

## Investigating The Roles Of Behavioral Finance, Risk Perception, And Personality In Stock Investment Choices

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### ABSTRACT

*The purpose of this study is to explore various interactional aspects of personality factors and behavior with finance, risk perception, and investment decision-making in the context of Pakistan Stock Exchange. The objective of this study is to establish the effects of psychological and cognitive characteristics on investing decisions through research on a diverse pool of investors. The study methodology includes measuring the test data by quantitative analytic tools, and the types of quantitative methods are self-reported data. This includes the use of regression and correlation techniques in order to analyze the different relationships of the variables. These findings indicate that personality traits, behavioral finance, and risk perception have positive relationship to the investors' decision-making in the present study, thereby increasing comprehensiveness of the model. However, behavioural finance has insignificant effect and risk perception and personality traits are significant effect on investors investment decisions. This study therefore expands existing literature by refining the theoretical developments on the complex association between psychological factors and investment decision-making. Hence, this research is in vain of the behavioral finance framework that has been proactively embraced in the existing fiscal literature. In addition, one of the main uses of the research findings is the provision of useful information that will assist investors, financial advisers, and legislators in their decision making with regards to the option portfolios depending on the personality traits and cognitive biases of the subjects. Thus, despite its shortcomings based on the cross-sectional research method employed and using the data collected through self-report questionnaires, this study fills a gap in the existing literature on investment decisions. It also points out the further research agenda, informing the necessity to examine these correlations in other conditions and employ more advanced methods.*

**Keywords:** Personality Factors, Behavioural Finance, Risk Perception, And Investment Decisions.

### Introduction

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Previous empirical studies on the decision to invest in the stock market has largely employed the tenets of the classical finance theory that seeks to explain that investors' decision-making processes are informed by the expected return and risk (Rehmat et al., 2023). Nevertheless, practice can overshadow theory in this case, calling for further investigation of the factors that may affect the investors' behaviours. It is against these discrepancies that the discipline of behavioral finance has been developed as an attempt to apply psychological knowledge in finance. This approach defines how cognitive factors including bias, feelings and heuristics can result in irrational decisions in investment such as overconfidence, herding and the endowment effect. This paper seeks to understand the workings of financial markets through the analysis of the psychological principles of decision making in investment (Li et al., 2023).

Besides the behavioral finance, the risk perception and the personality traits of the investor also affect the investment decisions made. The concept of risk perception is the individual's beliefs about the magnitude and likelihood of risk which could be vastly different from actual probabilities. This perception depends on several factors some of which include past experiences, culture, and attitude towards risk. There are also personality traits in the framework of the Big Five that affect investment behavior (Ahmad, 2020). For example, personality factors including extraversion, conscientiousness, and openness have been found to have correlation with risk taking and investment behavior. This research therefore seeks to incorporate behavioural finance, risk perception and personality to understand the factors that govern stock investment decisions, which may be of great value to the individual investors and financial advisors (Sirisha et al., 2024).

Behavioral finance pertains to the psychological factors that can sway an investor's behavior. Some of the common cognitive errors are overconfidence which is the tendency of investors to overestimate their abilities and knowledge; loss aversion, the reaction to loss is more painful than gains; and herding where investors mimic the actions of other investors and hence contribute to market anomalies (Jain et al., 2023). These factors can lead to the following deviations from the rational decision-making model, which results in inefficient investment decisions. Through these factors of behavioral finance, we seek to establish the extent of effect they have on the investors and the market (Sachdeva & Lehal, 2023).

The second factor is risk perception which defines an investor's impression of the probability of losses or gains from an investment. This is in contrast to objective risk which is quantifiable and depends on data analysis and statistical tools; risk perception is rather a subjective measure that depends on the individuals' past experiences, cognition, and feelings. This is very important because it measures the amount of risk an investor is willing to undertake, and this can in turn influence many investment decisions (Subramaniam & Velnampy, 2017). For instance, an investor with a high-risk perception will not invest in high volatile stocks even though the return is high. Personality traits, the third variable, are relatively stable characteristics that determine a person's behavior in various contexts. The Big Five personality factors such as Openness to experience, Conscientiousness, Extraversion, Agreeableness and Neuroticism that are evident in the personality assessment of investors can influence investment risk taking, investment time horizon and decision making. Through analyzing these personality traits, it is possible to identify the potential and peculiarities of an individual's investment behavior. These variables will help in developing a model to analyze the decision of choosing stock investment (Banerji et al., 2021).

