

Impact of Personality and Emotional Intelligence on Investor Behaviour[#]

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Abstract

The main objective of this study is to assess the effect of personality and emotional intelligence on the investor behaviour. The study depends on primary data and a well-structured questionnaire is used for this purpose. Stratified sampling technique has been adopted to determine the sample for the study. 120 investors investing in either NSE or BSE is identified and the data is collected from them. The questionnaire was made up of three parts: 1. personality questionnaire which measures (openness, conscientiousness, extraversion, agreeableness and neuroticism), 2. emotional intelligence questionnaire that measures (self-awareness, self-regulation, motivation, empathy and social skills), and 3. Investor behaviour questionnaire which measures the behavioural biases (Herd, Loss aversion, Overconfidence, Anchoring, Asymmetric Information, Cognitive dissonance, Mental Accounting, Status Quo bias, Sensation seeking, Representativeness, Risk aversion and locus of control). The five main personality traits and Goleman (1996) five domains of emotional intelligence are correlated with the selected behavioural biases. In order to analyse the hypothesis logistic regression analyses were conducted. The study has revealed that psychological biases are correlated to personality traits and emotional competencies.

Keywords: Emotional Intelligence, Investor Behaviour, Logistic Regression, Personality

1. Introduction to the Study

Behavioural finance is the study of the application of psychological concepts and theories on the investor behaviour. The retail investor's participation in the equity market is usually very low in India. A survey states that out of the total population only 1.5% invests in securities market in India whereas in USA and China the percentage is 18 and 10 respectively. The household savings exposed to Indian equity market is 2% whereas in USA the average household savings exposed to equity market is 45%. Indian investors are becoming

more and more cautious to invest in the stock market. Indian equity investors are known to be temperamental and impatient. Studies have shown that around 70% of mutual fund inflows usually occur when markets are already overvalued - just 4-5% inflows happen when markets are undervalued. The stock market is affected by the irrational behaviour of the investors and due to which there is a sudden fall or rise in the stock prices. Even though many factors affect the equity investor behaviour in the market, personality traits and the emotional intelligence of the investors are the important variables that influence the investor behaviour.

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Researchers believe that there are five core personality traits. An individual's personality is determined by these five traits. Evidence of the personality traits proposition has been growing for many years, starting with the research of Fiske (1949) and later developed by researchers like Norman (1967), Goldberg (1981), McCrae & Costa (1987).

2. Personality Traits

The five traits are:

- *Openness* – People who are open prefer to learn about new things and enjoy adventures. These people are independent, imaginative and they have interests in different fields,
- *Conscientiousness* – These people are self-disciplined. Their traits include self-disciplined, goal-oriented and focused,
- *Extraversion* – Extroverts are very social with other people. Their traits include talkative, confident, self-assertive and authoritative,
- *Agreeableness* – These people are very harmonious and cooperative. Their traits include collaborative, interactive and harmonious, and
- *Neuroticism* – Neuroticism refers to one's emotional stability. People who score high on neuroticism are emotionally less stable and they have high level of negative emotions. These people are moody, unstable and tensed.

3. Emotional Intelligence

Emotional Intelligence term was coined by Peter Salovey and John Mayer and it was popularised by Daniel Goleman.

“Emotional intelligence is the capability to perceive emotions, to access and generate emotions so as to assist thought, to understand emotions and emotional knowledge, and to reflectively regulate emotions so as to promote emotional and intellectual growth”. – Mayer and Salovey (1997).

Daniel Goleman's five domains of Emotional Intelligence are:

- *Self-Awareness* – It is the ability to perceive and interpret one's emotions. These people are aware of their strengths and weaknesses,
- *Manage Emotions* – It is the ability of an individual to manage and govern one's emotions,
- *Social Skills* – It is the ability to connect with others and maintain a harmonious relationship,
- *Empathy* – It is the ability to understand others feelings, and
- *Motivation* – It is the internal drive that forces people to achieve things.

