EFFECT OF BEHAVIOURAL FACTORS ON INVESTMENT DECISIONS OF INDIVIDUAL MUTUAL FUND INVESTORS IN KENYA: A SURVEY OF INDIVIDUAL MUTUAL FUND INVESTORS IN NAIROBI COUNTY.

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DECLARATION

I declare that this is my original work and has not been previously published or submitted elsewhere for award of a degree. I also declare that this thesis contains no material written or published by other people except where due reference is made and authors duly acknowledged.

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DEDICATION

To my loving Mum, Grace Gatere, for the effort she put in laying such a firm foundation of hard work towards my education. To my adorable daughter, Jessica Grace Wangui for your support that you allowed me to exceptionally work hard to give you a better life. You are my inspiration.

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ABSTRACT

Behavioral finance has developed greatly in line with the increasing number of market anomalies which could not be explained by traditional theories. Additionally, there being no consensus among financial researchers concerning the validity of behavioral finance means that the behavioral concept is still open to future research. This study aimed to mirror the effects of behavioral factors on investment decisions in Mutual fund by individual investors in Kenya. The study was guided by four theories; prospect theory, heuristic theory, expected utility theory and Herding theory. The study focused on specific objectives of Overconfidence, Herding, Representativeness and Availability bias as the major behavioral factors known to influence investment decision making. Demographic factors were also included which had the role of controlling variables. The study employed descriptive research that employed a case study targeting a population of all clients of the 19 registered funds in Nairobi County. A convenient sample of 57 respondents was determined using snow ball sampling procedure. Primary data was collected through the use of a 4-Likert scale questionnaire. A regression model was used to establish the type relationship between the variables and SPSS software was used for analysis.The study findings revealed a significant positive relationship between Availability bias factors and investment decisions in mutual funds. The study however revealed insignificant but positive relationships between Overconfidence, Herding and Representative Bias as the main factors of study. The study also found that demographic factors which had a controlling role have an insignifant negativerelationship with investment decisions. The study concluded that investment decisions in mutual funds by individual investors in Kenya are influenced by behavioral factors but the influence is not significant. The study recommends that the study be extended to other counties in Kenya using a larger sample size to determine reliability of the results.

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ACRONYMS

CMA	Capital Markets Authority.
EUT	Expected Utility Theory
PT	Prospect Theory
HT	Heuristic Theory
HT	Herding Theory
CBK	Central Bank of Kenya
GDP	Gross Domestic Product

OPERATIONAL DEFINITION TERMS

Mutual Fund-An investment vehicle made up of a pool of funds collected from many investors for the purpose of investing in securities such as stocks, bonds, money market instruments and similar assets.

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study.

Most research in modern economics has been built on the belief that human beings are rational investors who invest with an aim to maximize wealth while minimizing risk. The investors are known to carefully assess the risk and return of all possible investment options to arrive at an investment that suits their level of risk aversion and thereby arriving at an optimal decision when investing. (Barber, 2011).

A number of investigations however have noticed that human decisions often depend on their nature, intuitions, and habits, cognitive or emotional biases hidden deeply in individuals' mind which lead them to making irrational decisions. Bernstein (1996) for example provides evidence that reveals repeated patterns of irrationality, inconsistency, and incompetence in the ways people arrive at decisions and choices when faced with uncertainty. Against this background, behavioral finance has evoked much interest in relation to investment decision-making. Behavioral finance theories are based on cognitive psychology, which suggests that human decision processes are subject to several cognitive illusions. These cognitive illusions can be grouped into two classifications: illusions due to heuristic decision processes and illusions caused by the adoption of mental frames, which are conveniently grouped in the prospect theory. These two categories form the basis of the behavioral theories: (Waweru, 2008).It has also been argued that most people are seen to make their decisions based on emotions, feeling, fantasy, mood and sentiments which end up affecting investment decisions (Statman, Fisher &Anginer,

2008).Additionally, most investors tend to have a personal and emotional attachment to the asset they hold. This in a way explains why some investors continue to hold assets even when the prices are declining. In the absence of perfect information investors are likely to make wrong decisions. (Jordan and Miller, 2008)

More often, investment decisions are based on performance, forecasting, market timing and so on while others relied on complex models such as CAPM (Capital Asset Pricing Model) and rational expectation models. In CAPM investors are known to hold well diversifiedportfolios consisting of the market portfolio and risk free investments. (Barber, 2011).In rationalexpectations model, some investors choose to acquire costly information and others choose to invest passively. Informed, active, investors earn higher pre-cost returns, but, in equilibrium, all investors have the same expected utility. (Grossman and Stieglitz, 1980).The consequence of reliance on such models means that decision making processes have become unrealistic since psychological factors are greatly overlooked.

Past research work by Berber & Odean (1999), Huberman (2001), Pompian (2008) & Shefrin (2011) have found out that human psychological state affects their investment decisions making leading to fundamental mistakes which in turn affect the market negatively.

Over the years, behavioral economists have stipulated that, behavioral factors which include heuristic, prospective herding and rationality factors make decision making easier, especially in complex, uncertain environments and particularly when time is limited (Ritter, 2003).

1.1.1 Behavioral biases in Mutual Funds.

Behavioral biases refer to the tendency of decision making that result in irrational financial decisions

caused by faulty cognitive reasoning and /or reasoning influenced by emotions(Pompian 2012) .Behavioral biases began as an attempt to understand why financial markets react inefficiently to public information. One branch of behavioral bias examines how psychological forces induce traders and managers to make sub-optimal decisions, and how these decisions affect market behavior. Another stream examines how economic forces might keep rational traders from exploiting apparent opportunities for profit. (Odean, 2011)

It is believed that, in the mutual fund industry behavioral factors are believed to take a big role. Some investors tend to stay with funds that consistently perform poorly. This is evidenced by the fact that investor dollars flow into winning funds more rapidly that they flow out of losers. This has been taken as evidence of irrationality (Ippolito, 1992).Further, there is evidence that investor psychology playas role in the fund switching decision and that investor aversion to switching from poor performers may be explained by overly optimistic perceptions of past mutual fund performance. Investor recollections of past performance are consistently biased above actual past performance. This bias in recollection may be the mechanism by which investors justify remaining in consistently poorly performing funds. (Goetzmann, 1993)

Several studies other studies have examined specific behavioral dimensions of the mutual fund choices of individual investors. Barber, Odean, and Zheng (2005) find that investors are more sensitive to salient fees like front-end loads, but not as sensitive to hidden management fees. Huang, Wei, and Yan (2007) characterize the effect of the information environment on the associations between fund flows and past performance. Tufano (2009) study whether mutual fund brokers help educate investors and attenuate their behavioral biases, but conclude that brokers do not deliver tangible benefits for the fees they earn. Bailey(2011) conclude that

"sophisticated" investors (better-informed, higher income, older, and more experienced) investors make good use of Mutual Funds, holding a high proportion of fund for long periods, avoiding high expense funds, and experiencing relatively good performance. However, investors with strong behavioral biases or lack of attention to firm-specific or macro-economic news are less likely to hold mutual funds, or select funds for the wrong reasons. When they do buy, trade them frequently, tend to time their buys, sell badly, and prefer high expense and active funds rather than index funds. Bailey (2011) also finds that biased investors are more likely to chase fund performance; casting doubt on the idea that trend-chasing reflects rational fund selection decisions.Philippaset al (2004) however argue that Mutual Fund investors do not chase past returns and neither do they hunt past superior performance. However, they do seem to employ a current-performance momentum screen to pick their funds, while their trading behavior doesn't seem to affect the concurrent performance of the fund.

1.1.2 Investment decisions in Mutual Funds.

Mutual Fund investors are faced with two major investment decisions which are buy and sale decisions. According to Capon (1996), while purchasing mutual funds, most investors rely on risk and return to arrive at their decisions. However, these two variables alone are inefficient in explaining the purchase decisions of investors. With many mutual funds available for purchase, choosing a mutual fund for investments is a decision filled with uncertainty. In general, when faced with uncertain choices, people use heuristics or rules of thumb to make judgments (Tversky and Kahneman 1974)

Mutual fund investors appear to use different decision methods when deciding what to purchase versus what to sell.Using representativeness heuristic for example, people believe

small samples to be overly representative of the population from which they are drawn (Tversky and Kahneman 1971 and 1972).Hendricks et al. (1992) argues that mutual fund investors make purchase decisions on the basis of past performance with past performance being viewed as highly representative of future performance. Further, investors believe that recent performance is overly representative of a fund's future prospects. Thus, investors predominantly chase past performance. Over half of all purchases occur in funds that rank in the top quintile of past annual returns. (Barber et al., 2005).

