial Self efficacy	.233		.000
Negative Affect	-.141	.092	.009
Step 3			
Financial Self Efficacy x Negative Affect	.72	.004	.215

Note. N = 506 p< .05, *** p< .001

Table 10: Summary of Hypothesis

Hypothesis 1a	There is a positive relation between extroverts and short term financial decisions	Accepted
Hypothesis 1b	There is a positive relation between Agreeableness and short term financial decisions.	Rejected
Hypothesis 1c	There is a positive relation between openness to experience and short term financial decisions.	Accepted
Hypothesis 1d	There is a positive relation between neuroticism and long term financial decisions.	Rejected
Hypothesis 1e	There is a positive relation between conscientiousness and long term financial decisions	Accepted
Hypothesis 2a	There is a positive relation between extroverts and financial self-efficacy	Rejected
Hypothesis 2b	There is a negative relation between neuroticism and financial self-efficacy	Accepted
Hypothesis 2c	There is a positive relation between openness to experience and financial self-efficacy	Accepted
Hypothesis 2d	There is a negative relation between agreeableness and financial self- efficacy	Accepted
Hypothesis 2e	There is a positive relation between conscientiousness and financial self-efficacy.	Accepted
Hypothesis 3	There is a positive relation between financial self-efficacy and short term and long term investment decisions.	Accepted
Hypothesis 4a	Need for cognition will moderate the relation between extraversion, conscientiousness, openness to experience and financial self-efficacy such that it will be strong when need for cognition is high.	Rejected
Hypothesis 4b	Need for cognition will moderate the relation between agreeableness, neuroticism and financial self-efficacy	Accepted

	such that it will be weak when need for cognition is low.	
Hypothesis 5	Financial self-efficacy will mediate the relationship between Big Five personality types (Extraversion, Neuroticism, and Openness to Experience, Agreeableness, and conscientiousness) and Short term and Long term investment decisions.	Accepted
Hypothesis 6a	Individual mood will moderate the relation between financial self-efficacy and investment decisions such that highly efficacious people in pleasant mood will be inclined towards short term investment decisions.	Accepted
Hypothesis 6b	Individual mood will moderate the relation between financial self-efficacy and investment decisions such that low efficacious people in unpleasant mood will prefer long term investing.	Rejected

4.9 Chapter Summary

This chapter has presented the results from SPSS using Hayes (2013) Process macro. The initial findings provide support for the research model used in the present study through adequate measurement reliability and model validity. The majority of the stipulated hypotheses were also supported. Discussions and implications of the findings presented in this chapter are covered in the next chapter.

Chapter 5

DISCUSSIONS

The primary objective of this study was to examine the effect of personality traits on investment decisions through investigating the mediating and moderating effects of financial self-efficacy, NFC and individual mood. In doing so, this study has identified and tested several experiences. The study has drawn upon the Hayes (2013) Process macro which has been extensively validated in the study context .This led to the conceptualization of the research model used in this study. A self-report survey approach was chosen to gather individual investor's responses about their investment decision. These responses were then analyzed to address the main research questions and validate the proposed research model. Careful steps were followed to increase external reliability of responses given by these investors in this context, the purpose of this chapter is to discuss and draw conclusions from the study results. Theoretical and practical implications of these findings are also suggested, and limitations of the study considered

Understanding individual investor choices or why the investor makes particular decisions to invest in short-term or long-term financial instruments is quite a cumbersome task since there are a number of factors affecting the choices of the individual investors. Moreover, things can get even more complicated since todays dynamic financial markets offer so many options of investment to the investor who is already overwhelmed with market uncertainty and un-predictability. The context in which the investment decision is taking place has a profound impact on the investment decision but the dispositional characteristics of the individual also play an important role in determining whether people invest in short-term or long-term financial instruments. The main purpose of this study was

to understand the effect of Big-Five personality traits (Extraversion, Neuroticism, and Openness to Experience, Agreeableness and Conscientiousness) on investment decisions through one's financial self-efficacy. The Big-Five model is known as the best practical set of traits to explain and reveal behavioral individual differences. It also tested for the moderating effects of need for cognition and individual mood while making short-term or long-term investment decisions. The hypotheses of the study were based on the theoretical underpinnings of the theory of planned behavior. The theory of planned behavior identifies behavior as a function of an individual's intentions and intentions are formed on the basis of the attitudes towards that behavior, the subjective norms he/she holds about that behavior and perceived behavioral control or self-efficacy (Fishbein & Ajzen, 2011). The next section of this chapter presents the discussion of findings in light of the objectives set at the start of the study.

