

# Relationship between Personality Related Factors and Individual Investors Trading Behaviour

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## ABSTRACT

*Individual investors' trading behaviour has drawn the attention of academicians and investment practitioners globally. Behavioural finance is an exciting area for research due to the presence of irrational behaviour amidst investors. Studies indicate that individual investors are characterized by excessive trading and often to their detriment (Barber and Odean, 2000). In this study, we apply the theory of reasoned action (TRA) and the theory of planned behaviour (TPB) to explain individual investor behaviour. Further, an attempt has also been made to study the influence of personality related factors on trading behaviour of individual investors.*

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## Background

The study of the investor's behaviour has attracted researchers with a variety of backgrounds. Investor's behaviour which was initially assumed to be rational was later found to be affected by a series of psychological biases in their buy-and-sell decisions. The evolution of behavioural finance led the researchers to examine the psychological traits of investors and to influence their investment decision-making strategies in stock selection. Behavioural finance focuses on the individual attributes, psychological or otherwise, that shape common financial and investment practices (Ritter, 2003). Behavioural finance seeks to understand and to predict systematic financial market implications of psychological decision processes. In addition, it also focuses on the application of psychological and economic principles for the improvement of financial decision-making (Olsen, 1998).

Individual investors' are more prone to behavioural biases than institutional investors (Shanthikumar, 2004). Further, according to Riccardi and Simon (2000), individuals are repeatedly inconsistent in their investment decisions. Research studies show that individuals appear to trade excessively (Barber and Odean, 2000); engage in feedback trading (Wang, Changyun, Sun & Chee, 2005) and sell stocks that outperform those they purchase (Bange, 2000). Individuals are also likely to have access

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to fewer resources relative to institutional investors when making their investment decisions. In this context, behavioural finance evolved to investigate the factors that contribute to irrationality in investment decision making processes of the individual investors.

Individuals possess different personality traits, which have been developed over time. Decisions of any kind would be influenced by the presence or absence of specific personality traits in individuals. Personality theorists (McDougall, 1932; Davidson and Griffin, 2003) have documented the individual traits of a person that motivates his behaviour. The influence of personality factors on investment decision making has been empirically tested by Allport and Allport (1921), Goldberg (1981), and Costa and McCrae (1997) amongst others.

The primary aim of this study is to understand the underlying factors that affect the trading behaviour of individual investors. Though a number of research studies have been carried out in understanding individual investor behaviour, application of behavioural models has not been attempted seriously. Social attitude, personality traits and other concepts relating to behavioural dispositions are important to predict and explain human behaviour as emphasized by earlier by scholars (Campbell, 1963; Sherman and Fazio, 1983; Ajzen, 1988) in their research. Of all the theoretical frameworks that explain the decision-making processes of investors, the Theory of Reasoned Action (TRA) (Fishbein and Ajzen, 1975) and the Theory of Planned Behaviour (TPB) (Ajzen, 1985; 1991) have been found to be the most popular behavioural models. Hence an attempt is made in this study to explain the trading behaviour of individual investors by using the TRA and TPB.

Recently, individual investors have started trading too often and to their detriment. Frequent trading has been profitable for brokerage firms, but on the contrary it is not profitable for the majority individual investors. The more active the investors are, the less they earn. It is reported that 20 percent of investors who traded actively earned an average annual net return of 7.2 percentage points lower than that of the least active investors (Barber and Odean, 2000).

Despite the interest shown by the researchers in the behavioural finance area in the late 1980's, the number of empirical research studies which identify the underlying factors of trading behaviour of individual investors are limited. Also, research pertaining to the application of the behavioural models explains the trading behaviour of individual investors which is found to be smaller in number. Hence, an attempt has been made to study specifically the personality factors that influence the individual investors' trading behaviour.

## **Objectives**

The specific objectives of the study are as follows:

To study the impact of personality related factors on attitude towards trading.

To study the impact of attitude, perceived behavioural control and subjective norms on intention towards trading.