4. Investor Behaviour

Investor behaviour as a branch of study attempts to describe the financial decisions taken by investors by combining psychology theory and conventional financial theory. Financial experts and investors analyse the market and various financial products both qualitatively and quantitatively. During the decision making process they exhibit various emotions like anxiety, fear, happiness, greed etc which in turn affect their decision making ability and the quality of decisions. They also take decisions based on their past experience, knowledge and preferences towards various financial products. All these factors bound to influence the investor's decision to a major extent and they tend to make irrational decisions which are commonly called as behavioural biases.

5. Common Behavioural Biases

5.1 Investors Exhibit Many Behavioural Biases

The research includes the following biases:

- *Herding* – This bias occurs when the investor follows the other investors in the market,
- *Loss aversion* – It is the tendency of the investors to avoid any loss making situations and so prefer to invest in safe stocks,
- *Overconfidence* – The propensity of the investors to overestimate their knowledge and experience and underestimate the market conditions and the risks involved in it,

- *Anchoring* – Investors tend to take decisions based on a particular belief. These people usually collect information that supports their belief and discard all other information,
- *Asymmetric information* – During transactions or trade one party possess all relevant and pertinent information and the other party is not aware of the information,
- *Cognitive Dissonance* – It is the conflict that occurs mentally for the investors when the new information they have received contradicts their earlier belief,
- *Mental accounting* – It refers to the tendency of investors to segregation and treatment of money they receive from various sources,
- *Status quo bias* – This bias refers to the likelihood of the investors to remain in the same state of affairs,
- *Sensation seeking* – It refers to the inclination of the investors to seek excitement and pleasure in the stock market,
- *Representativeness* – Investors consider the recent performance as a benchmark to evaluate the performance of a stock,
- *Risk aversion* – It refers to the tendency of the investors to avoid risk, and
- *Locus of control* – It refers to the disposition of the investors to believe that they can control the events.

Emotions of the investor's guide them in taking decisions. Greed, fear, overconfidence etc., motivate the investors either to buy or sell a stock. Emotions are born out of quickly assessing the risk. Any successful investor will have high emotional quotient. Earlier studies have attempted to analyze the effect of personality and emotional intelligence on investment behaviour individually but very few studied about their influence together. So it is attempted to study about their influence together on the investor's behaviour. The understanding about their personal traits and the market condition will help the investors to take wise decisions in the stock market.

6. Review of Literature

The behavioural finance theory is primarily classified into two areas: Identification of inconsistencies in efficient market theory which is explained using

behavioural models (De Bondt & Thale, 1985) and recognition of investor behaviour that are not consistent with the traditional theories of finance and economics (Barber & Odean, 2001).

It has been observed that individuals are generally overconfident while assessing their performance. Schaefer et al., (2004) examined association among the big five personality traits and overconfidence bias. He measured overconfidence as the difference between confidence and accuracy in performance. Further, he observed that extraverts are more overconfident while individuals who unfold them to new experiences possessed high levels of confidence and not overconfident. Neuroticism, agreeableness and conscientiousness did not predict over confidence.

However to measure human performance and to explain variations, intellectual styles are used as additional factors apart from ability and personality. Intellectual styles describe the way people perceive, think and apply the information. Li Fang Zhang (2005) observed significant relationship with openness to experience and liberal thinking styles; neuroticism with conservative thinking styles, conscientiousness with hierarchical and monarchic style and extraversion related to external thinking style.

Investor behaviour is explained using different theories of personality. The Big Five Theory is probably considered as the most recognised personality theory (Barrick, Mount, Hogan & Hogan, 1991). The five dimensions (openness, conscientiousness, extraversion, agreeableness, neuroticism) were the most accepted and widely used dimensions across all cultures.

Cliff Mayfiels et al., (2008) attempted to study whether personality traits can be used as a predictive tool to identify investment behaviour. They identified that long term investors usually possess openness trait. Risk adverse investors invest for short term gains. Ferguson (2011) observed that the various biases in the stock market is due to the differences in personality traits of individuals. Marcin Rzeszutek (2015) investigates the impact of personality traits on investment behaviour. His finding correlates with the earlier studies that

irrational behaviour of investors exhibited during decision making correlated with some personality traits.