5.1 Big Five Personality Traits and Investment Decisions

The first objective of the study was to study the relationship between Big-Five personality traits (extraversion, neuroticism, and openness to experience, agreeableness and conscientiousness) on investment decisions. The first set of hypotheses also relates to this objective. Hypotheses 1a to 1e predicted relationships between the big five personality traits of extraversion, neuroticism, conscientiousness, agreeableness, and openness to experience and investment decisions (Sliter, 2015). Hypothesis 1a, 1b and 1c proposed a positive relationship between extroversion, agreeableness and openness to experience and short- term financial decisions. Hypotheses 1a and 1c were supported. The results were in line with various researchers of thought that the Big-Five traits of personality (Denissen et.

al., 2018) are widely used among researchers across the world and the constructs and scales used are stable and reliable across various cultures (Pulver, Allik, Pulkkinen, & Hamalainen, 1995). Extrovert individuals are very social, energetic and they have a cheerful outlook always looking positively into the future and individuals high on openness to experience are considered imaginative, creative and open-minded (Barrick & Mount, 1991). Due to this optimistic nature and positive outlooks of people possessing these traits, they opt for various trading behaviors. In a recent study by Tauni and colleagues (2017) extroverts, agreeable and people with high levels of openness to experience showed positive associations with stock options trading. It was further highlighted that these people invest more on word of mouth communication that is why short-term investments are their first choice of investment since the returns are quick (Tauni et al., 2017). Hypothesis 1b was not supported and there was no significant relationship between agreeableness and short-term investment decisions. Agreeable individuals are courteous, have a very cooperative and flexible nature, and they also trust the opinion of their financial advisors. Since long-term investments are low-risk but bring in high returns, so agreeable people may find them to be more promising than short-term financial investments?

Hypotheses 1d predicted a positive relationship between neuroticism and long-term financial decisions, the result of this hypothesis was not supported. Neurotic individuals are emotionally unstable and quite pessimistic in their approach towards decisions in their lives (Oehler & Wedlich 2018; Noe & Vulkan 2017). In Pakistani culture, people are normally short- term oriented and avoid taking long-term risks. Hence, the results predicted the possibility of people avoiding long-term investments separate to their dispositional characteristics. Hypothesis 1e predicted that conscientious individuals would

invest in long-term financial instruments. Since individuals high on conscientious are very careful and responsible and they believe in being prepared, so the possibilities are high that they chose to make long- term financial investments as supported by the results of this study. Hypothesis 1e, was, hence, accepted.

Based on the findings of the above hypotheses, the first objective of the study was supported partially for the relationship between extroversion, openness to experience, conscientious and investment decisions.

5.2 Big-Five Personality Traits and Financial Self-Efficacy

The second objective of the study was to study the relationship between Big-Five personality traits (extraversion, neuroticism, openness to experience, agreeableness and conscientiousness) and financial self-efficacy. Hypotheses 2a-2e dealt with personality traits and financial self-efficcay. Hypothesis 2a predicted a positive relation between extroverts and financial self efficcay, however this hypothesis was not supported. Though a number of research studies have studied the relationship between big-five personality traits and self-efficacy, and have identified that extroverts has highly efficacious people (Hoyle & Gallagher, 2015). This study particulary dealt with extrovert's behaviour related to their financial self-efficacy. Financial self-efficacy refers to the confidence an individual has particularly related to the use of financial services, and is anchored in the finance domain. Individuals who are high on extraversion may have various capabilities developed due to their social nature which has given them a lot of confidence. But it is not necessary that their experience of social interaction has been with people who have ample financial

knowledge. This could be the reason that in spite of being highly efficacious, they do not trust their financial capabilities.

