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Individual investor's characteristic and risk-taking in stock market

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Abstract

This study examines the relationship between investor's characteristic from the perspective of behavioral finance. Behavioral finance attempts to understand and explain the real behavior of real investor versus behavioral theories. This article aims to determine and evaluate investors' personality types and behavioral targets appropriate to their behavioral characteristics and type of their chosen investment strategy using questionnaire information. Investment characteristic including capital growth, speculation, retirement savings, financial security and entertainment investment with technical, fundamental and intuitive strategies which are against personality traits such as risk-taking, overconfidence and aspiration are discovered and characterized as affecting chosen features in the Stock Exchange under uncertainty investment. The results show that the risk-taking amount of investors based on fundamental analysis is less than technical. Also there is a positive and significant relation between level of Aspiration and risk-taking level of investors.

Behavioral theory of portfolio, Investment strategies, Investment objectives, Investment behavior characteristics

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Introduction

Researchers suggest that under conditions of uncertainty, human decisions systematically take away from decisions predicted by economic theories and people generally care less about possible outcomes compared with the confident outcomes. Given the significant effect of today's investment on future lifestyle of people, it is important to understand the difference between decisions made by investors, the process that leads to this decision and the final investment performance (Shefrin and Hoffmann, 2011). Mean-variance-based investors only care about expected return and total variance of portfolio rather than individual assets. These investors have constant opinions about risk: they always disagree with risk. But the behavioral investments are different. Behavioral investors, make the portfolio layered as a pyramid of assets, so that each layer corresponds to a specific purpose and a specific opinion about the risk. Contrary to the recommendations of the theory of mean - variance, here covariance among securities (i.e. behavioral theory) often is not considered (Shefrin and Statman, 2000).

Traditional financial knowledge usually insists on explaining phenomena in terms of rational man hypothesis (or perfect man) and suggests all investment strategies in conditions which rational people invest in efficient or semi-efficient markets. Standard financial models (SFM) consider investors as whom without feeling and always consider stock prices as a function of the present value of expected cash flows and the balance between risks and return factors. Behavioral finance approach attempts to create an appropriate alternative instead of the standard financial and argues that investors proceed to invest in a space with mixed feelings and therefore these feelings affect the markets (Bloomfield, 2010).

The main problem we are facing today is that under uncertainty investment, we encounter with different groups of investors which their behavior is not rational and this behavior can fail rational strategies with the assumption of rationality. Studies on hidden heterogeneity suggest that detection of unobservable variables' effect such as investors' priorities and their ideas is important and vital on achieving a better understanding of the selections and behavior of financial market participants. Non-visible differences at the individual level may help to detect extensive behavioral abnormalities so through this it could be explain their possible strategies and targets in a range of investors' personality traits.

In this study, personality traits such as risk-taking, overconfidence and willingness are measured as optional features affecting the behavior of investors and it becomes clear that investors in different domains of risk-taking and willingness and overconfidence in the capital market are looking to achieve what goals and which strategy they will choose to realize the goals lie in their character in terms of technical and fundamental and intuitive judgment? Is there any difference between these personality types and their goals and strategies?

The paper is organized as follows: Section 2 Literature review we use to develop hypothesis, Section 3 describes the data and methodology employed to test the hypothesis. The empirical results are provided in Section 4. Finally, Section 5 summarizes the results and concludes the paper.

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Literature review

Behaviorists in finance are seeking to define the economic man with a more realistic model in finance. Classic finance is a set of knowledge based on principals of Arbitrage, Miller and Modigiliani, portfolio foundations of Markowitz, Capital assets pricing theory of Sharpe, Lintner and Black, and Black-Scholes and Merton's pricing theory of transaction authority. Classic finance has been based on a set of simplifying assumptions of the real world and the concept of rational economic man lies in the lower layers of this attitude and says that human beings always make rational decisions (Pompian, 2006). In return, behavioral finance attempts to identify human psychological phenomena in the market and at the individual level and to learn from them. Finally, behavioral finance knowledge like classic finance has been based on underlying concepts and assumptions, but the difference is that classic finance has based its assumptions on a bed of ideals while behavioral finance builds these assumptions on the observed and realistic basis (Shefrin and Statman, 2000). Although some believe that current behavior in the capital market is rational behavior but behavioral finance does not believe that information is available to everyone in a symmetrical form and there are many restrictions which markets, particularly financial markets stay away from standard format and their musts (Kahneman and Slovic, 1982).

According to Lintner (1998) behavioral finance, aims to study how to interpret and act based on information to make investment structured decisions by peoples. Olsen (1998) in his description from behavioral finance states that behavioral finance does not try to show that rational behavior is wrong but tries to show the application of psychological decision-making processes in understanding and forecasting the financial markets.

