T.C.
GAZIANTEP UNIVERSITY
INSTITUTE OF SOCIAL SCIENCES
DEPARTMENT OF BUSINESS ADMINISTRATION

INVESTIGATION OF INDIVIDUAL INVESTORS IN BORSA ISTANBUL WITHIN THE CONTEXT OF BEHAVIORAL FINANCE: CASE OF GAZİANTEP

MASTER'S THESIS

Orhan DEGER

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Supervisor: Asst. Prof. Dr. Şükriye Gül Reis

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SOSYAL BİLİMLER ENSTİTÜSÜ
İŞLETME ANA BİLİM DALI

BORSA İSTANBUL' DAKİ BİREYSEL YATIRIMCILARIN DAVRANIŞSAL FİNANS KAPSAMINDA İNCELENMESİ: GAZİANTEP ÖRNEĞİ

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This is to certify that we have read this thesis and that in our opinion it is fully adequate, in scope and quality, as a thesis for the degree of Master's of Art

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DEDICATION

I would like to thank to Assist. Prof. Dr. Reis and Res. Assist. Dr. Bugan for everything they have guided and taught to me. I will be always grateful to them.

ABSTRACT

INVESTIGATION OF INDIVIDUAL INVESTORS IN BORSA ISTANBUL WITHIN THE CONTEXT OF BEHAVIORAL FINANCE: CASE OF GAZİANTEP

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Traditional finance theories accept investors as rationalist. However, behavioral finance argues that individual investors do not make rational financial decisions and that they are affected by their psychologies when they make financial decisions. The main purpose of this study is to investigate investors of Borsa Istanbul that live in Gaziantep within concept of behavioral finance.In accordance with this purpose, the survey has been conducted to investors that live in the city and the behaviors that exhibited by investors while making investment decision have been revealed by the help of T-test, ANOVA and Tukey test test methods. The results of these analyses reveal that individual investors living in Gaziantep are not much rational when they make investment decisions and that they are affected by the psychological factors.

Key Words: Behavioral Finance, Anomalies, Borsa Istanbul

ÖZET

BORSA İSTANBUL' DAKİ BİREYSEL YATIRIMCILARIN DAVRANIŞSAL FİNANS KAPSAMINDA İNCELENMESİ: GAZİANTEP ÖRNEĞİ

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Geleneksel finans teorileri, yatırımcıları akılcı bir varlık olarak kabul eder, ancak davranışsal finans, bireysel yatırımcıların finansal karar verme konusunda rasyonel davranmadıkları ve kişinin yatırım kararlarında önyargılarının etkisinde kaldıklarını savunmaktadır. Bu çalişmanin amacı Gaziantep'te yaşayan Borsa İstanbul yatırımcılarının davranişsal finans kapsaminda incelenmesidir. Bu amaçla ilgili şehirde yaşayan yatırımcılara anket yapılmış ve yatırım kararlarını verirken gösterdikleri davranışlar T-test, ANOVA ve Tukey testi testleri yardımıyla ortaya konulmuştur. Yapılan analizler sonucunda Gaziantep'te yaşayan bireysel yatırımcıların yatırım tercihlerini yaparken pek de rasyonel olmadıkları, psikolojik önyargıların etkisinde kaldıkları tespit edilmiştir.

Anahtar Kelimeler: Davranişsal Finans, Anomaliler, Borsa İstanbul

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LIST OF ABBREVIATIONS

CAPM : Capital Asset Pricing Model
APT : Arbitrage Pricing Model
USD : United States Dolar

CHAPTER ONE
INTRODUCTION

1.1. OVERVIEW

Finance can be described as management of an amount of money by group of people, companies, governments and individuals. Nikhbaht et al. (2012:2) define finance as operation of number of financial and monetary fundamentals in order to increase market share or profit. However, the explanation of finance becomes more complicated in different approaches because the purpose of using finance and its influences are not same in every field.

Traditional finance theory and behavioral finance are most mainly accepted two approaches in finance literature. In traditional finance theory individuals, which are described as homo economicus, are considered to be always rational and they have enough accumulation of knowledge and abilities to decide most correctly. Nofsinger (2005) claimed that individuals are not biased in predictions of their futures. However, the next studies and anomalies in markets revealed that human structure is more complex than it how seems. This rational behavior of investors was based on historical price data. Financial theories on this hypothesis gradually passed into the literature. Among these, the theory called Effective Market Hypothesis put forward by Fama(1960) is one of the most important.

In 1960s, many searches that support efficient market hypothesis were made. These searches were both theoretically and empirical. The main assumptions of efficient market hypothesis made by Fama in 1970 were markets are fully reflecting and available information. Then, next searches increased effect of efficient market hypothesis until 1980s. Then anomalies that seen in stock markets and empirical studies caused to criticize efficient market hypothesis. The criticisms against efficient markets hypothesis also caused to judge traditional finance theory. Therefore, searchers canalized to search reasons of anomalies and stated that psychological factor also should be considered. In line with these developments, behavioral finance

theory revealed. According to behavioral finance, markets are not efficient because investros are affected from cognitive and emotional biases. Ozerol (2011) stated that in behavioral finance people are just normal while they accepted as rational in traditional theory. Kucuk (2014) stated that people can't decide rationally because people affect from emotions and moods.

The behavioral finance appeared with article of Prospect Theory that was published by Kahneman and Tversky in 1979. The article of Prospect Theory proved that how people can be variable while they make decisions.

Dom (2003) categorized the investors as three types. These types are corporate, individual and foreign investors. The behavioral finance mainly deals with individual investors because they are accepted as different from corporate investors. Karan (2004) stated that individual investors can't think rationally and professionally as corporate investors do. Therefore, psychological and demographic factors are so should be investigated.

The field of behavioral finance gets bigger from day to day. Faikoglu (2012) states that there are strong signs that there will be revolutions is stock markets because people and their behaviors change and this also impresses the stock markets. Therefore, finance system may have revolutions in a soon.

In this context, the aim of the study is to examine individual investors in Borsa Istanbul within the context of behavioral finance. For this purpose, Borsa Istanbul investors Located in Gaziantep were selected as a sample and questionnaire was applied

According to the results, some behavioral factors and demographic factors that affect the investment decisions of investors of Borsa Istanbul.

1.2. PURPOSE AND IMPORTANCE OF THE RESEARCH

The purpose of this study is to investigate whether behavior finance has any impact on decision that taken by individual investors, who live in Gaziantep and trade in Borsa Istanbul, from point of three main models or not. These three models defend six different biases. Barberis, Shleifer and Vishny model (1998) consider conservatism and representativeness biases are reasons of anomalies. Also, in this search, it was aimed to analyze effects of conservatism and representativeness biases. The second model that is investigated in study is Daniel, Hirshleifer and Subrahmanyam model (1998). This model claims that self-attribution and

overconfidence biases are reasons of anomalies. In that study it was aimed to analyze effects of self-attribution and overconfidence in Borsa Istanbul. The last and third model that was stated in that study is Hong and Stein model (1999) that claims momentum traders and news-watchers cause to be seen anomalies in stock markets. It was aimed to analyze effects of momentum traders and news-watchers in Borsa Istanbul. It was aimed in this thesis to contribute people who want to understand individual investors' behaviors, factors that affect their decisions and psychologies better.

Stock markets are formed by individual investors mostly. Individual investors are accepted as most efficient type of investors that determine prices in stock markets. Akerlof and Shiller (2009) stated that individual investors who manage economies and make most important investment decisions. And all of these depend on their psychologies. Behavioral finance is accepted as best theory that psychology of individual investors. Therefore, it was aimed to contribute to understand individual investors better. Most of investors that trade in Borsa Istanbul are individual investors. This thesis will be a good source that answers effects of behaviors that form investors of individual and demographic factors that affect behaviors. It is aimed to answer do individual investors that live in Gaziantep and trade in Borsa Istanbul tend to have biases or not? This thesis can be used as a guider to understand behavioral finance. This is study is one of first searches that behaviors investigate investors that live in Gaziantep and trade in Borsa Istanbul.

1.3. SCOPE AND LIMITS OF THE RESEARCH

That survey, which is prepared on the purpose of analyzing behaviors of financial investors, has been conducted to 200 individual who live in Gaziantep and make investment in Borsa Istanbul. The survey includes 44 questions and was conducted between 06.12.2018 and 01.04.2019 dates. The survey was conducted to only individual investors.

These questionnaires have been quoted from Seyda Faikoglu's (2012) study. The survey's questions are prepared on purpose of observing Barberins, Shleifer and Vishny model (1998) which claims that conservatism and representative behaviors affect the investors. As second model, in the survey also it is targeted to analyze Daniel, Hirshleifer and Subrahmanyam model (1998) which claims that overconfidence and self attribution behaviors affect investors. As the last model,

Hong and Stein model (1999) which claims that news-wathcers and momentum traders are the behaviors that affect investors. In this survey, it is aimed to analyze behavioral finance and its effects.

In the research the online survey has been used in collecting data. Questinonaries which are used in this study have been taken from Faikoglu's (2012) study. The 44 questions are conducted to 200 individual investors who live in Gaziantep and trade shares in Borsa Istanbul. In the first part of survey, 14 different questionnaire are conducted to investors in order to determine demografic factors. In the second part of survey, 30 different questions are conducted to test behavioral finance models and biases. In order to reach investors social media, banks, intermediary instutions, mass emailing have been used. The survey is sent to approximately 320 investors, but only 200 of them have joined the survey.

According to official datas in website of MKK with date of 2017, there are 1.082.257 registered individual insvestors in Borsa Istanbul and 8.142 of them live in Gaziantep as of September 2018.

1.4. HYPOTHESES OF THE RESEARCH

The basic hypothesis, that provided by making a wide search on literature, is determined in below.

H1: The individual investors of Borsa Istanbul living in Gaziantep are impressed by conservatism behavior in their investment decisions.

H_{1a}: There is a relationship between conservatism bias and gender factor in individual investors of Borsa Istanbul living in Gaziantep.

H_{1b}: There is a relationship between conservatism bias and marital status factor in individual investors of Borsa Istanbul living in Gaziantep.

H_{1c}: There is a relationship between conservatism bias and age group factor in individual investors of Borsa Istanbul living in Gaziantep.

H_{1d}: There is a relationship between conservatism bias and education status factor in individual investors of Borsa Istanbul living in Gaziantep.

H_{1e}: There is a relationship between conservatism bias and occupation factor in individual investors of Borsa Istanbul living in Gaziantep.

H_{1f}: There is a relationship between conservatism bias and time of trading factor in individual investors of Borsa Istanbul living in Gaziantep.

H_{1g}: There is a relationship between conservatism bias and time of keeping shares factor in individual investors of Borsa Istanbul living in Gaziantep.

H_{1h}: There is a relationship between conservatism bias and portfolio factor in individual investors of Borsa Istanbul living in Gaziantep.

H_{1i}: There is a relationship between conservatism bias and inflation rate factor in individual investors of Borsa Istanbul living in Gaziantep.

H_{1j}: There is a relationship between conservatism bias and performance factor in individual investors of Borsa Istanbul living in Gaziantep.

H_{1k}: There is a relationship between conservatism bias and knowledge level in individual investors of Borsa Istanbul living in Gaziantep.

H_{1l}: There is a relationship between conservatism bias and monthly revenue in individual investors of Borsa Istanbul living in Gaziantep.

H2: The individual investors of Borsa Istanbul living in Gaziantep are impressed by representative behavior in their investment decisions.

H_{2a}: There is a relationship between representative bias and gender factor in individual investors of Borsa Istanbul living in Gaziantep.

H_{2b}: There is a relationship between representative bias and gender factor in individual investors of Borsa Istanbul living in Gaziantep.

H_{2c}: There is a relationship between representative bias and age group factor in individual investors of Borsa Istanbul living in Gaziantep.

H_{2d}: There is a relationship between representative bias and education status factor in individual investors of Borsa Istanbul living in Gaziantep.

H_{2e}: There is a relationship between representative bias and occupation factor in individual investors of Borsa Istanbul living in Gaziantep.

H_{2f}: There is a relationship between representative bias and time of trading factor in individual investors of Borsa Istanbul living in Gaziantep.

H_{2g}: There is a relationship between representative bias and time of keeping shares factor in individual investors of Borsa Istanbul living in Gaziantep.

H_{2h}: There is a relationship between representative bias and portfolio factor in individual investors of Borsa Istanbul living in Gaziantep.

H_{2i}: There is a relationship between representative bias and performance factor in individual investors of Borsa Istanbul living in Gaziantep.

H_{2j}: There is a relationship between representative bias and performance factor in individual investors of Borsa Istanbul living in Gaziantep.

H_{2k}: There is a relationship between representative bias and knowledge level in individual investors of Borsa Istanbul living in Gaziantep.

H_{2l}: There is a relationship between representative bias and monthly revenue in individual investors of Borsa Istanbul living in Gaziantep.

H3: The individual investors of Borsa Istanbul living in Gaziantep are impressed by overconfidence behavior in their investment decisions.

H_{3a}: There is a relationship between overconfidence bias and gender factor in individual investors of Borsa Istanbul living in Gaziantep.

H_{3b}: There is a relationship between overconfidence bias and gender factor in individual investors of Borsa Istanbul living in Gaziantep.

H_{3c}: There is a relationship between overconfidence bias and age group factor in individual investors of Borsa Istanbul living in Gaziantep.

H_{3d}: There is a relationship between overconfidence bias and education status factor in individual investors of Borsa Istanbul living in Gaziantep.

H_{3e}: There is a relationship between overconfidence bias and occupation factor in individual investors of Borsa Istanbul living in Gaziantep.

H_{3f}: There is a relationship between overconfidence bias and time of trading factor in individual investors of Borsa Istanbul living in Gaziantep.

H_{3g}: There is a relationship between overconfidence bias and time of keeping shares factor in individual investors of Borsa Istanbul living in Gaziantep.

H_{3h}: There is a relationship between overconfidence bias and portfolio factor in individual investors of Borsa Istanbul living in Gaziantep.

H_{3i}: There is a relationship between overconfidence bias and performance factor in individual investors of Borsa Istanbul living in Gaziantep.

H_{3j}: There is a relationship between overconfidence bias and performance factor in individual investors of Borsa Istanbul living in Gaziantep.

H_{3k}: There is a relationship between overconfidence bias and knowledge level in individual investors of Borsa Istanbul living in Gaziantep.

H_{3l}: There is a relationship between overconfidence bias and monthly revenue in individual investors of Borsa Istanbul living in Gaziantep.

H4: The individual investors of Borsa Istanbul living in Gaziantep are impressed by self-attribution behavior in their investment decisions.

H_{4a}: There is a relationship between self-attribution bias and gender factor in individual investors of Borsa Istanbul living in Gaziantep.

H_{4b}: There is a relationship between self-attribution bias and gender factor in individual investors of Borsa Istanbul living in Gaziantep.

H_{4c}: There is a relationship between self-attribution bias and age group factor in individual investors of Borsa Istanbul living in Gaziantep.

H_{4d}: There is a relationship between self-attribution bias and education status factor in individual investors of Borsa Istanbul living in Gaziantep.

H_{4e}: There is a relationship between self-attribution bias and occupation factor in individual investors of Borsa Istanbul living in Gaziantep.

H_{4f}: There is a relationship between self-attribution bias and time of trading factor in individual investors of Borsa Istanbul living in Gaziantep.

H_{4g}: There is a relationship between self-attribution bias and time of keeping shares factor in individual investors of Borsa Istanbul living in Gaziantep.

H_{4h}: There is a relationship between self-attribution bias and portfolio factor in individual investors of Borsa Istanbul living in Gaziantep.

H_{4i}: There is a relationship between self-attribution bias and performance factor in individual investors of Borsa Istanbul living in Gaziantep.

H_{4j}: There is a relationship between self-attribution bias and performance factor in individual investors of Borsa Istanbul living in Gaziantep.

H_{4k}: There is a relationship between self-attribution bias and knowledge level in individual investors of Borsa Istanbul living in Gaziantep.

H_{4l}: There is a relationship between self-attribution bias and monthly revenue in individual investors of Borsa Istanbul living in Gaziantep.

H5: The individual investors of Borsa Istanbul living in Gaziantep are impressed by news-watchers in their investment decisions.

H_{5a}: There is a relationship between news watchers bias and gender factor in individual investors of Borsa Istanbul living in Gaziantep.

H_{5b}: There is a relationship between news watchers bias and gender factor in individual investors of Borsa Istanbul living in Gaziantep.

H_{5c}: There is a relationship between news watchers bias and age group factor in individual investors of Borsa Istanbul living in Gaziantep.