Hypothesis 2b predicted a negative relationship between neuroticism and financial self-efficacy. This hypothesis was supported. This is in line with previous literature which has identified that individuals high on neuroticism are less efficacious (Akhtar et. al., 2018). Since individuals with an increased level of neuroticism are more pessimistic and depressed, and give more attention to negative information than positive information (Noguchi, Gohm, & Dalsky, 2006) due to which their overall confidence in their personality and decision making abilities is low. From finance point of view, investors high on neuroticism invest less in foreign stock-markets and refrain from insecurities related to financial stock-markets (Niszczota, 2014). Strobel, Tumasjan and Sporrle (2011) also showed that neuroticism significantly affects self-efficacy. All these studies refer to the personality of neurotics as being overwhelmed with fear, insecurity and uncertainty meaning that they tend to avoid risks as they have low confidence in their financial capabilities (Pocnet et al. 2018).

Hypothesis 2c predicted a positive relationship between openness to experience and financial self-efficacy. This hypothesis was supported. In general, people with high openness to experience are imaginative with higher curiosity instincts, and they are open to new ideas. These individuals are considered intelligent and they also look for new ways of doing things. These characteristics give them confidence in making experiments. This is the reason that in terms of their ability to make financial decisions their confidence level is also high. A number of previous research studies have also supported the results of this

study and predicted a positive relationship between high openness to experience and self-efficacy (Judge & Ilies, 2002; Strobel et al., 2011)

In hypothesis 2d it was predicted that there was a negative relationship between agreeableness and financial self-efficacy. This hypothesis was accepted. More agreeable individuals trust others and behave in a cooperative way with others. They are also very optimistic and were found to be showing a cooperative behavior to their financial advisors apparently seeming to value their opinion more. This shows that they have less confidence in their own opinion while making financial decisions. In a study on investor personality types Sadi et al. (2011) found that agreeable individuals were involved in more perceptual errors while making investing decisions which is a clear prediction of their low confidence in their financial self-efficacy. Hence, they tend to seek financial advice more. Similarly, other studies have also indicated that agreeableness predicts self-efficacy (see for example Nauta, 2004; Tams, 2008). The results of this study also supported the line of thought presented in the studies above.

Hypothesis 2e proposed that conscientious individuals have positive relations with financial self-efficacy. This hypothesis was also accepted. In particular, Judge and Ilies (2002) have shown that self-efficacy relates negatively to neuroticism and relates positively to extraversion, openness to experience, and conscientiousness. Highly conscious individuals are hardworking and careful (Karwowski, Lebuda, Wisniewska, Gralewski 2013). They are achievement-oriented and indulge in detailed planning which gives them more confidence in their abilities to manage their financial issues. They go for thoughtful analysis before deciding to invest in their short-term and long-term portfolios (Mayfield et al., 2008). A number of previous studies have reported the relationship between conscious

individuals and their financial self-efficacy. They have reported significant and positive relationships (Karwowski et al., 2013). The results of the study supported the second objective of the study for the relationship of all personality types with financial self-efficacy except for the relationship of extroverts which was not supported.

5.3 Financial Self-Efficacy and Investment Decisions

The third objective of this research was to study the relationship between financial self- efficacy and short-term and long-term investment decisions.

In hypothesis 3, a positive relationship was proposed between financial self-efficacy and investment decisions. The results of this study confirmed a positive relationship between financial self-efficacy and short-term and long-term investment decisions. Financial self-efficacy is defined as 'a set of psychological traits including mental accounting, budgeting, information overload *etc.*' the results of this hypothesis were in line with previous literature. Researchers have found that financial knowledge of financial market instruments is positively correlated to financial behaviors (Lusardi & Mitchell, 2014). An increase in financial self-efficacy was associated with an increase in the probability of savings (Babiarz & Robb, 2014). In another study conducted to analyze the investment psychology of men and women, the role of risk-taking behavior and financial self-efficacy were identified as significant predictors of investment behavior of males and females (Montford & Goldsmith, 2016). In another research stream while exploring the construct of financial self-efficacy, it was found that financial self-efficacy was not only affected by levels of financial literacy/financial abilities but also elements of an individual's personality, social norms and family background (Hira, 2010). All these

