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Impact of Investor's Personality Traits on Overconfidence Bias

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ABSTRACT: In many cases investors are not aware of their wrong behaviors. If investors are aware of their psychological biases by knowing their own personality traits, they can make their financial decisions in a more conscious way. Thus this way of thinking reduces their perception failures and increases the quality of their decisions. If an investor knows himself better, so he can gain more or he can maintain his wealth which will help the investors to achieve their long term financial goals and potentially improve the investing results also. In this study, the relation between personal traits and Overconfidence bias of investors were tested through a questionnaire. Sample of the study were selected among individual investor who are dealing in stock market. The hypotheses made within the scope of the study were tested by multiple regression analysis. As a result of the hypotheses testing, it was concluded that overconfidence bias is influenced by Extraversion, Openness, Agreeableness and conscientiousness except in case of Neuroticism. The Overconfidence bias of stock market investors is not influenced by Neuroticism.

Key Words: Stock market investors, psychological biases, personality traits, overconfidence bias, financial decisions.

1. INTRODUCTION

In this modern time, the money plays a vital role in everyone's life. Every individual saved from current consumption in order to get benefit for future requirements. Saving of people is invested in various assets for fulfilling future needs. Investment is the commitment of funds which have been saved from current consumption with the anticipation that some benefit will occur in future. Thus it is the reward for waiting for money.

Human beings are known to make decisions based on their intuitions and feeling rather than collecting sufficient information which will facilitate effective decision making. Studies conducted have shown that investors make irrational investment decisions. Modern portfolio theory explains that investors are rational and risk averse and will prefer low risk to high risk for a given level of return. It is based on the idea that the individuals who are risk averse can construct portfolios to maximize or optimize expected return based on a given level of market risk, emphasizing that risk is an inherent part of higher reward. According to the efficient market hypothesis, financial prices incorporate all available information and prices can be regarded as optimal estimates of true investment values at all times. The efficient market hypothesis is based on the notion that people behave rationally, maximize expected utility accurately and process all available information. Both these theories argued that individual investors are fully rational and wealth maximizers in their investment decisions and market prices are determined by the individual investors.

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These investors make correct investment decisions without any interference of their psyche, emotions and personal feelings. However most of the times psyche, emotions and personal feeling influences the investors causing them to behave in an irrational way while taking investment decisions (Thomas,2015). So in general we can say that they have behavioural or psychological biases in the event of taking investment decision. These biases prevent people from making rational or normal decisions. Investors generally prone to various behavioural biases from which one is the overconfidence bias.Studies indicate that one of the factors leading to perceptual biases is investor's personality (Rad &Chirani, 2014).
Investor's investment decisions are highly influenced by certain factors like environment, mood, emotion and cognitive. Personality is the sum of all these variables. The proportion ofthese variables differentiates one individual from others. Everyone has their unique pattern of feelings, thoughts and behaviors, which is formed by a fairly stable combination ofpersonality traits.

2. REVIEW OF LITERATURE

Researches in behavioral finance provide ample evidence regarding the influence of personality traits on investor's behavior. Ton and Dao (2014) indicated that investors of Vietnam Stock Exchange are affected by Overconfidence, herd behaviour, optimism, pessimistic and psychology of risk. Investors at Vietnam Stock Exchange feel overconfident in ability of selecting best stock, ability to control their investment and ability in understanding the stock market better than others.

Zaidi and Tauni (2012) argued that positive relationship exists between overconfidence bias and extroversion, Agreeableness and consciousness whereas negative relationship exists between overconfidence bias and neuroticism of investors in Lahore Stock Exchange. Moreover the demographic result show that there is no significant relationship between age, education and overconfidence bias but significant relationship exist between investment experience and overconfidence bias.

Parameswari and Krishnan (2015) states that personality traits do not have a significant impact on the investor's attitude toward investment as the investor with the aim of minimizing their risk, wisely invest in diversified portfolio. And also investors invest mainly for tax saving purpose and to meet their future expenses. Bashir Taqadus and et al., (2013) states that personality traits influence the financial behavioural biases such as overconfidence and herding behaviour and also personality trait influence the risk taking behaviour of investors in Pakistan. Similarly the result indicate that demographic variable have no significant relationship with investment biases such as herding, disposition effect and overconfidence and also have no significant relationship with risk taking behaviour of investors.