To study the impact of (trading) intention towards trading on trading behaviour of individual investors.

## Review of Literature

Individual investors' trading behaviour has grown over time and has attracted the attention of academics. DeBondt and Thaler (1995) noted that the high trading volume observed in financial markets is perhaps the most embarrassing fact to the standard finance paradigm. Recently, researchers have begun to study and document the behavioural attributes that influence trading volume (Shefrin and Statman, 1985). Further, Shanmugham (2000) documented that among the various factors, psychological and sociological factors dominated the economic factors in investment decisions. Though, a sizeable number of studies have found that behavioural biases have contributed to trading volume, still, it cannot be said that behavioural bias alone contribute to frequent trading. Individuals' decision making is affected by their personality traits also. Hence, a comprehensive study is conducted to study the effect of personality factors on individual investors' trading behaviour by using the Theory of Reasoned Action and Theory of Planned Behaviour.

Barber, Lee, Liu and Odean (2009) documented that the aggregate portfolio of individuals who suffered an annual performance penalty of 3.8 percentage points by using the complete transaction records of all traders on the Taiwan Stock Exchange from January 1, 1995 to December 31, 1999. Individual investor losses are equivalent to 2.2% of Taiwan's gross domestic product (GDP) or 2.8% of the total personal income. They concluded that 'virtually all individual trading losses can be traced to their aggressive orders' (Barber et al, 2009, p.1). However, when compared to the huge loss in aggressive trading, the volume and the trading frequency have always been increasing.

Barber and Odean (2000) studied the trading patterns and the returns of over 66,000 accounts held by private investors with stockbrokers during the period 1991-96. The study concluded that the average investor realised then lower returns as they had traded frequently. Moreover, the difference in net returns between the two groups is approximately 7% percentage points per year, 20% of the investors had traded the least and the other 20% traded the most. The average net returns of the group is less than that of Standard & Poor's 500 by 1.5 percentage points per year. On the basis of this empirical evidence, Barber and Odean (2000) concluded that the average individual investor trades excessively.

In the 1970s, Icek Ajzen and Martin Fishbein developed the TRA, which depicted the two determinants of behavioural intention to be 'attitude' and 'subjective norms' (Fishbein and Ajzen, 1975; Ajzen and Fishbein, 1980). Attitude refers to 'an individual's positive or negative feelings about performing the target behaviour' (Fishbein and Ajzen, 1975, p.216). Subjective norms refer to 'the person's perception about people who are important to him think he should not perform the behaviour in question' (Fishbein and Ajzen, 1975, p.302). In other words, social norms, opinion leaders, family members, and friends may play an important role in affecting people's intention.

As an extension of the TRA, the TPB addresses the TRA model's limitation in dealing with behaviour over which people had incomplete volitional control (Ajzen, 1991) and thus has been found to be more valid to predict behaviour. Similar to the TRA, intention in the TPB was depicted as a central factor to influence behaviour, which indicated 'how hard people are willing to try or how much of an effort they are planning to exert, in order to perform the behaviour' (Ajzen, 1991, p.181). Intention is the cognitive representation of a person's readiness to perform a given behavior, and is considered to

be the immediate antecedent of behavior. This intention is determined by three things: their attitude towards the specific behavior, their subjective norms and their perceived behavioral control. In addition to measuring attitudes toward the behavior, it becomes necessary to measure people's subjective norms – their beliefs about how people they care about will view the behavior in question. To predict someone's intentions, knowing these beliefs can be as important as knowing the person's attitudes. According to the TPB, perceived behavioral control also influences intention. Perceived behavioral control refers to people's perceptions of their ability to perform a given behavior. However, not all behaviours could be performed under people's volitional control, and most of the time, performance of behaviour depended on non-motivational factors, such as time, money, skills and cooperation of others (Ajzen, 1985). The availability of requisite opportunities and resources represented people's actual control over their behaviour, namely 'perceived behavioural control' (PBC). TPB has been largely used and successfully applied to predict people's intention and behaviour (Ajzen, 1991).