H_{5d}: There is a relationship between news watchers bias and education status factor in individual investors of Borsa Istanbul living in Gaziantep.

H_{5e}: There is a relationship between news watchers bias and occupation factor in individual investors of Borsa Istanbul living in Gaziantep.

H_{5f}: There is a relationship between news watchers bias and time of trading factor in individual investors of Borsa Istanbul living in Gaziantep.

H_{5g}: There is a relationship between news watchers bias and time of keeping shares factor in individual investors of Borsa Istanbul living in Gaziantep.

H_{5h}: There is a relationship between news watchers bias and portfolio factor in individual investors of Borsa Istanbul living in Gaziantep.

H_{5i}: There is a relationship between news watchers bias and performance factor in individual investors of Borsa Istanbul living in Gaziantep.

H_{5j}: There is a relationship between news watchers bias and performance factor in individual investors of Borsa Istanbul living in Gaziantep.

H_{5k}: There is a relationship between news watchers bias and knowledge level in individual investors of Borsa Istanbul living in Gaziantep.

H_{5l}: There is a relationship between news watchers bias and monthly revenue in individual investors of Borsa Istanbul living in Gaziantep.

H6: The individual investors of Borsa Istanbul living in Gaziantep are impressed by momentum traders in their investment decisions.

H_{6a}: There is a relationship between momentum traders bias and gender factor in individual investors of Borsa Istanbul living in Gaziantep.

H_{6b}: There is a relationship between momentum traders bias and gender factor in individual investors of Borsa Istanbul living in Gaziantep.

H_{6c}: There is a relationship between momentum traders bias and age group factor in individual investors of Borsa Istanbul living in Gaziantep.

H_{6d}: There is a relationship between momentum traders bias and education status factor in individual investors of Borsa Istanbul living in Gaziantep.

H_{6e}: There is a relationship between momentum traders bias and occupation factor in individual investors of Borsa Istanbul living in Gaziantep.

H_{6f}: There is a relationship between momentum traders bias and time of trading factor in individual investors of Borsa Istanbul living in Gaziantep.

H_{6g}: There is a relationship between momentum traders bias and time of keeping shares factor in individual investors of Borsa Istanbul living in Gaziantep.

H_{6h}: There is a relationship between momentum traders bias and portfolio factor in individual investors of Borsa Istanbul living in Gaziantep.

H_{6i}: There is a relationship between momentum traders bias and performance factor in individual investors of Borsa Istanbul living in Gaziantep.

H_{6j}: There is a relationship between momentum traders bias and performance factor in individual investors of Borsa Istanbul living in Gaziantep.

H_{6k}: There is a relationship between momentum traders bias and knowledge level in individual investors of Borsa Istanbul living in Gaziantep.

H_{6l}: There is a relationship between momentum traders bias and monthly revenue in individual investors of Borsa Istanbul living in Gaziantep.

CHAPTER TWO
LITERATURE REVIEW

2.1. TRADITIONAL FINANCE THEORIES

The main assumption of traditional finance theory is investors are rational and they make rational decisions. Simon (1953:1) stated that traditional finance theory claims that investors can gain all information around them and they are well informed. When investors need to make a decision, they can calculate and find the best option that is the most efficient way through alternatives.

Traditional finance theory began with Neuman and Morgenstern's expected utility theory that published in 1944. Harry Markowitz's study in 1952 also contributed the development of traditional finance theory. Then in 1960s, efficient markey hypothesis took a place in literature. Until beginning of 1980s many searches were made on efficient market hypothesis both theoretically and empirically. Especially, Eugene Fama made many significant contributions to efficient market hypothesis. He described how markets are efficient and forms of efficient markets. Yucel (2016) stated that in efficient markets, it is accepted that all of information reach to investors in same time, so none of investors can make an abnormal profit.

There are many theories in traditional finance. The most important of them are examined in this section.

2.1.1. EXPECTED UTILITY THEORY

When individuals make a decision, they can't predict the results mostly. Therefore, uncertainty situations arise. Especially, investors, who have to make a decision, face the uncertainty situations because the results of most decisions in finance can't be predicted. Marron (2011) stated that classical finance theory claims tha investors target to only maximize their utilities. However, it was targeted to mince this approach in next studied models.

The expected utility theory deals with analyses of decisions in risky situations. The uncertainty term prompted people to improve new models. Expected utility theory is based on assumption of maximizing of value when individuals or investors must make a decision among risky or uncertain decisions. Aydin and Ağan (2017:14) states that the main purpose of theory is explaining results of decisions in uncertain situations and revealing rational choices. This theory was mentioned by Daniel Bernoulli (1738), Swiss mathematician, in 1738 firstly. According to Bernoulli, individuals try to maximize expected utility of monetary value not expected utility of money. However, Bernoulli did not reveal any way to estimate expected utility. Then John Von Neumann and Oscar Morgenstern developed this theory in 1944. The Basic of theory of Morgenstern and Neumann is maximizing expected utility. Yildirim (2017:16) stated that expected utility theory can be associated with preference level.

Neumann and Morgenstern are also accepted as first researchers who formulated the expected utility theory.

According to their formula , (x) is accepted as result of every individual obtains , (u) is accepted as utility function which will happen. Let's assume the possibility of happening of 'a' action which will lead to 'x' result is 'p',the possibility of happening of 'b' action which will lead to same result is 'q'.

The Formulation of expected utility theory found by Morgeinstein and Neumann (1944):

$p.U(x)>q.U(X)$

Kiyilar and Akkaya (2016:24) stated that if expected utility of 'a' action is bigger than expected utility of 'b' action , decision maker will definetly choose 'a' action. Morgenstern and Neumann (1944:) has stated four main principles.

-*Ordering*: All choices can be accepted as transitive.İf a person prefers A to B and B to C then he will prefer A to C.

- *Countinuity***:** Every preference of B is not different than preference of A and C.

- *İndependence* : If someone prefer A to B then he will prefer gaining A with %25 possibility to gaining B with %25.Even if a gample game played , the choice won't be changed.

- *Invariance*: It doesn't matter how problem will be presented, the decision will remain same.

Then Kahneman and Tversky (1979:263) revealed three main principles of expected utility theory in their study (1979). According to them making a decision in risky situations can be seen a preference between expectation and gamble.

- *Expectation* **:** "U(x1,p1;……;xn,pn) = p1u(x1)+……. +,pnu(xn) "

According to this, the total utility of a preference (U) is equal to expected utility results.

- *Asset Integration***:** (xl, pl; . . . ; x, p,) is agreeable for asset w iff U(w +XI, p1;. . . ;w +x", p,)> u(w)

According to this, the function of expected utility comprises of individual's asset not any gain or lose.

- *The situation of avoiding risk: (u"< 0)*

Kahneman and Tversky (1979:263) stated that in this situation, investors choose the option that they can predict instead of risky choices. Therefore, avoiding risk situation in position of concave to utility function. Bailey (2002:17) expressed the assumptions of expected utility theory as:

If decision maker get more benefit from A than B, the decision maker definitely will choose A.

- Decisions investors take supposed to be consistent .If A can utilize more than B can and B can utilize more than C can .When A and C are compared with each other, decision maker will choose A.

When people encounter with an uncertain situation, they determine objective probability concerning happening of this situation by using Bayes Theorem (1763). They shouldn't have any bias .The function of this theory is like calycate. Namely, it shows that, law of diminishing marginal utility is valid.

2.1.2. PORTFOLIO MANAGEMENT

Portfolio is combination of different types of investments that hold and traded by a person or company.

Individual or institutional investors make investments in commodities, shares, repo real estates or currencies in financial markets in order to make money. Making investments in different securities have investors have a portfolio. The main purpose of generating a portfolio is reducing risk. If an investor applies the portfolio diversification, risk will be distributed. In briefly, generating a portfolio provides an advantage of not putting of all eggs in one basket.

Portfolio management is directing and controlling investments' risks, returns, interest rates, term times and decisions of making investment in different fields to reduce risk. The advantage of generating a portfolio to investors is reducing risk by varying capital among different investments. However, a portfolio gives to investor some responsibilities such as making decisions about investments or necessity of analyzing of market and investments. Portfolio management asissts investors in reducing risk of investments. If investors can manage their portfolios, their risks will be reduced. Konuralp (2005) stated that portfolio management comprises of two stages. In first stage, it should be obtained information about future performance of share. In second stage, portfolio should be managed in the consideration of obtained information.

There are two main approaches of portfolio management available. The one is traditional portfolio management approach. The other is modern portfolio theory.

2.1.2.1 The Traditional Portfolio Management

The traditional portfolio management is a form of approach that organizing a portfolio among different investment types from different sources and companies in attempt to distribute the risk. Kiyilar and Akkaya (2016) stated that in this approach, there is no any mathematical base and it is assumed that increasing amount of securities will reduce risk. In this theory subjective methods like intuition, presentiment and prediction mostly are seen. This approach was used by researchers until; American scientist Harry Markowitz developed the modern portfolio theory. Markowitz (1952:80) describes the process of traditional portfolio management as

- Collecting information about investor
- Determining purpose of investor
- Choosing investment strategy and securities
- Varying portfolio

2.1.2.2. The Modern Portfolio Theory

The beginning of the modern portfolio theory started with Harry Markowitz's "Portfolio Selection" article that was written in 1952. This article brought him Nobel Price. The Markowitz's article gained an important field in finance literature, even this article is accepted as end of traditional portfolio theory.

Therefore, this theory is accepted one of most critical studies of finance and investment literature.

Yildirim (2017:23) claims that the modern portfolio theory is a from of portfolio management approach which claims that adding new investments to portfolio cannot make reduce of risk and investment and diversification should be done by considering covariance that between investments' returns instead of random selection portfolio.

According to Markowitz (1952), only varying capital among investments won't be able to reduce risk because he claimed that a portfolio which has maximum expected return also doesn't have to have minimum variance. He underlined the importance of covariance, and suggested that an investor should avoid investments that with high covariance.

Yildirim (2017:23) states that the process of choosing a portfolio comprises of two steps:

- Getting information about performance of securities in the future and being experienced.

-Analyzing obtained information then selecting a portfolio

The modern portfolio theory targets to show how to make maximum revenue in a specific risk rate .In order to do this; it chooses to calculate data such as correlation. In other words, it uses a numerical method compare to traditional theory.

The beginning of modern portfolio theory starts with Harry Markowitz's portfolio selection. The contributions of Markowitz (1952:85) can be expressed as:

-Sum of parts is not equal to its all in portfolio management.

-Many calculations can be done by using efficient frontier.

-Some portfolios are better than others. It means that investors will choose a portfolio which has a higher return in same risk rates.

2.1.3. BAYES THEOREM

Thomas Bayes is an English Statistician and mathematician who made a significant research about solving problem of uncertainty by using some additional data. According to his theorem, statistics, probabilities, similar and previous events or mathematics can be used in order to predict an event in the future. If geography or weather is related to a specific disease, a researcher can use geography or weather conditions in order to find a cure or possibility of disease. Yildirim (2016:16) stated

that in Bayes Theorem, personal views and estimates are used addition to numerical possibilities in decision process.

This Theorem was named after death of Thomas Bayes, who found the theory, in 1763 by one of his friends, who is Richard Price. When Thomas Bayes referred his theorem, it couldn't gain a place in literature. Even the name of theorem was given after death of Thomas Bayes. After second half of twentieth century, it has gained importance in literature. The Bayes Theorem is also used in many scientific areas, such as weather forecasting.

2.1.4. EFFICIENT MARKET HYPOTHESIS

The efficient market theory deals with markets where all relevant information can be presented completely and correctly in viewing security prices. Bostanci (2003) stated that in efficient market hypothesis prices reflect all available information. And an investor can't beat market consistently. This hypothesis is based upon Random Walk. James C. Van Horne and George G.C. Parker (1967) defined random walk theory as the current market price of current stock is independent and separate to previous market price movements. The most comprehensive definition of efficient market hypothesis was made by Eugene Fama in 1970. According to Fama (1970:35), the complete definition of efficient market hypothesis is a market where there are large numbers of rational profit maximizers actively competing, with each trying to predict future market values of individual securities, and where important current information is almost freely available to all participants.

The financial markets are examined in three main titles and these titles are effectiveness of knowledge, allocation of sources and effectiveness of operations. In allocation of sources, allocation of sources in most efficient way is targeted. Effectiveness of knowledge is the knowledge on market is reflecting on prices. Yildirim (2017:18) stated that in effectiveness of operations, transferring sources with minimum cost is targeted.

One of most important assumption of efficient market hypothesis is any investor cannot make an abnormal earn by using any information. Since prices include all reachable information. According to Kiyilar and Akkaya (2016:62) effectiveness of market depends on these conditions.

- The prices must reflect the balance of market in consideration of available information.

- The prices should reflect the reaction of new information on the market in an instant or a bit late.

According to efficient market hypothesis, the investors are rational and fully informed. Their main purpose is maximizing profit. The investors should analyze the information they have in same way for same purpose. Because in efficient market hypothesis, every investor can reach the information as free. Anyone or Any institution can't become a monopoly in reaching prices or any type of information.

Fama (1970) divides the information in efficient market hypothesis the information into three main groups and range them as fractionally.

- The information of previous prices of shares and
- The information of profits, organization of shares and increasing of interest or capital which are open for public access.
- The all information of shares and companies

The beginning of efficient market hypothesis starts with Louis Bachelier, a French student**,** who mentioned the random walk theory in his PHD Thesis "The Theory of Speculation at the in 1900s. Louis Bachelier worked on analyzing the prices of commodities and stocks movements.

Then Maurice Kendall (1953), a British statistician, published a study by name of The Analytics of Economic Time Series, part: 1 Prices in his study, he observed 19 different commodities and share price to prove that price of them are random. The Maurice Kendall is accepted as first one who used the random walk theory in finance study.

The first and complete definition of Efficient Market Hypothesis was made by Eugene Fama, American Economist, in 1965 in article of the behavior of stock market. Then he mentioned the conditions that in order to accept a market efficient in 1970. According to Fama (1970:382), a market in which prices always fully reflect available information is called efficient.

2.1.4.1. Forms of Market Efficiency

After defining market efficient hypothesis, The Fama (1970) improved and divided types of efficient market hypothesis into three main groups. These types are; strong, semi-strong and strong forms.

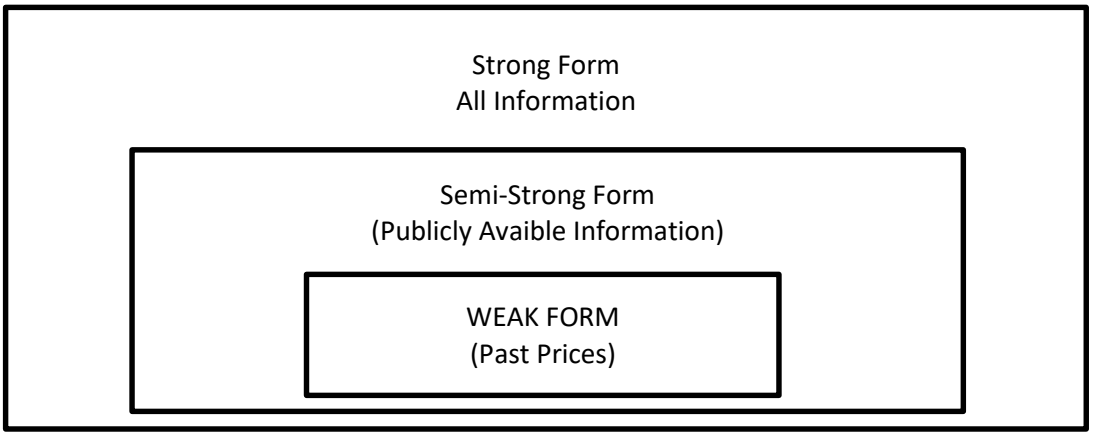

Figure 2.1. Forms of Market Efficiency – Fama (1970)

a) The Weak Form Efficiency

If current market prices reflect all data of previous prices, it is accepted as the weak form efficiency. The one of most important aspects of this form is, investors cannot reach any new information. Bodie et. al. (2009) stated that past stock price information are available as publicly and it is costless to get, but investors can't get any abnormal returns by using these data.

In weak efficient form, observing the previous prices to predict future on the market is insignificant because the movements of prices are fluctuant and unrelated to previous prices. Therefore, the random walk theory is seen in this theory.