Mayer and Geher (1996) identified that those people who are able to link thoughts and feelings and understand others feelings possesses high emotional intelligence. Webb et al., (2014) observed that emotional intelligence prevails in all individual's decision making process. Pirayesh (2014) identified that the emotions influences the risk taking capacity of the individuals.

Individual investors tend to exhibit various behavioural biases. Barber and Odean observed that the investors are not consistent with their decisions. Investors usually hold loss making stocks and sell profitable stocks. They also tend to trade too much and thereby lose money. Grinblatt and Keloharju found out that irrational reasons affect the trade often and mainly the trade is influenced by the investor's mood.

7. Method

The equity investors in Coimbatore city constitute the population of the study. Stratified random sampling technique is used to obtain the sample from the population. 120 equity investors constitute the sample for the study. A Questionnaire is designed in three parts. In the first part questions are related to the five factors of Goldberg's predominant personality factors - conscientiousness, openness to experience, extraversion, neuroticism and agreeableness. The questions are modified to enhance the investor personality traits. In the second part questions related to emotional intelligence is compiled. This research followed the methodologies of Goleman (1996) for emotional intelligence and five elements of emotional intelligence (self-awareness, managing emotions, social skills, empathy and motivation) were adopted and necessary changes were made to incorporate the investor's emotional intelligence competencies. The questions related to investor behaviour are included in the third part of this questionnaire and it is intended to find out the different biases of the individual investors. The questions are related to overconfidence, herding,

loss aversion, asymmetric information, cognitive dissonance, mental accounting, status quobias, sensation seeking, representativeness, risk aversion and locus of control.

The 5 point Likert scale consisting of disagree, strongly disagree, neither agree nor disagree, agree and strongly agree is used in the survey questionnaire. The validity of this questionnaire is tested using cronbach alpha coefficient.

Through the analysis it is attempted to establish the effect of personality traits of the respondents and their emotional intelligence competencies on their behaviour.

8. Factor Analysis

Factor analysis is conducted to reduce the behavioural biases into few components. The variables covered in the study revealed four behavioural biases shown by the respondents in the Coimbatore city. Kaiser-Meyer-Olkin (KMO) Measure which indicates the adequacy of sample is 0.646 from Table 1 is above the required measure of 0.5. From the total variance explained Table 2 and through scree plot it is obvious that four components which are above the Eigen value of 1 are retained (Figure 1).

Table 1. KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy		.646
Bartlett's Test of Sphericity	Approx. Chi-Square	143.300
	df	66
	Sig.	.000

Table 3 shows the four principal components which are constructed out of 12 psychological biases using the varimax rotation technique that explain 73.227% of the total variance.

The key output loadings or rotated component matrix will help to determine what the component represents. The loadings contain estimates of the correlations between the estimated components with all the variables. There is a very high correlation between the first component with overconfidence, second

Table 2. Total variance explained

Compo-nent	Initial Eigen Values			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumu-lative %	Total	% of Variance	Cumula-tive %
1	3.977	33.145	33.145	3.977	33.145	33.145	2.318	19.315	19.315
2	1.980	16.497	49.642	1.980	16.497	49.642	2.312	19.268	38.582
3	1.793	14.943	64.585	1.793	14.943	64.585	2.201	18.340	56.923
4	1.044	8.702	73.287	1.044	8.702	73.287	1.964	16.364	73.287
5	.853	7.110	80.397						
6	.630	5.249	85.647						
7	.509	4.243	89.890						
8	.332	2.768	92.658						
9	.294	2.447	95.104						
10	.247	2.056	97.160						
11	.211	1.757	98.917						
12	.130	1.083	100.000						

Extraction Method - Principal Component Analysis.