This study aims to analyse the influence of personality related factors on the attitude and intention of individuals' trading behaviour. The most related definition of personality is that it is a relatively stable set of characteristics that influence an individual's behaviour (Nelson and Quick, 2010). According to Americks, Wranik and Salovey (2009), no single personality trait can be used to predict investors' behaviour; instead a group of personality traits can influence investors' behaviour. The traders' personality has more influence on investors' attitudinal and behavioural responses (Cacioppo, Gardner and Berntson, 1997, Rozin and Royzman, 2001).

Lo and Repin (2002) demonstrated a clear link between *emotion* and trading behaviour using psychophysiological measurements like skin conductance, breathing rate, heart rate, blood volume pulse, and body temperature for 10 professional traders during live trading sessions. They found strong association between emotions and trading behaviour of sample investors. Steenbarger (2002) presented evidence that emotions affected trading performance by using a series of case studies. Branden (1969) has documented that *self esteem* is a basic human need that reflects an individual's assessment of his or her own worth or competence. According to Janis (1954), people with low self-esteem are persuaded more easily than people with high self-esteem.

Fisher and Statman (1997) found that investors with a lot of information set *ambitious* goals and ultimately takes more risk than other investors. Also, Shefrin and Statman (2000) found that ambitious investors take on high risk. Barber and Odean (2001a) documented that investors whose objective is to speculate had high ambition levels, high risk profiles, high turnover, and judged themselves to be very confident. They found that such overconfident investors overtraded and consequently, underperformed. Statman (2002) showed that investors who perceived investing as playing the lottery had high aspiration levels and are subject to overconfidence. Hoffmann and Shefrin (2010) found that investors with higher ambition levels and investors who held concentrated portfolios traded more.

Bandura (1997) showed that higher personal *self-efficacy* is built upon past success and also found that higher self-efficacy led investors to have an irrational escalation of commitment. Fenton-O'Creevy (2003) documented that self-efficacy had influential effects in the context of investing. Looney et al (2004) found that more efficacious investors preferred web-based technologies for investing and trading, whereas less efficacious individuals favoured the traditional method of trading. Forbes and Kara (2010) surveyed potential sources like knowledge, and confidence of investing self-efficacy in a large sample of working adults and found that applied investment knowledge is low.

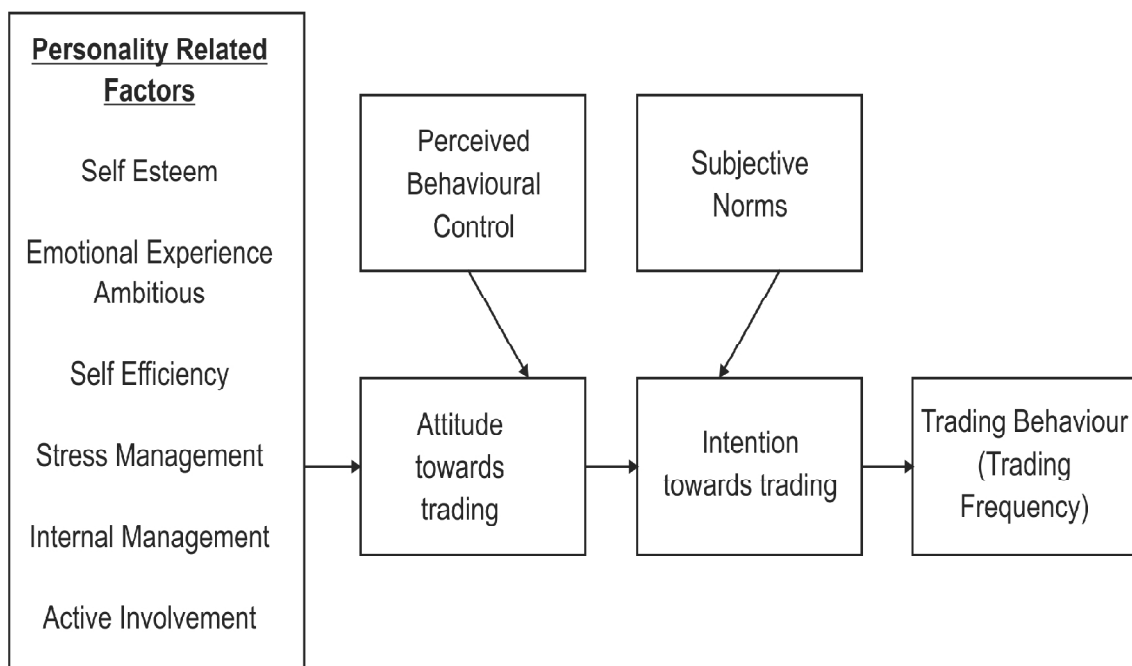
Lo and Repin (2002) found that experienced traders are less likely to experience the physiological effects of *stress* in response to market events than novice traders. It can be reasonably interpreted that through repeated experience, traders learned to psychologically normalize the stresses associated with the risks, rewards, and uncertainties of financial markets.