The abundance of mutual fund rankings and salient stories about successful fund managers (such as Peter Lynch and Warren Buffet) reinforce the representativeness heuristic. The decision to sell a mutual fund is quite different from the decision to purchase a fund. Most investors hold few funds, unlike purchases where investors have thousands of funds to choose from, Investors have only a handful of funds from which to choose when selling. If investors use the purchase price of their mutual funds as a reference point, prospect theory predicts that mutual fund investors would be more likely to sell their winning funds than their losers, a behavior identified as disposition effect. The disposition effect has a large effect on the investors selling decisions for many asset classes, including individual common stocks. These behavioral biases are seen to extend to mutual fund investors. (Odean, 1998).

1.1.3 Individual Investors

A good number of studies have focused on institutional investors' decision making and performance. These studies have given massive evidence of superior performance owing to rational decision making by professionals managing the institutions. Individual investors on the other hand rarely achieve superior performance owing to psychological and other factors

affecting them. (Barber et al. 2011)

First, individual investors face more issues trying to make rational decisions regarding their investments than larger entities. Individual investors are considered noise investors who do not invest in a manner suggested by the traditional efficient market theories where investors are risk averse and rational. Explanations for this behavior range from low IQ to seeing trading as entertainment, some individuals could realize that they have disadvantage but trade for non - speculative reasons like liquidity needs, rebalancing and taxes. (Hiltunen, 2015)

Barber and Odean (2000) provides evidence that stocks heavily bought by individuals investors over short periods go on to earn strongreturns in the subsequent week, while stocks heavily sold earn poor returns. This is considered an irrational behavior.

Finkelstein and Greenwald (2009) point out that apart from lack of crucial information, the impatience of uneducated investors has grown overtime. According to their research, the fund holding period of American citizens declined from 3.75 years to 2.4 years between 1992 and 2000. This phenomenon is called "chasing returns". Instead of following their original investment plan, investors make rushed decisions and tend to invest in trendy market areas.

Investors' experience has also been seen as a crucial factor effecting on individual investors decision-making processes. Zhu (2009) provides evidence that individual investors learn from their experiences which help them obtain better investment performance. Less experienced investors on the other hand tend rely on financial information which may be misleading and hence make poor investment decisions. (Chang and Wei, 2010)

1.1.4 Mutual Fund Industry in Kenya.

In Kenya, Investment funds are referred to us Collective Investment Schemes the most common being mutual funds. The first Collective investment Schemes in Kenya were approved in 2002 shortly after the relevant rules and regulations were put in place (the Capital Markets (Collective Investment Schemes) Regulations, 2001). The CIS legal framework recognizes three key institutions – Fund Managers and Custodian who are corporate entities and trustees who are governed by a trust deed. (IOSCO 2006)

A mutual fund is a trust that pools the savings of a number of small investors, in the form of units, who have a common financial goal. The money, thus collected by them is invested in financial market instruments such as shares, debentures, bonds, money market instruments or some combination of these investments in such a way, as to minimize risk, while ensuring safety and a steady return on investment. (CMA handbook, 2016)

According to a Capital Markets Authority (CMA) report, one of the key benefits of investing in Mutual Funds is the ease in buying and selling. Unlike investments in shares of companies where prices and opportunities to transact depend on the supply and demand at that time, Mutual Funds provide investors with ease in conducting transactions. Once an investors' money is pooled along with other investors in the market, the money will be invested by the investors' preferred fund manager in numerous financial assets which include bonds, equities and cash in local and international markets. (CMA handbook, 2016).

According to Capital Markets Authority (CMA) latest report,Assets under management held by Kenya's 17 collective investments schemes totaled Kshs. 55.8 Billion at the end of

March 2017.As at March 2017, money market funds were the largest asset category,

accounting for 77.61 percent of the total assets under management. Equity funds were the second most common category with a share of 11.84% (Sh 6.6 Billion), Balanced Funds 6.94% (Sh 3.87 Billion), while Fixed Income/Bond Fund accounted for 2.65% (Sh 1.5 Billion).The number of individual investors as at end of March 2017 was 42,843 Compared to 20,501 institutional investors.(CMA handbook,2017)

1.2 Statement of the Problem.

The field of behavioral finance attempts to investigate the psychological and sociological issues that influence investment decisions making process of individual and institutions (Subramanian, 2007). Understanding the role of behavioral factors in individual Mutual Fund decisions is important since individual investorsare increasingly using Mutual Funds to invest in the equity market rather than trading individual stocks.(Bailey, 2011).

Klapper et al 2004 observed that today's Mutual Fund investor has massive information at his or her disposal making investment decisions a challenge. It is emerging from the literature that the individual investors has consequently depended on behavioral factors or "rule of thumb" in making investment decisions. This means that Mutual Fund investors are continually making costly mistakes in their purchase and sale decisions. This study aimed to establish how behavioral factors affect investment decisions in mutual funds.

In Kenya, though the Mutual Fund industry has been in existence since 2002, (with the establishment of the relevant rules and regulations); No major study has been done linking all the behavioral factors to investment decisions in Mutual Funds in Kenya.Wamae (2013) investigated the behavioral factors influencing the choice of investment in the stock market using a sample of 17 banks and concluded that herding effect, risk aversion, prospecting and anchoring influences

the investment decision making in stock market. Athur (2013) studied behavioral biases affecting individual investors decision making of individual investors at Nairobi stock exchange and concluded that representative bias, control bias, cognitive bias have an influence on decision making while loss aversion and Availability-bias had no significant influence. Kimeu et al. (2013) studied behavioral factors influencing investment decisions of individual investors at Nairobi Stock Exchange by focusing on prospect, herding, heuristic and rationality factors. The study concluded that investment decisions in the Nairobi Securities Exchange are positively influenced by behavioral factors including prospect, herding, heuristic and rationality. While the above studies have provided evidence of the influence of behavioral factors on investment decisions, on individual stock picking, the same has not been extended to Mutual Fund Investors. This study therefore seeks to fill the gap and find out behavioral factors that influence decision making in Mutual Funds by individual investors in Kenya.

1.3 Objectives of the Study.

1.3.1 General objective

To determine the effect of behavioral factors on investment decisions in mutual funds by individual investors in Kenya.

1.3.2 Specific objectives

(i) To ascertain the influence of Overconfidence on investment decisions in mutual funds by individual investors in Kenya.

(ii) To ascertain the influence of Herding on investment decisions in mutual funds by individual investors in Kenya.

(iii) To evaluate the influence of Representative Factors on investment decisions in mutual funds by individual investors in Kenya.

(iv) To investigate the influence of Availability bias on investment decisions in mutual funds by individual investors in Kenya.

(v) To assess the extent to which demographic factors influence investment decisions in mutual funds by individual investors in Kenya.

1.3.3 Research Hypothesis

H_{01}: Overconfidence factors do not have a significant influence on investment decisions in Mutual funds by individual investors in Kenya.

H_{02}: Factors related to herding have no influence on investment decisions in mutual funds by individual investors in Kenya.

H_{03}: Representativeness factors have no influence on investment decisions in mutual funds by individual investors in Kenya.

H_{04}: Availability Bias factors have no significant influence on investment decisions in mutual funds by individual investors in Kenya.

H_{05}: Demographic factors have little influence on Investment decisions in mutual funds by individual investors in Kenya.

1. 4 Justification of the study.

The study will specifically be important to individual investors of Mutual Funds since understanding the behavioral factors that influence their decision making will help them to avoid making costly mistakes. Secondly, Fund managers, will get an insight on how to formulate better strategies and future plans by considering the most influential factors on the individual investor.

The Government will also benefit from the study since a clear understanding of the most influential factors will allow for amendment of the existing legislatures that will support individual investors thereby improving market participation.