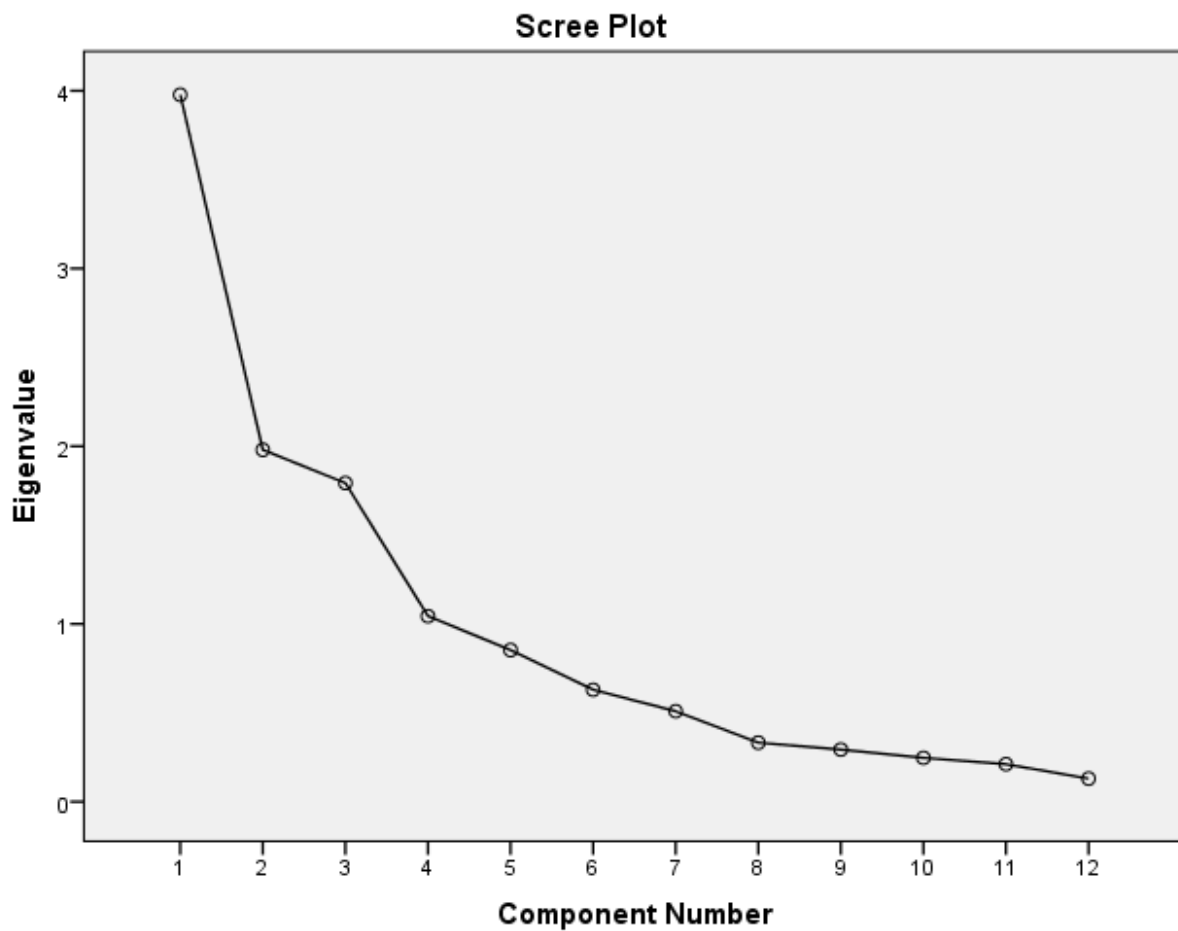
**Figure 1.** Scree Plot.

