Personality, Money, and Perception: Understanding the Psychological Forces behind Investment Choices

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Abstract

This study examines the impact of key personality traits such as neuroticism, extraversion, openness, agreeableness, conscientiousness, salience bias, and love of money on retail investors' decision-making at the Pakistan Stock Exchange (PSX). Grounded in the Five-Factor Model of Personality, the research aims to fill the knowledge gap on how these behavioral factors influence investment intentions. The study gathered data from 472 retail investors using a purposive sampling technique, and Smart PLS was employed for empirical analysis. The findings reveal that the identified behavioral factors significantly influence the decisions of retail investors by highlighting the psychological dimension of investment behavior. Moreover, perceived returns partially mediate the relationship between these factors and investment choices, suggesting that investor perceptions play an important role in the decision-making process. This underlines the complexity of investment psychology, where personality traits and biases shape financial outcomes. The practical implications of this research are relevant for brokerage firms, which can use these insights to conduct logit analyses of their retail clients' behavioral inclinations. This study offers valuable perspectives for both academics and practitioners by emphasizing the importance of behavioral finance in understanding and predicting the behavior of retail investors in emerging markets like Pakistan.

Keywords: *Behavioral finance, PSX, Personality traits, Salience, love of money, investment decision*

1. Introduction

Decision-making is not a purely rational process as the classical theories of investment have assumed and thus several psychological factors come into play. Personality traits, perceived returns, and financial incentives are critical determinants of investor behavior (Grant & Van Zandt, 2007). This is a very crucial aspect that is required for the formulation of a complete framework of the investment decision-making process (Iqbal & Bilal, 2021). According to the Expected Utility Theory (EUT), investors have to make rational decisions on their investments by comparing the potential options about the risks and benefits associated with these investments. Still, the energy crises of the 1970s exposed the flaws in the classical finance theory theories, including

EMH and EUT. Such discrepancies raise a question about the efficiency of the market, which does not eliminate such market anomalies.

It has also been revealed by the research that investors' personality characteristics like risk appetite, impulsivity, and conscientiousness are crucial determinants of investment decisions (Mukhdoomi & Shah, 2023). The returns as seen by the investors, that is the expected gains that the investors are likely to make, are important determinants (Barberis & Books, 2022). Also, the role of financial incentives, especially the love of money, contributes to this process, determining the investors' motivation and decision-making (Tang et al., 2018). This study investigates how certain personality qualities impact individual investing choices, how perceived returns influence investment behavior, and how the importance of financial incentives like a love of money influences investment decisions.

These questions can be more fully understood if a more detailed view of investors' psychological states is taken. During the 1980s, there was a shift from financial theory to what is known as behavioral finance which sought to address these concerns. Behavioral Finance looks at how individuals, through cognitive and emotional errors, behave when it comes to investments. These factors of behavior became the reasons for deviation from the Efficient Market Hypothesis. The theoretical work of Kahneman (1979) on Prospect Theory provided a major input to this area as it furnished an understanding of how investors reach their decisions regarding risk when the probability of the return on investment is known. The functions of these behavioral biases in developed markets and dynamic markets differ in the following ways. The stock market of Pakistan is counted as one of the most active and dynamic markets which gives evidence that the investors' behavior is not static. This variation thus underlines the importance of investigating the behavioral factors that affect investors' decisions. This research examines the influence of personality traits, the role of salience, the love of money, and perceived returns on investor's investment decisions. The research depicted by the model offers significant contributions to the field of behavioral finance, particularly in understanding how psychological factors shape investment decisions.

Firstly, by integrating personality traits like neuroticism, extraversion, openness, agreeableness, and conscientiousness with behavioral biases such as salience and love of money, this study goes beyond the traditional finance models, which typically assume that investors act rationally. Secondly, the contribution of this research lies in its ability to highlight the multifaceted role of both cognitive and emotional biases in shaping the investor behavior of retail investors. This model uniquely combines the Five-Factor Model of Personality with behavioral finance by providing an in-depth exploration of how different personality dimensions and biases influence perceived returns and, subsequently, investment decisions. Moreover, this research is the first to add the perceived return as a mediating factor previously researchers have studied the impact of financial literacy on investment decision (Hamza & Arif, 2019), social influence (Akhtar et al., 2018), investor sentiment (Kamath et al., 2023). This research adds complexity to the conventional understanding of investment decision-making. Instead of viewing the perceived returns as an

isolated outcome, the research model illustrates how personality traits and behavioral biases indirectly affect investment choices through perceived returns.

The article is structured as follows: Section 1 introduces the background of the study. Section 2 reviews the literature on traditional finance theories and the emergence of behavioral finance. Section 3 outlines the research methodology, while Section 4 focuses on results and analysis of the empirical findings. Section 5 discusses the implications for behavioral finance, practical applications for financial institutions, and future research suggestions.