1.5 Limitations and scope of the study.

The study will not be carried over an extended period of time. This has the disadvantage of not capturing the market ups and downs which may have a significant influence on investor choices and preferences. Further; the study will be using individual persons to obtain primary data. This may pose a challenge since most individuals will have concerns of confidentiality and therefore may not give true information.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter examines literature related to behavioral factors influencing investment decisions and investor behavior. The literature review has been divided into the following sections; Section one gives the theories guiding the study and section two gives empirical studies.

2.2 Theoretical Review.

Theoretical review gives theories that explain behavioral factors that influence investment decisions. These theories include; Prospect Theory (PT), Heuristic Theory (HT) Expected Utility Theory (EUT) and Herding Theory (HT)

2.2.1 Prospect Theory.

This theory was developed by Kahneman and Tversky in 2009 as a descriptive theory of choice under conditions of uncertainty. This theory focuses on subjective decision making influenced by investors' value mechanism and tries to explain how the state of mind affectsdecision making. According to Kahneman and Tversky (2009), there are several states of mind which may influence an investor's decision making process which include Loss aversion, Regret aversion, Mental Accounting and Self-control.

The *Loss aversion* state points out that the investor is a risk-seeker when faced with the prospect of losses, but is risk-averse when faced with the prospects of enjoying gains

Regret Aversion arises from the investors' desire to avoid pain or feeling of regret arising

from a poor investment decision. This aversion encourages investors to hold poorly performing shares as avoiding their sale also avoids the recognition of the associated loss and bad investment decision. Regret aversion creates a tax inefficient investment strategy because investors can reduce their taxable income by realizing capital losses. If investors use the purchase price of their mutual funds as a reference point, Loss Aversion theory predicts that mutual fund investors would be more likely to sell their winning mutual funds than their losers (Omullo, 2013)

Regret theory may help explain the fact that investors defer selling stocks that have gone down in value and accelerate the selling of stocks that have gone up in value .Investors making their choice of investment on this theory will avoid making investment decisions in Mutual Funds that are perceived to be loss makers.(Obara, 2015).

Mental accounting is the set of cognitive operations used by the investors to organize, evaluate and keep track of investment activities. Three components of mental accounting receive the most focus. The first one captures how outcomes are perceived and experienced, and how decisions are made and subsequently evaluated. A second component of mental accounting involves the assignment of activities to specific accounts. Both the sources and uses of funds are labeled in real as well as in mental accounting systems. The third component of mental accounting concerns the frequency with which accounts are evaluated and 'choice bracketing'. Accounts can be balanced daily, weekly, yearly, and so on, and can be defined narrowly or broadly. (Kannadhasan, 2006).

Barberis and Huang (2009) look at mental accounting in two perspectives and compare their predictions for financial markets. Under the first kind of accounting, investors derive pleasure and pain from gains and losses in the value of their overall stock holdings, and are more

sensitive to losses than to gains. This is known as portfolio accounting because people are paying attention to the performance of their portfolio. Under the second kind of accounting, investors derive pleasure and pain from gains and losses in the value of individual stocks that they own, and are again more sensitive to losses than to gains. This is called stock-level accounting.

Equally for Mutual Fund Investors, they will then derive pleasure and pains from gains and losses in terms of overall types of Mutual fund portfolio held as well as the individual units held which will greatly influence their decision making(Researcher,2017)

Self-Control requires for all the investors to avoid the losses and protect their investments. As noted by Thaler and Shefrin (1981), investors are subject to temptation and they look for tools to improve self control. By mentally separating their financial resources into capital and available for expenditure pools, investors can control their urge to over consume.

This theory is relevant to the objective of overconfidence since the Investor guided by the state of mind will tend to rely on their own talent when they make good investment decisions and blame bad luck for poor decision making.

2.2.2 Heuristic Theory.

This theory was first proposed by Herbert A Simon. In the early 1970, psychologists Amos Tversky and Daniel Kahneman demonstrated three heuristics that underlie a wide range of intuitive judgments. Heuristic theory which is referred to “rules of thumb” branched out from behavioral Finance theory. Heuristics makes decision making easier especially in complex and uncertain environments by using common sense to solve a problem. Heuristics also simplifies the decision making process by identifying a defined set of criteria to evaluate (Jordan et al. 2012).

Heuristics however can sometimes lead to biases, especially when things change. These

can lead to suboptimal investment decision. When faced with N choices for how to invest retirement money, many people allocate using the 1/N rule. If there are three funds, one-third goes into each. If two are stock funds, two-thirds goes into equities. If one of the three is a stock fund, one-third goes into equities (Ritter 2003)

Kahneman and Tversky (1979) observed that when it comes to decision making investors do not behave rationally. They noted that the art of collecting all the relevant information and objectively evaluating it is not followed: rather investors take mental shortcuts. Mental shortcuts are not necessarily bad depending on the timing of the decision. However, heuristic decision processes may result in poorer decisions. Kahneman and Tversky (1979) observed that Illusions resulting from the use of heuristics are: representativeness; gambler's fallacy; anchoring; overconfidence and availability bias.

In financial markets, representativeness can manifest itself when investors seek to buy 'hot' stocks and to avoid stocks, which have performed poorly in the recent past. This behavior could provide an explanation for investor overreaction (De Bondt and Thaler, 1995).

People tend to relate events to a good occurrence and to overstress the importance of such a relation. For example, share prices often rise when a company reports increased earnings several quarters in a row, because investors tend to infer a high long-term earnings growth rate (Barberis, 2001).

Heuristic theory has however been criticized as misleading in making people believe that the human thinking is filled with irrationality.Gigerenzer, a German psychologist argues that rationality should be perceived as an adaptive tool that is not similar to the rules of probability calculus. He provides evidence that in fact heuristics such as overconfidence, conjunction fallacy

and base rate fallacy are better understood as adaptive responses in a world of uncertainty.

The relevancy of this theory is that it addresses the biases of overconfidence, herding, representativeness and availability biases which form part of the objectives and which influence decision making in a world of uncertainty.

2.2.3 Expected Utility Theory.

Expected Utility Theory (EUT) was developed by Daniel Bernoulli in 1738. It states that the decision maker chooses between risky or uncertain prospects by comparing their expected utility values. The utility values are measured in terms of anticipated returns and variances from the expectations (The mean/Variance approach).This means that investors select portfolios that maximizes expected return while minimizing risk. (Obenberger and Robert, 1994).

EUT was however criticized for failing to explain why people are attracted to both Insurance and Gambling. People under-weigh probable outcomes compared with certain ones and people respond differently to the similar situations depending on the context of losses or gains in which they are presented (Kahneman & Tversky, 1979).Other critics of this theory were Mathew Rabin and Martin H.Thaler (2001) who argue that EUT is inadequate in explaining risk aversion. They give an example of someone who rejects a bet for moderate stakes, and then they demonstrate that the rejected bet for moderate stakes, when combined with diminishing marginal utility, implies that obviously good large- stakes bets will also be turned down. They give an example with a case of a risk-averse expected utility maximize who turns down a 50-50 chance of losing $10 and winning $11 for any initial wealth level. They then show that because of diminishing marginal utility, this individual will also turn down all bets involving a 50-50 chance of losing $100 and winning even an infinite amount of money. Watt (2002) however defends

EUT where he concludes that EUT does not permit risk aversion for little money and that people will depart from risk neutrality only when facing prospects that might have a major effect on lifetime wealth. This theory helps to explain the objective of representativeness and overconfidence such that in the absence of any investment advice either from an expert or a professional, Mutual Fund investors will be exposed to conditions of uncertainty and will base their choices on the representation and make self-reference to make rational decisions.

2.2.4 Herding Theory.

This theory suggests that in an uncertain world, if individuals realize that their own judgment is fallible then it may be rational to assume that others are better informed and follow them. Herding maybe a quick decision making tool via which people copy and imitate the actions of others because they make a qualitative judgment that others know more about the fundamental long-term values of goods and assets.(Tobler et al, 2012).

Herding behavior is known to be the tendency of an individual to follow the crowd because the decisions made by the majority are assumed to be always correct. According to Luong & Thu Ha (2011), the herding individual will base his investment decision on the crowd actions of buying and selling, creating speculative bubbles phenomenon hence making the stock market to be inefficient. However the herd is almost always wrong, which contributes to excess volatility in the market. According to Hirt and Block (2012), herding is more prevalent with institutional investor than with individual investors. Wamae (2013) found herding to have positive significant impact on investment decision making. Kengatharan (2014) have found herding behavior to have positive impact on investors' decision making while Lim (2012) found that herding has no significant impact on investors' decision making.