As Adam Smith (1759) mentioned prices have no memories between yesterday and today of prices cannot be correlated. Because the random walk theory is used in seen in the weak form efficiency, the test of random walk theory is used to form efficiency of market.

b) Semi Strong Form Efficiency

In semi-strong forms efficient markets, publicly shared information is added to old prices additionally and this information reflects to market. This information can be company's financial statements, dividends or any purchasing. In other words, this form works on how publicly Shared information and old prices reflect to prices.

In this types of markets investors should be informed to maximize their profits .Some investors may have information that most of investors don't know , so they can have more than average profit. Bolaman (2011) stated that using only fundamental analysis or technical information won't let investors gain abnormal returns. Barak (2006) stated that having basic or fundamental analysis won't be

sufficient for an abnormal return. They should obtain the unpublished information from inside of corporation.

c) Strong Form Efficiency

In this version of forms, all information, whether public or private, reflects to share prices. Information which are not Shared with public is crucial in this market. Therefore, there is no way to test this form because private information cannot be tested. Koyuncu and Aslan (2017) stated that, it is not possible to see over increase or decrease in prices in that form. This form doesn't consist of only public or private data also it includes information about micro and macroeconomics. Investors can't predict the price of shares more accurate than others in these markets.

In strong form efficiency markets, the private data which are not shared with public is crucial, but most of investors can't reach it. The investors who can reach this type of information are usually managers of company or partners of company. If these investors use private data and gain abnormal returns, the market is definitely not strong form.

As a result all types of market efficiency forms are related. They cannot be thought separately. Yalcin (2009) stated that in this type of market, values of shares are always fair.

2.1.5. ANOMALIES

Many tests and searches have been done to analyze prices of shares and validity of efficient market hypothesis. As a result of these searches and tests, researchers have noticed that, price and return of some shares are observed to change is some specific periods. This unexpected fluctuates, that cannot be explained in rational explanations, was defined as "anomaly "in finance literature. Demireli (2008) states that anomalies can be associated with weak from efficient tests in developed markets.

Thaler (1987) defines the term of anomaly as unexpected or abnormal observation in financial literature. Anomaly is accepted as deviation from accepted principles. Doğan and Faikoğlu (2016:29) states that if an empirical sign cannot be explained theoretically and unreasonable assumptions are done to explain fluctuate, it is accepted as Anomaly. In other words, anomaly is a discrepancy. Rubinstein (2001) in his study mentioned six main reasons of anomalies.

- *Excess Volatility*

Volatility is defined as excess fluctuation of a share in a specific time.If a share has a high volatility, the investor's ideas will be changed.

- *Risk Premium Puzzle*

If ın a market, excess returns are seen, abnormal fluctuation occurs. The reason volatility of return will be asked by investors.

- *Book to Market Ratio, Value versus Growth and Size*

According to CAPM, just market return has to be priced. However, last observations from market shows that book market ratio and also other factors to be priced in finance markets.

- *Closed – End Fund Discounts*

If discounts in net asset value seen, the market prices will be affected. Then abnormal prices will be seen

-*Calendar Effects*

The calendar effects are also called as Monday effect. The Monday affect is admitted as the most known anomaly. On Mondays, the lowest return rates are observed abnormally. This date is demonstrate that markets are not rational.

- *1987 Stock Market Crash*

Stocks on New York Market lost approximately % 29 value in one day.

2.1.5.1. Types of Anomalies

A day of a mount or first mount of New Year may cause to be seen fluctuation on stocks. Therefore, anomalies are examined in different groups. Types of anomalies are divided in three main group. These are Calendar anomalies, pricing anomalies and sectional anomalies.

2.1.5.1.1. Calendar Anomalies

According to efficient market hypothesis, the return of shares is not affected from time. Time has no influence on prices of shares. Observed prices on the past cannot be used in order to predict prices in the future or gain an abnormal gain. However, research of calendar anomalies has revealed that time can affect the prices and return of shares. Jacobs and Levy (1998) stated that calendar orderliness usually occur cusps in time such as the turn of the year. The day anomalies are grouped in four parts

- *Daily Anomalies* - Day of the Week Effect/ Weekend Effect - Intraday Effect

-*January Effect* -Intra-month Effect -Turn-of-the Month Effect- *Yearly Anomalies*

-Turn-of- the Year Effect

- Anomalies Related with Holiday

Daily Anomalies

Searches of anomies demonstrate that some specific days affect price and return of shares as abnormally. Fields (1931) was first researcher who made studies on daily anomalies. Fields observed 717 Saturdays Mondays and Fridays. As a result of his observations, he noticed that some days return were higher than other days. For example, prices on Saturdays were disposed to increase.

Days of the Week Effect

Day of the week demonstrates that investors get negative return on Mondays. Observation of prices of shares, shows that price of shares on Mondays is lower than previous day. The first research of day of the week was made by Cross in 1973. He compared 844 different Mondays. He observed that on Mondays returns were disposed to negative returns.

Weekend Anomaly

Observations of prices and returns of shares demonstrated that prices on Fridays higher than previous day. Cross (1973) compared 844 different Mondays and Fridays .At the end of these results, he found that index rose on 523 Fridays. Cross's study revealed that mondays have negative returns meanwhile Fridays have Mondays have positive returns.

Intraday Effect

Intraday anomaly is explained as shares provide lower or higher returns on a specific time of a day compare to other times in day .The specific time can be minute or hour. Harris (1986) observed return of 1616 shares .He divided a day of New York Stock Exchange into 24 sections and divided sections as 15 minutes. According to his results of his search, first 45 minute of Mondays prices decreased. And returns increased in end of other days unexpectedly.

Monthly Anomalies

Also many researchers investigated a month's influence in a year. This anomaly is seen, when in a month such as anuary, prices and returns of shares increase or decrease unexpectedly.

January Effect

Many searches demonstrate that, shares provide higher return in January compare to others. In financial literature, it is possible to see many searches of January Anomaly.

Kiyilar and Akkaya (2016) investigated study of Ozmen (19977) return of shares in Borsa Istanbul that belong to 101 periods were investigated .According to results of this search, investors can take the highest return rate in january and lowest return rate in october. According to study that made by Ozer and Ozcan (2002), january anomalies have two main features. The highest return can be provided in January and buying small amount of market value stock are disposed to make more profit than buying big amount of market value stock.

Intra-Month Effect

In Intra-Month anomaly the one mount is divided into two parts then first and second halves are compared. İf first or second part is higher or lower than other part, it is accepted that intra-month anomaly is seen.

First and one of most important studies of Intra-month anomaly was done by Ariel (1987) in New York Stock exchange. He compared first nine days and last nine days of each month in New York Stock Exchange. The time period that he based was between 1963-1981.In his search he revealed that, first part of months provide higher return than last part of months.He also concluded that, most cumulative returns are seen in first part of months. The cumulative return rates are almost zero in second parts of months.

Turn-of-the Month Effect

The turn of the month anomaly is getting higher return on first days of a month and on last days of previous month. Kiyilar and Akkaya (2016) searched the study of Bildik (2000) that observes turn of month effect in Borsa Istanbul in period of 1988-1998. 1. Day or 15. Day was based on beginning of month. As a result of his observations, he concluded that, in period that accepted as beginning of months, returns are higher than other days .The period of turn month in Borsa Istanbul is as accepted first four days and last one day of month. However, if beginning of day is

accepted as 15. Day of the month, turn of month anomaly is seen first four days and last three days of month.

Yearly Anomalies (Turn of the Year Effect)

This type of anomaly is seen when the higher return is gained on last days of December and first days of January.

Anomalies Related Holidays

This type of anomaly is seen when return of shares increases in public holidays, religious holiday and weekends. Before and after holidays, higher prices can be seen in. Ozmen (1997) observed 37 public holidays in Borsa Istanbul between 1988 and 1998. He concluded that, before holidays returns of shares are higher than days after holidays.

2.1.5.1.2. Sectional Anomalies

Sectional Anomalies also seen when a company, that has lower or higher market value or financial rates, affect prices or returns abnormally. There four main reasons of sectional anomalies

Size Effect

According to size effect anomaly, a company, which has low market value or market price, provides higher than a company that has higher market value or market price. Fama and French (1995) claimed that, firm size, book to market equity and beta are key factors to affect returns.

Reinganum (1982) made ten different portfolios from data of 1964-1978.He concluded that companies that have low market shares provide higher return than companies that have higher market shares.

Book Value / Market Value Effect

This anomaly compares return of companies who have high rate of book value / market value and low rate of book value / market value. According to this anomaly, companies that have low rate of book value / market value provide higher return than companies that have higher rate of book value / market value.

Price / Earnings Ratio Anomaly

Rate of price / earning demonstrate that amount should be paid for per unit of expected earnings. According to searches, portfolios that include shares with low rate of price/earning provide higher returns than portfolios that include shares with low rate of price/earning. Basu (1977) has been as first researcher who reached that

point. He observed portfolios between 1956-1971.Then he realized anomaly of Price/Earning ratio.

Neglected Firm Anomaly

Shares that are not advised too often by investors and experts can provide higher return than other shares. In other words, these are neglected shares. The reason of neglected firm anomaly is corporations invest strategy is purchasing advised share, so others are not preferred. Karan (2000) is first researcher who observed anomaly of neglected firm Borsa Istanbul. He observed monthly sales of share that are preferred most .According to result of his searches neglected shares provide higher returns.

2.1.5.1.3. Pricing Anomalies

Investors follow developments on markets. They react to the information that they get. Investors sometimes may overreact or underreact to developments. These reactions can cause abnormal fluctuations in returns or profits. Forms of pricing anomalies are divided into two main groups which are under reaction or overreaction.

Under Reaction

In the situation of under reaction, investors underreact to developments of returns and prices. Therefore, new developments don't affect prices and returns less than expectedly.

Over Reaction

In the situation of over reaction, investors overreact to developments of returns and prices big interest and this interest causes on the markets. Barberis and Thaler (2003) stated that this reaction causes to increase value of shares. However this reactions cause to reduce of the prices of shares in next years.

2.2. BEHAVIORAL FINANCE

Traditional finance theory claims that investors are rational and prices in markets are fully reflect. Researchers, who think that traditional finance is inadequate is to explain anomalies in markets canalized new methods. Aytekin and Aygun (2016) stated that behavioral finance tries to explain in the markets and it benefits from other science fields like psychology.

Technological and social developments let investors reach sources of knowledge easier than past. Therefore, many new factors may affect process of investors' decisions. For example, an investor can trade from online channel or share market developments with a trader. A group of investors who act with mob mentality may cause to change prices on the market. These developments have conducted researchers to investigate not rational factors that affect investors' decisions process.

2.2.1. CONCEPT OF BEHAVIORAL FINANCE

The behavioral finance is a type of theory which investigates psychological signs in process of investors' decisions. Unlike traditional approach, supporters of behavioral finance argue that investors affected from social and psychological factors. Therefore, behavioral finance of is used to explain reasons of anomalies.

Behavioral finance is defined as theory which tries to explain how psychological factors affect investors' financial decisions .There are also many different definitions of behavioral finance available in financial literature. Victor Ricciardi and Helen (2000:27) stated that behavioral finance essays to express and increase understanding of the reasoning types of investors, including the emotional processes related and the degree to which they affect the decision-making process. .Behavioral finance is also sub-topic of behavioral economy.

According to traditional finance theory, investors avoid getting risk and try to maximize their benefits, but according to searches, they can't achieve to do that. The main reason of this is accepted as cognitive senses.They can suffer a loss because of self-confidence. Because of self-confidence, they show overreaction and underreation and are connected with share emotionally. Then investors hold shares that lose money too long or sell share that gain money too early because of psychological biases. Dom states (2000:14) that these behave trip investors them up and lose money.

2.2.2. ASSUMPTIONS OF BEHAVIRIOAL FINANCE

Bostanci (2003) stated main assumptions of behavioral finance as:

- People are considered as normal not rational.
- It mentions how people behave instead how they should.
- The purpose is satisfied instead of maximizing utility.

- İnvestors consider more variables than risk and return in their investment decisions.

2.2.3. PURPOSES OF ASSUMPTIONS OF BEHAVIRIOAL FINANCE

Tuglu (2019) stated that effects of behaviors of investors in anomalies are so crucial. The behavioral finance aims to analyze these behaviors. According to Tuglu, main purposes of behavioral finance are:

- Behavioral finance aims to explain reasons of known anomalies in finance literature.
- Behavioral finance aims to search how investors make cognitive mistakes when they make decisions.
- Behavioral finance tries to prove how human psychology affects financial decisions and how financial markets are affected from that.
- Behavioral finance targets to demonstrate how cognitive and emotional biases of investors affect finance markets.

2.2.4. HISTORICAL DEVELOPMENTS OF BEHAVIRIOAL FINANCE

Though behavioral finance has been significant theory in last 50 years, first signs of behavioral finance theory have been seen a long time ago. Cornicello (2004) stated that Adam Smith (1776) is the first researcher who mentioned behavioral finance firstly. Adam Smith mentioned terms of loss version in his book. Then the article of “Prospect Theory: An Analysis of Decision of under Risk” was published in Econometrica by Kahneman and Tversky in 1979. This article is accepted as most fundamental and important study of behavioral finance in finance literature. That study caused to begin a new area in finance history. Sari (2019) stated that Kahneman and Tversky’s article set a strong connection between finance and psychology. Kahneman and Tversky gained noble prize in 2002 thanks to that article. Thaler also has so important contributions to development of behavioral finance. He analyzed anomalies. Nowadays, behavioral finance has been searching by many searchers. It has a significant importance in finance literature.

2.2.5. RELATIONSHIP OF BEHAVIOURAL FINANCE WITH OTHER SCIENCES

Not only finance researchers, but also other researchers of other arts, claimed assumption of investors are not rational. Ozerol (2011) stated that those researchers, who are from disciplines, have met in assumption that people are not rational. Then they began to search reasons of why people are not rational when they make investments. Therefore, it should be also analyzed the other sciences. Other main science fields that have relationship with behavioral finance are psychology, social psychology, sociology, anthropology.

2.2.5.1 Psychology

Psychology is a type of science which investigates mind and behavior. This branch of science is accepted as the most important field of science that tries to explain behavior of human. Therefore, psychology science is also one of most important sources to understand investors' behaviors. Many definitions of psychology were made by researchers. Ricciardi (2005) defined the pscychology as scientific search of behavior and cognitive processes, incliudint how those ways are impressed by an individual's physical, mental state, and external surrondings.

One of fields that psychology is interested is thinking and process of thinking that are related to cognitive psychology. Many recent searches have being done to analyze how humans behave and cognitive psychology is accepted as part of these searches. Topics like perception, solving a problem, ability to learn, emotions, effects of culture etc.consist of interests of psychology.In process of making decision, investors are affected from these factors like perception. According to traditional approach, investors use numerical datas and methods to estimate risk and return.However, behavioral finance argues that investors are affected from their psychologies in that process. Therefore, science of psychology is forming the basic of behavioral finance.

The personality of investor also accepted as topic of behavioral finance. Personal characteristics like being active, calmness in a situation, making a decision quickly are thought as factors in process of decision.

In behavioral theory, Tufan(2008) have mentioned about price in meaning of reducing risk, possibility in meaning of losing and preferences in meaning of avoiding risk. Therefore, Psychology science investigates these factors.

2.2.5.2. Social Psychology

Psychology also searches of people's behaviors and minds with each other and in groups. These forms of studies in psychology are accepted as social psychology. Social psychology is accepted as scientific study of individuals' behaviors in societies. Baron, Byrne and Suls (1989) define the social psychology as branch of science that searches to understand features and effects of individual behavior in societies.

One of most important claim of behavioral finance is investors are not rational and they affect from psychological factors in their decision processes. The social psychology studies support this claim so strongly. When investors hear positive comments about shares in a group conversation, they have position impressions of shares. Then they can make investments in these shares because of positive impressions.

Tufan (2008) stated that investors comment the news in the market on their own ways and then they make decisions. In this process, their perception becomes part of these processes. However, because perception is a personal attitude, so two or more people can comment the same news differently. The reason why same news is commented differently is people are affected from factors like different cultures, ideas, emotions and even cultures.

2.2.5.3. Sociology

Sociology is form of scientific branch that deals with social behaviors, societies, groups and social relationships. And sociology science analyzes effects of social behaviors in individuals' attitude and behaviors. Sociology has an important place in study of behavioral finance because it has been witnessed that social factors can affect investors. Riccardi (2005) define sociology as systematic work of societal behavior of humans and societies. This discipline focuses mainly on the impress social relationships have on people's attitudes and behavior.

Bozkurt states (2004) that sociology lets people understand the people‘s worries, dreams, fears and emotions. Many searches show that, sociology empowers the ability of empathy.