The relationship between goals and selection in conditions of uncertainty is located in the center of two-factor theory of Lopez's risk selection. The first will focus on security goals and potential. According to Lopez, the purpose of risk aversion people is confidence level and the purpose of risk appetite people is return probability. Although some people only by security and some are only motivated by the possibility of return, both motivated with more or less force are existed in all people. The second factor in Lopez's theory is level of passion. The levels of enthusiasm are different among the people. Many people have the desire to get rich, but the amount of money that each of them defines as being rich is different (Lopez, 1987).

Portfolios which are in the framework of behavior are similar to layered pyramids. Each layer is linked to a specific purpose and covariance between layers, is not considered, in fact the simple two-layer pyramid is investigated. The down protective layer is designed for creating financial security and upper potential layer is designed to have a chance to get rich (Shefrin and Statman, 2000).

Behavioral portfolio management

Behavioral portfolio management (BPT)emphasizes on the role of behavioral preferences in selecting the portfolio and suggests that portfolio choices of any investor and thus their performance in return, is reflecting attributes such as dreams, hopes, fears and narrow framing in trading decisions. BPT in this context, explains why some investors, by reviewing several objectives, for example, avoiding poverty in retirement period and the potential for making money and other wishes, at the same time they buy securities and lottery tickets (Statman, 2002).

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Also Tripathi and Aggarwal (2009) believe that ingredient analysts and investors can review and follow up the stock return and performance during last two or three years and select and invest on the stocks that have had negative returns in that period of time and so earn higher return than the market average return without engaging in complex models of technical or fundamental analysis. Research conducted by Barber and Odean noted that overconfidence of investors, emphasize the role of ideas and help to explain why some investors are overly optimistic and their forecasts are too bold (Barber and Odean, 2001).

Fundamental, technical and intuitive investment strategies

Researchers have investigated different strategies in their research. Two schools of thought that dominate on the stock market literature are fundamental and technical analysis and investors who operate outside of these two strategies are called investors lacking of the analysis knowledge or investors based on personal judgment and intuition (Murphy, 1999).

1. Fundamental analysis

The approach of fundamental analysis and related models has received attention since 1930s in theoretical and learning frameworks. In such models the attention is mainly paid to the intrinsic value of stock and to determine the intrinsic value of stock, attention is paid to financial statements, sale growth and the ability of the company in maximizing the profit and similar factors and analyzing is being done in present environmental, economic and industrial conditions (Reilly and Brown, 2011).

2. Technical analysis.

Technical analysis, using analysis of past prices and volume of transactions, predicts the future price movements. The foundation of these analysis focuses on the use of diagrams and mathematical and geometric equations, thus obtained small and large processes. In this context, opportunities to buy or sell are determined through estimating the range of market fluctuations (Murphy, 1999).

3. Intuitive analysis.

In the behavioral model, investors are trying to have the best model of profit maximization of utility for stocks in their portfolio. However, calculating utility values requires a thorough knowledge of calculating all returns and careful management of the portfolio. For this reason, it is assumed that investors who do not rely on financial and investment knowledge use experimental method (intuitive method) in which it relies more on argue and past experiences to estimate the ultimate benefits and costs than using pre-given formulas and solutions. As a result, they select portfolio strategies that are less than optimal (Hoffman et al., 2010). Herding behavior is observed in financial markets of different countries whether developed or developing. In addition to investors, decision errors are observed in corporate executives. The research which was conducted between German companies operating in Russia came to the conclusion that the managers of these companies come to intuitive error in their investment decisions (Kotof, 2013).

Objectives of investors

Investment objectives lie in investor's priorities. Aspiration levels, is an important component of goals.

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A behavioral theory of portfolio is that investors whose wishes has a lot of Aspiration, act as they have a high tolerance towards risk and implicitly means that investors with high levels of Aspiration, are more willing to choose high-risk portfolios (Shefrin and Statman, 2000). High-risk portfolios are those that are more exposed to market risk and assess small businesses better than they seem (Barber and Odean, 2001).

Behavior features of investors

1. Risk – taking

Scholars of financial studies who attempt to understand and explain the behaviors and the causes of events in financial markets; the dominant paradigm in financial theories is based on maximizing expected utility and risk aversion. Psychological studies show that people actually behave differently than what modern financial theories of rational human beings manifest draw (Fernandes et al., 2009). Tversky and Kahneman (1992) Showed that people in the face of profit are risk-averse and in the face of loss is risk-taking. Also people sensibly are feeling worse towards the loss compared with the same size of profit. This phenomenon which is known as loss aversion has its roots in the psychology of people and is considered as one of the fundamental concepts of prospect theory.