2. Literature Review

2.1 Theoretical Background

In the area of behavioral finance, one of the most important theories is the work of Kahneman (1979) in which the authors introduced the Prospect Theory. Some of the traditional theories include the Efficient Market Hypothesis, Rational Expectations Theory, and Expected Utility Theory, all of which presume the rationality of investors in the market. On the other hand, Prospect Theory offers a different view by revealing that investors are not always rational and commit systematic errors. Thaler and organization (1980) extended the application of Prospect Theory to market behavior, and pointed out the following irrationalities. These basic works have put Kahneman, Tversky, and Thaler at the forefront of the field of behavioral finance.

2.2 Research Framework and Hypotheses Development

2.2.1 Personality Traits that are Influencing Investment Decisions

More conventional theories on finance such as the Efficient Market Hypothesis or the Expected Utility Theory are not always capable of explaining the actions of investors as observed in the market (Shiller, 2003) these models are not comprehensive in explaining the trends and anomalies that can be seen in the decisions made by the investors. This gap has motivated scholars to examine a variety of factors influencing investors' decisions in various conditions of the market. Neuroticism which is one of the factors in the Five Factor Model represents a propensity experience negative effects such as anxiety, depression, and mood volatility. Furthermore, neuroticism plays a role in reducing financial self-efficacy and may thus affect a person's confidence and therefore decisions to invest or delay Husnain et al. (2019). According to the literature that has been reviewed in this paper the researchers of the current study postulated the following hypothesis

H1: Neuroticism significantly impact on investment decisions of retail investors who are investing in PSX.

One of the well-known personality traits, which has implications for investments, is extraversion that is associated with sociability, assertiveness and readiness to interact with others and environment. Due to sociability and enthusiasm, extraverts are more likely to engage in behavior, which is evaluated as risky or innovative (Mathur et al., 2019) The social nature of extraverts is also seen in their investment behavior. customers are more inclined to talk about

financial issues and to look for an advice from their acquaintances (Khattak & Siddiqui, 2021). The behavior of extraverts with investment has an inverse relation meaning that are more volatile with their portfolios as indicated by Kumari et al. (2020). Based on the findings of literature, the researchers of the current study put forward the following hypothesis,

H2: Extraversion significantly impact on investment decisions of investors in PSX

Dimension of the personality, openness and investment decision making is discussed below. Specifically, openness-skilled people are inventive in their choice of an investment Zahera and Bansal (2018) established that personality traits such as curiosity and imagination, prompt these individuals to look for new opportunities in emergent markets, new technologies and little known investments. They also find that people with high openness are more likely to make atypical investment decisions and have a higher level of diversification. It inclines individual towards investments, makes them actively looking for new income earning opportunities and open to risk diversification which increases the ratio of returns (Aumeboonsuke & Caplanova, 2021; Chamorro-Premuzic et al., 2009; Zahera & Bansal, 2018).From the empirical literature in this area, the researchers of this study came up with the following hypothesis:

H3: Openness significantly impact on investment decisions of investors in PSX

A number of researches have been devoted to the investigation of the link between agreeableness and investment decision and over findings are rather impressive. Research shows that high agreeableness involves a behavior that promotes positive relations: Politeness is related to saving behaviors. (Gevorkova et al., 2023) also discovered that amiable people might prefer sustainable or ethically sensitivity investments, and therefore, agreeableness can predispose to choose options which are ethical. Mendoza et al. (2023) also noted that people with high levels of agreeableness tend not to invest in high risk and prefer to invest on bonds and saving accounts. All in all, these investigations highlight the role of agreeableness as an aspect basis in the investment decision and its effect on socially responsible investment choices, conservative approaches, collaborative methods, and consideration of other opinions (Gevorkova et al., 2023; Khattak & Siddiqui, 2021; Mendoza et al., 2023)

H4: Agreeableness significantly impact on investment decisions of investors in PSX.

Another trustworthiness factor that greatly impacts investment decisions is conscientiousness; people, who possess this virtue are ordinarily regarded as orderly and reliable. A number of works have been devoted to describing the influence of these characteristics on financial activities. Research of Nudelman and Otto (2021), revealed a tighter orientation of conscientious subjects towards comprehensive investigation, weighty decision making, and long-term goals and ROI of the investments. This Analytical approach is evident in the research friendly bias that the shows their systematic and disciplined approach to investment. Ozer et al. (2019) identified that conscientious people are more inclined towards conservative attitude towards investment and they

avoid risks as far as money is concerned. Likewise, Yadav et al. (2021) noted that conscientiousness is positively linked with long-term planning as the people who rank high in this dimension are patient and are willing to commit their resources to the future.