McInish (1982) studied the relationship between investors' locus of control and risk-taking behaviour and found that there is a strong association between locus of control and risk taking behaviour of individual investors. Cox and Cooper (1989) found that individuals possessing an *internal locus of control* are more self-confident and more in charge of the situation. Chui (2001) found that locus of control did not have any direct impact on trading volume of investors.

Benveniste and Spindt (1989) found that informed investors are most *active* in the stock market than uninformed investors. According to Odean (1998a), overconfident individual investors traded more actively and speculatively and contributed to increased market volatility. Barber and Odean (2002) found that after going online, investors traded both actively and speculatively.

Barber and Odean (2001a) showed that investors who traded more actively earned lower returns. They also showed that the most active trader lost 3.9 per cent of his annual household income by trading excessively. Romano (2002) documented the increased activism in investors trading behaviour. This might be due to technological advancements like online trading and mobile trading.

Based on the theoretical and empirical reviews, the conceptual model for the study and its relevant hypotheses were set:



**Figure 1 : Conceptual Model**

- H1: There is no relationship between personality related factors and attitude towards trading.
- H2: There is no relationship between attitude and intention towards trading.
- H3: There is no relationship between perceived behavioural control and intention towards trading.
- H4: There is no relationship between subjective norms and intention towards trading.
- H5: There is no relationship between intention towards trading and trading behaviour.

## **Methodology**

In order to analyse the relationship between variables undertaken for the study, a descriptive study using primary data was considered appropriate. For the purpose of studying the objectives and testing the hypotheses, a questionnaire was used as an instrument to collect the data. The questionnaire had been divided into three parts so as to fulfill the objectives of the study. The first part captured the demographic and trading characteristics of the respondents whereas the second part captured the personality related factors such as Self Esteem, Emotional Experience, Ambitious, Self Efficacy, Stress Management, Internal Orientation and Active Involvement. Finally the attitude, perceived behavioral control, subjective norms and intention were captured separately in the final part of the questionnaire.

The dependent variables trading behaviour measured in terms of trading frequency per week was captured using a open ended question: 'How many times do you trade in a week?'. The items that capture personality related factors, attitude towards trading, perceived behavioural control, subjective norms and intention towards trading were developed based on concepts in behavioural finance and other related disciplines. However, they were subjected to validity and reliability tests. Thus, the items and factors under study were finalised by the researcher. The sampling chosen for the study is based on the geographical area of Coimbatore city of Tamil Nadu state in India. The investigator distributed questionnaires to 500 respondents based on the snowball sampling technique. The researcher prepared a list of active traders in stock market which included friends, relatives and colleagues. Initially the members on the list were contacted and were asked to identify the respondents for the study. Finally the researcher collected 455 completely filled questionnaires and was subjected to further analysis.