2.2.5.4. Anthropology

Anthropology is a scientific are that studies from first origins of humanity to modern people. Science of anthropology is evaluation of behaviors from ancient times to todays. While science of sociology is interested in modern societies, anthropology is interested in ancient societies. The Merriam-Webster define anthrophony as study of human and lives from their ancestors entirely time and related to culture, character and environmental. Bostan (2016) claims that purpose of anthropology is searching answers for why societies are different each other and why they can't be same. The anthropology also aims to find significant answers for why and how societies have changed.

The relationship between anthropology and behavioral finance can be seen in economical anthropology which compounds economy and social life. Tufan (2008) states investigate the economical anthropology in three main categories.

Formalism: It defines the economy as maximization of benefit in limited conditions and it is related to neo-classical economics

Substantivism: It is interested in how people live and behave in social and natural environment. It is not interested in rational decisions or famine conditions.

Culturalism: It tries to explain that people value to what they buy. And it is interested in cultural structure.

2.2.6. BASICS OF BEHAVIORAL FINANCE

Traditional finance theory, claims that investors are rational. They are not affected from their psychologies. However, theory of behavioral approach argues that psychology affects investors' decisions. Therefore, when investors make decisions or receive information from market they dont act rationally because of psychological factors.

Oran (2008) stated that, anomalies, arbitrage, processes of making decision are main topics of behavioral approach. Because arbitrage is limited, variances of market can not affect enoughly in forming realistic prices, so efficiency of market reduces.Barberis and Thaler note that (2003), there are two main topics of behavioral finance available. These basics are limits to arbitrage and psychology.

2.2.6.1. Limits to Arbitrage

The Shleifer (2000) defines the arbitrage as coincident transaction of trading of same or similar types shares between two different markets in order to benefit from differences of prices.

Barberis and Thaler (2003) stated that according to traditional approach and efficient market hypothesis there are two main assumptions. The assumptions of prices are right and there is no free lunch are the accepted two main assumptions. Prices reflect all information on ther market. If an investment is not risky, it can gain profit higher than average (free lunch assumption). By arbitrage, the balance was found.

Prices are right ➔ No free lunch (efficient market)

Free Lunch ➔ Prices are not right (not efficient market)

Döm states that if prices of shares are more expensive than from its real value because of irrational investors, the rational investors and investors that are arbitraging will sell their shares by the reason of high prices and they will buy new less risky shares in cheaper prices instead of theirs shares at the same time. Also if prices of shares are cheaper than its real value, the rational investors or investors that are arbitraging will buy these shares and sell their current shares .These transactions decrease the effects of not rational investors on the prices. There are three factors that limit arbitrage.

These three factors were examined by Barberis and Thaler in (2003) by example of Ford. Value of Ford Shares were 20 Unites States Dolar (USD), but shares pulled downed to 15 usd because of pessimistic noise traders.

2.2.6.2. Psychology

Last searches and unexpected fluctuations on the market demonstrate that, behaviors of humans and psychological factors have a significant role on process of investment decisions of investors. Kiyilar and Akkaya stated that (2016) behavioral approach, often assume specific forms of irrationality.Therefore, preferences and beliefs that explained under the topic of cognitive psychology are important.

2.2.7. BEHAVIORAL FINANCE MODELS

After Kahneman and Tversky's article in 1979, many models of behavioral finance have been developed. These models completely disagree assumptions of Efficient Market Hypothesis and overemphasize that investors are not rational.

Many searches made on models of behavioral finance, and as result of these searches three main models gained important places in financial literature. These models are:

- Barberis, Shleifer and Vishny's model (1998)
- Hong and Stein's model (1999)
- Daniel, Hirshleifer and Subrahmanyam's model (1998)

2.2.7.1. Daniel, Hirshleifer and Subrahmanyam Model (1998)

This model investigates two psychological biases. These biases are self confidence and self attribution biases. According to this model, the reason of overreaction is personal private knowledge and the reason of under reaction is public signs.

Overconfidence

Over Confidence is defined as tendency of being more confident in their own skills and abilities. Investors who rely extortionately on information they have, have overconfidence bias. Investors who have overconfidence bias consider their own knowledge more than other information. In financial decision processes, they give their own knowledge primacy. Therefore, they neglect the developments in the market.These biases cause investors to exaggerate their predictions.

Scott et. al. (2003) stated that, the one of most important assumption of this model is some of investors get some private information and they find these tips so correct.They make all predictions and and decisions by considering these trips.

The one of most significant results of overconfidence bias is causing anomalies. According to Gervais et al. (2011) investors who have tendency of overconfidence bias will see the reason of gains as their own abilities. Therefore, they will make more buying transactions.

Self Attribution

Barak (2008) defines self attribution bias as tendency of believing in accuracy of having knowledge more than it should be and considering this in decision processes .It is frequently seen that in societies, most of people think that

good results happen because of their abilities, but bad results happen because of external factors.These approaches keep people away determining events as objectively. Therefore, sell attribution bias make people irrational.

Effects of self attribution bias also seen in financial markets. Dogan and Faikoglu stated that (2016) because investors can not analyze success and failure very well , they make wrong investments.The investors associate wrong decisions with external factors like economical conditions. Therefore, they often can't find the main reason of mistake in the process. Also this situation is valid for good results. They associate good results with themselves like their vision abilities. Therefore, they can make mistakes in new investments easily.

2.2.7.2. Hong and Stein's Model (1999)

This model claims that there are two types of investors. These investors are momentum traders and news watchers and they aren't too informed and are limited rational. In other words, they have limited ability of making transaction and they are not completely rational.

News–watchers make predictions of future by using some private knowledge. Kiyilar and Akkaya stated (2016) that they don't prefer to use past or current prices.

Hong and Stein (1999) stated that momentum traders reject to consider the basic knowledge.They prefer to use the past prices.

Kiyilar and Akkaya stated (2016) this Model is accepted as an applicable model and trustable. The most important feature of this model is external effects of heterogeneous investors over each other.

2.2.7.3. Barberis, Shleifer and Vishny's Model (1998)

This model has been proposed by Barberis, Shleifer and Vishny and emphasized two main biases .These biases are reprentative and conservatim. Barberis, Shleifer and Vishny associate underreaction with conservatism bias and overreaction with representative bias.

Representative Model

This model claims that investors consider recent past information in order to predict how the future will be. This situation cause to form investments. An investor

may consider a company's recent dividends or profit to analyze the company's future profit.

Hayta (2014) stated that investors look optimistic to shares that they have made profits. Also they look pessimistic to shares that they have made losses. In other words, they think they will have again experiences. Therefore, these approaches keep shares away from their real values.

Conservatism Model

Many definitions of conservatisim have been made in financial literature. Edwards (1968) defined the conservatisim bias as tendency of acting slowly to revise their current information to new information

İnvestors, who have conservatism bias, are reluctant to learn new information, so they resist to act by using old information. This situation keep shares away their real values.

2.2.8. PROSPECT THEORY

Expected utility theory claims that humans are national and investors target to maximize their profits. Mongin (1997) states that according to expected utility theory, people choose risky or uncertainty opportunities by comparing their expected utilities. However, some searches demonstrated that expected utility theory has some inadequate parts. Examples of expected utility theory can not estimate utility in uncertainty conditions can be given to these inadequate parts. In parallel, with these developments Kahneman and Tversky (1979) developed a new version of expected utility thery which is named in literature as Prospect Theory. Shiller (2001) stated that prospect theory is accepted mathematically formulated option of expected utility theory. And it has supported with experimental results.

Prospect theory underlines the process of financial decisions of investors in uncertainty situations Barberis and Thaler (2003:1053) defined the prospect theory as *a new approach to financial markets has emerged, at least in part, in response to the difficulties faced by the traditional paradigm. In broad terms, it argues that some financial phenomena can be better understood using models in which some agents are not fully rational. More specifically, it analyzes what happens when we relax one, or both, of the two tenets that underlie individual rationality. In some behavioral finance models, agents fail to update their beliefs correctly. In other models, agents apply Bayes' law properly but make choices that are normatively questionable, in that they are incompatible with Subejective Expected Utility (SEU). To make sharp predictions, behavioral models often need to specify the form of agents' irrationality. How exactly do people misapply Bayes law or*

deviate from SEU? For guidance on this, behavioral economists typically turn to the extensive experimental evidence compiled by cognitive psychologists on the biases that arise when people form beliefs, and on people's preferences, or on how they make decisions, given their beliefs.

2.2.9. HEURISTIC

Traditional finance theory doesn't accept mental factors like cognitive bias and emotional factors. Since, the most important claim of traditional approach is investors are rational. However, behavioral finance argues that, investors may be under effect of biases like conservatism or loss aversion. According to behavioral approach, investors are affected from many mental factors and they may feel uncertainty or prefer to hold shares to aversive loss. In these processes investors usually affects from heuristics and bias.

Heuristic can be described as shortcuts to ease decision processes shortly. Ansari et. al. (2006) stated definition of heuristic as, practical shortcuts or cognitive strategies to decide correctly in uncertainty situations or in competition. If heurists can be applied in correct ways, it can make difficult and complex duties clearer and simpler, but if it is applied wrongly, it can cause mental mistakes.

According to some significant studies, using heuristics and shortcuts cause brain determines and uses all information on the mind. As a result of this situation brain can make predictions. Heuristics ensure organization of much information on the brain. Usage of heuristics is easy and pratical. However, using heuristic also cause mistakes and make analyzing the information correctly more difficult. Schzwartz (2010) stated the reasons of usage of heuristics:

-Too much information may mislead owners of decisions.

-There may be more than one ideal solution in more than one target of asset.

-Decision makers may not know how to solve a problem in correct way, even it has a solution. They haven't also enough budgets to get service of consultant or they may find the service of consultant too expensive.

-The methods of optimization may not be suitable for some problems.

-If decision makers use heuristics, they can keep some specific problems hidden until they decide.

Tversky and Kahneman (1974) investigated three main heuristics which lead to be seen cognitive bias. These are representativeness, adjustment and anchoring and availability.

2.2.9.1. Representativeness

Most of us use heuristics of representativeness in our daily lives. Individuals associate and judge events by their old impressions and looks. Tversky and Kahneman (1974) stated that when people tries to answer questions like what is possibility of A belongs to B or what is possibility of A belongs to B? They consider how A reflects basic features of B and use this data in answers.

Kahneman and Tversky (1972) states the definition of representativeness as valuate the probability of an uncertain event, or sample, by the degree to which it is: (i) alike in necessity properties to its parent population; and (ii) demonstrates the salient marks of the process by which it is created.

Kahneman and Tversky states that people valuate the probability of an unpredictable occurrence or a sample by the level to which may be defined either as similarity in necessary assets of progenitor population or as something which shows the outstanding properties of the applications by that it is produced.

Kahneman, Tversky and Slovic (1982) made a research related to Heuristic of representativeness. They presented a small outline about Linda's personality.

In outline of Linda's personality they mentioned that: Suppose that Linda is (31) too clever, plainspoken and bachelor woman. She Completed department of philosophy.While Linda was a student; she joined campaigns against nuclear plants. Furthermore, she was seriously interested in topics of social justice and discrimination.

After presentation of outline, these two questions were asked.

1-) Linda is Banker.

2-) Linda is banker and supports feminism.

Researchers formed the profile of Linda as similar to an active feminist person and far away to a banker's profile deliberatively. Almost %88 of participants described the Linda as both a banker and feminist. This search shows that, when people make decision, they associate with possibility of its similarity or representativeness another event

Representativeness heuristic also can be seen in investment decisions. One of good examples about representativeness is approaches of investors to relationship between strong corporation and their shares. Montier (2002) stated that, investors match those shares of strong corporations, with good return rate. According to their perceptions, a strong corporation is a better option to have more return or profit.

Weak corporations shouldn't be preferred because they represent disappointed returns. In this detection, it can be seen that, investors associate event of return with representativeness of corporation's size.

2.2.9.2. Availability

According to searches, people care about some information more than other information. People trust ideas that based on current information. In contrast to this, they less care about statistical data and basic rates. Kahneman and Tversky (1974) describe the heuristic of availability as information that can be remembered easily is more common than. They argue that people remember information that related to their successes easier than information that related to failure.

Döm (2003) defines the Heuristic of Availability as a misleading shortcut of possibility of an event that judges in regard to availability of that event on individual's brain. Heuristic of availability may determine possibility or frequency of occurrence of an event, but sometimes ıt can mislead individuals in prediction of events. Pompian (2006) divides in the heuristic of availability into four main categories.

*Categorization***:** People prefer to invest in categories that they are familiar with .In other words, they choose their investments by considerin what on their minds. Therefore, they probably neglect other shares.

*Resonance***:** Investors tend to invest in shares that are advisable to their thoughts and personalities. Topic of belief can be given to this category .Most of religious people reject to invest in shares of corporations that sell and produce alcoholic beverages.

Retrievability: The investors usually invest by considering information that affects them. A close friend's sugesstion or an admired expert's clue can be given as example.

*Narrow Range of Experience***:** All of investors have experiment. They have these experiences from their work lives, or place that they live. When they make investmenst, they consider these experiences. An Engineer ,who works in production new technological cars that consumes electricity, probably won't make investment in current technological cars that consumes petroleum because he may think that new electricity will be new consumption source of new cars.

2.2.9.3. Adjusment and Achoring

Kahneman and Tversky (1974) stated that people make predictions by considering anchors. When people make decision analysis, they consider gain-loss situation not their welfare. Initial value can be main position to determine change or evaluate a position.

Shefrin (2005) stated that people can decide and predict faster, in initial value that they familiar with. They may update available information when new information comes, but their decisions and initial values that affect their decisions are stable. Shiller (2001) notes that according to searches, when people make quantitative predictions or evaluations they are affected from suggestions. Surveys can be given as best example of this. The amount of income is often asked people to choose from given range on the surveys. Results of surveys demonstrate that they are affected from these ranges. This situation is called anchoring by psychologist.

2.2.10. COGNITIVE BIASES

Some researches claimed that investors consider and reflect all knowledge they know for a long time. They have developed many models and theories to prove that. However, last researches revealed that investors don't act rationally and they are affected from their behaviours. The behaviors that keep investors away from acting rationally are named as cognitive biases. There are many investigated cognitive biases in financial literature, but according to Kiyilar and Akkaya (2016:72) seven of them are main cognitive biases. Cognitive biases have been examined under several topics in finance literature. Here, they will be examined under seven topics as follows:

- Overconfidence bias
- Confirmation bias
- Hindsight bias
- Conservatism bias
- Optimisim bias
- Primacy, recency and dilution effect
- Familarity bias

2.2.10.1. Overconfidence Bias

Confidence bias is accepted as one of most seen bias in behavioral approach. Nofsinger (2005:11) states that, overcofidence bias causes to interpret predictions and developments wrongly. Investors may overestimate their abilities and experiments because of over confidence bias. Investors usually don't criticize themselves when they make mistakes. Hayta states that (2014:225) when investors make profits, they think it happened because of t their own successes. However, when they make a loss, they attribute this to exogenous factor.

Overconfidence can be defined as inclination that people are more confident in their own skills such as learning ability, that objectively reasonable.

Yildirim (2017) states that traditional approach claims that investors are not affected from their psychologies and they try to maximize their profits and reduce their risk rates. However investors that have overconfidence bias mismeasure the risk rates, so they think that investments that have high risk rates will make them gain higher earnings.

Nofsinger (2001) claims that investors take higher risk because of two main reasons:

- Investors who have overconfidence bias make investments in corporations, that small market shares and new established with high risk rates.

- Investors who have overconfidence bias can't vary their portfolios very well, so they can not reduce their risk rates.

Overconfidence bias cause really serious financial problems. Since an investor should obtain information from markets and analyze these data reasonably. When feeling of overconfidence dominates against acting lymphatically, investors make serious mistakes. The four main reasons of overconfidence bias

- Investors may exaggerates themselves or think themselves superior.
- Investors may believe that they have control of power in events that happen accidentally.
- Overconfidence bias can be expressed as ability of evaluating of limited options.
- Investors who have overconfidence bias act subjective when they judge their decisions that made in the past.

2.2.10.2. Confirmation Bias

Most of people claim that they know many things and they can't be wrong. This assumption prompt people to support their ideas strongly and remove to learn new things and ideas. Hayta (2014) stated that people who have confirmation bias isolate themselves from every idea except of their own ideas.