Lin (2011) states that investment biases of individual investors such as disposition effect, herding, overconfidence are significantly related to four personality traits such as neuroticism, Extraversion, Openness and Conscientiousness. Age have a significant relationship with overconfidence and disposition effect. Moreover the research indicates that there is a positive association between residential area and herding.

3. STATEMENT OF THE PROBLEM

In many cases investors are not aware of their wrong behaviors. If investors are aware of their

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psychological biases by knowing their own personality traits, they can make their financial decisions in a more conscious way. Thus this way of thinking reduces their perception failures and increases the quality of their decisions. If an investor knows himself better, so he can gain more or he can maintain his wealth (Kubilay&Bayrakdaroglu, 2016) which will help the investors to achieve their long term financial goals and potentially improve the investing results also.

The present study examines different personality types among investors and tries to classify investors on the basis of the personality traits. The relationship between overconfidence bias and the personality types of investors is examined.

4. SIGNIFICANCE OF THE STUDY

This study has the significance for the individual investor, financial planners, financial managers,investment analysts, financial planners, brokering firm and financial advisors. Investors with any personality trait will gain the knowledge about the respective bias that performs critical role while making financial decisions. By gaining the knowledge about the bias they can take steps so as to avoid the interruption of the biases while making financial decisions. Financial planners, financial managers and financial advisors by gaining the knowledge of the personality traits of the investor easily perceive types of investments that best suits the investor.

5. SCOPE OF THE STUDY

The scope of the study is restricted to the individual investors of major stock brokering firms of Trivandrum city, Ernakulam city and Kozhikode city.

6. PILOT STUDY

A pilot study was conducted by distributing the questionnaire among 20 investors before the collection of actual data from target population. On the basis of pilot study, the questionnaire was modified by removing the repetitive or unnecessary questions and then it was finalized.

7. OBJECTIVES OF THE STUDY

i. To examine different personality types among investors and to classify investors on the basis of the personality traits.
ii. To identify the relationship between personality traits and overconfidence bias among the individual investors.

8. HYPOTHESIS

On the basis of the independent and dependent variables under study hypothesis formulated were *Overconfidence bias of stock market investors is not influenced by their personality traits.*

9. RESEARCH METHODOLOGY

The type of study used is partly descriptive and mainly analytical in nature. The objective of this study is to find out the relationship between personality traits and overconfidence bias.

10 SOURCES OF DATA

10.1 Primary data

Both primary and secondary data are used for the study. In order to analyze the relationship between personality traits and overconfidence bias of the individual investors, a descriptive study using primary data was considered as suitable. In order

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to study the objectives, the responses were collected through pre-determined set of questions in the form of structured and well-designed questionnaire. Before the finalization of the questionnaire, a pilot survey was done using a sample of 20 investors which was selected randomly and the questionnaire has been appropriately modified.

10.2 Secondary data

The secondary data used in this research refers to the prevailing theories on finance and psychology, more precisely behavioural finance and personality traits, such as articles in journals and literature on the subject as well as data sources from internet. The data has been gathered from the published source such as journals of behavioural finance and personality traits,relatedresearch articles, books, seminar reports, magazines, working paper, previous publications of the author, etc.

11. SAMPLING DESIGN

The entire individuals who are dealing in stock market in Kerala form the universe of the study. As the population to be covered is very large, a representative sample of individual investors of major stock brokering firms is taken from the population for the collection of primary data. The sampling unit for the study is individual investors of major stock brokering firms in Southern, Central and Northern region of the state viz. Trivandrum, Ernakulam and Kozhikode.Then from each of the district so selected, 5 brokering firms have been selected. Then 10 investors from each brokering firm are selected. Thus 50 investors from each district are selected, thus a total of 150 investors. Multistage Judgment sampling method is used to select the sample.

12. DATA PROCESSING AND ANALYSIS

Statistical Package for Social Science (SPSS) is used to analyse the data. The primary data collected were tabulated and analysed with the help of SPSS (Version 20) keeping in view the objectives of the study.The data analysis was done using descriptive statistics in which mean, percentages and standard deviation were used.Multiple regression analysis were used to identify the relationship between personality traits and overconfidence bias among the individual investors.