## **Analysis and Findings**

The demographic and trading profile of the respondents considered for the study is presented in Table 1.

Table 1 gives a comprehensive presentation on the demographic and trading characteristics of the respondents. 63.3% of the respondents are male and the average age of the respondents is 53.5 years. 84.6% of them are married and majority (46.3%) of the respondents possess post graduate qualification. 35% of the respondents are engaged in full time trading and majority of the respondents are businessmen. The average annual income of the respondents is found to be Rs. 6,50,000. Majority of the respondents traded online and traded at their home. The average trading capital invested by respondents is Rs.5.75 lakhs and the average trading experience of respondents is 1.91 years.

**Table 1 : Demographic and Trading Profile of the Respondents**

<b>Variables</b>	<b>Categories</b>	<b>Mean Value</b>	<b>Frequency</b>	<b>Percentage</b>
<b>Gender</b>	Male		288	63.3
	Female		167	36.7
<b>Age in Years</b>	Below 30	53.5 years	63	13.8
	31-40		93	20.4
	41-50		103	22.6
	Above 50		196	43.2
<b>Marital Status</b>	Married		385	84.6
	Unmarried		70	15.4
<b>Annual Income (In Rs.)</b>	< 3,00,000		58	12.7
	3,00,001- 6,00,000		35	7.7
	> 6,00,000		362	79.6
<b>Education</b>	Upto School level		98	21.5
	Diploma		18	4.0
	Under Graduate		100	22.0
	Post Graduate		211	46.3
	Professional Course		28	6.2
<b>Occupation</b>	Salaried		265	58.2
	Business		22	4.8
	Professional		9	2.0
	Not Employed		159	35.0
<b>Mode of trading</b>	Offline		198	56.5
	Online		257	43.5
<b>Place of trading</b>	Home		320	70.3
	Workplace		69	15.2
	Brokers Office		51	11.2
	Others		15	33.3
<b>Trading Capital (in Rs.)</b>	< 1lakh	5.75 lakhs	62	13.6
	1-3 lakhs		62	13.6
	3-5 lakhs		75	16.5
	> 5 lakhs		256	56.3
<b>Trading Experience</b>	< 2	1.91 years	121	26.6
	2 - 4		252	55.4
	> 4		82	18.

### A. Personality related factors and Attitude towards Trading

The relationship between personality related factors and attitude towards trading has been examined in the study and the results are shown in Table-2. (Insert Table 2)

It is evident from Table 2 that all the personality related factors are positively correlated with attitude towards trading. Among all the personality factors, self-efficacy shows a high positive correlation coefficient ( $r=0.742$ ) with attitude towards trading. This finding corroborates the finding of Fenton-O’Creevy (2003) that self-efficacy influences the individual’s context of investing. Further, studies have pointed out that high self-efficacy created from previous successful investments develop a commitment (Bandura, 1997) and ultimately leads to favourable attitude towards trading. It is also observed that the factors such as self-esteem, active involvement, and ambitious exhibit a moderately positive correlation coefficient (0.50d” r e” 0.70). More specifically, self-esteem has a significant positive relationship ( $r=0.652$ ) with attitude towards trading. This is in accordance with the findings of Janis (1954) who documented that people with high self esteem definitely are more confident in trading and cannot be persuaded easily. Thus, individuals with high self esteem are found to have a favourable attitude towards trading.