H5: Conscientiousness significantly impact on investment decisions of investors in PSX.

Salience bias has a serious impact on the investments by making the people attend too much on the information that is considered apparent as compared to other important information Bordalo et al. (2022). It biases an individual's judgement and can therefore overemphasize or down play some information influencing investment decisions. In relation to this, Chen et al. (2022) observed that majority of the investors tend to focus more on recent or 'hot' information such as media hyped stocks, in a way that they pay little or no attention to the efficient investment opportunities. Pompian (2012) examined the effect of salience for retirement fund investment decisions and found out that decision makers give higher weight to emotionally related content particularly images that incite feelings. In view of the above literature the following hypothesis is postulated by the researcher,

H6: Salience significantly impact on investment decisions of investors who are making the investment in PSX.

The "Love of money" means there is more than average concern with the accumulation of money or its attainment and this has a great influence with the investment decision (Furnham, 2014) Some researchers have examined ways in which such attitude affects investment decisions. Ariyanto et al. (2020) discussed the effect of pupils' attitude toward monetary reward and the results showed that students with more desire for money may use higher-risk management for potential higher cash flow. It may make these people enter into high risk investment ventures which is propelled by the desire to make more profits. In the same way, Tang et al. (2018) investigated on the psychological view of the love of money in investment choice from psychological perspective. Maggalatta and Adhariani (2020) further broadened that notion and suggested that the hypermasculine call for financial rewards might result in corporate managers seeking higher short-term profits at the probable detriment to organizational security and continuous growth.

H7: Love of Money significantly impact on investment decisions of investors in PSX

Perceived return is defined as the actual expected return with the investment decisions being impacted on psychological aspects such as personality traits, salience bias, and love of money (Romadona & Setiyono, 2021). It captures an investor's prognosis of returns or risk that they attach to various investment portfolios, and functions as a mechanism through which investors screen information as they seek to make certain decisions (Setyanta et al., 2020).When it comes to personality characteristics, perceived return can impact the investor as being either risk averse or risk taking. Some investors will avoid risks entirely and hence, select lower returns while others will accept risks with the view of attaining higher returns (Choi & Robertson, 2020; Nofsinger,

2017).Likewise, the love of money is a result of perceived returns, when people focus majorly on monetary success. One key factor that may lead people to take conforming or nonconforming risk profiles is the expectation of higher returns, which can lead to riskier investment decisions, or conversely the expectation of lower perceived returns that may cause investors to opt for traditional choices (Tang et al., 2018). In this structure, researchers formulate hypotheses based on this literature,

H8: Perceived returns mediate the relationship between neuroticism and investment decisions of investors from PSX.

H9: Perceived returns mediate the relationship between extraversion and investment decisions of investors from PSX.

H10: Perceived returns mediate the relationship between openness and investment decisions of investors from PSX.

H11: Perceived returns mediate the relationship between agreeableness and investment decisions of investors from PSX.

H12: Perceived returns mediate the relationship between conscientiousness and investment decisions of investors from PSX.

H13: Perceived returns mediate the relationship between Salience and investment decisions of investors from PSX.

H14: Perceived returns mediate the relationship between Love of Money and investment decision of investors form PSX.
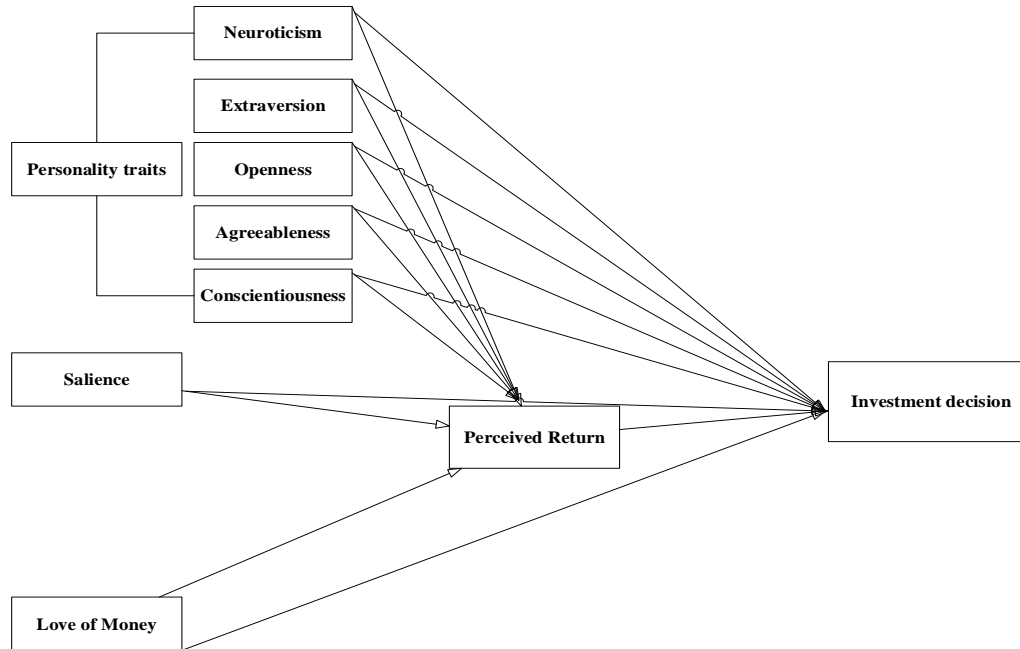
Figure 1: Theoretical Framework