13. ANALYSIS AND INTERPRETATION

13.1 Personality traits

Personality traits of the investors were assessed through five components such as extraversion, neuroticism, openness, agreeableness and conscientiousness. The personality traits were measured by scale adapted by Wai-Yee Chen (2013) in the study Neuroinvesting: Build a new investing brain. Each component of personality traits were measured from the response of the investors in five point scale on five statements each. The reliability of the scale was tested among the investors of Kerala before collecting the final data. A sample of 20 investors was contacted and tested the scale with their responses. Cronbach's alpha of the responses was found to be 0.763, which was in the acceptable level.

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Table 4.1: Mean score of personality traits of investors with test of significance

Components of personality traits	Statistics	Value	t	Sig.
Extraversion	Mean	3.33	7.248	0.000
	SD	0.55		
Neuroticism	Mean	3.15	3.142	0.002
	SD	0.57		
Openness	Mean	3.41	9.502	0.000
	SD	0.53		
Agreeableness	Mean	3.33	7.789	0.000
	SD	0.51		
Conscientiousness	Mean	3.29	6.830	0.000
	SD	0.52		

Source: Computed Primary data

Table 4.1 present the mean score of components of personality traits of investors. From the table can be seen that the highest mean score is obtained for the component openness (mean score = 3.41). The second highest score of 3.33 as obtained for two components namely extraversion and agreeableness. The other important component of personality traits of investors is conscientiousness (mean score = 3.29). Neuroticism has got the lowest score of 3.15. From the result it can be inferred that most conspicuous personality trait is openness followed by extraversion and agreeableness.

One sample t test with test value 3.00 indicates that the mean score of personality traits of investors is significantly higher than the mean of the response scale as the significance level is less than 0.05.From the result it can inferred that the personality traits among the investors is moderately above average.

Table 4.2: Levels of components of personality traits

Components of personality traits	Level	N	%
Extraversion	High	62	41.33
	Medium	40	26.67
	Low	48	32.00
Neuroticism	High	37	24.67
	Medium	36	24.00
	Low	77	51.33
Openness	High	67	44.67
	Medium	41	27.33
	Low	42	28.00
Agreeableness	High	54	36.00
	Medium	45	30.00
	Low	51	34.00
Conscientiousness	High	49	32.67
	Medium	44	29.33
	Low	57	38.00

Source: Computed Primary data

Table 4.2 present the distribution of investors by levels of components of personality traits. From the above table it can be seen that the highest percentage (41.33 per cent) of investors are having high level extraversion. Majority of the investors (51.33 per cent) are having low level of neuroticism. Highest percentage (44.67 per cent) of investors are having high level openness andhighest percentage (36.00 per cent) of investors are having high level agreeableness. The percentage of investors having low level of conscientiousness (38.00 per cent) is slightly higher than those with high level of conscientiousness. The classification showed that high per cent of investors are having high extraversion, openness and agreeableness. Neuroticism and conscientiousness are found to be low among highest per cent investors.

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13.2 Hypothesis Testing

Hypothesis 1 -*Overconfidence bias of stock market investors is not influenced by their personality traits.*

The Statistical Package for the Social Sciences (SPSS) (Version 21) was used to facilitate the analysis. The regression analysis was conducted to identify the relationship between personality traits and overconfidence bias among the individual investors.

The specified model for the study is:

Over Confidence (OC) $= \beta_o + \beta_1 E + \beta_2 N + \beta_3 O + \beta_4 A + \beta_5 C + \varepsilon$

Where:

$\beta_{o=}$ Constant

$\beta_1, \beta_2, \beta_3, \beta_4, \beta_5 =$ Coefficient of the Independent variable

E =Extraversion

N=Neuroticism

O= Openness

A= Agreeableness

C= Conscientiousness

Table 4.3: Model summary of Regression equation of Overconfidence on components of personality traits

R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
0.524	0.274	0.249	0.434	2.106

a.*Predictors:(Constant),Extraversion,Neuroticism ,Openness,Agreeableness Conscientiousness*

b. Dependent Variable: Overconfidence

Source: Computed Primary data

Correlation between the dependent and independent variable (0.524) reveals that these variables are positively correlated, indicating that they are moving in the same direction. It can be seen that the R Square of the regression model is 0.274 which indicates that 27.4 per cent of the variation of overconfidence of the investors is determined by the five components of personality traits. The value of Durbin-Watson is nearly equal to 2.00 which indicate that the dependent variable is free from serial correlation, which is one of the important assumptions of multiple regression.