studies show that people are willing to make investments when they have confidence in their ability to manage their finances and appropriate financial knowledge of financial market instruments which gives them trust in their financial abilities. In a study conducted by Farrell et al., (2016), it was found that individuals who were confident enough in their abilities to handle their finances held a diverse portfolio of financial products including short-term and long-term investments. The results of this study supported the objective anf found a poistive relationship between financial self-efficcay and short term and long term investment decisions.

5.4 Moderating Role of Need for Cognition on Big Five Personality Traits and Financial Self-Efficacy

Two hypotheses were formulated which related to the fourth objective of this study. These were related to the moderating role of need for cognition on Big-Five personality traits and financial self-efficacy. Hypothesis 4a related to the moderating role of need for cognition on extraversion, conscietiousness and openness to expereince and financial self-efficacy was not supported. People who are high on the NFC enjoy thinking and numerous reseraches have shown poistive associations between extraversion, conscietiousness and openness to exeprience and NFC (Monika et al., 2009). People who are high on the NFC also perform better in complex situations and have high-learning abilities. In the theory of planned behavior, (Fishbein & Ajzen, 2005) self-efficacy was also affected by the beliefs of the individual's which are formed from various other variables including the personality the individual holds. Therefore, it is possible that the personality trait of an individual can directly predict confidence in one's ability without the involvement of any dispositional tendency. Individuals possessing Big-Five traits like extraversion and openness to

experience already enjoy large social networks and are very creative and imaginative. Hence, they give a boost to their confidence levels and it is these characteristics of their personalities that shape up their convictions and give them assurance of performing particular tasks.

The second hypothesis 4d related to the moderating role of NFC on the relationship between neuroticism, agreeableness and financial self-efficacy. The results of this study supported this hypothesis. Researchers argue that individuals high on the NFC disposition have more confidence in their ideas as compared to individuals with low NFC. Hence, in order to support their ideas, they present a large number of arguments (Sadowski & Cogburn, 1997). When individuals have a low NFC, it means they don't enjoy thinking and avoid complex situations requiring high cognitive elaboration (Cacioppo et al., 1996). In case of investment decisions, financial markets are full of complex situations characterized by a lot of uncertainty. In a study conducted on NFC and Big-Five personality types, it was reported that extraverts, conscientiousness and openness to experience individuals had a high NFC and agreeable and neurotics had a low NFC (Woo, Harms, & Kunce 2007). Neurotics tend to be pessimistic and depressed and always seek negative information from the environment. Owing to their low NFC, their overall confidence level drops because they do not enjoy analyzing information or engaging in thoughtful analysis. This adversely affects their financial self-efficacy. Similarly, highly agreeable individuals possess traits like being soft-hearted, trusting others, cooperative, and of forgiving nature. This implies that they have the need to get along with others and rely little on thinking and analyzing for themselves. Hence, they score low on the NFC scale. Highly agreeable individuals are also known to cooperate highly with their financial advisors. It is due to

these characteristics that their overall confidence in their own ability to manage their finances is low. In conclusion the results of the hypotheses supported objective four partially for the relationship between neuroticism, agreeableness and financial self-efficacy.

5.5 Mediating Role of Financial Self-Efficacy between Personality Traits and Investment Decisions

The next hypothesis 5 pertained to the Sixth objective set in this study and that was for the mediating role of financial self-efficacy between Big-Five personality traits and investment decisions. The results of this hypothesis were also supported for all personality traits *i.e*. openness to experience, agreeableness, conscientiousness and neuroticism except extraversion. Numerous researches have tried to understand the personality type of the individual investors and their investing decisions. Resultantly, a number of factors have been identified which affect the investor's behavior (Mayfield et al., 2008; Chitra & Sreedevi, 2011; Oehler, Wendt, Wedlich, & Horn, 2017). Many studies conducted on relationship between investor personality and their investment behavior have included the extraversion trait. It has been found that extraverts score high on their risk-taking behavior since they are strong believers of standard finance theory *i.e*. 'higher the risk higher the return' (Durand et al., 2013). Extrovert's attraction towards high risk gives one very strong reason to believe that even when such individuals have little confidence in their abilities to manage finances; their inclination towards high risk may cause them to invest instantly with the hope to reap benefits at the moment. This implies that the attractiveness of the higher return associated with the higher risk may cause extroverts to invest in risky short-term stocks even if they are not confident in their ability to manage finances. This thought