3. Research Methodology

This study adopts a deductive approach to examine the research questions, and the methodology chapter of this study discusses the research design. The study adopted a cross-sectional research design; whereby data was collected using self-administered questionnaires from individual retail investors in PSX. The target population is the individual investor; the sample population therefore includes all the retail investors in the PSX. A purposive sampling method was adopted and the target population was investors likely to trade in the shares most of the time. To ensure a sufficient number of respondents per item, the recommended proportion of 10 respondents per item was used implying a target of 520 respondents from 520 distributed questionnaires in order to obtain sufficient statistically valid data to test the stated hypotheses.

3.1 Measures

The current study adapted questionnaire from previous literature for the purpose of collecting data from the retail investors, which consists of 52 questions. The overall Cronbach alpha of the research is 0.75. The current study adopted the model of Fornell and Larcker (1981) for the purpose of checking convergent and discriminant validity of the instrument. The researcher used Smart PLS software for investigating the convergent validity of instrument. Factor loading, average variance extracted (AVE), and composite reliability were also checked through this software. Table 1 shows the results of the outer loading, Composite reliability, and AVE.

Table 1
Outer Loadings, CR, and AVE

Constructs	Outer Loadings	CR	AVE
Agreeableness		0.863	0.56
A1	0.657		
A2	0.712		
A3	0.725		
A4	0.848		
A5	0.786		
Conscientiousness		0.901	0.695
Cons1	0.839		
Cons2	0.824		
Cons3	0.865		
Cons4	0.806		
Extraversion		0.924	0.67
EXT1	0.809		
EXT2	0.818		
EXT3	0.876		
EXT4	0.812		
EXT5	0.868		
EXT6	0.719		
Investment Decision		0.95	0.613
ID1	0.791		
ID10	0.681		
ID11	0.8		
ID12	0.673		
ID2	0.799		
ID3	0.816		
ID4	0.802		
ID5	0.854		
ID6	0.867		
ID7	0.77		
ID8	0.715		
ID9	0.801		
Love of Money		0.873	0.51
L1	0.6		
L2	0.799		
L3	0.752		

L4	0.302		
L5	0.781		
L6	0.816		
L7	0.800		
Neuroticism		0.931	0.643
N1	0.808		
N2	0.742		
N3	0.894		
N4	0.725		
N5	0.831		
Openness		0.932	0.776
Op1	0.904		
Op2	0.795		
Op3	0.935		
Op4	0.882		
Perceived Returns		0.914	0.68
PR1	0.826		
PR2	0.868		
PR3	0.863		
PR4	0.778		
PR5	0.784		
Salience		0.857	0.668
SAL1	0.841		
SAL2	0.855		
SAL3	0.751		

The extracted results from the Smart-PLS analysis indicate that the minimum thresholds for AVE, CR, and Outer Loading are 0.50, 0.70, and 0.60, respectively. The data presented in the table confirms that the instrument meets these required standards. Besides, Table 2 shows the descriptive statistics of the study. This table shows the minimum, maximum, mean and the standard deviation of NEU, AGRE, LOM, PR, SAL, CONS, OP, EXT and ID.

Table 2
Standard Deviation and Mean of Variables

	Minimum	Maximum	Sample Mean (M)	Standard Deviation (STDEV)
NEU	2.8	5	4.76	0.38

AGRE	2.6	5	4.66	0.401
LOM	3.43	5	4.38	0.454
PR	2.4	5	4.28	0.622
SAL	3.2	5	4.6	0.433
CONS	2.75	5	4.54	0.463
OP	3.25	5	4.53	0.49
EXT	2.83	5	4.41	0.496
ID	2.67	5	4.63	0.405

Discriminant Validity shows that variables of the model do not reflect other variables. Correlation analysis was used to measure validity. Researchers followed the suggestions of (Fornell & Larcker, 1981) and used HTMT to investigate Discriminant validity. Table 3 shows the results extracted from Smart-PLS