This is a research gap that has been identified in the literature despite the fact that there has been much research conducted on stock investment behavior. Most of the research in this area is limited to these factors, where the former works on behavioural finance biases like overconfidence and herding and the latter on risk perception and consequent investment

choices. Nevertheless, there is a lack of extensive studies that incorporate all these aspects to explain the overall behavior of investors (Mamidala et al., 2024). However, most of the existing literature, which explores the relationship between personality traits and investment decisions, fails to adequately capture the interactions with behavioral biases and risk perceptions. This approach is rather simplistic as it does not reflect the real-life decision-making process where many psychological and behavioural variables come into play when making investment decisions. Also, there is the challenge of using self-reported data and simulated scenarios in previous research, which may not be very realistic when it comes to actual investment behaviors in real markets. There is also the scarcity of research studies that can show how these factors combine and change over time in order to affect investment results. To address these gaps, the inter-disciplinary approach that analyses the link between behavioral finance on one hand and risks and personality features on the other while applying the proper scientific methods and real-life cases should be applied (Rahman, 2020).

There have been significant strides in the evaluation of the stock investment behavior; however, the complex elements of behavioral finance, risk perception, and personality factors concerning the selection of investment have not been paid adequate attention. Thus, behavioral finance has highlighted such heuristics as overconfidence, loss aversion, and herding that contradict rational theories. Nevertheless, what these biases mean concerning individual risk perception and personality is still rather scarce. Investors' risk perceptions are mediated by heuristics and affect-related factors determining investment decisions; however, the psychological factors and relationship with openness, conscientiousness, and neuroticism are under researched (Ahmad et al., 2018). This research gap does not only halt the progress of theoretical models when it comes to understanding the behavior of investors but also backfires when it comes to developing better strategies for investing and advice to give. This complex problem requires that all these factors are examined and how they interact to influence the investment decisions, this means that it goes a notch higher beyond fragmentary and static analyses.

Hence, the role of behavioral finance, risk perception, and personality traits in stock investment decision making have a comparatively stronger relationship in the case of Pakistan. This results in high volatility in the Pakistan's stock market and it is comprised mainly of less sophisticated investors. Cultural factors, the economic situation, and legal framework also affect the investment process and may cause several problems. Pakistani investors also have certain psychological factors like herding behavior and overemphasizing on some events and the factors are combined with their lack of financial literacy and scarcity of information (Argan et al., 2023). Nevertheless, socio-economic environment of the country is diverse and this means that risk perception and personal factors of investors can also vary between investors across the given segments (Mohapatro et al., 2024). Nevertheless, the literature review relating to the Pakistani investors does not leave many studies available and most of the studies do not establish the entire associations between the behavioral biases, risk perception and personality traits. This lacuna hinders the capacity to design specific strategies and training that may improve investment choice and the effectiveness of Pakistan's market. Thus, there is a need for more sophisticated, contextual analysis to fill these gaps and offer recommendations for enhancing investor returns in the Pakistani stock market (Abideen et al., 2023).