is in line with a recent study conducted by Oehler et al. (2017). In this study, it was found that individuals scoring higher on the extraversion scale invested more in financial assets even when they were overpriced.

For the remaining Big-Five personality traits, financial self-efficacy mediated their relationship with investment decisions as predicted. Highly conscientious individuals are self-confident in their analytical skills and will possess a high level of financial self-efficacy. Since they are very careful and thoughtful in their approach owing to their high levels of self-efficacy, they even delay short-term gratifications and tend to invest in long-term financial instruments. Individuals who are open to experiences enjoy doing complex things and expected to have a high financial self-efficacy. Such individuals are open to new ideas and experimenting so while investing in stock markets they go for short-term investments. On the other hand, agreeable individuals rely heavily on opinion of others and have less confidence on their abilities to manage their finances. They will opt for short-term investments which are risky and bring in lower returns. Finally, neurotics are risk averters because they are threatened by environmental clues specifically when it comes to stock-market investments. They are very pessimistic and have a low level of financial self-efficacy and this may result in their preferences for the more safe long-term investments which may also bring higher returns. All the above mentioned results are in line with the various studies conducted on personality types and investment behavior with various cognitive mechanisms (Durand et al., 2008; Mayfield et al., 2008; Oehler et al., 2017).

5.6 Moderating Role of Individual Mood on Financial Self-Efficacy and Investment Decisions

The final objective of this study was to study the combined effect of individual mood and financial self-efficacy on short-term and long-term investment decisions. The last two hypotheses 6a and 6b pertaining to this objective predicted the moderating role of positive and negative individual mood on financial self-efficacy and on short-term and long-term investment decisions. Hypothesis 6a was accepted and hypothesis 6b was rejected. When people are in a pleasant mood and they have confidence in their financial capabilities, they tend to be more optimistic. An investor with an optimistic outlook will be ready to take more risks since the interplay between positive mood and self-confidence will give one the courage to take risks. Hence the individual will invest in short-term risky investments. The literature has a number of studies reporting the relationship between an individual's mood and their investing behavior. Researchers argue that an optimistic mood can make investors more optimistic and they become ready to take riskier investment decisions (Gavriilidis, Kallinterakis & Tsalavoutas 2016). Similarly, on sunny days, individuals enjoy a plaesant mood and thus become more optimistic towards investments in high risk-tolerant financial instruments (Kaustia & Rantapuska, 2016).

The results of hypothesis 6b were not supported. It was expected that when people have less financial self-efficacy and they are in an unpleasant mood, they would chose less riskier long-term investments. However, these results were not supported. There could be a number of plausible reasons to this. First, the low financial self-efficacy may cause the individuals to lose confidence in their abilities in making any decision related to their investments whether high or low-level of risk is associated with it. Another reason for these unexpected results could be the contrasting perspectives seen in previous work on emotions

and decision-making. One such perspective is called feeling-as-bias-inducer (Seo & Barrett, 2007). This perspective suggests that certain feelings which an individual experiences due to an unpleasant mood may induce certain biases into the decision- making process and can harm the decision-making process to the extent that the individual may delay the decision. For example, these hurtful feelings can affect the way brain retrieves information during the process of decision-making (Meyer, Gayle, Meeham, & Harman, 1990) and can result in the individual not being able to decide whether to invest or not. Still there is another school of thought that also suggests that feelings, emotions and moods can bias the individual's choices (Shah, Friedman & Kruglanski, 2002) They tend to decide according to what is best in the current moment. For example, a number of studies have shown that when individual experiences unpleasant or negative feelings, they often turn to short-term investments so as to take benefit from the current moment regardless of what benefits the long-term (investments) consequences have to offer (Gray, 1999). Hence, the overall findings supported this objective for the relationship between individual moods and their financial self-efficacy and investment decisions. However, support was found only in favor of pleasant moods and short-term investment decisions.