Table 3
Discriminant Validity through HTMT

	AGRE	**CONS**	**EXT**	**ID**	**LOM**	**NEU**	**OP**	**PR**
CONS	0.811							
EXT	0.518	0.561						
ID	0.705	0.744	0.618					
LOM	0.431	0.588	0.621	0.639				
NEU	0.582	0.442	0.301	0.496	0.318			
OP	0.633	0.86	0.466	0.673	0.569	0.293		
PR	0.285	0.382	0.491	0.299	0.645	0.12	0.479	
SAL	0.67	0.725	0.78	0.701	0.628	0.528	0.598	0.525

4. Empirical Findings

4.1 *Assessment of Structural Model*

In the previous section, researchers measured validity and reliability. The next step is to examine the relationship of exogenous variables with the endogenous variables. In the PLS-SEM, path coefficients direct the Significance of relationships and their relevance. The study also calculated the indirect effects to determine the mediating role of perceived returns

Table 4
Results of R^2

R-square	**R-square adjusted**

ID	0.643	0.637
PR	0.427	0.418

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The assessment of the model includes the calculation for the coefficient of determinant R^2 for evaluating the predictive accuracy of the model. The value of R shows the combined effect of exogenous variables on the endogenous variables. It shows how much of the change in the Endogenous variable is explained by the Endogenous Variables (Hair et al., 2013). Table 3 shows the results of the bootstrapping procedure for the calculation of R^2. The results show that a 64.3% change in the Investment decision-making of retail investors is explained by the exogenous variables of the current study. While on the other hand, almost 42.7% portion of the change in the perceived returns was captured through exogenous variables of the study.

Table 5

Path Coefficients

	Path Coefficients	T Statistics (|O/STDEV|)	P Values
AGRE -> ID	0.185	3.564	0.000
AGRE -> PR	-0.019	0.367	0.714
CONS -> ID	0.096	1.729	0.084
CONS -> PR	-0.185	2.588	0.010
EXT -> ID	0.181	4.947	0.000
EXT -> PR	0.118	2.126	0.034
LOM -> ID	0.271	5.717	0.000
LOM -> PR	0.421	6.578	0.000
NEU -> ID	0.123	3.022	0.003
NEU -> PR	-0.142	4.468	0.000
OP -> ID	0.249	4.400	0.000
OP -> PR	0.257	4.490	0.000
PR-> ID	-0.186	5.006	0.000
SAL -> ID	0.094	2.007	0.045
SAL -> PR	0.207	4.231	0.000

Table 5 summarizes the relationship of each path of the PLS-SEM analysis. The analysis shows that it is evident that several exogenous variables as extraversion, love of money, and openness are positively correlated with the endogenous variable investment decisions. Based on the same analysis, one can accept the pairs of hypotheses in accordance with the results of the study by Barberis et al. (2006). However, the hypotheses concerning the link between agreeableness and return perception as well as between conscientiousness and investment

decisions remain unconfirmed, so we have to deny H5 and H11. Further, the study further confirms that the testing of the hypothesized model also gives positive and significant results for love of money and openness in relation to the mediating variable, perceived returns. The findings of the present study are in support of the findings of Vijaya and Science (2014). However, perceived returns bear a negative correlation with investment decisions, though confirmatory evidence was established by (Kurniawan, 2021). Last of all, salience has a positive correlation with perceived returns; thus, supporting the hypothesis that behavioral factors have an impact on investors' perceptions.

Table 6

Mediation Analysis, Perceived Returns as Mediator

Variables	ID	PR	Mediation
AGRE	0.185***	-0.019	No mediation
CONS	0.096	-0.185***	FULL
EXT	0.181***	0.118**	Partial
LOM	0.271***	0.421***	Partial
NEU	0.123***	-0.142***	Partial
OP	0.249***	0.257***	Partial
SAL	0.094**	0.207***	Partial

*** Highly Significance at the 0.01 level of Significance, ** Moderately Significance at the 0.05 level of Significance, * Significance at the 0.10 level of Significance

Table 6 above shows the direct and indirect coefficients. The results reveal that perceived returns partially mediate between EXT, LOM, NEU, OP, and SAL variables Based on these results, the researchers accept the hypotheses of $H8$, $H9$, $H10$, $H12$ $H13$, and $H14$. The findings also show that perceived returns mediate the relationship between personality traits, salience, and love of money and the decision-making behaviors of retail investors.