In the perspective of behavior, herding can cause some emotional biases, including conformity, congruity and cognitive conflict, the home bias and gossip. Investors may prefer herding if they believe that herding can help them to extract useful and reliable information. Whereas, the performances of financial professionals, for example, fund managers, or financial analysts, are usually evaluated by subjectively periodic assessment on a relative base and the comparison to their peers. In this case, herding can contribute to the evaluation of professional performance because low-ability ones may mimic the behavior of their high-ability peers in order to develop their professional reputation. (Luong& Thu Ha 2011)

The theory is relevant to the current study as it is directly linked to the herding objective in influencing decision making when deciding when to buy or sell a Mutual Fund.

2.3 Empirical Review

2.3.1 Overconfidence and Investment decisions.

Overconfidence bias which is related to the self- attribution bias is the tendency of an individual to attribute his success to his own talent and ability while blaming bad luck for his failure, making himself overestimating his talent. Other attributes of overconfidence are represented by certainty, over optimism and self-reference (Suzzaida and Amelia, 2015)

People are overconfident about their abilities. Entrepreneurs are especially likely to be overconfident. This overconfidence also manifests itself through investors who diversify too little owing to a tendency to invest too much in what one is familiar with. Thus, people invest in local companies, even though this is bad from a diversification viewpoint.(Ritter 2003)

Prior psychology literature has produced two different types of explanation for overconfidence and its associated effects. From one perspective, these phenomena have been

interpreted in the context of motivational biases, the argument being that individuals are motivated to hold unrealistically positive self-perceptions in order to increase their own happiness and well-being. The core assumption is, of course, that people seek to maximize their happiness in a utilitarian way. The second view is put forward by cognitive psychologists who argue that people generally expect to succeed, and they often accept responsibility for their expected outcomes. Hence, in combination of the two effects, people tend be prone to self-serving attribution bias. The self-serving attribution bias can, in turn, produce overconfidence. Gervais and Odean (2001) explain that investors may falsely attribute superior past performance to their own skill, and inferior past performance to chance, which is overconfidence.

It is believed that excessive levels of overconfidence interfere with sound investment decision-making thereby harming investment performance. Overconfidence for example explains the relatively high turnover rates and poor performance of individual investors. Barber and Odean (2001) use demographics of gender and compare the performance of men and women and find that men tend to be more prone to overconfidence than women in areas culturally perceived to be in the male domain .Therefore men trade more than women and that excessive trading eventually hurts their performance shown by poor returns. However, while both men and women earn poor returns, men perform worse.

Closely related to the notion of overconfidence are self-assessments of competence.Huanget al (2009) argue that people are more willing to bet on their own judgments when they feel skillful or knowledgeable. To support this notion, they use survey responses of individual investors to study the impact of self-assessed competence on trading. They document a strong link between self-assessed competence and the propensity to trade. They measure the

better –than-average effect by taking the difference between the answers to questions about investors expected return on their own portfolio and the expected return on the market. They find weak evidence that this measure of overconfidence is linked to trading activity.

Eshraghi (2011) investigated the extent to which mutual fund managers, as an important and representative group of professional investors, are prone to overconfidence and associated behavioral biases such as self-serving attribution. More importantly, the study explored how these psychological attributes may have any bearing on investment performance. Using a range of proxies including over optimism, excessive certainty and excessive self-reference, he provides evidence of a positive relationship between overconfidence of fund managers and investment decisions and subsequent performance. Bailey (2011) points out that, Mutual Fund investors who have overconfidence bias through frequent trading plus poor performance or a preference for speculative stocks may select funds that facilitate aggressive switching across asset classes without considering higher fees.Ruenzi et al (2008) examine overconfidence among equity mutual fund managers. Consistent with theories of overconfidence, they provide evidence that fund managers trade more after good past performance. The higher trading activity after good performance is driven by individual portfolio performance, while the market performance has no significant impact.

From above empirical studies, there is massive evidence that overconfidence bias has a significant influence on investment decisions of institutional investors shown through overtrading, less diversification, excess self reference which has led to poor performance. This however has not been proven with retail investors especially with regard to Mutual Funds.

2.3.2 Herding and Investment decisions.

The idea of a group mind or mob behavior was first put forward by 19th-century French social psychologists Gabriel Tarde and Gustavo Le Bon. The herding behavior refers to follow the leader mentality.(Hirshleifer et al., 2003).

It is the tendency of an individual to follow the crowd because the decisions made by the majority are assumed to be always correct. The herding individual will base his investment decision on the crowd actions of buying and selling, creating speculative bubbles phenomenon hence making the stock market to be inefficient. However the herd is almost always wrong since it contributes to excess volatility in the market (Luong and Thu Ha, 2011).There are many variants of herding behavior: Herding that is based on the observation of other market participants actions, simultaneous herding in the decision to focus on a specific set of information or in the decision to adopt a new but risky strategy; and herding based on sentiment or stock characteristics which is prone to more or less sudden changes. (Frey et al, 2014).

According to Keynes (1936) Investors may be reluctant to act according to their own information and beliefs due to the fear that their behavior may damage their reputations as rational decision makers. Professional managers therefore will tend to follow the 'herd' when they are concerned about how others will perceive their ability to make sound judgments.

Forces behind the herd mentality are believed to be the result of two reasons. One is existence of a social pressure of the media effect which is often seen in the stock market. Most people do not want to be outcast from the group they belong. Secondly, there is a common rational that a large group is unlikely to be wrong. Purchasing stocks based on price momentum while ignoring basic economic principles of supply and demand is an anomaly explained by

behavioral finance theory as herd behavior which often leads to faulty decision. (Hayat, 2016)

Waweru et al (2008) investigated the role of behavioral finance and investor psychology in investment decision-making at the Nairobi Stock Exchange with special reference to institutional investors. The study found strong evidence of herding among the investors. These investors made reference to the trading activity of the other institutional investors and often exhibited an institutional-herding behavior in their investment decision-making.Kahuthu (2011) investigated the effect of herd behavior on trading volume and prices of securities at Nairobi Stock Exchange. He concluded that Herd Instinct behavior among investors exists with a direct effect on stock prices and volumes traded.

Patro (2012) analyzed the trading activity of Indian mutual funds and investigated whether Indian mutual fund managers are engaged in herding behavior. Results were then compared with previous studies in mature as well as developing markets to determine the level of maturity of the Indian capital market. The study found strong evidence of herding whereby managers herd primarily when they trade in large capitalization stocks or stocks that belong to the most famous indices. The herding effect seems to affect both purchases and sales of stocks. The level of herding is more in Indian stock market as compared to developed markets. Furthermore, the Indian mutual funds tend to herd more often when purchasing than when selling a stock, and when trading large stocks.

Theriou (2012) investigated herding behavior of Mutual Fund managers in the Athens Stock exchange and concluded that mutual fund managers undoubtedly herd, with the extent of herding being irrelevant to the price movements observed in the market. Hirshleifer (2003) investigated the existence of herding among German mutual fund managers and also sought to

determine the impact of this herd-like trading on stock prices. There was evidence of herding and positive feedback trading by German mutual fund herding detected was associated with spurious herding as a consequence of changes in benchmark index composition. On the impact of herding on stock prices, it was found that herding seems to neither destabilize nor stabilize stock prices.

Wermers (1999) investigated the herding bias of fund managers and provided evidence of herding especially in high return stocks. Bailey (2011) also finds that the narrow framing bias in mutual funds is dominant where mutual fund investors buy individual assets without considering total portfolio effects leading to poor decision making.

From above empirical studies, there is massive evidence that herding bias has a significant influence on investment decisions of institutional investors as well as individual investors.

2.3.3 Representative behavior and Investment decisions.

Schwenk (1984) defines representative bias as the assessment of the likelihood of an even based on its similarity to the other events. The representation bias is said to occur through a memory recall where a decision maker has to analyze the options of a decision and has to recall a past experience that is similar to a present decision-making situation. In the representative heuristic, similarity of two objects is compared and it is assumed that one is like the other. Wickham (2003) studies the use of representativeness heuristic in judgmental predictions of corporate bankruptcy and finds that the bankruptcy probability judgments are governed by the assessed similarity of the corporate financial data.