The insights on behavioral finance, risk perception and personality for the investment in stock for the self-employed and the future direction of the stock market investment have definite value. With reference to these psychological/behavioural variables, the intent of the study is to understand the mental and/or thought process that corresponds to an investment decision that common conventional theories of economics fail to explain because of greed and self-interest (Lucey & Dowling, 2013). Knowledge of these factors might go a long way toward the

refinement of the conceptual models used to anticipate market trends and the behavior of investors on the basis of improved knowledge about psychological processes, and thus results in more efficient investment solutions and corresponding financial instruments that would suit particular investors. Furthermore, this research can help to expand the theoretical and practical toolkits of the behavioral finance field on how biomechanisms and personality characteristics affect decision-making, while demonstrating the value of the methodological approach

Furthermore, it is also useful for the financial advisors, the policy makers and the educators too as the result of this study. The implications of the findings are that financial advisors can use the insights provided by the psychological risk indicators to give advice that meets the psychological profile of the client regarding risk taking and thus satisfy clients and improve investment performance of the portfolio. Government agencies can employ the knowledge in the formulation of measures and policies that can shield the investors from making some costly decisions. The results of this study can be useful for including into the frameworks of educational work of universities and schools with the purpose of preparing future investors and financial workers. Finally, it is hoped that this paper would contribute to helping people develop a better understanding of behavioral finance, risk perception, and personality in relation to stock investment decisions, which would lead to the establishment of a healthier financial environment.

## **2.0 Literature Review**

### **2.1 Behavioural Finance and Stock Investment Choices**

Behavioral finance focuses at the impact of psychological factors and psychological factors on investors' actions, resulting in their depart from rationality as assumed in organizational finance. Research has revealed that factors like overconfidence and overestimation of losses, self-attention, and herd effects affect the stock investment decisions (Srinivasan & Karthikeyan, 2023). For instance, Barber and Odean (2001) discovered that overconfident investors engage in more trading, which is detrimental, in most cases, because frequent trading reduces returns. Likewise, Tversky and Kahneman's (1974) heuristics show how, investors tend to use shortcuts that can produce biases when making decisions; these affect their choice of stocks and strategies for buying and selling the same. Another important feature of behavioral finance is mental accounting brought by Thaler (1985). Mental accounting is the concept which describes how people used and partition money based on characteristics such as source, purpose, and other related features. This can make the investor wrong in financial decision making, for example, distinguish between dividends and capital gains when both are therefore economically similar, or the investor took more risk in the "house money" (earned from investment) as opposed to his stake. This paper will elaborate the concept of mental accounting along compiling the list of its microbes which help in getting a deeper insight of the manner in which the investors choose framework and constraints that shape it (Nkukpornu et al., 2020).

#### **2.1.1 Prospect Theory of Finance**

One such theory related to this study is the Prospect Theory developed by Kahneman and Tversky in 1979 which reformulates Expected Utility Theory by asserting that people have a different attitude toward gains and losses. From Prospect Theory it is known that investors have more vivid feelings when they lose something than when they gain something, such phenomenon is called loss aversion (Ogunlusi & Obademi, 2021). This theory also can explain why some investors would avoid the stocks labelled risky, despite the fact that the potential profit is much many times the potential loss. It also helps to explain the disposition effect in which investors are likely to sell most of their successful investments at the wrong time while

holding their unsuccessful ones for longer than they should due to self-escalation of perceived risk(Sattar et al., 2020).

## **2.2 Risk Perception and Stock Investment Choices**

Due to risk perception, investors are able to make correct decisions on how to undertake stock investing since they consider different risks associated with the investments. Thus, according to the research, general risk tolerance differs from one individual to another depending on the risk he is willing to take when selecting the stocks to invest and the kind of investment strategy to develop(Ahmed et al., 2022). In a study done by Weber et al, (2002), they pointed out that the investors' perceived risk is a function of their experiences, cultural influences, and personal susceptibility to risk. It can cause either overcautious or high-risk behaviours depending on attitude towards risk, and on how risks are managed. Also, perceived risk is not always consistent with the real risk. Slovic (1987) pointed out that people use affective heuristics which entails feelings about a certain stock or even the market conditions to judge the level of risk. For instance, during periods of a high level of market fluctuation, the risk perception might be high hence people will avoid investing in stocks even though there might be good ones to invest in(Chaitanya & Nordin, 2021).