5. Discussion

This study investigated the relationships between personality traits, behavioral factors, and investment decisions (ID), with perceived returns (PR) as a mediating variable. The findings from the PLS-SEM analysis provide a nuanced understanding of these relationships which supports some hypotheses while rejecting others. The results reveal significant positive effects of extraversion (EXT), love of money (LOM), openness (OP), and salience (SAL) on investment decisions (ID). For example, extraversion ($\beta = 0.181$, $p < 0.01$) and openness ($\beta = 0.249$, $p < 0.01$) are strongly linked to proactive decision-making and adaptability the findings that align with earlier studies such as Barberis et al. (2006), which emphasized the role of active personality traits in shaping financial behaviors. Similarly, salience (SAL; $\beta = 0.094$, $p < 0.05$) aligns with behavioral finance theories suggesting that heightened awareness of financial outcomes which

positively influences decisions (Chaudary, 2019). In contrast, agreeableness (AGRE) showed a significant positive relationship with ID ($\beta = 0.185$, **p** < 0.01) but failed to significantly influence PR ($\beta = -0.019$, **p** $= 0.714$) which is consistent with findings by Hamza & Arif (2019), which noted that agreeable individuals tend to rely less on analytical evaluations, such as return perceptions, when making financial decisions. Similarly, conscientiousness (CONS) had a limited direct impact on ID ($\beta = 0.096$, **p** $= 0.084$) but negatively influenced PR ($\beta = -0.185$, **p** < 0.01). This result supports the notion by Oehler & Wedlich (2019) that conscientious individuals are more risk-averse, often leading to less favorable perceptions of potential returns. Interestingly, neuroticism (NEU) positively influenced ID ($\beta = 0.123$, **p** < 0.01) but had a negative impact on PR ($\beta = -0.142$, **p** < 0.01). This aligns with research by Nofsinger (2017), which found that neurotic investors often base their decisions on emotional responses rather than objective evaluations, even when their perceived outcomes are pessimistic.

Additionally, perceived returns (PR) partially mediated the effects of EXT, LOM, OP, SAL, and NEU on ID. For instance, love of money (LOM) exhibited both strong direct ($\beta = 0.271$, **p** < 0.01) and indirect (via PR, $\beta = 0.421$, **p** < 0.01) influences which support the studies like Tang et al. (2008), which highlighted the role of financial motivations in shaping risk-taking and investment behaviors. Salience (SAL; $\beta = 0.207$, **p** < 0.01) was also positively associated with PR which confirm the findings by Statman (2014), who emphasized that heightened focus on return probabilities enhances decision accuracy. However, the negative relationship between PR and ID ($\beta = -0.186$, **p** < 0.01) echoes the findings of Bouteska & Regaieg (2020), who noted that higher return perceptions might sometimes lead to overconfidence or unrealistic expectations which adversely affect decision-making quality**.** The relationship between agreeableness and PR, as well as conscientiousness and ID, was not supported.

5.1 Theoretical and Practical Implications

This study makes notable contributions to the literature on behavioral finance and decision-making by integrating personality traits and behavioral factors into investment behavior analysis. The findings highlight the mediating role of perceived returns (PR) in linking the personality traits and behavioral factors which enrich existing theories. By emphasizing the role of extraversion, openness, and neuroticism in influencing investment decisions, the study validates the relevance of personality-based theories like the Five-Factor Model (Costa & McCrae, 1992) within financial contexts. The nuanced outcomes regarding the agreeableness and conscientiousness suggest alternative pathways for these traits to affect financial decision-making which provides new directions for future research. Additionally, the observed negative relationship between PR and investment decisions sheds light on behavioral biases such as overconfidence which highlights the complexity of decision-making processes and the need for refined behavioral finance models. Finally, this study addresses a critical gap by focusing on retail investors in an emerging market context which offers valuable insights into how cultural and economic settings influence the applicability of behavioral finance theories.

From a practical perspective, this study offers actionable insights for investors, financial advisors, and policymakers. For investors, understanding the impact of personality traits and behavioral factors, for instance, salience and love of money, on decision-making can help them become more self-aware and mitigate the effects of biases. Financial advisors can tailor their strategies based on personality profiles of the clients which provides customized advice to enhance decision quality. Policymakers and financial institutions can design targeted educational programs to address behavioral biases, such as the negative influence of overconfidence stemming from the high perceived returns. Additionally, the findings highlight the importance of promoting financial literacy to help investors make informed decisions.

5.2 Limitations and Future Directions:

Despite its contributions, this study has certain limitations that should be acknowledged. First, the study's sample was restricted to retail investors in a PSX which may limit the generalizability of the findings to other regions or types of investors. Future research could address this limitation by conducting cross-cultural studies or examining the institutional investors to explore whether the relationships observed here hold in different contexts. Second, the study employed a quantitative cross-sectional design, which captures relationships at a single point in time but does not account for changes in behavior or perceptions over time. Longitudinal studies would be valuable to examine how the personality traits and behavioral factors influence investment decisions dynamically. Another limitation is the scope of variables considered; while this study focused on personality traits, perceived returns, and behavioral factors, other important variables, such as financial literacy, risk tolerance, and economic conditions, were not included. Expanding the research model to incorporate these factors would provide a more comprehensive understanding of investment behavior. Lastly, the study found a negative relationship between perceived returns and investment decisions, which warrants further exploration. Future research could delve deeper into the psychological mechanisms underlying this paradox by potentially incorporating moderating variables such as confidence levels or decision-making styles.