The representativeness heuristic influences causal judgments as well as judgments of category membership. Although the representativeness heuristic often leads to accurate and

useful predictions, whenever managers rely too heavily on a heuristic, they run the risk of overlooking something important.(Kahneman and Tversky, 2009)

Habib et al (2015) identify two primary interpretations of representativeness bias applied especially by individual investors: first, base rate neglect and second, sample size neglect. Base rate neglect refers to investors' tendency to contextualize the venture in a way that is easy to understand, when they are judging the soundness of a company for investment purposes. However, while making the judgment they are likely to ignore other related factors which may affect the value of the investment. The reason for relying on such stereotypes is that investors consider it as an alternative to the required research to evaluate the investment. Sample size neglect refers to investors' tendency to base their judgment on an inadequate sample of data while analyzing a particular investment. They incorrectly consider the small sample size as being representative of the population. This phenomenon is called the law of small numbers. Although such numbers may reflect the current trend they cannot describe the properties of the whole population. Thus both base rate neglect and sample size neglect can lead investors to make erroneous investment or disinvestment decisions. Mutual fund Investors are therefore known to exhibit these interpretations of representativeness.

If investors rely on a representativeness heuristic when selecting mutual funds, they will underestimate the tendency of fund performance to mean revert and thus anticipate better relative performance than is realized. The fact that more money is invested in active than passive funds despite the superior historical performance of the passive funds is evidence that most investors still hold to the stereo type that some mutual fund managers have the ability to consistently beat the markets. Further, a fund’s recent performance is viewed as overly representative of a fund

manager's skill and, thus, of the fund's future prospects. (Ngode, 2013).

From the above studies, there appears to be a positive relationship between representative bias and investment decisions of Mutual Fund investors where they rely on past experiences to make decisions.

2.3.4 Availability bias and Investment decisions.

The availability bias happens when the individual acts upon recent information that is obtained easily. The individual has a strong tendency to focus their attention on a particular fact rather than the overall situation, only because this particular fact is more present or easily recalled in their minds (Bakar, 2016).

In stock trading area, this bias manifests itself through the preference of investing in local companies which investors are familiar with or easily obtain information, despite the fundamental principles of diversification of portfolio management for optimization (Waweru et al., 2003).Likewise for Mutual fund investors, they will prefer to invest in Mutual Funds for which they are familiar with irrespective of their performance leading to poor investment decisions. (Researcher 2017)

Another parameter of availability bias can be seen from individuals acting on recent information given in form of investment advice through Mutual Fund agents .Muir (2002) showed that in the absence of the necessary investment advice, individuals who are responsible for investing would earn lower investment returns than they would had they been given access the most recent investment advice. A series of experiments were carried out to two groups of investors to determine whether investment decision was dependent on recent available investment advice. The two groups were given the same information but the way the information

was presented differed. The result of the study showed different choice of investments. The conclusion was that the way in which investment advice is presented to an investor influences their choice of investment vehicles. Inconsistent with the Loss Aversion Theory, (Muir 2002) argued that individuals suffer from what is known as 'Myopic Loss Aversion'. This means that individuals have an aversion to short term losses and limited gambles. The findings of the study therefore raised a serious question; if investment selection is dependent on the way investment advice is presented, are investors truly making informed choices? According to Luong (2011), people always look at available information before finding for others and therefore it affects their decisions. However, it is very difficult to check the accuracy of information as the policy for official information release is not fully built.

From the above studies there is a positive relationship between availability bias and investment decision in Mutual Funds.

2.3.4 Demographic factors and Investment decisions.

Investors' needs vary depending on their demographics as well as risk profile. Some are drawn to risky investments with a high return while others are drawn to less risky investments with a somewhat lower rate of return.

Arathy et al (2014) on their study on factors affecting investment in Mutual Funds in India conclude that investors at different stages of their lives are bound to invest with different goals in mind. According to age demographics, young investors are driven by the expectation of income. On the other hand, older investors tend to look for capital growth. The class of investors with growing age develops maturity and experience for making decisions about the usage of their surplus and available funds in the light of overall economic needs of family (Davar& Gill, 2007).

According to Musundi (2014), there are two reasons to invest. The first reason is to accumulate assets and the second reason is to derive an income. These investment goals are tempered by financial situation, age, tax position and the risk that one is willing to bear as well as the individual's decisions to allocate limited resources between competing opportunities (investments products) in a process known as capital budgeting.

Using gender demographic, Dwyer and Gilkeson (2002) used data from a national survey of nearly 2000 Mutual Fund investors to investigate whether investor gender is related to risk taking as revealed in Mutual Fund investment decisions. They find that women exhibit less risk-taking than men in their most recent, largest, and riskiest mutual fund investment decisions. Using Overconfidence heuristic and gender, Barber and odean (2002) note that both men and women ordinarily exhibit overconfidence, with men being more overconfident than women. Gender differences in overconfident are highly task dependent where for example men claim more ability to perform risky tasks than women. Further men are inclined to feel more competent in financial matters than women do.

Hung et al(2009) defines financial literacy as the process by which people improve their understanding of financial products, services and concepts, so they are empowered to make informed choices, avoid mistakes, know where to go for help and take other actions to improve their present and long-term financial well-being.

Using financial literacy demographic, Lutfi (2010) finds that investors with higher level of education have more knowledge and skills that are useful in making investment decisions. Additionally investors also have different levels of education meaning that there are different ways of making investment decisions based on the different levels of education.

Halling (2009) concluded that better educated investors are able to generate a higher stock investment performance analysis implying a higher preference for Stock Mutual Funds.Invetor Education can also be viewed in the ability of the investor reading the statutory prospectus distributed by Mutual Funds. Investors find the prospectus language to be very legalistic and complex. Investors therefore do not read the prospectus before purchasing Mutual Fund shares. (ICI 2006).It is argued that Investors have been known to make costly mistakes while making Mutual Fund buying since they fail to buy and sell fad instruments, save too little, invest too frequently and pay excessive fees owing partly to lack of investor education. (Fisch, 2013).From these studies we can draw a direct relationship between an individual's gender, risk profile, age, financial literacy and likelihood of making investment decision in Mutual Funds.