Table 3. Rotated component matrix^a

	Component			
	1	2	3	4
herding	-.047	.789	.339	-.216
loss aversion	.756	.208	.193	.228
overconfident	.834	.041	-.045	.126
anchoring	.002	.790	.075	.186
asymmetric information	.494	.221	-.254	.555
cognitive dissonance	.195	-.067	.095	.889
mental accounting	.388	.055	.729	-.236
status quobias	-.022	.272	.615	.161
sensation seeking	.052	.430	.232	.732
representativeness	.733	-.143	.436	.018
risk aversion	.265	.810	.085	.252
illusion control	.079	.163	.897	.189

Extraction Method - Principal Component Analysis; ^a Rotation Method- Varimax with Kaiser Normalization.

component with risk aversion, third component with locus of control and fourth component with cognitive dissonance. This shows that we can focus on over confidence, risk aversion, locus of control and cognitive dissonance for further analysis.

The research hypothesis formulated for the study:

1. The individual personality traits and their emotional intelligence competencies have an impact on investor locus of control bias,
2. The individual personality traits and their emotional intelligence competencies have an impact on investor cognitive dissonance bias,
3. The individual personality traits and their emotional intelligence competencies have an impact on investor overconfidence bias, and

Table 5. Pseudo R square

Cox & Snell R Square	0.501
Nagelkerke R Square	0.668

4. The individual personality traits and their emotional intelligence competencies have an impact on investor risk aversion bias.

Table 4 indicates that conscientiousness, extraversion and agreeableness have significant relationship with locus of control since p (.000, .001, .000) respectively. Specifically extraversion and conscientiousness are positively associated with locus of control since the B value is positive. As extra version and conscientiousness traits increase in an individual the odds of locus of control also increases by 2.092 and 2.424 times respectively. Agreeableness is negatively associated with locus of control. As agreeableness trait increases in an individual the odds of likelihood of locus of control will decrease by 0.478 times.

Among the emotional intelligence competencies self awareness, motivation, empathy and social skills have significant relationship with locus of control since p (.00, .017, .001, .000) respectively. Self awareness, empathy and social skills have positive association with locus of control. An increase in these competencies in an investor will lead to an increase in the odd of likelihood of locus of control by 1.951, 1.586, 2.362 times respectively. Motivation is negatively associated with locus of control.

Table 5 the Nagelkerke R square is 0.668 which indicates that 66.8% of the variability in locus of control

Table 4. Logistic regression analysis of individual personality traits and their emotional intelligence as predictors of locus of control

Factors		B	Wald	D.F	Sig	Exp(B)
Personality traits	Extraversion	0.738	12.618	1	.000	2.092
	Agree-ableness	-0.739	10.851	1	.001	0.478
	Conscien-tiousness	0.885	14.752	1	.000	2.424
Emotional Intelligence Compe-tencies	Self Awareness	0.668	13.134	1	.000	1.951
	Motivation	-0.587	5.652	1	.017	0.556
	Empathy	0.461	4.920	1	.001	1.586
	Social Skills	0.859	10.215	1	.000	2.362

Note: Exp. (B) – odds ratio, Sig –significance level, df – degrees of freedom, Wald – Wald's test & B – un-standardised regression coefficient

Table 6. Logistic regression analysis of individual personality traits and their emotional intelligence as predictors of cognitive dissonance

Factors		B	Wald	D.F	Sig	Exp (B)
Personality traits	Extraversion	2.312	15.790	1	.000	10.095
Emotional Intelligence	Managing Emotions	-0.724	14.789	1	.000	0.485
	Empathy	-1.851	18.123	1	.000	0.157

Note: Exp (B) – odds ratio, Sig – significance level, df – degrees of freedom, Wald – Wald's test & B – un-standardised regression coefficient

Table 7. Pseudo R Square

Cox & Snell R Square	0.630
Nagelkerke R Square	0.845

is confirmed by the above individual personality traits and their emotional intelligence competencies.

Table 6 indicates that extraversion has a significant relationship with cognitive dissonance since p (.000). Extraversion is positively associated with cognitive dissonance since the B value is positive. As extraversion trait increases in an individual the odds of cognitive dissonance also increases by 10.095 times. Among the emotional intelligence competencies, significant relationship is between managing emotions and empathy with cognitive dissonance since p (.000, .000) respectively. Managing emotions and empathy are negatively associated with cognitive dissonance.