6. Conclusions

Prior research examining the impact of personality traits and financial attitudes on investors' decision targets on has been less researched in the literature as such, it deserves more research attention from scholars. To this effect, this study seeks to narrow down this gap through an analysis of the effects of six antecedent variables; extraversion, agreeableness, conscientiousness, neuroticism, openness, and love of money on retail investors' decision-making process. The analysis indicated that investment decisions which is the endogenous variable for the model has an acceptable significant correlation with extraversion, love of money, and openness. Of all these factors, it was realized that the love of money was the most crucial determinant of the behavior of retail investors. Furthermore, the mediating effect of perceived returns on the effect of these exogenous variables on investment choices was examined in this study. Thus, the study revealed

that perceived returns played a partial mediating role in the listed relationships, making them consist of investment behaviors. Finally, the study also uncovered that there is no relationship between agreeableness and conscientiousness and the perceived returns as well as the investment choices thus dismissing of these hypotheses as well. Our expectation is that the findings of this study will expand the existing literature in behavioral finance and provide a new understanding of the factors.

Declaration

Competing Interests: The authors have not disclosed any competing interests.

References

Akhtar, F., Thyagaraj, K., & Das, N. (2018). The impact of social influence on the relationship between personality traits and perceived investment performance of individual investors: Evidence from Indian stock market. *International Journal of Managerial Finance*, *14*(1), 130-148.

Ariyanto, D., Weni Andayani, G. A. P., & Dwija Putri, I. G. A. M. A. J. J. o. M. L. C. (2020). Influence of justice, culture and love of money towards ethical perception on tax evasion with gender as moderating variable. *23*(1), 245-266.

Aumeboonsuke, V., & Caplanova, A. J. C. P. (2021). An analysis of impact of personality traits and mindfulness on risk aversion of individual investors. 1-18.

Barberis, N., Huang, M., & Thaler, R. H. J. A. e. r. (2006). Individual preferences, monetary gambles, and stock market participation: A case for narrow framing. *96*(4), 1069-1090.

Barberis, N. J. H. o. t. E. o. F., in Constantinides/Elsevier Science, & Books, T. (2022). A Survey of Behavioral Finance.

Bordalo, P., Gennaioli, N., & Shleifer, A. J. A. R. o. E. (2022). Salience. *14*(1), 521-544.

Bouteska, A., & Regaieg, B. (2020). Loss aversion, overconfidence of investors and their impact on market performance evidence from the US stock markets. Journal of Economics, Finance and Administrative Science, 25(50), 451-478.

Chaudary, S. (2019). Does salience matter in investment decision? Differences between individual and professional investors. Kybernetes, 48(8), 1894-1912.

Chamorro-Premuzic, T., Furnham, A. J. L., & Differences, i. (2009). Mainly Openness: The relationship between the Big Five personality traits and learning approaches. *19*(4), 524-529.

Chen, R., Lepori, G. M., Tai, C.-C., & Sung, M.-C. J. I. R. o. F. A. (2022). Can salience theory explain investor behaviour? Real-world evidence from the cryptocurrency market. *84*, 102419.

Choi, J. J., & Robertson, A. Z. J. T. J. o. F. (2020). What matters to individual investors? Evidence from the horse's mouth. *75*(4), 1965-2020.

Fornell, C., & Larcker, D. F. J. J. o. m. r. (1981). Evaluating structural equation models with unobservable variables and measurement error. *18*(1), 39-50.

Furnham, A. (2014). *The new psychology of money*. Routledge.

Gevorkova, V., Sangiorgi, I., Vogt, J. J. U. H. P. T., Facilitate, I. D., & Decisions, O. S. R. I. (2023). Who Is (Not) a Socially Responsible Investor? Unveiling How Personality Traits and Individual Differences Facilitate and Obstruct Socially Responsible Investment Decisions.

Grant, S., & Van Zandt, T. J. I. B. S. R. P. (2007). Expected utility theory. (2007/71).

Hair, J. F., Ringle, C. M., & Sarstedt, M. J. L. r. p. (2013). Partial least squares structural equation modeling: Rigorous applications, better results and higher acceptance. *46*(1-2), 1-12.

Hamza, N., & Arif, I. (2019). Impact of financial literacy on investment decisions: The mediating effect of big-five personality traits model. *Market Forces*, *14*(1).