2.3.5 Summary of Literature review

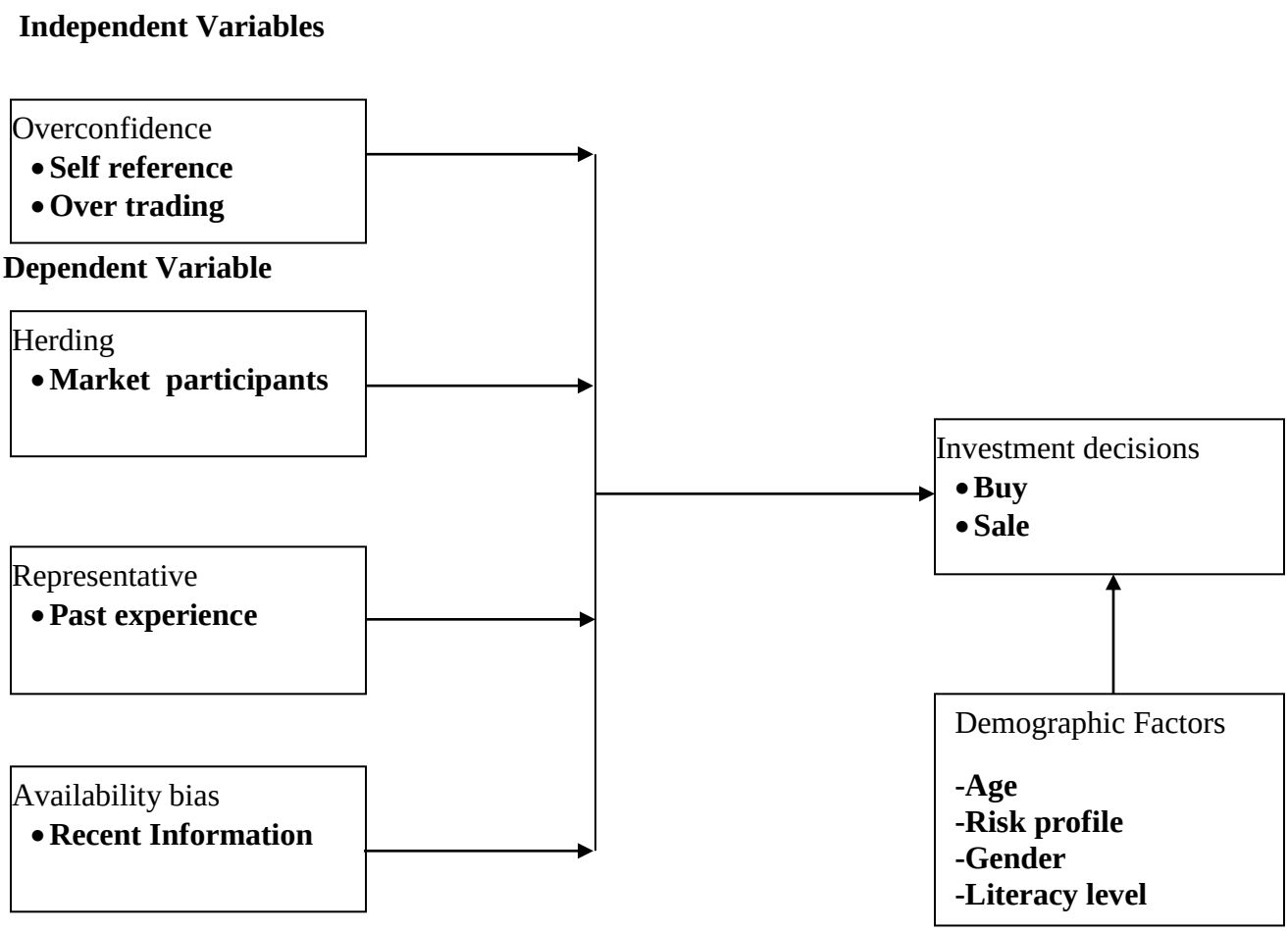
From the above literature review both the theoretical and the empirical; it's evident that there is need for further research to be done on the behavioral factors affecting the choice of investment in Mutual funds by retail investors in Kenya. The empirical evidence from all the studies demonstrates that behavioral effects are at work in the mutual fund decisions of many investors and take a toll on performance. There are few studies carried out on behavioral factors affecting decision making by Mutual Funds investors in Kenya. Therefore, a research gap exists that need to be filled by doing a thorough study on this topic. Both in developed and developing economies investors are faced with the dilemma of how to reconcile their behavioral biases as well as demographic factors with the investment decisions of buy or sell available to them. There has not been a conclusive study that has been carried out to conclusively show how the behavioral biases influence investment decision of Individual Mutual Fund investors. This

research will help address this concerns that has faced investors and Mutual Fund managers.

2.4 Conceptual framework.

This study adopts the prospect theory in determining the behavioral biases affecting decision making of in Mutual Funds by individual investors in Kenya. This study has been anchored on prospect theory due to its focus on decisions made under conditions of uncertainty where investors are not sure which outcomes will result from their actions and hence apply rules of thumb. The dependent variable in this study is the investment decision made by Mutual Fund individual investors and is represented by decisions made during purchase and sale of Mutual Funds. The independent variables are behavioral biases of Overconfidence, Herding, Representative and Availability biases. They are selected based on their influence on individual's investment decisions. Though the study focuses on the behavioral biases, demographic factors have been conceptualized to have a controlling role in influencing Investment decisions. The demographic factors are included in the study to control for effects that may bias the study if left out. Specifically, the study considers demographic characteristics of Age, Gender, and Income and Literacy of Individual investors.

Figure 1 The Conceptual Model



2. 5 Operationalization of Study Variables.

Table 2.1 Operationalization of Variables

Variable	**Operational Indicators**	**Supporting Literature**	**Measurement Scale**	**Questionnaire Items**
Overconfidence Bias (**Independent)**	-Over optimism -Certainty -Self reference -Excessive trading	(Barber and Odean,2011) Ritter(2003)	4-likert questionnaire	Section B. Question 1(a-g)
Herding Bias (**Independent)**	-Observation of other Market Participants -Reference to trading activities of other participants -Observation of price Movements	(Frey et al.,2014) (Theriou,2012)	4-likert questionnaire	Section B. Question 2(i-iv)
Representative Bias **Independent)**	-Reference to past experience. -Sample size neglect -Base rate neglect	(Habib et al.,2015) (Schwenk,1984)	4-likert questionnaire	Section B. Question 3(a-f)
Availability bias **Independent)**	-Reliance on recent information -Familiarity	(Bakar,2016) (Waweru et al,2003)	4-likert questionnaire	Section B. Question 4(a-d)
Investor decisions **Dependent)**	-Buy decisions -Sale decisions	(Tversky and Kahneman,1979) (Odean,1998)	4-likert questionnaire	Section D. Question 5(a-c)
Demographic Factors **(Control)**	-Age -Gender -Income -Literacy Level	(Tversky and Kahneman,1979) (Odean,1998)	4-likert questionnaire	Section C. Questions 5,6,and7

Source (Researcher 2017)

CHAPTER THREE

RESEARCH METHODOLOGY

3. 1 Introduction

This chapter deals with how the research was designed and the methodology used to determine the behavioral factors influencing the individual investment decisions in Mutual funds. It identifies the target population, the sample size and how the samples are drawn from the target population. It discusses the data collection instruments and procedures. Finally it shows how the data will be analyzed

3.2 Research Design

Research design is defined as a plan and structure of investigation so conceived as to obtain answers to research questions. It includes an outline of what the investigator will do from writing hypotheses and their operational implications to the final analysis of data; a research design expresses both the structure of the research problem and the plan of investigation used to obtain empirical evidence in relation to the problem (Cooper & Schindler, 2001).

This study adopted a descriptive survey research design. Mugenda & Mugenda (2003) describes descriptive survey as a process of collecting data in order to test hypothesis or to answer questions concerning the current status of the subject study. It is often used to study the general condition of people and organizations as it investigates the behavior and opinion of people usually through questioning them (Cooper and Schindler, 2003). This design was suitable for this study because data obtained helped to ascertain facts about investment decisions of individual investors based on their behavioral biases.This method was appropriate due to its

capacity to establish how the decision making framework of investors in reality is consistent with the existing theories.

3.3 Population of the Study

Population refers to the individuals or elements that the researcher intends to use in the study so as to obtain primary data (Mugenda&Mugenda, 1999).For purposes of this study the target populations for this study were all the individual investors of the 19 registered Mutual Funds as per CMA, as at end of December 2016.A list of approved Mutual funds is provided in Appendix 1.

3.4 Sample Size and Sampling Design

The sampling plan describes the sampling unit, sampling frame, sampling procedures and the sample size for the study. The sampling frame describes the list of all population units from which the sample selected (Cooper & Schindler, 2003).

The study targeted a convenient sample of 57respondents representing three investors from each of the 19 registered Mutual Funds. The respondents were targeted using snowball sampling technique where the first investor was requested to recommend a colleague in another fund who also gave the questionnaire to another known investor. This continued until the sample of 43 respondents was reached.

3.5 Instrumentation

The study used a structured likert-scale questionnaire as the main research instrument. The questionnaire was preferred as the most suitable instrument for the data collection because it allows the researcher to reach many respondents within limited time (Mugenda&Mugenda,

2003). It also ensures confidentiality which leads to more candid and objective answers. The questionnaires were made up of closed ended and open ended questions. According to (Saunders et al., 2012), structured questionnaires are techniques of data collection in which each person is asked to respond to the same set of questions.

The questionnaire was divided into four sections with the first section enquiring about the respondents' background information, the second part contained questions relating to the specific objectives of the study; Overconfidence bias, Herding bias, Representative bias and Availability bias. The third section captured information relating to the demographic factors of age, gender, and risk profile and education level while the last section will capture factors relating to investment decisions.

The respondents were asked to evaluate the degrees of their agreement with the impacts of the various factors on their investment decisions in Mutual Funds. The 4 points in the scale are respectively from 1 to 4: Disagree, Not sure, Agree and strongly agree

3.6 Reliability and Validity of the questionnaire.

The validity test is used to find out the extent to which the set of measures correctly represents the concept of the study. (Kothari, 2004). A pilot test was done to check the questionnaire for validity. According to Fairchild (2002), face validity is a non - statistical assessment of whether the test is valid or not. The face validity test was undertaken by administering the questionnaire to five individual investors who were not part of the sample. The test was used to improve the content of the questionnaires before they were finally administered.