Confirmation bias is also affects financial decisions. Also investors consider selling shares that make lose is last option .Because if investors sell their shares which make lose, they will think that their investment decisions are not right. This assumption proves that confirmation bias and investors' financial decisions can not be thought separately.

Active learning can be possible in only some conditions .Condition of right and quick feedback must be provided for active learning. However, this neccesity somethimes can not be provided because of three main reasons.

-It is not possible to reveal any information related to result until a new decision made.

-Results usually are delayed and ıt doesn't demonstrate any specific movement.

-Feedback that is variable affects its confidence negatively.

2.2.10.3. Hindsight Bias

Many people have difficulty to accept their mistakes and claim that they know many things about many topics. Therefore, people make mistakes frequently. The reason of seeing hindsight bias is people 'exaggeration tendencies of believes that is happened before the issue that provides information to people expose the back sigh bias.

Kiyilar and Akkaya (2016) described hindsight bias as tendency of exaggeration in that people think that they make wrong predictions because they are not informed before. Fischhoff (1975) defines the hindsight bias as bias of I already knew it or it was obvious clear.

Bolaman (2011) stated that the first person who realized and searched hindsight bias is Baruch Fischoff in 1975. He claims that hindsight bias is based on two main facts.

- As perceived possibility of the outcome increases, possibility occurrence of that outcome also increases.

- Most of people who know results are not aware of the fact that their perceptions have changed.

Kahneman and Freedrick (2002) also stated the reason why many people can't notice hindsight bias is limited cognitive focus.

2.2.10.4. Conservatisim Bias

One of assumptions of psychology science is people can't change their ideas or biases easily. When people face with new ideas, that they disagree, they refuse to make searches or analyzes. Barberis and Thaler (2003) expressed that people update or change their minds and beliefs very when they face new findings. And also they tend to interpret ideas, which they disagree.

Barberis, Shleifer and Vishny (1998) define the conservatism as slowness of changing ideas that seen when investors face new events .Conservatism cause to low reaction in high level. American Psychologist Ward Edwars (1968), one of first researchers who argued the conservatism bias, made experiments on conservatism bias. He concluded that, when investors update their ideas that they got already, they don't mind new knowledge the learned. He also stated that , individuals react very slowly to new knowledge compared to Bayes Theorem .He explain this situation as *it turns out that opinion change is very orderly and usually proportional to numbers calculated from the Bayes Theorem - but it is insufficient in amount* .

2.2.10.5. Optimism Bias

Last researches demonstrate that people are affected from optimism bias. Many people exaggerate their skills or influences on events. Weinstein (1980) stated that many people usually think that they are more talented and smarter than they are. Search of Kahneman and Riepe (1998) supports Weintein's claim. They have asked "Are you enough good drivers? " and %80 of participants think that their driving abilities better than average.

Weinstein and William (1995) stated definition of optimism bias as a type of cognitive bias supposed to cause a person to assume that they are at less risk of having an adverse event compared to other people. Assumption of smokers can be given as example to optimism bias. Most smokers think that their risk of lung cancer less than others. Baker et. al. (2002) stated that some searches have revealed an interesting relationship between sun and people' decisions. According to searches,

people are more optimistic and in good moods.People who are in good moods, can think and decide more optimistically compared to people who are in bad moods. People who are in optimistic moods don't need any detailed analyze, they decide more easily. Therefore they make mistakes more often and easier. However, people that are more pessimistic moods; they analyze then decide, so they don't face with serious problems.

2.2.10.6. Primacy, Receny and Dilituion Effect

İnvestors are affected from timing of knowledge, so timing of knowledge can be a factor that affects investors' decisions.

Bolaman (2011) describes the primacy effect as inclination of people to consider information which learned in the past than recent information. The recency effect is accepted as contrary to primacy effect.

Compared to primacy effect, receny effect is tendency of people to consider information that learned in the recent rather than past information. Dom States that (2003:87) the common idea is primacy effect is met less frequently than recency effect. Kiyilar and Akkaya (2016) stated that it is possible to see frequently recency effect in experts' analyses since they emphasize current success or failure.

Dilution effect is inclination of unrelated or neuter information to affect judgements negatively. People claim that if they had more information, they would be able to make better decisions. However, extra information sometimes causes to change decision. This situation is called dilution effect.

2.2.10.7. Familarity Bias

According to searches, when people have to make choices they prefer the option that they know more especially in uncertain situations. Also this situation is seen, when they have to make choices among risky preferences. Therefore familiarity bias often seen in financial decisions. Nofsinger (2001) stated that People sometimes choose options which are riskier and have less return rates because of familiarity bias.

The reason why familaririty bias seen often is people always have difficulty in choosing something new. They dont want to be regret because of choosing a new option.

Also it is possible to see familariarity bias in investors' financial decisions. Kiyilar and Akkaya (2016) stated that both Professional and invidiual investors tend to invest in local corporations that they become familiar with. French and Poterba (1991) also describe this situation as Home Bias.

2.2.11. EMOTIONAL BIASES

Emotional biases also keep people away from acting rationally. Estimating effects of emotional biases on financial decisions are more difficult than estimating cognitive biases. Barak (2008) states that however, it is harder to prove effect of emotional biases on investor behavior, compared to effects of cognitive biases since emotions are hard to investigate numerically. Therefore, emotional biases took fewer places than cognitive biases in financial literature. In this section four different emotional biases will be investigated.

- Regret aversion
-Disposition effect
- Hedonic editing
- Cognitive dissonance theory

2.2.11.1. Cognitive Dissonance Theory

A new learned knowledge may be conflicting to knowlegde that is available on the mind. This situation causes to cognitive dissionance. Kahyaoglu (2011) defines the cognitive dissonance as the confliction situtation of new information with people' own belief and behaviour tendecies. People usually keep two different ideas, which are totally opposite to each other, about specific topics. Investors' approaches to their investment performances can be given as an example to this situation. Schwartz says that (2010) most of investors claim that they are good at making profitable investments. However, when they make bad investments that give bad results, cognitive dissonance will occur and brain will be in conflict with two ideas that are totally opposite to each other.

Shiller (1998) claims that congitive dissonance is a type of regret emotion that occurs because of wrong approaches and beliefs. People change their behaviours or cognition to reduce the discrepancy when they face with congitive dissonance.

Festinger (1957) claimed that congitive dissonance can be minimized in three ways.

Changing Cognitions: If two congitions are not compatible with each other, one of them should be changed as compatible with other

Adding Cognitions: In this way, new cognitions can be added. If congitions are much incompatible with each other, added cognitions will reduce the mismatch of cognitions.

Altering Cognitions: Changing importance of cognitions is suggested in this way. Namely, compitable cognitions are increased.

Aronson (1992) stated that behaviors which try to minimize cognitive dissonance are irrational behaviours. Because the assumption of congitive dissonance is humans are irrational.

2.2.11.2. Disposition Effect

Investors usually act rationally and can't sell their share or buy new shares ın the best times. They may hold their shares too long or sell before shares get their highest prices. Shefrin and Statman (1985) who studied dispotion effect firstly, describe the dispostion effect as tendency of keeping shares that losing money too long and selling shares that gainning money too early. The decision of selling a share that gains money demonstrate that the price of this share will also increase soon and its good performance will continue. However this situation is valid also for shares that loses money. The decision of keeping a share that loses money shows that the price of this share will reduce in short and middle periods. According to searches most of investors, who bought shares from 45 usd then reduced to 34 usd before reaching 42 usd, won't prefere to sell until it get 45 usd.

Nofsinger (2011) claims that the emotions of pride and regret cause to disposition effect to be felt by investors. İnvestors avoid making mistakes that maket them feel regret and want to make something that proud them. Therefore emotions of pride and regret change decisions and cause to occur disposition effect.

The Approach Prospect Theory, which was proposed by Kahneman and Tversky firstly, also cause disposition effect to occur. Aydin and Ağan (2017) investigated a search of effect of prospect thery on disposition effect. They have asked to subjects

Which share should be sold by investor who has to find money immediately?

1-) the share of A which gained value %35 since it has been bought.

2-) the share of B which losed value % 35 since ıt has been bought.

Share of A make investors fell proudly because ıt has gained some value, but share of B cause investors to feel regret emotion because ıt lossed some value . According to results, subjects think that, the share o A should be sold because they think that investors should hold the shares which lose money. They hope that value of share will reach the level they have bought.

2.2.11.3. Hedonic Editing

Thaler and Johnson (1990) defines the hedonic editing as managing combining available results with former results and analyzing their totals instead of analyzing eachh result as partly. In hedonic editing, mazimizating value is targeted. If the way of seperating gains and combining losses is applied, the value maximization can be possible. Thaler and Johnson also say that the four principles should be obeyed.

- Segregate gains
- Integrate losses
- Seperating small gains from larger losses (Mixed Losses)
- Combining (cancel) smaller losses with larger gains (Mixed Gains)

Thaler and Johnson observed how gains and returns affect investors' approach to risks. They concluded that investors, who have gains from recently trades, can take risks, but investors, who made losses from recently trades, avoid taking risks. Also investors, who have losses from recent businesses, tend to use suggestions that offer breakeven opportunity.

2.2.11.4. Regret Aversion

The emotion of regret has been investigated by many scientific fields. Regret affects many things in people' lives. Financial decisions are also affected from people' regrets. When people can't make correct decisions, they make mistakes and as a result of these mistakes they feel regret emotion. This emotion may change financial decisions of people. The emotion of regret exits during all history of humanity since people always make mistakes.

Zeelenberg and Pieters (2007) have defined the regret as a negatif emotion occurs when people feel that if they made something differently, it would be better. They also stated there are two types of regret emotion.

-The one is seen when people feel regret because they made something wrong.

-The other is seen when people feel regret because they didn't make something. However**,** last searches demonstrate that the emotion of regret which is seen when people make something is more effective than other

This emotional factor is also seen frequently in financial decisions. Especially investors who lossed some money because of deciding wrongly feel emotion of regret. When most of investors see that prices of their shares increase they try to sell their shares. However, also they avoid selling their sales when they make loss. Korkmaz and Ceylan(2007) describes the main reason of this as expactation of prices of shares would be same with price that they have bought. This situation is called in literature as regret aversion. Frazzini (2006) made a search of regret aversion on shares which were bought an sold between 1980-2003. He observed that investors, who gain returns less than average, underreact to any development in the markets.

Bolaman (2011) states that regret aversion cause investors to keep losing stock too often. They act relauctanly to notice that price of their shares reduce and they hold them. Also regret aversion can be seen in owners of shares which gain. Many investors can avoid selling or holding because they will be regret because of possibility of increasing or decrasing prices.

2.2.12. SOCIAL MEDIA AND OTHER CHANNELS

Social media and channels have been one of most efficient place that people are affected. People change and learn many knowledge from their social relationships. A person can change his political ideas or emotion because something he heard or read from any social channel. This sitiuation is also valid for investors and investments**.**

2.2.12.1. Social Interraction

Kiyilar and Akkaya (2016) stated that brokers, angel investors, managers or experts of finance communicate with each other. In this communication line, many knowlegde and ideas swapped among them. Hong et al. (2004) stated that there are many strong signs which show that social channels cause to increase participating rate of investors to share markets. Some of these signs are:

-Possibility of making investment in share markets of people who go to Church or have strong relationships with their neighbours higher than people who are not participating social events.

- The gap between social and non social households increases.

2.2.12.2. Media

Social channels like radio and television, which can reach thousand or millions people in same time, are accepted as one of most efficient source which can affect people and communities. Social channels also affect investors and their financial decisions. Media makes reaching knowledge very easily. Most of investors can reach current prices, dividens and economical developments by watching channels like Bloomberg HT.

2.2.12.3. Internet

Internet may be most important discovery of 21.Century. Internet directs almost all social, economical and political developments. Internet connection gets more place day by day in human' lives. Because internet is accepted as the easiest and cheapest way of reaching and sharing information. Therefore, ıt is possible to see effects of internet on financial decisions so easily. Especially online investors, can reach many knowledge sources, find out last prices of shares and currencies, communicate with other investors and following global economic and financial developments so easily .These access facilities which provided by internet make investors more informed and competitive. Barber et al. stated that (2001) Internet changes form of distributing knowledge to investors and using knowledge by investors that are issued.

Barber et al. observed 1.607 investors who changed phones to internet in order to make online transactions between 1992 and 1995. They tried to analyze that how their behaviors would change, after they started to use online internet channels. They concluded that online transactions cause overconfidence, and then overconfidence sets off reaction of more transactions. As a result, internet also keeps investors away from acting rationally

2.3. PREVIOUS STUDIES

In literature, it is possible to see many searches about behavioral finance theory. In that section, it will be introduced previous studies from literature related to behavioral finance.

Faikoglu (2012) searched effects of three main models in Borsa Istanbul in her study. She applied a survey that includes 44 questions between 1. March 2011 and 20 November 2011. In application 408 individual who reside in Istanbul, Ankara, Izmir, Bursa, Balikesir, Sakarya, Aydin, Tokat, Duzce, Zonguldak, Bolu, Eskisehir and Batman. In Application, data were analyzed by method of SPSS and LISREL. And it has been analyzed that, individual investors are affected from three models in Borsa Istanbul.

Jagongo and Mustswenje (2014) have searched factors that form investment decision in Nairobi Stock Exchange. It was applied 28 questions to 42 investors out of 50 investors in survey method. The population of sample is determined as 1.8 million investors. The data were analyzed with SPSS. Then results were investigated by Friedman's test and descriptive statistics. According to results, firm position and performance are most important factors that affect investors' investment decisions. In that study effects of behavioral finance models investigated in Borsa Istanbul. Survey method was preferred and applied to 200 individual investors. This study is first study that made in Gaziantep region.

Kucuk (2014) aimed to reveal factors that are efficient in investment decisions of individual investors. It was prepared a survey that includes 16 questions. Survey was applied to 150 individual investors who live in Osmaniye. Data of survey were analyzed by using SPSS by researcher. Results demonstrate that, social and psychological factors have effects on investment decisions. And researcher strongly believe in that, investors should be informed about behavioral finance models and effects. Then it will be possible to see rational decisions in finance markets.

Kengatharan and Kengatharan (2014) searched effects of behavioral finance that impress investor decisions of individual investors in Colombo Stock Exchange in Sri Lanka. This study is accepted as important because there are so empirical studies in Sri Lanka. They used survey method in their studies and applied to 128 individual investors. Then, researchers preferred SPSS in analyzing data. Collected data demonstrate that, overconfidence has negative important influence of

investment performances also loss aversion and regret aversion do not have important effect on investment performance

Aydin and Agan (2017) targeted to determine factors that are efficient on investment decisions of investors. It was preferred to use survey method and survey has 41 questions. The survey was applied to 600 individual investors between 25 May 2015 and 15 June 2015.In the search, results were analyzed by method of SPSS 20. And Chi Square Test method was used to analyze results. According to results, psychological factors are affecting investors' decisions. And also demographic factors also form their investment decisions. It can be said that, psychological factors and biases can't taught separately.

Halil (2016) searched fanuary effect anomaly in Borsa Istanbul. The researcher used percentage return between 1985 and 2015 in Borsa Istanbul. Researcher obtained data from Bloomberg Terminal. In data there are two parts, the one is daily BIST-100 index from 1985-2010 and the other is average value of daily index from 2002 to 2015 for 318 firms in Borsa Istanbul. Results demonstrated that it is possible to January effect in Borsa Istanbul.

Eksi et al. (2017) searched effects of different 5 biases on gold investors that make investment in Gaziantep. The biases are excessive trust, excessive optimism, avoidance from remorse, loss avoidance and representative Researchers preferred survey method that includes 26 questions. They could apply survey to 63 different gold investors. This is study is accepted first study that investigates gold investors related to behavioral finance. As a result, the researchers stated that most of investors have tendency of risk aversion. And they reached that point, investors, who have tendency of overconfidence, are also pessimist about future.

Yildirim (2017) aimed to measure effects of three main models of behavioral finance on investors that make investment in Borsa Istanbul. The researcher preferred survey method that consists of 39 questions and applied to 410 individual investors. The data were analyzed by using of SPSS 21 and Microsoft Excel software. Then results were analyzed with ANOVA and T-test methods. According to results, investors that make investment in Borsa Istanbul have overconfidence, self-attribution, conservatism, representative, momentum traders and news-watcher biases.

Ozcelik (2018) investigated psychological biases that affect individual investors who live in Istanbul. In the application, survey method was used and

applied between 30 March 2018 and 28 April 2018 to 1002 individual investors. The data that collected were analyzed by using methods of T-test, ANOVA, Tukey-test and Factor analysis. According to results, individual investors who have high income revenues, tend to have representative bias. Results also demonstrate that, investors that have overconfidence bias are from low level of income and their education level is also low. Investors, who don't have high investment budget, vary their portfolios with purpose of avoiding risk. They are middle age people.