Table 7 the Nagelkerke R square is 0.845 which indicates that 84.5% of the variability in cognitive dissonance is confirmed by the above individual personality traits and their emotional intelligence competencies.

Table 8 indicates that extraversion have a significant relationship with overconfidence since p (.000). Notably extraversion has positive association with overconfidence since the B value is positive. As

Table 9. Pseudo R Square

Cox & Snell R Square	0.439
Nagelkerke R Square	0.589

extraversion trait increases in an individual the odds of overconfidence also increases by 2.020 times.

Among the emotional intelligence competencies, self-awareness, empathy and social skills have a significant relationship with overconfidence since p (.031, .000, .001) respectively. The social skill competency is positively associated with overconfidence and an increase in social skill competency in an investor will lead to increase in the odd likelihood of overconfidence by 3.466 times. Self awareness and empathy are negatively associated with overconfidence.

Table 9 the Nagelkerke R square is 0.589 which indicates that 58.9% of the variability in overconfidence is confirmed by the above personality traits and emotional intelligence competencies.

Table 10 indicates among the emotional intelligence competencies significant relationship is evident between self awareness and social skills with risk aversion since p (.000.004) respectively. Self awareness, empathy and social skills have a significant association with risk aversion. An increase in these competencies in an

Table 8. Logistic regression analysis of individual personality traits and their emotional intelligence as predictors of overconfidence

Factors		B	Wald	D.F	Sig	Exp (B)
Personality traits	Extraversion	0.703	17.786	1	.000	2.020
Emotional Intelligence Competencies	Self Awareness	-0.291	4.653	1	.031	0.747
	Empathy	-1.109	17.174	1	.000	0.330
	Social skills	1.243	18.677	1	.001	3.466

Note: Exp (B) – odds ratio, Sig –significance level, df – degrees of freedom, Wald – Wald's test & B – un-standardised regression coefficient

Table 10. Logistic regression analysis of individual personality traits and their emotional intelligence as predictors of risk aversion

Factors		B	Wald	D.F	Sig	Exp (B)
Emotional Intelligence Competencies	Self Awareness	0.390	14.802	1	.000	1.476
	Social Skills	0.348	8.524	1	.004	1.417

Note: Exp (B) – odds ratio, Sig –significance level, df – degrees of freedom, Wald – Wald's test & B – un-standardised regression coefficient

Table 11. Pseudo R Square

Cox & Snell R Square	0.170
Nagelkerke R Square	0.261

investor will lead to increase in the odd of likelihood of risk aversion by 1.476, 1.417 times respectively.

Table 11 the Nagelkerke R square is 0.261 which indicates that only 26.1% of the variability in risk aversion is confirmed by the above emotional intelligence competencies.

9. Discussion

The study illustrated the impact of individual personality traits and their emotional intelligence on investor behaviour. Among the personality traits extraversion has a significant relationship with locus of control, over confidence and cognitive dissonance. Agreeableness has a negative association and conscientiousness has a positive association with locus of control.

Self awareness competency is positively associated with risk aversion and locus of control and negative association with over confidence. Empathy competency has positive association with locus of control and negative association with overconfidence and cognitive dissonance. Social skills competency is positively associated with risk aversion, locus of control and overconfidence. Motivation and managing emotions are negatively associated with cognitive dissonance and locus of control respectively. It is found that among the emotional intelligence competencies an individual possessing self awareness and social skills exhibit more behavioural biases.

The study supports the previous study of Schaefer et. al., (2004) where he observed that extraverts are more

overconfident while respondents who are exposed to new experiences possessed higher levels of confidence but not overconfidence. Neuroticism, agreeableness and conscientiousness did not predict overconfidence.

The result of the research is represented through limited sample of data. Further research on the topic is needed to substantiate the finding. While the research has attempted to study the impact of emotional intelligence and personality traits on the investor behaviour it is believed the competencies can be improved over the years.

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