**Table 2 : Relationship between Personality related factors and Attitude towards Trading**

SI No.	Personality Related Factors	Attitude Towards Trading	
		Pearson Correlation Coefficient ‘r’	Sig. (2-tailed)
1	Self Esteem	0.652	0.000
2	Emotional Experience	0.434	0.001
3	Ambitious	0.531	0.021
4	Self-Efficacy	0.742	0.000
5	Internal Orientation	0.257	0.005
6	Stress Management	0.406	0.001
7	Active Involvement	0.627	0.000

Another factor, namely active involvement disclosed a correlation co-efficient of 0.627. This implies that with active involvement, attitude tends to be favourable, as investors trade both actively and speculatively due to online trading (Barber and Odean, 2002). Similarly, ‘ambitious’ factor shows a positive correlation co-efficient. This validates the fact that investors who are ambitious take more risks than others because they have favourable attitude towards trading (Fisher and Statman, 1997;



Shefrin and Statman, 2000). Other factors such as 'emotional experience' and 'stress management' show low positive correlation co-efficient. The 'emotional experience' has a correlation co-efficient of 0.434 and that of stress management is 0.406. Although a clear link is established between emotion and trading behaviour as stated by Lo and Repin (2002), the relationship found in this study is not as strong as other factors such as self efficacy, ambitious, active involvement and self-esteem.

Finally, in contrast to the finding of Chui (2001) who demonstrated the absence of link between internal orientations and trading volume, the results of the present study however indicate a very low positive correlation with attitude towards trading. From the analysis and discussion, it can be concluded that hypothesis H1 is rejected. Hence, there is significant relationship between personality related factors and attitude towards trading.

### B. Personality related factors and Attitude towards Trading: Regression Results

Though the correlation analysis established the relationship between personality related factors and attitude towards trading, the extent of relationship cannot be measured. Therefore, multiple regression analysis is performed. Personality related factors are considered as independent variables and attitude towards trading is considered as dependent variable. The results of the multiple regression is shown in Table 3

**Table 3 : Results of Multiple Regression Analysis relating to Personality related factors**

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig at 5% level
	B	Std error			
Constant	1.264	0.002	0.34	.000	
Self Esteem	0.432	0.023	0.672	0.42	.000
Emotional Experience	0.176	0.017	0.597	0.57	.000
Ambitious	0.297	0.001	0.411	0.27	.000
Self-Efficacy	0.127	0.003	0.655	0.29	.000
Internal Orientation	0.139	0.012	0.472	0.39	.000
Stress Management	0.514	0.002	0.605	0.36	.000
Active Involvement	0.319	0.002	0.573	0.33	.000

R Square : 0.789      Adjusted R<sup>2</sup> : 0.785

F Value : 115.72      Sig at 5% level : 0.000

Table 3 reveals that the personality related factors account for 78.9% of variance in attitude towards trading. Among the personality related variables, self-esteem, self-efficacy, and stress management are found to be the major influencers of attitude towards trading. Other factors namely emotional experience, ambitious, internal orientation, and active involvement are also found to have significant positive impact on attitude towards trading. The result of the regression model has been tested using ANOVA. The value of

F – ratio is equal to 115.72 ( $p < 0.05$ ) which shows that the model is good fit. It also shows that adjusted  $R^2$  is equal to 0.785 which means that any time another independent variable is added to this model, the  $R^2$  would change marginally.

### C. Attitude, Perceived Behavioural Control, Subjective Norms and Intention towards Trading

In mapping the TPB to the context of the current study, individual investors attitude towards trading may be strong as they are making decisions to achieve a desired level of financial stability, whereas family and peers recommendations and behaviour in stock trading may form the 'subjective norm' variable. In addition, the 'perceived behavioural control' conceptualized as an antecedent to 'intention' within the TPB is defined as an individual's perception of the easiness of performing a particular behaviour.