Chapter 6

CONCLUSION

This research has furnished a synthesis of the promising study on the effect of personality traits on investment decision. It illustrated how investors allow its personality, need for cognition, financial self-efficacy and mood state to dominate its investing decision. Although it is an effective decision-making tool and is in line with our understanding of how individuals normally make decision, it may yet lead to errors when the investor enables irrelevant behavioral states to affect their judgements. Previous research in this field, particularly in the field of behavioral finance, is based on biases effects on investment decision. For paradigmatic research on the personality influence over investor decision making, a strong theoretical support must be backed and accompanied.

The study has conceptualized a research model in accordance with the theory of planned behavior and has been empirically validated in many research studies. Depending on these conclusions, this research has highlighted theoretical and practical implications regarding the investment decisions in light of investor's behaviors. The overall conclusion is that there is a marked and significant effect of psychometric factors on various aspects of investment behavior. So much so, a cluster analysis conducted by the researcher on the entire data using psychometric variables led to formation that financial self-efficacy as a set of psychological traits acts very importantly in decision making of individual investors.

The pattern of results found in the study is mixed and shows significant relationship of openness to experience and extraversion with short-term investment decision. Likewise, neuroticism and conscientiousness were associated with long-term investment decision.

Furthermore, financial self-efficacy mediated the relation with agreeableness and openness whereas it does not mediate with extraversion, on short-term investment decision. It fully mediates the influence of neuroticism and conscientiousness on long- term investment. These results support the theory that highly conscientious people are normally confident about their analytical skills and possess a high level of financial self-efficacy. Similarly, individuals who are open to experiences enjoy doing complex things and are expected to have a higher financial self-efficacy. Neurotic individuals are risk- averters as they seem more threatened from the environment. Hence, they prefer to invest in long-term investment. Further, extravert and neurotic investor with high need for cognition moderates the relationship. Moreover, it is concluded that mood has impact on the investor behavior. People perform better and become risk-tolerant towards stock when they are in positive mood.

6.1 Theoretical Implications

From theoretical point of view, the impact of this research is manifold. Initially, this study has used (need for cognition, financial self-efficacy and mood) model in an investment perspective based upon the concept that financial knowledge is positively correlated with a number of saving and other positive financial behaviors (Lusardi & Mitchell, 2014). Some strategies might court new investor, especially in the interest of individual investors who might be viewed as psychologically influenced in their decision (Kaniel, Saar & Titman, 2008).

Subsequently, this research has introduced another competing approach *i.e.* customization of the original research model, whilst keeping the overall concept of

personality. It advocates that need for cognition of neurotic, agreeable individual and investor's financial self-efficacy act as facilitators for making investment decisions. This model tends to be considered as the most significant theoretical suggestion for research in associated fields because it suggests that investor's investment decisions are also established by high need for cognition and by individual's financial self-efficacy.

6.2 Practical Implications

This research has constructed an important step in its attempt to evaluate the influence of behavioral constructs on investors carrying out investment decisions. It carries a significant value for all parties in the financial and investment sector including investment marketers, investment advisors as well as the investors themselves.

The results of this study can even be used to develop a model of psychological testing for potential clients of investment advisory firms. This research also is a significant forward movement for the academicians studying and researching investment in behavioral aspects because a study with theoretical background and self-efficacy has not been conducted in Pakistan as per the feeble perception of researcher. The study also provides a direction for advanced research in the area of psychological influences on decision-making in regards to finance and investments as well as to other fields.