Husnain, M., Rehman, B., Syed, F., Akhtar, M. W. J. B. P., & Research. (2019). Personal and in-store factors influencing impulse buying behavior among generation Y consumers of small cities. *7*(1), 92-107.

Iqbal, S., & Bilal, A. R. J. G. B. R. (2021). Investment performance: emotional beasts are dragging into the darkness of the castle. 09721509211044309.

Kahneman, T. J. P. t. A. a. o. d. u. r. (1979). D. kahneman, a. tversky. 263-291.

Kamath, A. N., Shenoy, S. S., Abhilash, A., & Subrahmanya, K. N. (2023). Impact of personality traits on investment decision-making: Mediating role of investor sentiment in India. *Investment Management & Financial Innovations*, *20*(3), 200.

Khattak, Q., & Siddiqui, D. A. J. A. a. S. (2021). Influence of Investor Sentiment and Its Antecedent on Investment Decision-making with the Moderating Effect of Big-Five Personality Traits.

Kumari, S., Chandra, B., & Pattanayak, J. K. J. K. (2020). Personality traits and motivation of individual investors towards herding behaviour in Indian stock market. *49*(2), 384-405.

Kurniawan, P. I. (2021). Effect of expected return, self efficacy, and perceived risk on investment intention: an empirical study on accounting master degree in Udayana University, Bali.

Maggalatta, A., & Adhariani, D. J. J. o. I. E. i. B. (2020). For love or money: investigating the love of money, Machiavellianism and accounting students' ethical perception. *13*(2), 203-220.

Mathur, G., Nathani, N. J. I. J. o. I. T., & Engineering, E. (2019). Personality traits and risk tolerance among young investors. *8*(10), 2019-2023.

Mendoza, D. M., Padernal, A. M. G., Pante, E. M. S., Magbata, E. V. S., Mandigma, M. B. S. J. R. o. I. B., & Research, E. (2023). Big Five Personality Traits and Financial Literacy: Effect on Risk Tolerance of Filipino Investors from Higher Education Institutions in Metro Manila. *12*(2), 235-251.

Mukhdoomi, A. M., & Shah, F. A. J. N. M. R. (2023). Risk Tolerance in Investment Decisions: Are Personality Traits the Real Triggers? , *31*(4), 256-264.

Nofsinger, J. R. (2017). *The psychology of investing*. Routledge.

Nudelman, G., & Otto, K. J. B. J. o. P. (2021). Personal Belief in a Just World and Conscientiousness: A meta-analysis, facet-level examination, and mediation model. *112*(1), 92-119.

Oehler, A., & Wedlich, F. (2018). The relationship of extraversion and neuroticism with risk attitude, risk perception, and return expectations. Journal of Neuroscience, Psychology, and Economics, 11(2), 63.

Ozer, G., Mutlu, U. J. J. o. B. E., & Finance. (2019). The effects of personality traits on financial behaviour. *8*(3), 155-164.

Pompian, M. M. (2012). *Behavioral finance and wealth management: how to build investment strategies that account for investor biases* (Vol. 667). John Wiley & Sons.

Romadona, A. A., & Setiyono, W. P. J. A. O. (2021). The Influence of Perceived Return Level and Financial Literacy Level on Individual Stock Investment Decision Making. *5*, 10.21070/acopen. 21075.22021. 21740-21010.21070/acopen. 21075.22021. 21740.

Statman, M. (2014). Behavioral finance: Finance with normal people. *Borsa Istanbul Review*, *14*(2), 65-73.

Setyanta, B., Kadi, D., Wahyudi, D., Kartinah, D. T., & Sarumaha, A. (2020). The role of after-sales service for online shopping loyalty. 64–69. In.

Shiller, R. J. J. J. o. e. p. (2003). From efficient markets theory to behavioral finance. *17*(1), 83-104.

Tang, N., Chen, J., Zhang, K., & Tang, T. L.-P. J. J. o. H. S. (2018). Monetary wisdom: How do investors use love of money to frame stock volatility and enhance stock happiness? , *19*, 1831-1862.

Thaler, R. J. J. o. e. b., & organization. (1980). Toward a positive theory of consumer choice. *1*(1), 39-60.

Vijaya, E. J. I. J. i. M., & Science, S. (2014). An empirical analysis of influential factors on investment behaviour of retail investors' in Indian stock market: a behavioural perspective". *2*(12), 296-308.

Yadav, A., Narayanan, G. B. J. I. J. o. A., & Review, F. (2021). Do personality traits predict biasedness while making investment decisions? , *6*(1), 19-33.

Zahera, S. A., & Bansal, R. J. Q. R. i. F. M. (2018). Do investors exhibit behavioral biases in investment decision making? A systematic review. *10*(2), 210-251.