2. The level of Aspiration

The Aspiration is a concept which has been adapted from psychology. According to Siegel (1957), Aspiration refers to achieving a specific purpose that one strives for it. In the position of precarious choose, Aspiration is defined as the return of predetermined criteria used by decision maker to transform monetary results into the profit and loss (Camille and Eléonore, 2014).

3. Overconfidence

Overconfidence or excessive self-confidence is as a baseless belief of cognitive abilities, judgments and intuitive reasoning of the person. Overconfidence causes investors to over-estimate their forecast skills and believe that they can determine the time (changes) of the market (Waweru and Munyoki, 2008).

The relationship between behavioral finance, portfolio management, investment strategies and stock analysis

According to the assumptions of the classical economists, emotions play no role in economic activities, especially according to the market efficiency hypothesis. In fact, in financial markets and according rational expectations hypothesis, the role of emotions is considered as null. Simon believes that people's decision making is conducted by a series of limitations that may undermine the concept of rational choice and this choice is not done according to the utility curve. These limitations may be external or originate from the biases of investor. These biases are retrieved from reference point of investor's decision making or his/her knowledge (Simon, 1955).

But Neil and Wheatley (1998) were among the first who tried to design emotions index based on market ratios. Baker and Wurgler (2007) and Winter (2007) using the similar approach and factor analysis method created an index to evaluate the market sentiments. In short, emotions can be defined as conceptualized phenomenon from assessment, emotional and short-term situations. One of the great triumphs of behavioral finance is presenting a series of theoretical papers that show in an economy in which rational and irrational traders oppose to each other, irrationality can be sustained and to affect prices for a long time (Thaler and Barberis, 2002).

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Given the significant impact of current investment alternatives on the way of people's life in the future, it is important to understand that how individual investors in dealing with triangular relationship differ between decisions taken, the processes that lead to these decisions and the result of investment performance (Browning and Crossley, 2001).

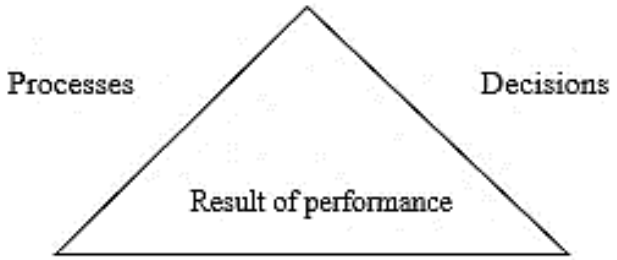

Figure 1 Relationship triangular

Graham and his colleagues in this regard believe that up to date, our understanding of these relationships has remained limited, because existing researches study part of the triangle or use socio – demographic variables such as gender, age or trade channel as pattern of underlying psychological processes as investment decision stimulating (Graham et al., 2009).

Behavioral portfolio theory, in this context, explains this issue that why some investors, by reviewing several objectives (e.g. prevention of poverty in retirement period and the potential for making money) as well as some wishes, they simultaneously buy bonds and lottery tickets (Statman, 2002).Conducted researches on the overconfidence of investors, emphasize on the role of strategies and help to explain why some investors are too optimistic (Barber and Odean, 2001) and have too bold predictions (Kahneman and Lovallo, 1993).

Empirical research of Hoffman, Shefrin and Pennings (2010) combines survey responses related to individual investors with their transaction records to create a unique data set that combines soft and hard data in a wide time interval. This survey allows the researcher to directly measure investors' characteristics that normally remain invisible such as their goals and strategies. Instead of using indicators based on, for example, survey, and researcher directly measures these dimensions of the investors' fundamental objectives and strategies (Graham et al., 2009).

Shefrin and Statman (1985) showed that portfolio selection with prospect theory is different from portfolio selection within the expected utility theory.

The most important feature of behavioral portfolio is that it is comprising of a number of securities without the risks and secure and a number of securities with high risk, which entire portfolio without diversification will be enough. In this context, the optimal portfolio is that matches the demands and interests of the decision maker individual and not to cause the maximizing of the expected return, and thus the interests and emotional biases of individuals is crucial to choose the composition of the portfolio.

Essayyad and Desai (2008) investigated the behavioral pattern of Saudi investors based on Shefrin and Statman model. They found that Saudi investors in their investment decisions are influenced by the concept of mental accounting and form their investment portfolios like the proposed pyramid of Shefrin and Statman and based on emotions rather than performance.

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Wagner (2001) presented a model of portfolio choice according to the level of investor wealth in comparison to the target portfolio (regret theory) and showed that if individuals' decision leads to wealth level more than the target level, the person gains more utility in investment, however, if the resulting wealth is less than the targeted level the person in addition to comparing with target portfolio, regrets because of not selecting other alternative investments. Rengifo and Trifan (2006) studied the effects of avoiding losses on decision making about allocation of wealth between risky and risk

- free assets. They have used the "value at risk" criteria accordance with desirable risk levels which is determined within specific prospect theory. They showed that how portfolio assessment counts affect investors' decisions and attitudes especially when they face with financial losses, which in these conditions they study the role of profit and loss at the past in the allocation of existing wealth.