**Table 4 : Relationship between Attitude, Perceived Behavioural Control, Subjective Norms and Intention towards trading**

SI No.	Factors	Intention towards trading	
		Pearson Correlation Coefficient 'r'	Sig. (2-tailed)
1	Attitude	0.885	0.000
2	Perceived Behavioural Control	0.650	0.000
3	Subjective Norms	-0.116	0.062

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

It can be interpreted from Table 4 that there exists a strong positive relationship between attitude and intention towards trading as indicated by the high positive correlation coefficient of 0.885 at 1% level of significance. Hence the hypothesis H2 is rejected. This is due to the fact that attitude is a major predictive factor of behavioural intention (Ajzen and Driver, 1992). In addition, a moderate positive correlation exists between perceived behavioural control and intention towards trading. Therefore, hypothesis H3 is rejected. Thus, there is significant relationship between perceived behavioural control and intention towards trading. This conclusion is in accordance with the social-psychology research which has identified perceived behavioural control to be a significant factor influencing the behavioural

intention, especially in a situation beyond the individual's control ( Ajzen, 1985). Contrary to the above, subjective norms is found to show negative and insignificant relationship with intention towards trading. Hence hypothesis H4 is accepted which states that there is no significant relationship between subjective norms and intention towards trading.

#### D. Factors affecting Intention towards Trading

Multiple regression analysis is conducted to study the size of effect of the independent variables on the dependent variable intention towards trading. Intention towards trading is the dependent variable whereas attitude, perceived behavioural control, and subjective norms constitute the independent variables for the analysis and the results are shown in Table 5

**Table 5 : Results of Multiple Regression analysis relating to Intention towards Trading**

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig at 5% level
	B	Std error			
Constant	-32.076	1.228		-26.124	0.000
Attitude	2.053	0.057	0.757	36.113	0.001
Perceived Behavioural Control	0.149	0.011	0.372	14.082	0.021
Subjective Norms	0.0069	0.018	0.092	3.894	0.001

R Square : 0.852      Adjusted R<sup>2</sup> : 0.851

F Value : 865.343      Sig at 5% level : 0.000

It is evident from Table 5 that the R-squared of the regression (0.852) is the fraction of the variation in intention that is accounted for by the independent variables such as attitude, perceived behavioural control and subjective norms. In other words, 85% of intention towards trading can be predicted by attitude, perceived behavioural control and subjective norms. Among the independent variables, attitude has a higher impact on intention and could explain 75.7% of variance in intention towards trading. Perceived behavioural control and subjective norms could explain 37.2% and 9.2% of variance in intention towards trading respectively.

The regression model is further tested with ANOVA which resulted in F value of 865.343. Hence, the model is found to be a good fit. The adjusted R Square of .851 depicts that anytime, if any other independent variable is added, the R Square changes marginally.

#### E. Intention towards Trading and Trading Behaviour

Ajzen and Fishbein (1980) documented that behavioural intentions are cognitive in nature and act as a representation of a person's readiness to engage in a specific behaviour.

**Table 6 : Relationship between Intention towards Trading and Trading Behaviour**

SI No.	Factor	Trading Behaviour	
		<b>Pearson Correlation Coefficient 'r'</b>	<b>Sig. (2-tailed)</b>
1	Intention towards trading	0.733**	.000

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

Table 6 demonstrates the relationship between intention towards trading and trading behaviour which is found to be highly positive. Hence, hypothesis H5 is rejected. This result can be substantiated by the theory of planned behaviour, which states that the more favourable the attitude and the subjective norms, the greater the perceived behavioural control and the behavioural intentions. As a general rule, the stronger the intention to engage in behaviour, the more likely is its performance (Ajzen, 1991). Thus, the theory supports that behavioural intentions are highly related to trading behaviours.

## Conclusion

A significant relationship exists between all the personality related factors and attitude towards trading. From multiple regression analysis, it is found that personality related factors account for 78.9% of variance in attitude towards trading. Among the personality variables, self-esteem, self-efficacy and stress management are found to be the major influencers of attitude towards trading.

A strong positive correlation exists between attitude and intention towards trading. Further, perceived behavioral control is found to have a moderately positive correlation with intention towards trading. Contrary to the above, subjective norms are found to be negatively related with intention towards trading. Further, it is found that attitude has major impact on intention towards trading. A very high positive correlation is found between intention towards trading and trading behaviour. Hence, it can be concluded that personality related factors influence the trading behaviour (trading frequency) of individual investors.

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