On the other hand, during the bullish market the investors might ignore the risks which might lead to overtrading and occurrence of the bubbles. Knowledge of psychological factors can reveal rational for investing into certain stocks and how investors' decision might be affected by sentiment and cognitive biases. Apart from that, the perceived control often helps when it comes to risk perceptions and investment decisions as well(Holzmeister et al., 2020). For example, Langer (1975) in his study showed that in situations characterized by inherent risk, people will always think that they are capable of controlling risk hence leading to the illusion of control. This can lead investors into taking more risks than they should in the belief that they can avoid the risks. Self-deception is most prominently seen in active trading where investors feel frequent trading actions can resonate to special outcomes of their investments, though research shows passive investment strategies normally give better returns. From this it can be concluded that understanding the influence of perceived control on risk perception might be beneficial in the development of improved risk management initiatives and also in informing the improvement of strategies and approaches used in investor education(Waheed et al., 2020).

## **2.3 Personality and Stock Investment Choices**

The personality characteristics hence has a big influence on the behavior of an investor when making stock investments. Five factors namely openness, conscientiousness, extraversion, agreeableness, and neuroticism, commonly termed as 'Big Five' personality variables, regarding investment behaviours. For instance, Durand et al. (2013) revealed that the style known as being open was likely to invest in stocks since such persons are in search of new experiences and their risk taking capacity is high. On the other hand, people with high levels of neuroticism might avoid stocks due to the risk that increases their level of nervousness regarding market volatility(Jiang et al., 2024).

Moreover, other theories such as Type A and Type B personality theories about the personality of people further enhances the understanding of the investment behavior. The 'Type A' personality described by competitiveness and time sensitivity is likely to trade more actively and display overconfidence which in turn implies higher transaction costs and lower returns. Whereas, type B individuals, who are less compulsive about time and schedules, could invest less actively, that is, may not trade frequently and invest more on the basis of appreciating the stocks' long-term appreciation or depreciation, rather than short term fluctuations. The

personality assessments can therefore provide probability of the behavior of investors and how best to guide them according to the various psychological traits(Khan et al., 2021).

#### **2.4 Impact of Behavioral Finance Principles and Individual Personality Trait on Stock Investment Choices**

The interaction between behavioral finance, risk perception and personality give a full comprehension on stock investment decisions. Behavioral finance looks at the psychological factors that influence people and investors especially when making financial decisions thus, factors like overconfidence, loss aversion and mental accounting(Rao & Lakkol, 2022). They not only result in inefficiencies in trading, like the trading bias which is the activity of trading more frequently than necessary, and the disposition effect, which is the tendency to sell the stocks that have given good returns early and to hold on to the poor performers for longer(Abideen et al., 2023). As a result of the analysis of these behaviors along with individual risk perception, it is possible to conclude that personality factors such as personal experiences, cultural variables, and emotional reactions also influence the assessment and management of the market risks among the investors. For example, a highly risky investor will have tendencies of overconfidence and therefore engage in high risks investment strategies while on the same note, a less risky investor will be overpowered by loss aversion and therefore limits his/her investment results(Bajo et al., 2023).

Investors' perception of, and response to risk, is, therefore, not only a function of cognitive processes but is also on account of their personality proclivities. For example, the experience of Neuroticism might influence the person to avoid stocks due to the perceived threat of market volatility; this result would be consistent with the end of the conservative attitude towards risk. While the conservative ones will see high volatility as the threat and danger that should be minimized, the others with high openness to experience will see the same conditions as the opportunity and prospect for a new business development, which, again, will translate into more adventurous investment behaviors(Jain et al., 2023). Personality changed because such individual characteristics are derived from personality traits that assert long-term behavioral tendencies which serve as reference points for the formation of short-term biased attitudes toward risk and investment blueprints. These are the personality traits of a person which are openness, conscientiousness, extraversion, agreeableness, and lastly neuroticism and they all in one way or the other influence investment behavior. For instance, while cognitive biases cannot be erased, the conscientious investor is very likely to undertake research and have disciplined buying patterns, thus reduces some of the bias's effects(Mahmood et al., 2020).