Yosofi (2018) targeted to search biases that form investors' decisions and effects of these biases on gender. The researcher used survey method and survey was applied to 50 questions to 431 individual investors. Data that collected were analyzed by SPSS. And also some secondary data were used by researcher. The sources of these secondary data are books and articles. It has been used SPSS in analyzing data. And T-test was used in investigating results. According to results, there is a relationship between gender and regret and pride bias, gender and loss averse, and gender herbing bias.

CHAPTER THREE
AN APPLICATION

In order to fulfill the background of behavioral finance theory in first two chapters, the details of finance, behaviors and behaviors of investors and historical process of behavioral finance have been analyzed and discussed. By this means, the essential data and concepts to analyze the survey and results have been provided. In this chapter, it is aimed to search effects of behavioral finance in Borsa Istanbul. Survey has been conducted in Gaziantep provience.

3.1. MEHTODOLODGY

In order analyze behavioral finance survey method is preffered. Groves et al. (2009) define survey as systematic method for collecting information from entities for aims of constructing quantitative descriptors of attributes of the bigger population of that entities are members. The main purpose of using survey method is demonstrating statistical meaning of behaviors and demographic factors from quantitative way. Analyze of findings of study has been by using SPSS. Then obtained datas are analyzed by T-test, ANOVA and Tukey test methods. For the statements with just two options, T-test is used, for statements more than two options ANOVA test is used. Then Tukey test is used to find relationship between sub-groups. The datas that have collected by survey was analyzed by using SPSS software.

3.2. THE METHODS THAT USED IN THE RESEARCH

In the research three test forms have been used. These tests are: ANOVA, T-test and Tukey test.

3.2.1 T-Test

T-test is accepted as most common used among hypothesis tests. T-test is used on purpose of analyzing whether there are any differences in averages of two illustrations or not. T-Test is also accepted as a parametric test method. Kim (2015) stated that a t test is a form of statistical method that is used to compare the means of two groups. It is one of the most widely preffered statistical hypothesis tests in pain searches.

T-test is considered necessary to use in application on purpose of observing differences or similarities of demographic factors.

3.2.2. ANOVA Test

ANOVA is shortening of the one-way analysis of variance. It is commonly used to specify whether there are any statistically relevancy differences between the means of three or more unrelated groups. Especially, ANOVA Test guides researchers to decide reject the null hypothesis or accepted the alternate hypothesis. Girden (1992) stated that analysis of variance is a general process for isolating the sources of variability in set of measurements. It is targeted to determine the extent to which effect of an independent variable is a major content.

When T-Test is applied in comparing many groups, the rate of type 1 error increases, so we need to apply ANOVA Test. ANOVA Test keeps the rate of type 1 error in 0.5. Therefore, ANOVA Test is used in application of survey.

3.2.3 Tukey Test

Tukey test is mainly used in applications to present the results. While ANOVA is used to significant results. When there are more than two groups, it is not suitable to compare them easily by using t-test. The correct way is applying ANOVA to determine whether there is any proof that shows differentiation or not. After conclude the differences the Tukey-test is used in investigating that which of means are not same. Newsom (2018) stated that it can be calculated new critical value that can be used to measure whether differences between any two pairs if means are significant.

3.3. ANALYSES AND FINDINGS

In that section results have been analyzed in three parts. In first part, frequency, percentage and cumulative percentages of demographic factors have been analyzed. Then in second part, mean and standard deviances of biases are analyzed in descpriptive statitics table. In last part, relationship between biases and demographic factors are analyzed by using methods of T-test, ANOVA and Tukey test.

3.3.1. Demographic Factors

In Table 3.1. Demographic factors are demonstrated and analyzed. 200 individual investors are investigated in different 12 demographic factors.

Table 3.1. Demographic Factors

Demographic Factor	Frequency	Percentage %	Cumulative Percentage %
Gender			
Male	143	71,5	71,5
Female	57	28,5	100,0
Age Group			
18-29	46	23,0	23,0
30-39	82	41,0	64,0
40-49	48	24,0	88,0
50-59	20	10,0	98,0
60 and above	4	2,0	100,0
Marital Status			
Married	131	65,5	65,5
Single	69	34,5	100,0
Education Status			
Primary Education	2	1,0	1,0
High School	20	10,0	11,0
Associate Degree	20	10,0	21,0
University Degree	101	50,5	71,5
Master Degree	57	28,5	100,0
Occupation			

Private Sector	80	40,0	40,0
Public Work	53	26,5	66,5
Self-Employment	33	16,5	83,0
Unemployed	5	2,5	85,5
Student	17	8,5	94,0
Retired	9	4,5	98,5
Housewife	3	1,5	100,0
Time of Trading Share			
Less than 1 year	49	24,5	24,5
Between 1-3 years	88	44,0	68,5
Between 3-5 years	34	17,0	85,5
Between 5-10 years	14	7,0	92,5
10 years and above	15	7,5	100,0
Time of Keeping Share			
0-6 months	36	18,0	18,0
6-12 months	85	42,5	60,5
1-3 years	58	29,0	89,5
3- 5 years	15	7,5	97,0
5 years and above	6	3,0	100,0
Number of Shares in Your Portfolio			
1	17	8,5	8,5
2	35	17,5	26,0
3	78	39,0	65,0
Between 4-10	59	29,5	94,5
11 and above	11	5,5	100,0
Profit From Shares Above Inflation Rate			
Yes	76	38,0	38,0
No	47	23,5	61,5
Yes, but for some years	65	32,5	94,0
No idea	12	6,0	100,0
Compare to other investors, your investment performance			
Below Average	43	21,5	21,5
Above the average	110	55,0	76,5

Average level	30	15,0	91,5
No idea	17	8,5	100,0
Knowledge Level of Stock Markets			
Low	25	12,5	12,5
Medium-Normal	72	36,0	48,5
High	103	51,5	100,0
Monthly Income			
Less than 1000 TL	4	2,0	2,0
1000-3000 TL	33	16,5	18,5
3000-5000 TL	74	37,0	55,5
5000-7000 TL	48	24,0	79,5
Higher than 7000 TL	41	20,5	100,0
Total	200	100,0	

The distributions of demographic factors of respondents are shown in table. In Table 3.1. 12 different factors demographic factors of 200 individual investors have been shown. According to data in table 1. %71.5 (143) of investors are male and %28.5 (57) are female. Age groups were divided into 5 groups in study. From 200 participants, 23% (46) are between 18-29 years old, %41(82) are between 30-39 years old, %24(48) are between 40-49 years old, 10% (20) are between 50-59 years and 2% are above 60 years old. 65,5 (131) % of respondents are married and 34,5 (69) of respondents are single investors. Education status factor were divided into 5 groups, %1 (2) of participants have primary education, and %10(20) of participants have high school education level, %10 (20) of respondents have associate degree level, 50,5%(101) are graduated from university and 28,5%(57) have master degree. Occupation factors were classified as 7 groups, 40%(80) of participants work in private sector, 26,5%(53) of respondents work in public works, 16,5%(33) of participants are self-employment, 2,5%(5) of participants are unemployed, 8,5%(17) of participants are students, 4,5%(9) of participants are retired from their jobs and 1,5%(3) of participants are housewives. Time of trading stock factor were classified as 5 different groups, 24,5%(49) of participants trade less than 1 year, 44%(88) of participants trade between 1-3 years, 17%(34) of participants trade between 3-5 years, 7%(14) of participants trade between 5-10 years and 7,5%(15) of participants

trade above 10 years. Time of keeping stocks also were divided into 5 groups 18%(36) of participants keep their stock between 0-6 months, 42,5%(85) of participants keep their stocks between 6-12 months, 29%(58) of participants keep their stocks between 1-3 years, 7,5%(15) of participants keep their stocks between 3-5 years and 3%(6) of participants keep 5 years or above. The number of stock factor was divided into 5 groups in search. 8,5%(17) of responds keep only 1 share in their portfolios, 17,5%(35) of responds keep 2 shares in their stocks, 39%(78) of responds keep 3 shares in theirs stocks, 29,5%(59) of responds keep between 4-10 shares and 5,5%(11) keep 11 or above shares in their portfolios. Profit from share trade was investigated in 4 groups, 38%(76) of participants can make profit higher than inflation rate, 23,5%(47) of participants make profit lower than inflation rate, 32,5%(65) of participants can make profit higher than inflation rate in some years and 6,0%(12) of participants don't have idea about that. 21,5%(43) of investors think that their investment performance is lower than other investors, 55%(110) of participants think that their investment performance is higher than average, 15%(30) of participants think that their investment performance in average level and 8,5%(17) of participants don't have idea about that. 12,5%(25) of participants think that their knowledge level low, 36%(72) of participants think that their knowledge level is in normal level, 51,5%(103) of participants think that their knowledge level is higher than market. Monthly income of participants were analyzed in 6 sections, 2%(4) of participants have less than 1000 TL income, 16,5%(33) of participants have income between 1000-3000 TL, 37%(74) of participants can make between 3.000-5.0000 income monthly, 24%(48) of participants have monthly income between 5.000-7.000 TL and 20,5%(41) of participants can make profit higher than 7.000 TL.

Table 3.2. Main Information Resources

Information Source			
	Frequency	Percentage %	Cumulative Percentage %
Thought of people who make investment around me	92	22,6601	22,6601
My Personal searches about companies	98	24,1379	46,798
Intermediary institutions	53	13,0542	59,8522
News, economy magazines and Channels	69	16,9951	76,8473
Other	94	23,1527	100
Total	406	100	

Information sources were classified in 5 different options. According to results, 24,13%(98) of participants use their searches about their companies, %22,66(92) of participants get thought of people around them, 13,05%(69) of participants use intermediary institutions, 16,99%(69) of participants affect from sources like news, magazines and channels, 23,15%(94) of participants use other information sources. It can be seen from table, investors mostly consider their personal searches and though of people around them. Also investors use channels like news and economy magazines as information resources. However, intermediary institutions are least information resource for individual investors. 200 investors have voted 406 options, this data demonstrates that investors use more than one information resource.

Table 3.3. Factors

Factors that Considered in Trading of Stocks			
	Frequency	Percentage %	Cumulative Percentage %
Interest rates	59	10,9665	10,9665
Fundamental analysis	78	14,4981	25,4647
Currency rates	66	12,2677	37,7323
Technical analysis	72	13,3829	51,1152
Clues	83	15,4275	66,5428
International markets	49	9,10781	75,6506
Portfolio	47	8,73606	84,3866
Other	84	15,6134	100
Total	538	100	

The factors that are considered by investors are divided into 8 groups. 10,96%(59) of participants consider interest rates, 14,49%(78) of participants have own fundamental analysis, 12,26%(66) of participants consider currency rates, 13,38%(72) of participants have own technical analysis, 15,42%(83) of participants consider their own clues, 9,10%(49) of participants follow international markets, 8,73%(47) consider by their portfolios and 15,61%(84) participants consider other factors. According to table, clues and fundamental analysis are most factors that preferred by investors. This data demonstrate that investors consider information like

clues and the technical analysis of shares. Portfolio has been least chosen option, it can be seen from this data, portfolio situation is not one of most important factor that considered by investors.

3.3.2. Descriptive Statistics

In survey 44 questions have been asked to investors totally. 14 questions are about demographic questions .The rest of questions were asked to investors with purpose of testing the six main biases that stated in the search.The question between 14-18 are about conservatism bias. The next 5 questions are about representative bias. The questions between 24 and 28 are about self attribution. The next 5 questions in between 29 and 33 are about overconfidence. Other 5 questions are about news-wathcers bias .And the last 5 questions are about momentum traders bias.

Table 3.4. Descriptive Statistics

	N	MIN	MAX	MEAN	STD. DEVIATION
Conservatism	200	1,00	4,60	2,6030	,50979
Representative	200	1,00	3,80	2,7070	,47948
Self-Attribution	200	1,00	4,00	2,6940	,46975
Overconfidence	200	1,00	4,00	2,6590	,51110
News-Watchers	200	1,20	4,00	2,6210	,54187
Momentum Traders	200	1,20	4,00	2,6560	,47454
Valid N (List wise)	200				

As seen in Table 3.4, when the average of the answers given to scale consisting of five options 1 to 5 is observed, it is seen that all biases are close to each other.

3.3.3. Findings

The T-test, ANOVA test and Tukey test methods have been applied in the search. The relationship between demographic factors and six biases have been analyzed.

Table 3.5. T-Test of Conservatism Bias - Gender and Marital Status Factors

Conservatism					**HYPOTHESIS**
	N	Avg.	t	p	H1
Gender					
Male	143	2.5888	-0.6225	0.5343	H_{1a}: Rejected
Female	57	2.6386			
Marital Status					
Married	131	2.5893	-0.5222	0.6021	H_{1b}: Rejected
Single	69	2.6290			

Since gender and marital status factors have two options t-test have been applied between subgroups. Results demonstrate that, gender factor doesn't have any relationship with conservatism bias. In other words being male or female doesn't affect gender factor. Marital status also doesn't have any relationship with conservatism bias.

Table 3.6. ANOVA Test of Conservatism Bias and Demographic Factors

FACTOR	**F**	**P**	**HYPOTHESIS – H1**
Age Group	2.56151	0.03981*	H_{1c} :Accepted
Education Status	1.22575	0.30121	H_{1d} : Rejected
Occupation	0.07868	0.99811	H_{1e} : Rejected
Time of Trading Shares	2.95492	0.02118*	H_{1f} : Accepted
Time of Keeping Shares	1.07310	0.37101	H_{1g} : Rejected
Portfolio	1.74510	0.141163	H_{1h} : Rejected
Inflation Rate	1.16934	0.32260	H_{1i} : Rejected
Performance	0.67805	0.56644	H_{1j} : Rejected
Knowledge Level	0.34233	0.71054	H_{1k} : Rejected
Monthly Revenue	2.464	0.047**	H_{1l} : Accepted

* : Results are significant in %1 confidence level
** : Results are significant in %5 confidence level

Results demonstrate that, age group has statistical difference with conservatism bias, when investors' ages increase; tendency of having conservatism bias also gets stronger. Since, when people gets older, they think that they have learned and experienced many things so far and they can't be wrong. Education status factor doesn't have statistical difference with conservatism bias. In other words, graduating from university or having master degree won't be significant

factor that having conservatism bias. Occupation bias doesn't have statistical difference with conservatism bias. A person can work public-work or run his own business that won't affect to have conservatism bias. Time of trading stocks has statistical difference with conservatism bias. As time of trading stocks increase, investors have tendency of having conservatism bias. Since investors may think they are experienced and they may not be disposed to learn new things. Time of keeping stock factors doesn't have any statistical difference with conservatism bias. Portfolio factor doesn't have any relationship with conservatism bias. Inflation rate doesn't have any statistical difference with conservatism bias. In other words, having lower or higher earnings from shares may not cause to have conservatism bias. Performance factor doesn't have any statistical difference with conservatism bias. Knowledge level factor also doesn't have any statistical difference with conservatism bias. In other words, investors, who think that their knowledge level is higher or lower than other investors, don't have tendency of conservatism bias. Monthly revenue factor has statistical difference with conservatism bias. As investors' monthly revenue increase, investors get stronger conservatism bias. Having higher revenue is one of sign of success. When revenue gets higher, investors may think that they are successful.

Table 3.7. Tukey Test of Conservatism Bias and Age Group Factors

Age Group		Mean Differences	Standard Error	p
30-39	40-49	-0.2355	0.09123	0.07786

Data in Table 3.7. demonstrate that when age of individual investors increase, tendency of conservatism bias also increases. As investors get older, they will consider their current beliefs or ideas.

Table 3.8. Tukey Test of Conservatism Bias and Time of Keeping Shares Factor

Time of Trading Shares		Mean Differences	Standard Error	p
Less than 1 year	Between 3-5 years	-0.32845	0.11162	0.02965
Less than 1 year	Between 5-10years	-0.38980	0.15154	0.07959

According to Table 3.8. when time of keeping stocks increase, tendency of conservatism bias also increases. Investors who keep stocks longer than other investors may be investors who have overconfidence bias.

Table 3.9. Tukey Test of Conservatism Bias and Revenue Monthly Factor

How Much is Revenue Monthly?		Mean Differences	Standard Error	p
Less Than 1000 TL	3000-5000 TL	-0.69324	0.25793	0.05943
Less Than 1000 TL	Above 7000 TL	-0.75244	0.26320	0.03755

According to Table 3.9. when monthly revenue of investors increases, tendency of conservatism bias also increases. Investors who have higher revenues compare to other investors may be investors who have overconfidence bias.