Shefrin and Hoffman (2011) examined that what online investors do in terms of investment objective and extensive investment strategies that they apply and eventually how their portfolio works in terms of risk and return and encounter with factors. They analyzed that how systematic differences in the characteristics of the investor deal with their objectives and strategies. Results disclose information about the impact on investors' portfolio due to the overconfidence, understanding the merits, speculation and interest in risk. Shefrin and Hoffman (2014) in their study mentioned technical, fundamental and intuitive analysis and professional consultation as investment strategies and compared their research with Lewellen et al., (1980). Hoffman and Shefrin found that investors, who use technical analysis and succession trading of options, make weaker portfolio decisions that impressively lead to lower return compared with other investors.

Taqaduset al., (2013) showed in their study that risk-taking can have positive or negative relationship with different characteristics. Active investors require less security and have high level of risk, while passive investors are less risk-taking. Emotional state affects people's risk - taking level. Positive emotional state cause high risk - taking and negative emotional state cause risk aversion. Muralidhar (2016) believes that using of modern portfolio theory and behavioral finance cause to do not merge investor's objectives in analysis as the center of their savings and investment. Jain et al., (2015) in their research found that investors often make their investment decisions non – rational under pressure of some behavioral errors and gain poor return. Shefrin, Hoffman and Pennings (2010) in the context of portfolio choices found that investors select their portfolio such that they are consistent with their level of Aspiration. BPT based investors consider their portfolio as asset pyramid shape. Low – risk gadgets at the bottom and high – risk gadgets are at the top of the pyramid.

Diecidue and Van De Ven (2008) define Aspiration level as wishes that play an important role in financial decision making. Return higher than market average is called success and return lower than Aspiration level is called failure. They put value on the likelihood of success and failure. The main achievement is that the decision-maker when faced with financial decision, not only consider risky projects but also pay attention to the likelihood of success and failure. Glaser and Weber (2007) found that investors, who thought that their investment skills or their past performance is better than the people's average, more proceed to deal. The study of Barber and Odean (2001) also revealed that the investors with overconfidence have more transaction sequence that is the cause of return decreasing on their investment.

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Data and Methodology

Data

In this study, using personality traits such as risk-taking, overconfidence and aspiration as optional features affecting the behavior, it became clear using different personality types measurement by questionnaire that investors in different domains of risk-taking and willingness and overconfidence in the capital market are looking to achieve what goals and which strategy they will choose to realize the goals lie in their character in terms of technical and fundamental and intuitive judgment? And is there any difference between these personality types and their goals and strategies?

Statistical population of study includes active investors in Iran capital market which are 5.5 million. Questionnaire has been used to test the hypotheses. The questionnaire was distributed between 1000 activists of Iran stock and Likert scale has been used to measure the research hypotheses. After collecting and analyzing the data from the questionnaire, a new category of active investors in capital market is provided. In this category, behavioral characteristic of each individual has been identified in accordance with the investment objectives and strategies.

Studying research's gathered data on investors behavioral characteristics such as risk-taking, willingness and overconfidence, as well as investment objectives in capital growth groups, financial security, recreational, retirement savings and speculation and also investors selective strategies based on fundamental, technical and intuitive analysis of natural people, has used a standard questionnaire to collect a sample of 343 people from capital market participants. We could examine and extract investor's personality dimensions, objectives and strategies using 40 standard classified questions.

Methodology

The required data for this research to assess the study goals is based on using questionnaire and determining of investors behavioral characteristics and statistical test of investment strategies. In this article to test research hypothesis, descriptive statistics is used to examine the dimensions of demographic and inferential statistics is used to analyze data and hypothesis testing. One – sample test, T test, simple linear regression and one-way analysis of variance (ANOVA) also are used to test research hypostases. After determining the presence or absence of difference between the average of tested groups, LSD test is used to determine the average difference between which two groups is significant.

In order to test investor's behavior based on investment objectives and strategies, hypothesis of this study is formed in three formats. The first to third hypothesis are focused on the test of investment strategies and behavioral characteristics and fourth to sixth hypothesis are based on the test of investment objectives and behavioral characteristics and seventh to eleventh hypothesis are presented for the test of investment objectives and investment strategies. Table 1 shows the hypothesis of this research.

Category	Hypothesis #	Hypothesis
investment strategies and behavioral characteristics	1	Fundamental Investors have greater overconfidence compared to technical and intuitive Investors.
	2	Fundamental Investors are less risk – taking compared to technical and intuitive Investors.
	3	Fundamental Investors have higher Aspiration level compared to technical and intuitive Investors.