Table 4.4: ANOVA of regression model for overconfidence on components of personality traits

Model	Sum of Squares	Degree of freedom	Mean Square	F	Sig
Regression	10.231	5	2.046	10.885	0.000
Residual	27.07	144	0.188		
Total	37.301	149			

Source: Computed Primary data

ANNOVA table reveals the significance and validity of the regression model. The F value of 10.885 and P value of 0.000 ($P<0.05$) in the ANNOVA table shows that the model is statistically significant. The result indicates that the regression model can be used to study the relationship of components of personality traits on the overconfidence bias of the individual investors.

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Table 4.5: Coefficients of regression model for overconfidence on components of personality traits

Independent Variables	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	1.083	0.319		3.396	0.001
Extraversion	0.197	0.074	0.217	2.663	0.009
Neuroticism	-0.051	0.076	-0.058	-0.663	0.508
Openness	0.158	0.074	0.169	2.132	0.035
Agreeableness	0.187	0.081	0.192	2.304	0.023
Conscientiousness	0.191	0.083	0.200	2.312	0.022

Source: Computed Primary data

Equation 1 represents the regression equation of effect of personality traits on the overconfidence of investors.

$$OC = 1.083 + 0.197E - 0.051N + 0.158O + 0.187A + 0.191C \quad \text{.....(1)}$$

From the above discussions it can be concluded that when extraversion increases by one unit, overconfidence increases by 0.197. The second important personality trait influencing the overconfidence of the investors is conscientiousness. From the table it can be seen that one unit increase in the conscientiousness of investors increases their overconfidence by 0.191. Agreeableness is the important personality trait influencing overconfidence of the investors with regression coefficient of 0.187. The personality trait which has the lowest effect on overconfidence of the investors is openness (0.158). It can be seen from the result that the significance levels of all the personality traits except neuroticism have significant effect on the overconfidence of the investors as the significance levels of t test are less than 0.05.

Regression analysis leads us to reject the hypothesis that Overconfidence bias of stock market investors is not influenced by their personality traits. The result shows that overconfidence bias is influenced by Extraversion, Openness, Agreeableness and conscientiousness except in case of Neuroticism. The Overconfidence bias of stock market investors is not influenced by Neuroticism.

FINDINGS

- Investors were having all the five personality traits moderately above average
- Openness was found to be the most important personality traits among them followed by extraversion and agreeableness. The least prominent personality trait is neuroticism.
- Investors were classified into three groups using the mean and standard deviation score. The classification showed that high per cent of investors are having high extraversion, openness and agreeableness.
- Neuroticism and conscientiousness are found to be low among highest per cent investors.
- All the components except Neuroticism have a positive and significant relationship with Overconfidence.
- Regression analysis leads us to reject the hypothesis that Overconfidence bias of

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stock market investors is not influenced by their personality traits. The result shows that overconfidence bias is influenced by Extraversion, Openness, Agreeableness and conscientiousness except in case of Neuroticism. The Overconfidence bias of stock market investors is not influenced by Neuroticism.

SUGGESTIONS

On the basis of above findings the following suggestions can be made to those investors who fall prey to overconfidence bias

1. The investors should be aware of their psychological biases by knowing their own personality traits so that they can reduce their perception failures and can increase the quality of their decisions which will help the investors to achieve their long term financial goals and potentially improve the investing results also.
2. Investors with the trait of Conscientiousness, extraversion, agreeableness and openness should consult the financial planners, investment advisors and experienced individuals and also confirm the market information in order to avoid the occurrence of overconfidence bias.
3. While designing the investment programs, the investment advisors should consider behavioural biases and personality traits as a significant factor in order to achieve the desired investment objective.

CONCLUSION

It is known that each individual has different personality traits. Likewise, it is possible that each individual faces with psychological biases. Moreover, each individual faces with overconfidence bias to the different degree. The investors were having all the five personality traits moderately above average.The conclusion of this study shows that personality traits are positively and significantly related with overconfidence except Neuroticism. It means that the investors who have the personality traits such as Extraversion, Openness, Agreeableness and Conscientiousness can be more susceptible to overconfidence bias compared to others. Individual investors play a significant role in the stock market. But these individual investors are subjected to several behavioural biases and the five personality traits. So it is very important to understand the behaviour of these individual investors so that they can make their financial decisions in a more conscious way. Thus this way of thinking reduces their perception failures and increases the quality of their decisions.

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