Table 3.10. T-Test of Representative Bias - Gender and Marital Status Factors

Representative					**HYPOTHESIS**
	N	Avg.	t	p	H2
Gender					
Male	143	2.6867	-0.9475	0.3445	H_{2a} : Rejected
Female	57	2.7579			
Marital Status					
Married	131	2.7359	1.1145	0.2673	H_{2b} : Rejected
Singe	69	2.6522			

Since gender and marital status factors have two options t-test have been applied between subgroups. Results demonstrate that, gender factor doesn't have any relationship with representative bias. In other words being male or female doesn't affect gender factor. Marital status also doesn't have any relationship with representative bias.

Table 3.11. ANOVA Test of Representative Bias and Demographic Factors

FACTOR	**F**	**P**	**HYPOTHESIS:** H2
Age Group	1.00396	0.40664	H_{2c} : Rejected
Education Status	0.89330	0.46897	H_{2d} : Rejected
Occupation	1.11527	0.35483	H_{2e} : Rejected
Time of Keeping Stocks	3.56410	0.00786*	H_{2g} : Accepted
Portfolio	1.15613	0.33156	H_{2h} : Rejected
Inflation Rate	1.96845	0.12003	H_{2i} : Rejected
Performance	0.70519	0.54998	H_{2j} : Rejected
Knowledge Level	2.340	0.099***	H_{2k} : Accepted
Monthly Revenue	3.69471	0.00635*	H_{2l} : Accepted

* : Results are significant in %1 confidence level.

***: Results are significant in %10 confidence level

Results demonstrate that, age group doesn't have statistical difference with representative bias. Education status factor doesn't have statistical difference with representative bias. In other words, graduating from university or having master degree won't be significant factor that having representative bias. Occupation bias doesn't have statistical difference with conservatism bias. A person can work public-work or run his own business that won't affect to have representative bias. Time of keeping stock factors has statistical difference with representative bias. In other words, investors may keep longer shares that they have bought because it is most popular. Portfolio factor doesn't have any relationship with representative bias. Inflation rate doesn't have any statistical difference with representative bias. In other words, having lower or higher earnings from shares may not cause to have representative bias. Performance factor doesn't have any statistical difference with representative bias. Knowledge level factor also has statistical difference with representative bias. In other words, as investors think knowledge level is higher than other investors, they get higher tendency of representative bias. Monthly revenue factor has statistical difference with representative bias. As investors' monthly revenue increase, investors get stronger representative bias. Having higher revenue cause people to have heuristics.

Table 3.12. Tukey Test of Representative Bias and Time of Keeping Shares Factor

Time of Keeping Shares		Mean Differences	Standard Error	p
0-6 months	6-12 months	-0.27987	0.09298	0.02440
0-6 months	1-3 years	-0.29808	0.09921	0.02479
0-6 months	5 years and above	-0.52222	0.20618	0.08763

According to Table 3.12. when time of keeping stocks increase, tendency of representative bias also increases. Investors who keep stocks longer than other invesrstors may be investors who have representative bias.

Table 3.13. Tukey Test of Representative Bias and Knowledge Level Factor

Knowledge Level		Mean Differences	Standard Error	p
Low	High	-0.22105	0.10619	0.09627

According to table 3.13. people think their knowledge level of stock markets are high, they also may have representative bias. As investors assume that their knowledge levels are good, they prefer to trade latest or unusual shares.

Table 3.14. T Test: Self Attribution Bias - Gender and Marital Status

Self-Attribution					**HYPOTHESIS**
	N	Avg.	t	p	H3
Gender					
Male	143	2.7231	1.3898	0.1662	$H_{3a:}$ Rejected
Female	57	2.6211			
Marital Status					$H_{3b:}$ Rejected
Married	131	2.7069	0.5329	0.5947	
Single	69	2.6696			

Since gender and marital status factors have two options t-test have been applied between subgroups. Results demonstrate that, gender factor doesn't have any relationship with self-attribution. In other words being male or female doesn't affect gender factor. Marital status also doesn't have any relationship with self-attribution bias.

Table 3.15. ANOVA Test Self Attribution

FACTOR	F	P	RESULT
Age Group	1.34078	0.25623	H_{3c} : Rejected
Education Status	2.19736	0.07073***	H_{3d} : Accepted
Occupation	1.64907	0.13556	H_{3e} : Rejected
Time of Trading Stocks	1.04531	0.38503	H_{3f} : Rejected
Time of Keeping Stocks	0.07886	0.98871	H_{3g} : Rejected
Portfolio	2.00389	0.09549***	H_{3h} : Accepted
Inflation Rate	0.29051	0.83222	H_{3i} : Rejected
Performance	1.09098	0.35407	H_{3j} : Rejected
Knowledge Level	1.07545	0.34314	H_{3k} : Rejected
Monthly Revenue	1.26617	0.28468	H_{3l} : Rejected

***: Results are significant in %10 confidence level

Results demonstrate that, age group doesn't have any statistical difference with self-attribution bias, when investors' ages increase; tendency of having self-attribution bias doesn't get stronger. Education status factor has statistical difference with self-attribution bias. Education levels of investors affect self-attribution bias. Occupation bias doesn't have statistical difference with self-attribution bias. A person can work public-work or run his own business that won't affect to have self-attribution bias. Time of trading stocks doesn't have any statistical difference with self-attribution bias. Time of keeping stock factors doesn't have any statistical difference with self-attribution bias. Portfolio factor has relationship with self-attribution bias. Investors that have keep many shares in their portfolios have tendency of self-attribution .Inflation rate doesn't have any statistical difference with self-attribution bias. In other words, having lower or higher earnings from shares may not cause to have self-attribution bias. Performance factor doesn't have any statistical difference with self-attribution bias. Knowledge level factor also doesn't have any statistical difference with self-attribution bias. In other words, investors, who think that their knowledge level is higher or lower than other investors, don't have tendency of self-attribution bias. Monthly revenue factor doesn't have any statistical difference with self-attribution bias.

Table 3.16. Tukey Test of Self-Attribution Bias and Education Status Factor

Education Status		Mean Variances	Standard Error	p
Associate Degree	University	-0.31644	0.11361	0.04592

According to Table 3.16. investors that have higher education status also may reflect self-attribution bias. Since when people get higher education degrees, they will be able to themselves more educated and successful. They will follow the data that same with theirs.

Table 3.17. Tukey Test of Self Attribution Bias and Portfolio Factors

Portfolio		Mean Difference	Standard Error	p
2	3	-0.23582	0.09462	0.09657

According to results in Table 3.17. as shares in portfolio increases, investors have self-attribution bias. Investors that have representative bias may use their data and they will form their shares. They can prefer to increase their share to reduce risk rates.

Table 3.18. T-Test of Overconfidence bias - Gender and Marital Status Factors

Overconfidence					**HYPOTHESIS**
	N	Avg.	t	p	H4
Gender					
Male	143	2.6420	-0.7461	0.4565	$H_{4a:}$ Rejected
Female	57	2.7018			
Marital Status					
Married	131	2.6427	-0.6187	0.5369	$H_{4b:}$ Rejected
Single	69	2.6899			

Since gender and marital status factors have two options t-test have been applied between subgroups. Results demonstrate that, gender factor doesn't have any relationship with overconfidence bias. In other words being male or female doesn't affect gender factor. Marital status also doesn't have any relationship with overconfidence bias

Table 3.19. ANOVA Test of Overconfidence Bias and Demographic Factors

FACTOR	F	P	RESULT
Age Group	0.63349	0.63918	H_{4c} : Rejected
Education Status	2.37965	0.05312***	H_{4d} : Accepted
Occupation	1.10113	0.36314	H_{4e} : Rejected
Time of Trading Stocks	0.55244	0.69746	H_{4f} : Rejected
Time of Keeping Stocks	2.13817	0.07757***	H_{4g} : Accepted
Portfolio	0.74622	0.56162	H_{4h} : Rejected
Inflation Rate	0.35309	0.78695	H_{4i} : Rejected
Performance	1.63876	0.18172	H_{4j} : Rejected
Knowledge Level	0.65268	0.52177	H_{4k} : Rejected
Monthly Revenue	1.45606	0.21714	H_{4l} : Rejected

***: Results are significant in %10 confidence level

Results demonstrate that, age group doesn't have any statistical difference with overconfidence bias. Education status factor has statistical difference with overconfidence bias. Education level investors may cause to be seen overconfidence bias. When investors reach higher education degrees, they may give more importance to their knowledge. Occupation bias doesn't have statistical difference with overconfidence bias. A person can work public-work or be retired in his business that won't affect to have overconfidence bias. Time of trading stocks doesn't have any statistical difference with overconfidence bias. Time of keeping stock factor has statistical difference with overconfidence bias. If investors think that the special data they have is so crucial, it will affect their keeping time of stocks. Portfolio factor doesn't have any relationship with overconfidence bias. Inflation rate doesn't have any statistical difference with overconfidence bias. In other words, having lower or higher earnings from shares may not cause to have overconfidence bias. Performance factor doesn't have any statistical difference with overconfidence bias. Knowledge level factor also doesn't have any statistical difference with overconfidence bias. In other words, investors, who think that their knowledge level is higher or lower than other investors, don't have tendency of overconfidence bias. Monthly revenue factor doesn't have any statistical difference with overconfidence bias.

Table 3.20. Tukey Test of Overconfidence bias and Education Status Factor

Education Status		Mean Difference	Standard Error	p
High School	University	-0.31723	0.12339	0.07984
High School	Master Degree	-0.35930	0.13103	0.05152

Table 3.20. demonstrates that, as education level of investors, increase investors have tendency of overconfidence bias.

Table 3.21. Tukey Test of Overconfidence Bias and Time of Keeping Shares

Time of Keeping Shares		Mean Difference	Standard Error	p
0-6 months	1-3 years	-0.23716	0.10722	0.02814
0-6 months	5 years and above	-0.48889	0.22284	0.02942

Table 3.21. demonstrates that, as time of keeping shares also increase, investors have tendency of overconfidence bias.

Table 3.22. T-Test of News Watchers Bias - Gender and Marital Status Factor

News Watchers					**HYPOTHESIS**
	N	Avg.	t	p	H5
Gender					
Male	143	2.6000	-0.8676	0.3867	$H_{5a:}$ Rejected
Female	57	2.6737			
Marital Status					
Married	131	2.6763	2.0050	0.0463	$H_{5b:}$ Rejected
Single	69	2.5159			

Since gender and marital status factors have two options t-test have been applied between subgroups. Results demonstrate that, gender factor doesn't have any relationship with news watchers bias. In other words being male or female doesn't affect gender factor. Marital status has relationship with news watchers bias. According to results, married people have tendency of news watchers bias. They

don’t consider current or previous prices mostly. They use private data to make predictions about future.

Table 3.23. ANOVA Test of News Watchers

FACTOR	F	P	RESULT
Age Group	2.31163	0.05913***	H_{5c} : Accepted
Education Status	2.20690	0.06968***	H_{5d} : Accepted
Occupation	0.95322	0.45829	H_{5e} : Rejected
Time of Trading Stocks	2.80325	0.02704**	H_{5f} : Accepted
Time of keeping Stocks	1.07681	0.36917	H_{5g} : Rejected
Portfolio	1.76355	0.13775	H_{5h} : Rejected
Inflation Rate	0.73249	0.53376	H_{5i} : Rejected
Performance	2.39314	0.06973***	H_{5cj} : Accepted
Knowledge Level	8.18909	0.00038	H_{5l} : Accepted
Monthly Revenue	2.61459	0.03658	H_{5l} : Accepted

** : Results are significant in %5 confidence level.

***: Results are significant in %10 confidence level

Results demonstrate that, age group has statistical difference with news watchers bias, when investors’ ages increase; investors may make more predictions by reaching private information. Education status factor has statistical difference with news watchers bias. In other words, higher education level let investors analyze private information better. Occupation bias doesn’t have any statistical difference with news watchers bias. Time of trading stocks has statistical difference with news watchers bias because as time of trading increases, investor may be able to make predictions. Time of keeping stock factors doesn’t have any statistical difference with news watchers bias. Portfolio factor doesn’t have any relationship with news watchers bias. Inflation rate doesn’t have any statistical difference with news watchers bias. In other words, having lower or higher earnings from shares may not cause to have news watchers bias. Performance factor has statistical difference with news watchers bias. Knowledge level factor has statistical difference with news watchers bias. In other words, investors, who think that their knowledge level is higher or lower than other investors, don’t consider fundamental analysis. Monthly

revenue factor has statistical difference with news watchers bias. As investors' monthly revenue increase, investors get stronger news watchers bias. Higher monthly revenue causes investors to have news watchers bias.

Table 3.24. Tukey Test of News Watchers Bias and Age Group Factor

Age Group		Mean Variances	Standard Error	p
18-29	40-49	-0.32373	0.11036	0.03044

According to Table 3.24. when investors get older, they may have tendency of news-watchers bias. As investors get older they make predictions by using private data and this situation cause to be seen news watcher bias.

Table 3.25. Tukey Test of News Watchers Bias and Time of Trading Shares

Time of Trading Shares		Mean Variances	Standard Error	p
Less than 1 year	10 years and above	-0.33535	0.13104	0.08219

As time of trading shares that made by individual investors increase, investors have tendency of news watcher bias. Having a long trading share background, let people reach private data and this situation cause to have tendency of news watcher bias.

Table 3.26. Tukey Test of News Watchers and Performance Bias

Performance		Mean Variances	Standard Error	p
Below the Average	Above the Average	0.24964	0.09645	0.05038

Investors, that think their performance is high, have also tendency of news watchers bias. These investors may claim that their performance of trading shares is above the average and they can make predictions by themselves.

Table 3.27. Tukey Test of News Watchers Bias and Knowledge Level Factor

Knowledge Level		Mean Difference	Standard Error	p
Low	Medium	-0.29222	0.12148	0.04480
Low	High	-0.45786	0.11667	0.00035

Investors, that think their knowledge level is high, have tendency of news watchers bias. These investors may claim that their knowledge level of shares is above the average and they can make predictions by themselves.

Table 3.28. Tukey Test of News Watchers Bias and Monthly Revenue Factor

Monthly Revenue		Mean Difference	Standard Error	p
Less than 1000 TL	5000-7000 TL	-0.55000	0.27753	0.04891
Less than 1000 TL	Above 7000 TL	-0.52195	0.27935	0.06320
1000-3000 TL	5000-7000 TL	-0.29545	0.12059	0.01517
1000-3000 TL	Above 7000 TL	-0.26741	0.12472	0.03326
3000-5000 TL	5000-7000 TL	-0.17162	0.09883	0.08406

As monthly revenue of investors increase, individual investors may have tendency of news watchers bias.

In Table 3.29. it is investigated in finding any statistical difference between momentum traders bias and gender factor and representative momentum traders and marital status factor.

Table 3.29. T-Test- Gender and Marital Status- Momentum Traders

Momentum					**HYPOTHESIS**
	N	Avg.	t	p	
Gender					$H_{6a:}$ Rejected
Male	143	2.6490	-0.3320	0.7402	
Female	57	2.6737			
Marital Status					$H_{6b:}$ Accepted
Married	131	2.7115	2.3014	0.0224**	
Single	69	2.5507			

* *: Results are significant in %5 confidence level.

Since gender and marital status factors have two options t-test have been applied between subgroups. Results demonstrate that, gender factor doesn't have any relationship with momentum traders bias. In other words being male or female

doesn't affect gender factor. Marital status has statistical difference with momentum traders bias.

Table 3.30. ANOVA Test of Momentum Traders Bias and Demographic Factors

FACTOR	F	P	RESULT
Age Group	4.76439	0.00109*	H_{6c} : Accepted
Education Status	0.84835	0.49614	H_{6d} : Rejected
Occupation	1.61087	0.14599	H_{6e} : Rejected
Time of Trading Stocks	3.44531	0.00955*	H_{6f} : Accepted
Time of Keeping Stocks	4.31865	0.00227*	H_{6g} : Accepted
Portfolio	4.43668	0.00187*	H_{6h} : Accepted
Inflation Rate	1.42702	0.23612	H_{6i} : Rejected
Performance	0.70377	0.55083	H_{6j} : Rejected
Knowledge Level	2.68691	0.07059***	H_{6k} : Accepted
Monthly Revenue	2.77529	0.02828**	H_{6l} : Accepted

*: Results are significant in %1 confidence level.