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investment objectives and behavioral characteristics	4	There is a positive and significant relation between the Aspiration level of investors and their risk – taking amount.
	5	There is a significant relation between investor's speculation target and their risk – taking levels.
	6	There is significant relation between the goal of capital growth and their Aspiration level.
investment objectives and investment strategies	7	Investors whose aim is capital growth select fundamental strategy more than other strategies.
	8	Investors whose aim is fun select technical strategy more than other strategies.
	9	Investors whose aim is saving for retirement select fundamental strategy more than other strategies.
	10	Investors whose aim is financial security select fundamental strategy more than other strategies.
	11	Investors whose aim is speculation select technical strategy more than other strategies.

Table 1 Research hypothesis

The results of the statistical analysis and hypothesis testing will show that each individual investor by selecting his/her specific strategy for investment, what range of objectives, behavioral errors, risk, Aspiration and overconfidence does he/she accept.

Empirical Results

Results from descriptive statistics of the respondents indicate that more than 90 percent of those participating in this survey have a bachelor's degree, master's degree and Ph.D. and most of them are relatively expert investors and in the age range of young and experienced that adds to the credibility of the results and significance of this study.

Variable	Range	Frequency	Abundance %
Age	Lower than 20	0	0.0%
	Between 20 to 25	31	9.0%
	Between 25 to 35	169	49.3%
	Between 35 to 50	104	30.3%
	More than 50	37	10.8%
Educational level	Diploma or less	19	5.5%
	Associate degree	12	3.5%
	Bachelor degree	67	19.5%
	Master of science	184	53.6%
	Ph.D. candidate or Ph.D. or higher	45	13.1%

Table 2 Frequency and educational level of respondents.

Thus, in this section, ranking of investment purposes is done by Friedman test at first. Then, testing of research hypotheses and analytical and theoretical model of the research is presented.

Objectives	N	Mean	Std. Deviation	Mean Rank	Rank
Capital growth	343	4.3786	.84650	4.39	1
Entertainment		2.2913	1.06568	3.42	4
Retirement saving		3.0097	1.08258	2.74	3
Financial security		3.5793	1.00535	2.46	2
Speculation		2.7929	1.03939	1.99	5

Table 3 Descriptive statistics of investment objectives and average rating

Descriptive analysis of the results of the questionnaire showed that in terms of frequency, more than 50 percent of respondents and capital market activists and more than 26 percent and about 16 percent chose fundamental strategy, technical strategy and intuitive strategy respectively.

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But the results of Friedman test showed that due to the significance level of test (0.00) which is smaller than 0.05 and 0.01, rejected the assumption of equality of investment ranks and strategies between respondents and investors and regarding the mean scores obtained in the table of mean scores it follows that the respondents' highest priority and importance is dedicated respectively to fundamental, technical and intuitive strategy. Also, the results of Friedman test for ranking investment strategies is presented in Table 4.

Strategy	N	Mean	Std. Deviation	Mean Rank	Rank
Technical	343	3.067	.7910	1.86	2
Fundamental	343	3.656	.7263	2.45	1
Intuitive	343	2.959	.7462	1.70	3

Table 4 Descriptive statistics and mean scores of investment strategies

Since t tests, simple linear regression and analysis of variance are of parametric tests which their utilization requires assumptions about population parameters that one of these main assumptions is the normality of the used data in these tests so Kolmogorov–Smirnov test is used to assess the normality of the main variables of research before conducting and analyzing tests. Cronbach's alpha was obtained 0.879 for questionnaires' stability.

Variable	Confidence level	K-S
Overconfidence	0.95<	0.029
Aspiration	0.95<	0.027
Risk-taking	0.95<	0.04

Table 5 Kolmogorov-Smirnov test values.

According to Table 5 all values of Kolmogorov-Smirnov test are less than 0.05 which the normality assumption of data at the significance level of 95 percent is accepted.

Hypotheses testing

In this section, hypotheses as mentioned in the previous section are tested using one-way analysis of variance. During the testing of hypotheses, the average of overconfidence, Aspiration risk-taking of fundamental, technical and intuitive investors is tested at first using one-way analysis of variance which in the case of rejecting H_0hypothesis, the LSD post hoc is used.

$$\begin{cases} H_0: \mu_1 = \mu_2 = \mu_3 \\ H_1: \mu_1 \neq \mu_2 \neq \mu_3 \end{cases}$$

Hypothesis 1 test:

Hypothesis	ANOVA between groups		LSD test results		
	F	SIg	Variable1	Variable2	sig
1	10.048	.000	Intuitive	Fundamental	.000
				Technical	.000
			Fundamental	Intuitive	.000
				Technical	.962
			Technical	Intuitive	.000
				Fundamental	.962

Table 6 Hypothesis 1 test

In the case of the first hypothesis, Table shows that F test statistic is equal to 10.048 and the significance value of the test is 0.000, so the null hypothesis is rejected. It means that there is significant difference between investors overconfidence in investment strategies (Fundamental, technical and intuitive analysis). Thus, the overconfidence average of investors who use fundamental strategy is the same as the technical strategy but is more than intuitive strategy.