6.3 Research Limitations

Apart from some valuable additions, this research has also few limitations. A cross-sectional theme was used for gaining the data in the present study. It is, therefore, not possible to judge causality or even rule out reverse causality because the research design

applied in this study relied upon perceptual measures by utilizing a questionnaire based evaluation. To a certain level, it could be a chance that the research results may contain response bias. Furthermore, since the study was to measure the behavior of individual investors, a concern is still there that either these types of intentional behaviors will work in real behavior. In spite of this, for an individual to carry out an act, he/she should devise the intention to carry out that act according to the Theory of Planned Behavior (Ajzen, 1991).

Moreover, in the outline of this research framework, it was anticipated that getting actual behavior and feeling will be realistically tough since their behaviors involved consideration of employing significant volume of resources, time and money. The research model employed in this study might not be as detailed as it could have been. Among other things, it relied on a number of pre-identified antecedent variables of attitudinal constructs. Hence, these antecedents describe merely a segment of the variances in the attitudinal constructs as well as in the outcome variables. There might be other factors which, though not part of this research, might have considerable impact on particular attitudes and investor's behavior. A good illustration and example is of the effect of social moods on stock-market's performance.

6.4 Future Direction

There exist strong theoretical base and convincing arguments of social impact on investing behaviors. Research is required to analyze the effect of feelings on investor behavior with innovative ideas and investigation procedures. Social mood need be explored and researched with reference to investor behaviors. These social factors have been ignored

in the financial researches as per the researcher's knowledge even though it has conclusive theoretical provision for social influences on stock market. Some qualitative researches have been made in context of Pakistan Stock Market but still the empirical evidence has not been analyzed in context to individual investor and stock markets. It is, therefore, recommended to find out the impact of feelings on investing behavior with new research methodologies an illustration is the study that adopts the approach used by Nofsinger (2010) that searches for extensive measures of social moods which could impact investor's decision-making.

In the field of financial economics, researchers studying the effect of feelings and thoughts on investor's decision-making are hampered by a dependence on aggregate data. However, upcoming research may possibly try to find out much more objective measures of investor's behaviors which could be accomplished by means of a longitudinal study and experimental-research of investor's behaviors. Forthcoming study ought to make use of additional, more-elaborate methods and also multiple methodologies to triangulate the conclusions of this study.

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Appendix

Personality Questionaire

The following statements concern your perception about yourself in a variety of situations. Please encircle the appropriate box against each statement to indicate the extent to which you agree or disagree with that statement by using the following scale					
1.Strongly Disagree	2. Disagree	3. Neutral	4. Agree	5.Strongly Agree	

Sr.	Statement					
	Neuroticism					
1	I often feel inferior to others.	1	2	3	4	5
2.	When I am under a great deal of stress, sometimes I feel like I'm going to pieces.	1	2	3	4	5
3.	I often feel tense and nervous.	1	2	3	4	5
4.	Sometimes I feel completely worthless.	1	2	3	4	5
5.	Too often, when things go wrong, I get discouraged and feel like giving up.	1	2	3	4	5
	Extraversion					
1.	I really enjoy talking to people.	1	2	3	4	5
2.	I often feel as if I'm bursting with energy.	1	2	3	4	5
3.	I am a cheerful, high-spirited person.	1	2	3	4	5
4.	I am a very active person.	1	2	3	4	5
	Openness to experience					
1.	I am interested by the patterns I find in art and nature.	1	2	3	4	5
2.	I often try new foods.	1	2	3	4	5
3.	I am interested in thinking about the nature of the universe and the human conditions.	1	2	3	4	5
4	I have a lot of intellectual curiosity.	1	2	3	4	5
5.	I often enjoy playing with theories or abstract ideas.	1	2	3	4	5
	Agreeableness					
1	I often get into arguments with my family and co-workers.	1	2	3	4	5
2.	Some people think I'm selfish and egotistical.	1	2	3	4	5
3.	Some people think of me as cold and calculating.	1	2	3	4	5
4.	I generally try to be thoughtful and considerate.	1	2	3	4	5
	Conscientiousness					
1.	I keep my belongings neat and clean.	1	2	3	4	5
2.	I get things done on time.	1	2	3	4	5
3.	I waste a lot of time before settling down to work.	1	2	3	4	5
4.	Most of the time I am dependable and reliable.	1	2	3	4	5
5.	I am often well organized.	1	2	3	4	5