**: Results are significant in %5 confidence level.

***: Results are significant in %10 confidence level

Results demonstrate that, age group has statistical difference with momentum traders bias, when investors' ages increase, investors use previous prices more frequently. Education status factor doesn't have any statistical difference with momentum traders bias. In other words, graduating from university or having master degree won't be significant factor that having momentum traders bias. Occupation bias doesn't have statistical difference with momentum traders bias. A person can work public-work or run his own business that won't affect to have momentum traders bias. Time of trading stocks has statistical difference with momentum traders bias. As time of trading stocks increase, investors may use previous prices more frequently. Time of keeping stock factor has statistical difference with momentum traders bias. Portfolio factor has relationship with momentum traders bias. Investors may form their portfolios under effect of momentum traders bias. Inflation rate doesn't have any statistical difference with momentum traders bias. In other words, having lower or higher earnings from shares may not cause to have momentum

traders bias. Performance factor doesn't have any statistical difference with momentum traders bias. Knowledge level factor has statistical difference with momentum traders bias. Monthly revenue factor has statistical difference with momentum traders bias. As investors' monthly revenue increase, investors get stronger momentum traders bias successful.

Table 3.31. Tukey Test of Momentum Traders Bias and Age Group Factor

Age Group		Mean Difference	Standard Error	p
18-29	30-39	-0.29396	0.08429	0.00060
18-29	40-49	-0.28207	0.09441	0.00317
18-29	50-59	-0.39957	0.12255	0.00131
30-39	60 and Above	0.42439	0.23429	0.07162
40-49	60 and Above	0.41250	0.23812	0.08479
50-59	60 and Above	0.53000	0.25061	0.03571

According to results in Table 3.31. as investors' age increase, they may have tendency of having momentum traders bias. Since investors that use only previous prices are accepted as momentum traders. Therefore, investors that test previous prices may prefer to use only previous prices for predictions.

Table 3.32. Tukey Test of Momentum Traders Bias and Time of Trading Shares Factor

Time of Trading Shares		Mean Difference	Standard Error	p
Less Than 1 year	Between 1-3 years	-0.25153	0.08258	0.02195
Less Than 1 year	Between 5-10 years	-0.36939	0.14040	0.06872

It can be seen from Table 3.32. there is a statistical difference between momentum traders bias and time of trading shares factor. As time of time trading shares increase, investors have tendency of momentum traders bias. Since momentum traders consider only previous prices.

Table 3.33. Tukey Test of Momentum Traders Bias and Portfolio Factor

Portfolio		Mean Difference	Standard Error	p
1	4-10 between	-0.45404	0.12634	0.00374
3	4-10 between	-0.24333	0.07919	0.02026

It can be seen from Table 3.33. there is a statistical difference between momentum traders bias and portfolio theory. As investors vary their portfolios and buy new shares to reduce risk rate, they may have momentum traders bias.

Table 3.34. Tukey Test of Momentum Traders Bias and Knowledge Level Factor

Knowledge Level		Mean Difference	Standard Error	p
Low	High	-0.24280	0.10492	0.05616

According to results, there is statistically meaning between momentum traders bias and knowledge level factor. As investors think that their knowledge level is high, they prefer previous prices and have tendency of momentum traders bias.

Table 3.35. Tukey Test of Momentum Traders Bias and Revenue Monthly Revenue Factor

Monthly Revenue		Mean Difference	Standard Error	p
1000-3000 TL	Above 7000 TL	-0.35521	0.10905	0.01147

The data collected from survey results demonstrate that there is a statistical difference between momentum traders bias and monthly revenue factor. And as monthly revenue increases, momentum traders bias get stronger.

In order to analyze probabilities of sub-groups, ANOVA and T-test has been used. In order to find probabilities between two groups, t-test has been used for the factors that have just two options, but for factors which have more than two options , ANOVA test has been applied. When probability that obtained from ANOVA is less than %10, hypothesis accepted. Then tukey test has been applied to analyze statistical difference between sub-groups of factor.

Obtained results demonstrate that individual investors, that live in Gaziantep and make investment in Borsa Istanbul, are affected from psychological factors. And, demographic factors also form decisions of individual investors.

Findings that obtained from research demonstrate that, there are statistical differences between demographic factors and biases in Borsa Istanbul. It is observed that, there are researches which show parallelism with this research in literature. The searches which made by Ozcelik (2018), Agan and Aydin (2017), Yildirim (2017), Aldemir(2015), Bilgin(2018) , Gumus, et al. (2013) and Buyukaslan(2012).

CONCLUSION

The Classical finance theories claims that investors are rational and when they have to make decisions for their financial investments, they are not affected from psychological factors. Their main purposes are avoiding risk and maximizing their profits. However, next searches demonstrated that, most investors doesn't behave in that way. Since human being has more complicated structure than it how seems. The next searches also demonstrated that classical finance theory can't explain anomalies and reasons that effect investors in that point, researches began to judge adequateness of classical finance theories and develop a new theory that also explain effect of human psychological structure in finance. The justifications are accepted as most important reasons that cause to investigate behavioral finance.

Behavioral finance theory claims that, investors are affected from psychological factors like cognitive and emotional biases and they reflect this situation to their investment decisions. And many searches which confirm that claim made lately. According to behavioral finance theory, investors can't always behave rationally and this causes to be seen anomalies in markets. Behavioral finance also aims to explain reasons of anomalies.

Also behavioral finance is associated with other scientific fields. These scientific fields are psychology, social psychology, sociology and anthropology. Since also these fields claim that people can't always behave rationally.

In this thesis, it is aimed to contribute the literature by examining investment decisions of individual investors in consideration of behavioral finance and it differs from others because it first study that conducted only for region of Gaziantep city. This thesis is comprised of two main parts. In first part traditional finance theory, behavioral finance and previous studies are discussed by their assumptions and explanations in literature. In the second part, results of empirical study discussed. The method of survey is preferred and it is conducted to 200 individual investors that live in Gaziantep and trade in Borsa Istanbul. Then

the resultsare analyzed by using ANOA, T-test and Tukey methods. In survey two forms of questions are asked. In first section of survey, it was targeted to search demographic factors of investors and in second section of survey, it was targeted to investigate biases. Then it end of thesis, findings are discussed in finding section.

According to results in first part of survey, it can be reached to 200 individual investors. 71,5% of responds are male and 65,5% of responds are married. Most of investors are male and this is also valid all finance centers. The 41% of responds are from 30-39 years age group which is described as middle age. More than half rate of responds are graduated from university, 50,5% of responds are graduated from university. 40% of responds work in private sectors and only 2,5% responds are unemployed. 44% of responds trade between 1-3 years and 42,5% responds keep their stocks at least 6 months and sell before one year. 78 responds keep 3 shares in their portfolios and only 17 responds trade just one share. 76 of responds can make profit higher than inflation rate only for some years. Most of responds also find their performance higher than average the rate of responds that claim that is 55% this approach also cause investors to have biases like conservatism. And more than half of responds claim that their knowledge level higher than average.

Also information resources and factors that considered by investors when they trade are analyzed in first part of survey. Personal searches and thought of people have been most chosen information resources. Intermediary intuitions have been less chosen source since people may think that they can be directed wrongly. Clues and fundamental analysis have been most chosen factors.

According to results in second part of survey, results demonstrated that 6 biases which claimed by 3 behavioral models affect individual investors who live in Gaziantep and make transactions in Borsa Istanbul. And also demographic factors affect them. According to results, age groups, time of trading and monthly revenue factors are associated with conservatism bias. Time of keeping, knowledge level and monthly revenues factors cause investors to have representative bias. Education status and portfolio factors affect self-attribution bias. Education status and time of keeping stocks are also associated with overconfidence bias. Time of trading stocks and performance factors make people affect from news watcher bias. Age group, time of trading stocks, time of keeping stocks, portfolio, knowledge level and monthly revenue factors are associated with momentum traders bias.

It can be seen from results of application, biases and demographic factors of individual investors affect financial decisions. It is corroborated that behavioral finance assumptions are correct. It is reached that investors are not rationalist and psychological factors form investors' decisions.

Human nature has a complicated structure, effects of psychological factors can't be prevented. However, some measures may decrease effects of behavioral finance. Therefore, investors will be able to give more consistent decisions. First of all, all of investors should be informed about behavioral finance, heuristics, anomalies and biases. Internet or other social channels can be used in informing investors. Each investor should study basics of finance and behavioral finance before they begin to make investments in finance centers. Thus, they will be avoiding devastating effects of wrong decisions.

Demographic factors like age group and time of trading shares form investors. Especially, as investors get older or time of trading shares increase they have conservatism bias strongly. They should also always consider new price and data when they need to make decisions. They shouldn't ignore new information on the market. Investors, who have representative biases, shouldn't ignore statistical data and investors, who have higher education levels, shouldn't follow their ideas. Investors that have overconfidence bias should investigate all data carefully and judge the trueness of information. Investors that have self-attribution bias should know that trading of shares works with finance literacy and information not mostly personal effort. Investors that have news watchers bias should analyze all information related to markets and shares not only private data since they should remember that all of factors have effects on forming shares. Investors that have momentum traders should know only price analyze won't be enough for price predications.

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APPENDICES

APPENDICE 1

The survey that used in application on the purpose of investigating investors who live in Gaziantep and trade Borsa Istanbul.

Dear Participant

That research is prepared to investigate behaviors of investors. The main purpose is investigating that whether investors act rationally or not? The results will be used only for scientific purposes. Thanks for your attention.

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1-) What is your Gender?

- Male
- Female

2-) What is your age?

- 18-29
- 30-39
- 40-49
- 50-59
- 60 or above

3-)What is Your Maritial Status?

- Single
- Married

4-) Your Education Status?

- Primary Education
- High School
- Associate Degree

- University degreeMaster Degree

5-) What is Your Occupation?

- Private Sector
- Public Work
- Self Employment
- Unemployed
- Student
- Retired
- Housewife

6-) **For how long do you trade stocks?**

- Less than 1 years
- Between 1-3 years
- Between 3-5 years
- Between 5-10 years
- 10 years and above

7-) How long do you averagely keep your stocks?

- 0-6 months
- 6-12 months
- 1-3 years
- 3- 5 years
- 5 years and above

8-) In your portfolio, how many common stocks of different companies do you have averagely?

- 1
- 2
- 3
- Between 4-10
- 11 and above

9-) Is your profit from stocks above inflation rate?

- Yes
- No
- Yes but for some years
- No idea

10-) Compare to other investors , what is your opinion about your investment performance ?

- Below Average
- Above the average
- Average level
- No idea

11-) What are your main information resources about your investment decisions ?

- Thoughts of people around me
- My personal searches about companies
- Intermediary Instituations
- Newspaper and economy magazines
- Tv channels
- Other

12-) Which factors do you consider when trade stocks?

- Interest rates
- Basic analyse
- Currency rates
- Clues
- Political stability
- International Markets
- The portfolio of situation
- Other

13-) How is your knowledge level about stock markets?

- Low
- Medium
- High

14-) How much is your monthly income ?

- Less than 1000 TL
- 1000-3000 TL
- 3000-5000 TL
- 5000-7000 TL
- Higher than 7000 TL

15-) Some negative news about the shares that l think price of them will increase don't change my ideas.

- I totally Agree
- I Agree
- I am hesitant
- I disagree
- I totally disagree

16-) I behave carefully when ı creat ideas about share and ı dont change my mind easily.

- I totally Agree
- I Agree
- I am hesitant
- I disagree
- I totally disagree

17-) Most of investors in Turkey , they don't care bad news about shares enough after they buy them.

- I totally Agree
- I Agree
- I am hesitant

- I disagree
- I totally disagree

18-)There has been time that I haven't considered some signs that show a bad company gets better.

- I totally Agree
- I Agree
- I am hesitant
- I disagree
- I totally disagree

19-) A couple positive ideas ,about a share that I think price will go down, don't change my mind .

- I totally Agree
- I Agree
- I am hesitant
- I disagree
- I totally disagree

20-) Investors act by considering all old and new dates factors when they trade shares.

- I totally Agree
- I Agree
- I am hesitant
- I disagree
- I totally disagree

21-) I act by considering all latest and unusual factors about shares when I trade.

- I totally Agree
- I Agree
- I am hesitant
- I disagree

- I totally disagree

22-) The two or three interesting news about shares that taken same time affects trading of shares in Turkey.

- I totally Agree
- I Agree
- I am hesitant
- I disagree
- I totally disagree

23-) I was also affected from two or three interesting news in past then I traded shares.

- I totally Agree
- I Agree
- I am hesitant
- I disagree
- I totally disagree

24-) I act as considering all old and new dates factors when ı trade shares.

- I totally Agree
- I Agree
- I am hesitant
- I disagree
- I totally disagree

25-) Investors give more importance to data that support ideas about shares their own .

- I totally Agree
- I Agree
- I am hesitant
- I disagree
- I totally disagree

26-) I don’t consider negative data about share that I believe in its prices will go up.

- I totally Agree
- I Agree
- I am hesitant
- I disagree
- I totally disagree

27-) It will be difficult for me to accept that I make wrong investment decisions .

- I totally Agree
- I Agree
- I am hesitant
- I disagree
- I totally disagree

28-) I believe in that, I can recover my losses from a share that I bought in time even if I lose.

- I totally Agree
- I Agree
- I am hesitant
- I disagree
- I totally disagree

29-) I approach with suspicion to data that don’t compromise with my ideas about my shares .

- I totally Agree
- I Agree
- I am hesitant
- I disagree
- I totally disagree

30-) Before I trade, it is very important to gain special tips that most of investors in the market don't know.

- I totally Agree
- I Agree
- I am hesitant
- I disagree
- I totally disagree

31-) I have traded of profitable shares by gaining data that unknown in market in past .

- I totally Agree
- I Agree
- I am hesitant
- I disagree
- I totally disagree

32-) Individual investors , give more importance to specific data that they have gained , than public shared data .

- I totally Agree
- I Agree
- I am hesitant
- I disagree
- I totally disagree

33-) I rely estimations of shares that I gain special data

- I totally Agree
- I Agree
- I am hesitant
- I disagree
- I totally disagree

34-) The investors who have confidential data , they make more profit than most of investors in market.

- I totally Agree
- I Agree
- I am hesitant
- I disagree
- I totally disagree

35-) I make transactions by considering special datas more than current and former prices .

- I totally Agree
- I Agree
- I am hesitant
- I disagree
- I totally disagree

36-) I think , all of investors wish to reach special data rather than price movements if they can choose to prefer .

- I totally Agree
- I Agree
- I am hesitant
- I disagree
- I totally disagree

37-) I believe in that it is hard to gain high profits without having special data of shares .

- I totally Agree
- I Agree
- I am hesitant
- I disagree
- I totally disagree

38-) It is not enough of just analyzing current and former prices to estimate next prices .

- I totally Agree
- I Agree
- I am hesitant
- I disagree
- I totally disagree

39-) It has to be reached to special data , ın order to make correct estimations.

- I totally Agree
- I Agree
- I am hesitant
- I disagree
- I totally disagree

40-) I buy shares that have just started to increase and according to my thought ıt will increase more for a while .

- I totally Agree
- I Agree
- I am hesitant
- I disagree
- I totally disagree

41-) I usually , make profit buy shares which are in up trend.

- I totally Agree
- I Agree
- I am hesitant
- I disagree
- I totally disagree

42-) Investors considering current and forms prices mostly , compared to special data of shares in buying and selling processes .

- I totally Agree
- I Agree
- I am hesitant
- I disagree
- I totally disagree

43-) If I feel that the market goes down , I sell shares .

- I totally Agree
- I Agree
- I am hesitant
- I disagree
- I totally disagree

44-) Selling shares that are in down trends make gain me more profit .

- I totally Agree
- I Agree
- I am hesitant
- I disagree
- I totally disagree

VITAE

Orhan DEGER was born in Cizre/Sirnak in 1991. He graduated from the Department of Business Administration, Faculty of economics and administrative sciences at Zirve University in 2014. He can speak English and Arabic in advance level. He has been working as foreign trade manager in a company since 2018.

ÖZGEÇMİŞ

Orhan DEGER 1991 yılında Cizre/Şırnak ta doğdu. Zirve Üniversitesi İktisadi ve İdari bilimler Fakültesi İşletme Bölümü'nden 2009 yılında mezun oldu. Orhan DEGER ileri derecede İngilizce ve Arapça bilmektedir. 2018 yılından beri bir şirkette diş ticaret müdürü olarak çalışmaktadır.