The questionnaire was also tested for reliability. A reliability measure is the degree to which research instrument yields consistent results after several trials (Fairchild, 2002).

According to Field (2005) a Cronbach's $\alpha > 0.7$ implies the instrument is relatively good measurement tool therefore reliable. The tested reliability yielded a Cronbach's alpha of 0.85 which was considered very good.

3.7 Data collection

Primary data was collected through the use of questionnaires. (Appendix 2). The questionnaires were self-administered through a drop and pick later method, to the fund managers and some directly to known clients who then gave the questionnaire to other investors.

3.8 Diagnostic tests

3.8.1Normality

As part of exploratory data analysis, test for normality of distribution of the response variable was conducted. Normality of the data was tested using the Shapiro – Wilk test. The significance level for this study was $\alpha = 5\%$. For $P \geq 0.05$ normality was assumed while for $P < 0.05$ deviation from normality was assumed.

3.8.2 Homoscedasticity

The existence of homoscedasticity which refers to the assumption that the variability in scores for one continuous variable is roughly the same at all values for another continuous variable (Garson, 2012) constitutes another assumption of multivariate analysis. To test for homoscedasticity, Levene test (1960) for equality was computed using one way Anova procedure. It was used to assess the equality of variances for a variable calculated for two or more groups. The level of significance for the study was $\alpha=5\%$. For $p\geq0.05$, there was no problem of heteroskedasticity while for $p<0.05$ there was a problem of heteroskedasticity (Bera

& Jarque, 2012). To deal with the heteroskedasticity problem if detected, the researcher would try to respecify the model or transform the variables given that sometimes heteroskedasticity results from improper model specification evidenced by choice of wrong variables or using variables whose effects may not be linear (Garson, 2012).

3.8.3 Multicollinearity

Multicollinearity in the study was tested using variance inflation factor (VIF) and Tolerance. The reciprocal of tolerance known as the variance inflation factor (VIF) shows how much the variance of the coefficient estimate is being inflated by Multicollinearity. A VIF for all the independent and dependent variables of between 1 and 10 indicated no Multicollinearity while a VIF of >10 and < 1 indicated Multicollinearity problem (Maddala & Lahiri, 1992). The Tolerance Statistics values below 0.1 also indicated aMulticollinearity problem. To deal with the problem of Multicollinearity if detected, the researcher would obtain more data on the variables concerned if possible or ultimately remove the highly correlated predictors from the model (Garson, 2012).

3.8.4Linearity

There needs to be a linear relationship between (a) the dependent variable and each of the independent variables, and (b) the dependent variable and the independent variables collectively. For linearity significant values of less than .05 would indicate that linear relationship exists and vice versa.

3.9 Data Analysis and Processing.

The purpose of data analysis is to elicit meaning from research data collected (Kothari, 2004).

After fieldwork, the data was checked for errors, completeness and legibility. Data was then analyzed using SPSS software and findings obtained summarized in frequencies and percentages and presented in tables and charts. Both descriptive and regression analysis were performed. For background and general information, descriptive statistical analysis were used and analyzed to provide a profile of respondents. The study used multiple regression analysis to determine the effect of behavioral biases on investment decisions of individual Mutual Fund Investors. Multiple regression equations were used to determine the effect of the independent variables on the dependent variable that guided by the following regression model:

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_3 X_4 + \beta_3 X_5 + \varepsilon \quad \text{..... (i)}$$

Where:-

Y = Investment Decisions of Mutual Fund Investors

β_0= Constant,

B1-β3= Regression Coefficients

X_1= Overconfidence Factors

X_2=Herding Factors

X_3= Representative Bias Factors

X_4= Availability Bias Factors

X_5= Demographic factors

ε =Error Term

CHAPTER FOUR

DATA ANALYSIS AND PRESENTATIONS

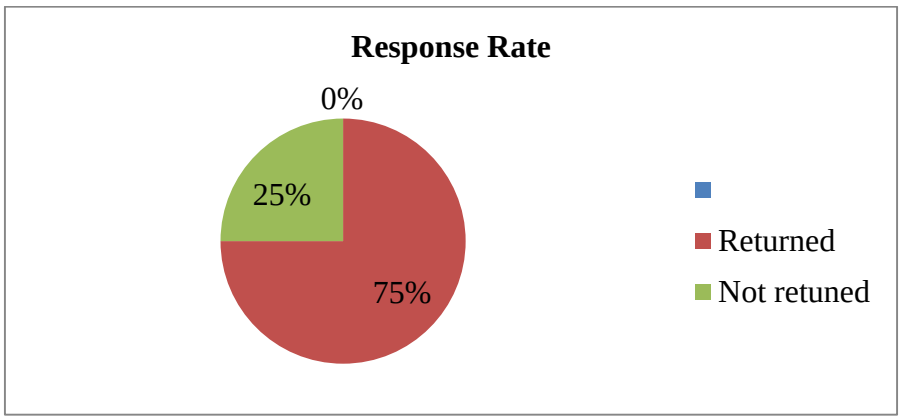
4.1 Introduction

The objective of the study was to determine the effect of behavioral factors on investment decisions of Mutual Fund individual investors in Kenya. In this chapter, the findings of the study were analyzed. SPSS Software was used for data analysis. Descriptive statistics and regression analysis were used to summarize the results and presented in table forms.

4.1.1 Response rate

From the study sample of fifty seven respondents, all questionnaires were administered. 43 of them were successfully filled and returned, constituting 75%.Mugenda and Mugenda (2003) indicated that questionnaires have a response rate of about 70% and that response rate of 50% is adequate for analysis, 70 % being very good. For this study, 75% response rate was considered to be very good. This is shown in figure 4.1.below;

Figure 4.1: Distribution of response rate



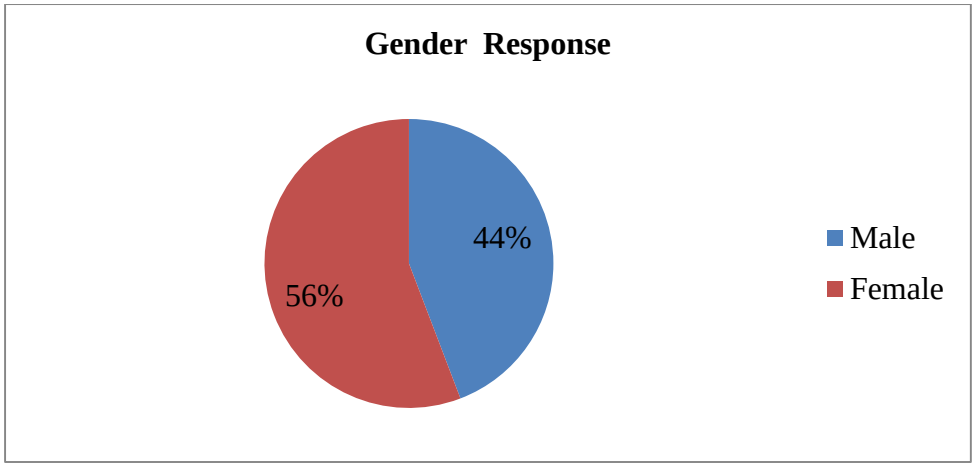
4.2 General Information

The general information sought from the respondents included their gender, age, level of education, knowledge of Mutual Fund investment and the period for which they have invested in Mutual funds. The information was important since knowing the profile of the respondents would highly determine the accuracy of data.

4.2.1 Gender of Respondents.

The distribution of respondents by gender is shown in figure 4.2. The chart shows that male respondents accounted for 44%of the respondents whereas 56%of the respondents were female.The response rate indicates that both genders were fairly distributed and therefore the information was free from gender bias.