Mood Scale

This scale consists of a number of words that describe different feelings and emotions. Read each item and then list the number from the scale below next to each word. Indicate to what extent you feel this way right now, that is, at the present moment OR indicate the extent you have felt this way over the past week (circle the instructions you followed when taking this measure)											
1. Very Slightly or Not at All			2. A little			3. Moderately			4. Quite a bit		5. Extremely
I feel…….											
Interested	1	2	3	4	5	Irritable	1	2	3	4	5
Unhappy	1	2	3	4	5	Alert	1	2	3	4	5
Excited	1	2	3	4	5	Ashamed	1	2	3	4	5
Upset	1	2	3	4	5	Inspired	1	2	3	4	5
Strong	1	2	3	4	5	Nervous	1	2	3	4	5
Guilty	1	2	3	4	5	Determined	1	2	3	4	5
Scared	1	2	3	4	5	Attentive	1	2	3	4	5
Unfriendly	1	2	3	4	5	Unable to relax	1	2	3	4	5
Enthusiastic	1	2	3	4	5	Active	1	2	3	4	5
Proud	1	2	3	4	5	Afraid	1	2	3	4	5

Investment Decisions

This section of questionnaire relates with your investment decisions in short term financial instrument. Short term investment is made for less than a year.							
1. Strongly Disagree		2. Disagree	3. Neutral	4. Agree		5. Strongly Agree	
1.	I intend to invest in an Individual Retirement Account every year (if available in Pakistan) (A traditional individual retirement account (IRA) allows individuals to direct pretax income towards investments that can grow tax-deferred (pay tax later) resulting in short term gains in form of tax saving)			1	2	3	4	5
2.	I intend to put at least half of my investment money into the stock market.			1	2	3	4	5
3.	I intend to engage in portfolio management activities at least twice per week.			1	2	3	4	5
4.	I intend to perform my own investment research instead of using outside advice.			1	2	3	4	5
5.	I intend to compare my portfolio performance to that of professional managers.			1	2	3	4	5
This section of questionnaire relates with your investment decisions in long term financial instrument. Long term investment is made for more than a year.							
1.	I intend to save at least 10% of my gross earnings for investing/saving/retirement purposes.			1	2	3	4	5
2.	I intend to have a portfolio that focuses on multiple asset classes (i.e., stocks, bonds, cash, real estate, etc.).			1	2	3	4	5
3.	I intend to take an investment course. (If you have already taken kindly mention your future intention to take further courses in investment)			1	2	3	4	5
4.	I intend to manage my portfolio for maximum gross return rather than tax and cost efficiency.			1	2	3	4	5
5.	I intend to invest some money in long-term assets where my money will be tied up and inaccessible for years			1	2	3	4	5

Need for Cognition

This section of questionnaire relates with your tendencies to pursue and enjoy the process of thinking						
1.	I like to have the responsibility of handling a situation that requires a lot of thinking.	1	2	3	4	5
2.	Thinking is not my idea of fun.	1	2	3	4	5
3	I really enjoy a task that involves coming up with new solutions to problems.	1	2	3	4	5
4.	I would do something that requires little thought then something that challenges my thinking abilities.	1	2	3	4	5
5.	I prefer my life to be filled with puzzles that I must solve.	1	2	3	4	5
6.	I would prefer a task that is intellectual, difficult, and important to one that is somewhat important but does not require much thought.	1	2	3	4	5

Financial Self Efficacy

This section of questionnaire relates with your self-perceived capacity to manage finances and your confidence to do so.						
1.	It is hard to stick to my spending plan when unexpected expenses arise.	1	2	3	4	5
2.	It is challenging to make progress toward my financial goals.	1	2	3	4	5
3.	When unexpected expenses occur I usually have to use credit.	1	2	3	4	5
4.	When faced with a financial challenge, I have a hard time figuring out a solution.	1	2	3	4	5
5.	I lack confidence in my ability to manage my finances.	1	2	3	4	5
6.	I worry about running out of money in retirement	1	2	3	4	5