#### **3.0 Methodology**

Quantitative approaches were selected due to their suitability in generalizing the findings thus coming up with a statistic conclusion for a large population. Reflective and structured questionnaires were used to gather numerical data through which specific measurement and comparison of behavioral finance traits, risk perceptions, and personality characteristics were possible. This study used a cross-sectional research design, whereby data was gathered at one point in time from individual investors. This approach made it easier to check for associations and possible cause-and-effect of the variables of interest. The employment of standardized instruments contributed to the accuracy and contrasts of the data gathered from the respondents, thus increasing the research's credibility. To achieve these objectives, the research was anchored on the positivist paradigm which assumes that knowledge is positivist and hence obtained from the existing phenomenon. This philosophy was ideal for the undertaken research as it entirely explored the measurable characteristics of the investors' actions and applied statistical instruments for data analysis. Based on these considerations, positivism proves suitable to the study since it focuses on objectivity and hypothesis testing against empirical

evidence. Participants filled in a survey with different questions regarding the behavioral finance, risk assessment and personality. The survey consisted of self-developed and standardized inventories such as the Big Five Inventory, the Risk-Tolerance-Inventory, and items described in the behavioral finance literature. Thus, the reliability and validity of the data collected were guaranteed through the use of standardized instruments.

Statistical analysis of the data was done with the help of a statistical software namely the SPSS (Statistical Package for the Social Sciences). The study's first step involved performing descriptive analysis on the demographic data of the sample and the response measures. Hypothesis testing through the use of inferential statistics such as correlation and regression were then used to verify the hypothesized relationships between behavioral finance variables; risk perception and personality traits and stock investment choices. Hence, ethical issues were highly considered while conducting this research so as to respect the participants and conduct clear research. Participants' consent was also sought before the study started, and each participant was given an explanation about the general objective of the study, details about all the procedures to be carried, and their freedom to withdraw from the study at any one time without any reason being given. To ensure that confidentiality of respondents was not compromised their data was anonymized and securely stored.

#### **4.0 Data Analysis**

##### **4.1 Measurement Model**

**Table 4.1: Construct reliability**

	<b>Cronbach's Alpha</b>	<b>Composite Reliability</b>
<b>Behavioral Finance</b>	0.794	0.857
<b>Risk Perception</b>	0.871	0.907
<b>Personality Factors</b>	0.908	0.936
<b>Investment Decisions</b>	0.954	0.959

The measurement model suggested in Table 4. 1 assesses the construct reliability of four constructs: Behavioral Finance, Risk Perception, Personality Factors and Investment Decisions. The internal consistency of construct reliability is assessed using Cronbach's Alpha and Composite Reliability coefficients. Cronbach's Alpha for Behavioral Finance is 0. 794 and Composite Reliability of 0.857. This shows acceptable internal consistency with a Cronbach's alpha coefficient of 0. 857. Risk Perception has a higher reliability with a Cronbach's Alpha of 0. 871 and Composite Reliability of 0. 907. The two scales, Personality Factors and Investment Decisions, have very high reliability as indicated by Cronbach's Alphas of 0. 908 and 0. 954, and Composite Reliabilities of 0. 936 and 0. 959, respectively. All the constructs are reliable with all the values being greater than the acceptable standard of 0. 7. 7 for Cronbach's Alpha and 0. 6 for Composite Reliability.

**Table 4.2: Average Variance Extracted (AVE)**

	Average Variance Extracted (AVE)
<b>Behavioral Finance</b>	0.597
<b>Risk Perception</b>	0.55
<b>Personality Factors</b>	0.628
<b>Investment Decisions</b>	0.784

Table 4.2 presents the Average Variance Extracted (AVE) values for four constructs: Behavioral Finance, Risk Perception, Personality Factors, and Investment Decisions. AVE measures the amount of variance captured by a construct relative to the variance due to measurement error, with values above 0.5 indicating adequate convergent validity. Behavioral Finance has an AVE of 0.597, suggesting a good level of validity. Risk Perception's AVE is 0.55, which is slightly above the acceptable threshold. Personality Factors have an AVE of 0.628, indicating strong convergent validity. Investment Decisions show the highest AVE at 0.784, demonstrating excellent validity. Overall, all constructs meet the AVE criterion, supporting the measurement model's adequacy in capturing the intended constructs.