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Hypothesis	ANOVA between groups		LSD test results		
	F	SIg	Variable1	Variable2	sig
2	4.390	.013	Intuitive	Fundamental	.659
				Technical	.105
			Fundamental	Intuitive	.659
				Technical	.003
			Technical	Intuitive	.105
				Fundamental	.003

Table 7 Hypothesis 2 test

About risk-taking in investment strategies, the results show that according to the F test statistic (4.39) and the test significance value (0.013), there is a significant difference between investors declarative risk-taking based on fundamental, technical and intuitive analysis. So there is a significant difference between investors risk-taking based on fundamental and technical analysis and risk-taking amount of investors based on fundamental analysis is less than technical analysis.

Hypothesis	ANOVA between groups		LSD test results		
	F	SIg	First variable	Second variable	sig
3	3.625	.028	Intuitive	Fundamental	.391
				Technical	.288
			Fundamental	Intuitive	.391
				Technical	.008
			Technical	Intuitive	.288
				Fundamental	.008

Table 8 Hypothesis 3 test

In this study a special attention has been paid to investors' Aspiration level and the results of third hypothesis test showed that according to significance value of analysis of variance (0.028), there is a significant difference between Aspiration levels of investors based on fundamental, technical and intuitive analysis. Thus, there is significant difference only between investors' Aspiration average based on technical and fundamental analysis and Aspiration average of technical analysis is greater than fundamental analysis.

Hypothesis	Variable		Aspiration	Risk-taking
4	Aspiration	Pearson Correlation	1	.168**
		Sig. (2-tailed)		.003
	Risk-taking	Pearson Correlation	.168**	1
		Sig. (2-tailed)	.003	

Table 9 The results of correlation between two variables of Aspiration level and risk-taking amount

According to the Pearson correlation coefficient (0.168) and achieved significance value (0.003) it can be stated that there is a positive significant relation between risk-taking amount of investors and their Aspiration level.

Hypothesis	Value		Speculation	Risk-taking
5	Speculation	Pearson Correlation	1	.095
		Sig. (2-tailed)		.095
	Risk-taking	Pearson Correlation	.095	1
		Sig. (2-tailed)	.095	

Table 10 The results of correlation between two variables of speculation and risk-taking

According to the Pearson correlation coefficient (0.095) and achieved significance value (0.095) which is not less than 0.05, the null hypothesis of no correlation between these two variables is not rejected. Therefore, there is a significant correlation and relation between speculation and risk-taking of investors.

Hypothesis	Variable		Capital growth	Aspiration
6	Capital growth	Pearson Correlation	1	.246**
		Sig. (2-tailed)		.000
	Aspiration	Pearson Correlation	.246**	1
		Sig. (2-tailed)	.000	

Table 11 Results of correlation between two variables of Aspiration level and capital growth

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According to the Pearson correlation coefficient (0.246) and achieved significance value (0.000) it can be stated that there is a positive relation between the goal of capital growth and Aspiration level of investors.

Hypothesis	ANOVA between groups		LSD test results		
	F	SIg	First variable	Second variable	sig
7	4.215	.016	Intuitive	Fundamental	.042
				Technical	.004
			Fundamental	Intuitive	.042
				Technical	.112
			Technical	Intuitive	.004
				Fundamental	.112

Table 12 Results of analysis of variance of capital growth in investment different strategies

According to the F test statistic which is equal to 4.215 and a significance value of the test which is equal to 0.016, the null hypothesis is rejected. That is, there is a difference between capital growth purpose of investors based on fundamental, technical and intuitive analysis. It can be also concluded that there is a significant difference between capital growth purpose of investors based on intuitive analysis and technical analysis and capital growth purpose of investors based on intuitive analysis is less than technical and fundamental analysis. However, there is a significant difference between capital growth purpose of investors based on fundamental and technical analysis.

Hypothesis	ANOVA between groups	
	F	SIg
8	.826	.439

Table 13 Analysis of variance results for entertainment purpose in investment different strategies

According to the F test statistic which is equal to 0.826 and significance value of the test (0.439), there is no reason to reject the null hypothesis. That is, there is no significant difference between entertainment purpose of investors based on fundamental, technical and intuitive analysis.

Hypothesis	ANOVA between groups	
	F	SIg
9	.929	.396

Table 14 Analysis of variance results of saving purpose for retirement in investment different strategies

According to the F test statistic which is equal to 0.929 and significance value of the test that is equal to 0.396, the null hypothesis is accepted. That is, there is no difference between saving purpose of investors based on fundamental, technical and intuitive analysis.