**Table 4.3: Construct Validity (HTMT)**

	Behavioral Finance	Risk Perception	Personality Factors	Investment Decisions
<b>Behavioral Finance</b>	0.812			
<b>Risk Perception</b>	0.674	0.675		
<b>Personality Factors</b>	0.639	0.545	0.699	
<b>Investment Decisions</b>	0.66	0.735	0.772	0.878

Table 4.3 shows the results of HTMT for the purpose of checking the discriminant validity between constructs. The figures of HTMT should be less than 0.9 (Yusoff et al., 2020), and if it is more than 0.9, it means the data do not have discriminant validity.

#### 4.2 Assessment of Structural Model:

**Table 4.4: Path Coefficients**

	Original Sample (O)	T Statistics	P Values
<b>Direct Effect</b>			
Behavioral Finance-> Investment Decision	0.087	1.76	0.083
Risk Perception-> Investment Decision	0.613	15.339	0.000
Personality Factors-> Investment Decision	0.292	6.681	0.020



The study of the direct effects on Investment Decisions shows that Behavioral Finance, Risk Perception, and Personality Factors have different levels of impact. Behavioral Finance has a positive but quite moderate direct impact on Investment Decisions as depicted by the path coefficient of 0.087. However, the T statistic was 1.76 indicates a possible trend, the p-value of 0.083 shows that this relationship is not statistically significant at the 5% level but can be considered marginally significant at the 10% level. This means that although there is some proof of the effect of Behavioral Finance on Investment Decisions, the impact is not very strong or consistent. On the other hand, the relationship between Risk Perception and Investment Decisions is positive, significant, and strong with a path coefficient of 0.613. The T statistic for this study was 15. This is much higher than the standard cutoff of 1.96, and the p-value of 0.000 is statistically significant at the 1% level, thus supporting the findings of this study. This strong relationship suggests that as the perceived risk of individuals rises, their investment decisions are altered significantly, thus underlining the importance of Risk Perception in influencing investment behaviors. Personality Factors also have a great impact on Investment Decisions. The path coefficient of 0.292 shows a moderate positive effect and the T statistic is 6.681, which is well above the threshold for significance. The p-value of 0.020 also confirms the significance of this relationship at the 5% level. This means that personality characteristics influence the investment decisions made by individuals, which supports the role of psychological factors in financial choice. In conclusion, the study establishes that Risk Perception and Personality Factors have a more significant and stronger impact on Investment Decisions than Behavioral Finance, although the latter has a positive influence. This indicates that investment decisions are more influenced by risk perception and personality than by knowledge of behavioral finance or propensity.

### **Discussion and Conclusion**

The examination of the factors that influence investment decisions provides interesting insights into the relationship between Behavioral Finance, Risk Perception, and Personality Factors. Although Behavioral Finance has been researched for its effects on financial choices, our results indicate a more limited effect. Surprisingly, the direct impact of Behavioral Finance on Investment Decisions is relatively small and statistically insignificant. This goes against conventional wisdom that suggests that behavioral biases are the main drivers of investment decisions. However, the present study emphasizes the role of Risk Perception in determining investment decisions. The positive and highly significant influence of Risk Perception on individuals' risk-taking behaviour within investment contexts cannot be overemphasized. This indicates that perceptions of risk are critical in determining the actions of investors and may even dominate the effects of cognitive biases related to Behavioral Finance.

In addition, we find that personality traits play a critical role in determining investment decisions. Personality Factors have a moderate but significant positive relationship with investment choices, which means that individual's inherent traits influence their financial decisions. This emphasizes the importance of understanding the psychological differences of investors in developing investment strategies and financial interventions. Through identifying and comprehending the interactions between cognitive biases, risk perception, and personality, the stakeholders can design and implement better and specific strategies in investor education, financial advice, and portfolio management. These findings are crucial for understanding the dynamics of financial markets and enhancing investment performance in the context of rising risks and volatility.

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