Hypothesis	ANOVA between groups		LSD test results		
	F	SIg			sig
			First variable	Second variable	
10	4.131	.017	Intuitive	Fundamental	.042
				Technical	.004
			Fundamental	Intuitive	.042
				Technical	.112
			Technical	Intuitive	.004
				Fundamental	.112

Table 15 Analysis of variance results for financial security in investment different strategies

According to significance level of the test (0.017) which is less than 0.05, the null hypothesis at the confidence level of 95% is rejected. That is, there is a significant difference between financial security purpose of investors based on fundamental, technical and intuitive. Now, LSD test has been used to assess if there is any difference between financial security purpose of investors based on intuitive and fundamental analysis which according to significance value of 0.081, the null hypothesis is rejected i.e. there is a difference between financial security purpose of investors based on intuitive and fundamental analysis.

Hypothesis	ANOVA between groups	
	F	SIg
11	.226	.798

Table 16 Analysis of variance results for speculation purpose in investment different strategies

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According to the F test statistic which is equal to 0.226 and p-value or significance value of the test which is equal 0.798, the null hypothesis is accepted. That is, there is no difference between speculation purpose of investors based on fundamental, technical and intuitive analysis. So speculation purpose is the same between investors based on fundamental, technical and intuitive analysis.

Conclusion

In this paper, a unique data set consists of basic information about the behavioral characteristics of active investors on the stock exchange has been used. This database is designed using Google docs online questionnaire software and is provided to investors by electronic means. The researcher has used these data to detect and categorize investors based on their personal characteristics, investment objectives and investment strategies on the market.

In order to measure behavioral tendencies and inherent psychological biases of investors, the rating form is used instead of the quantitative indexes of the stock market to directly evaluate the characteristics of the investors. Research data has combined a set of invisible diverse behavioral variables including risk-taking, overconfidence and Aspiration as well as a range of personal purposes of investors such as capital growth objectives, financial security, saving for retirement, entertainment and speculation with a selection of their investment strategies such as fundamental, technical and intuitive strategies. In this way, groups of investors were explained and hypotheses were tested in behavioral framework of investors' portfolio. The results show that the overconfidence average in investment strategies of people who use the fundamental strategy is as the same as the technical strategy, but is more than the intuitive strategy. The risk-taking amount of investors based on fundamental analysis is less than technical analysis.

This result is somewhat inconsistent with Shefrin and Hoffman (2014) which believe that investors based on fundamental analysis have higher Aspiration level and financial transactions compared to investors based on technical, and accept more risk and have excessive self-confidence. The level of Aspiration is also different from Shefrin results. This study shows that Aspiration level of technical investors is far more than fundamental and intuitive investors.

The results also show that there is a positive and significant relation between Aspiration level and risk-taking amount of investors, but there is no significant relation between speculation purpose and risk-taking of investors. Thus, there are no similar results between this research and the results of Shefrin and Hoffman (2014) in the context of relation between speculation purpose and risk-taking.

References

Barber, B. M. and T. Odean (2001). Boys Will be Boys: Gender, Overconfidence, and Common Stock Investment. The Quarterly Journal of Economics, 1 261-92.

Barberis, Nicholas, Ming HUANG, and Tano SANTOS, 2001. Prospect Theory and Asset Prices. The Quarterly Journal of Economics, 116(1), 1– 53.

Bashir Taqadus, AzamNazish, Ali Butt Arslan, Javed Aaqiba, Tanvir Ayesha (2013), Are Behavioral Biases Influenced by Demographic Characteristic & Personality Traits? Evidence from Pakistan, European Scientific Journal, Vol.9, No.29, pp. 277-293.

Bloomfield, R. (2010). Traditional versus behavioral finance. Behavioral Finance: Investors, Corporations, and Markets. Hoboken, NJ: John Wiley and Sons.

ISSN-Print: 2007-1582- ISSN-On line: 2007-3682

SHAHMANSURI, Esfandyar, RAHNAMAY-ROODPOSHTI-Fereydon, NIKOUMARAM, Hashem and VAKILIFARD, Hamid Reza. Individual investor's characteristic and risk-taking in stock market. ECORFAN Journal-Mexico 2017

Browning, Martin, and Thomas F. Crossley. "The life-cycle model of consumption and saving." The Journal of Economic Perspectives 15.3 (2001): 3-22.

Camille-Eléonore MAGRON (2014), Approches comportementales de la gestion individuelle de portefeuille, UNIVERSITÉ DE STRASBOURG

Diecidue, E., & Van De Ven, J. (2008). Aspiration level, probability of success and failure, and expected utility. International Economic Review, 49(2), 683-700.

Essayyad, M., & Desai, K. (2008). Behavioral portfolio formation using mental accounting in emerging markets: the case of Saudi Arabia. International Journal of Monetary Economics and Finance, 1(3), 263-283.

Fernandes, J. L. B., Ignacio Pena, J., & Miranda Tabak, B. (2010). Behavior finance and estimation risk in stochastic portfolio optimization. Applied Financial Economics, 20(9), 719-738.

Glaser, M., & Weber, M. (2007). Overconfidence and trading volume. The Geneva Risk and Insurance Review, 32(1), 1-36.

Graham, J. R., C. R. Harvey, and H. Huang (2009). Investor Competence, Trading Frequency, and Home Bias. Management Science, 55(7), 1094-106.

Hoffmann, Arvid OI, Hersh Shefrin, and Joost ME Pennings. "Behavioral portfolio analysis of individual investors." Available at SSRN 1629786 (2010).

Hoffmann, A. O., & Shefrin, H. (2011). Online Investors: What They Want, What They Do, And How Their Portfolios Perform. What They Do, and How Their Portfolios Perform (September 20, 2011).

Hoffmann, A. O., & Shefrin, H. (2014). Technical analysis and individual investors. Journal of Economic Behavior & Organization, 107, 487-511.

Jain, R., Jain, P., & Jain, C. (2015). Behavioral Biases in the Decision Making of Individual Investors. IUP Journal of Management Research, 14(3), 7.

Kahneman, D., Knetsch, J. L. and Thaler R. H., (1990), Experimental Tests of the Endowment Effect and the Coase Theorem. Journal of Political Economy, 98(6), pp. 1325–1348.

Kahneman, D. and D. Lovallo (1993). Timid Choices and Bold Forecasts: A Cognitive Perspective on Risk Taking. Management Science, 39(1), 17-31.

Kahneman, D., &Slovic, P. (1982). Amos Tversky, eds. 1982.

Kotof D.(2013)“Behavioral Biases and Corporate DecisioMaking on Investing Abroad”MPRA, No 49858 , 1-11

Lewellen, W. G., R. C. Lease, and G. G. Schlarbaum (1980), "Portfolio Design and Portfolio Performance: The Individual Investor," Journal of Economics and Business, 32(3), 185-97.

Lintner, G. (1998). Behavioral finance: Why investors make bad decisions.The Planner, 13(1), 7-8.

Lopes, L. (1987). Between Hope and Fear: The Psychology of Risk. Advances in Experimental Social Psychology, 20 255-295.

Muralidhar, A. (2016). Goals Based Investing, the KISS Principle, and the Case for New Financial Instruments. Available at SSRN 2715053.

ISSN-Print: 2007-1582- ISSN-On line: 2007-3682

Murphy, J. J. (1999). Technical analysis of the financial markets: A comprehensive guide to trading methods and applications. Penguin.

Murphy, John J. Technical Analysis of the Financial Markets. New York Institute of implications for stock-price volatility. Financial analyst's journal, 54(2), 10-18.

Reilly, F., & Brown, K. (2011). Investment analysis and portfolio management. Cengage Learning.

Rengifo, E. W., &Trifan, E. (2006). Investors Facing Risk: Splitting Money between Risky and Risk-Free Assets.

Shefrin, H., & Statman, M. (2000). Behavioral portfolio theory. Journal of financial and quantitative analysis, 35(02), 127-151.

Statman, M. (2002). Lottery Players / Stock Traders. Financial Analysts Journal, 58(1), 14-21.

Thaler, R. H. (1999). Mental accounting matters. Journal of Behavioral decision making, 12(3), 183-206.

Tripathi, Vanita & Aggarwal, Shalini (2009). The Overreaction Effect in the Indian Stock Market. Asian Journal of Business and Accounting, 2(1&2), 93-114.

Tversky, A., &Kahneman, D. (1986). Rational choice and the framing of decisions. Journal of business, S251-S278.

Wagner, N. (2001). A Market Model with Time Varying Moments and Results on NeuerMarkt Stock Returns. Techn. Univ., Fak. Wirtschaftswiss.

Fernandes, Jose, Pena, Juan I. and Benjamin Tabak (2009), Behavior Finance and Estimation Risk in Stochastic Portfolio Optimization, Banco Central Do Brasil, Working Paper No. 184.

Simon, H. A. (1955). A behavioral model of rational choice. The quarterly journal of economics, 99-118.

Waweru, Nelson Maina, Evelyne Munyoki, and Enrico Uliana. "The effects of behavioural factors in investment decision-making: a survey of institutional investors operating at the Nairobi Stock Exchange." International Journal of Business and Emerging Markets 1.1 (2008): 24-41.

ISSN-Print: 2007-1582- ISSN-On line: 2007-3682