Figure 4.2: Distribution of respondents' gender

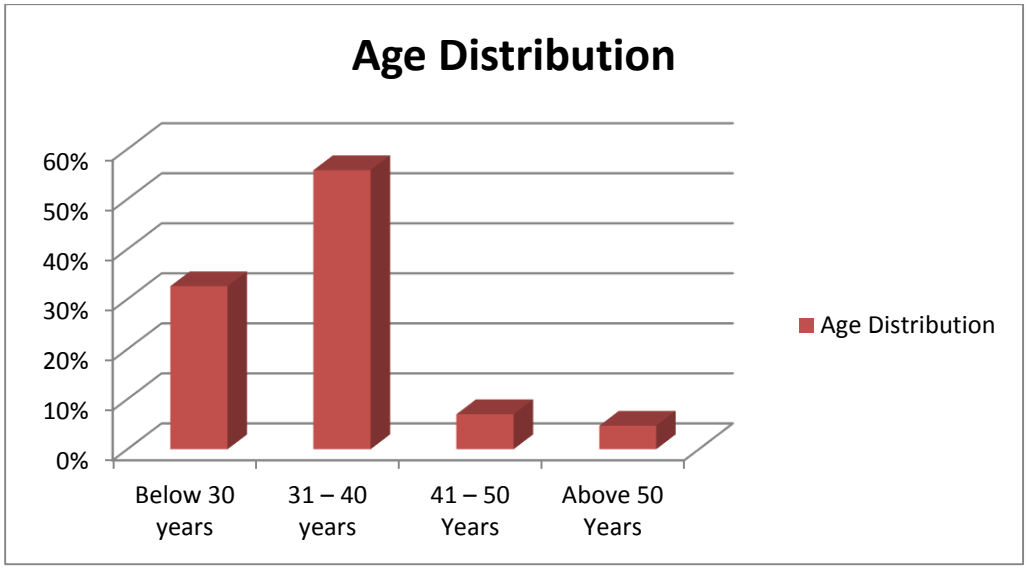


4.2.2 Age of Respondents

Respondents were classified into three groups shown in Figure 4.3. The figure shows that 33%of

the respondents were aged at below 30 years, 56% aged between 31-40, 7% were aged between 41-50 whereas only 5%were over 50 years of age. From the results majority of the respondents were young investors between 31 to 40 years. This was important in reinforcing the demographic variables where age is considered an important factor in investment decisions among mutual fund investors.

Figure 4.3: Distribution of respondents' age

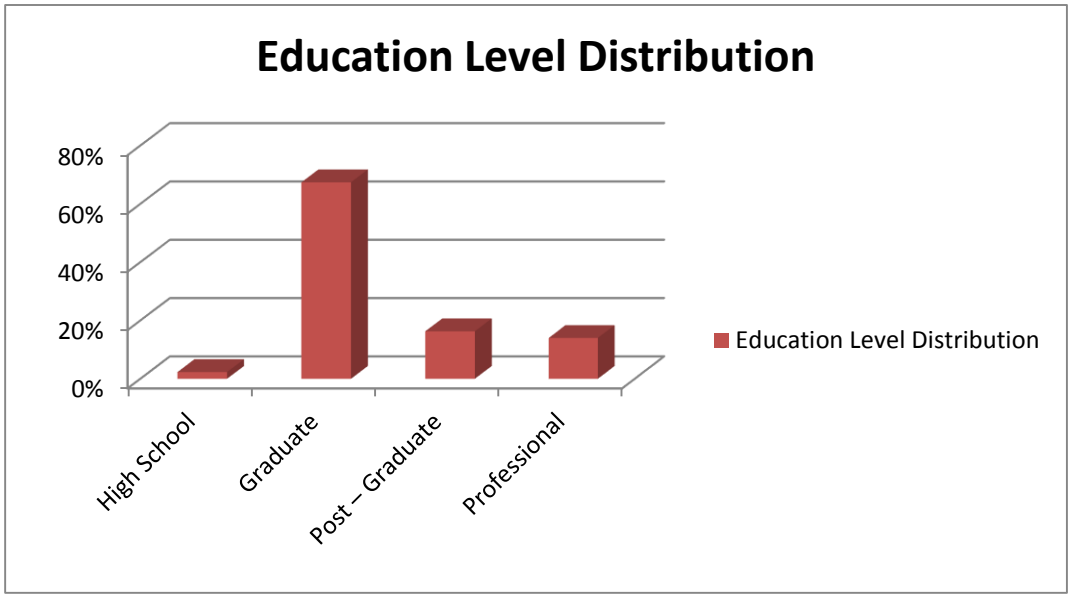


4.2.3 Level of Education

The study sought to establish respondents' highest level of education. Figure 4.4 shows that 2% of the respondents had high school education, 67% of the respondents were graduates, 16% of the respondents attained post graduate level whereas 14% of the respondents had professional level of education as the highest level of education. The distribution of education level was important since it shows that majority of investors were knowledgeable. This was also important

as it reinforced the hypothesis that the level of education is important in making investment decisions.

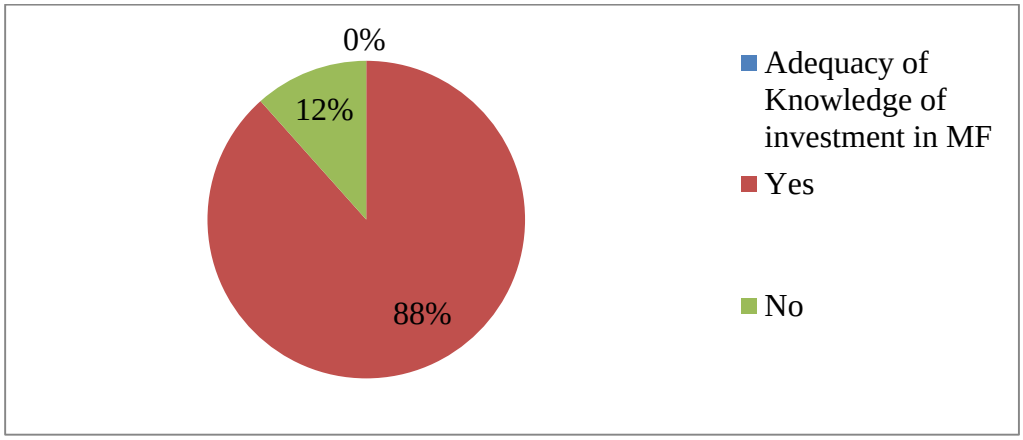
Figure 4.4: Respondents' Highest level of Education



4.2.4 Knowledge of Mutual Fund Investment.

Respondents were asked to indicate whether they had sufficient knowledge about investment in mutual funds. Figure 4.5 show that 88 % of the respondents had sufficient knowledge whereas 12% did not have adequate knowledge about investment in Mutual Funds. This information was important since investors' knowledge was critical in filling of the questionnaire as it guaranteed high level of accuracy and increased the reliability of the questionnaire. This consequently led to reliable results.

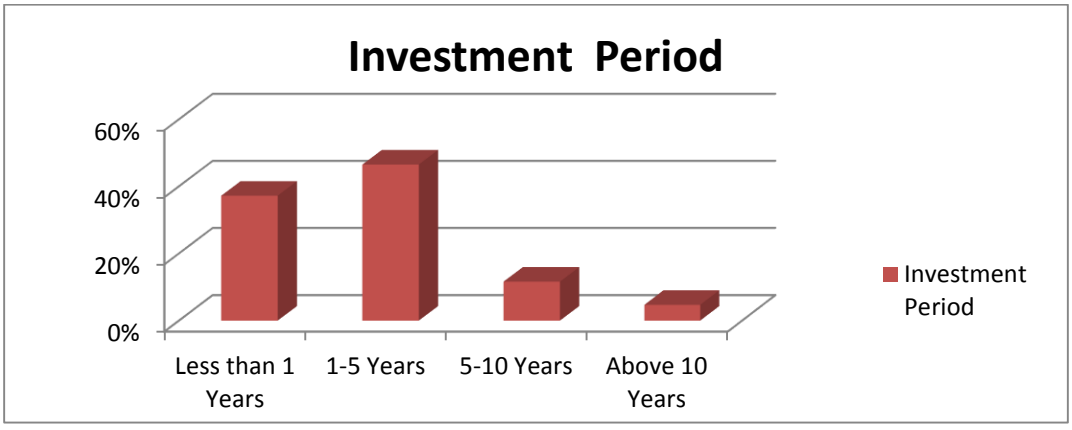
Figure 4.5: Respondents' knowledge of Investment in MFs



4.2.5 Period of Investment in Mutual Funds.

The study sought to find out how long in terms of years the respondents had invested with their Mutual Funds. Figure 4.6 shows that 47% of the respondents had invested between 1 and 5 years, 37% had invested for less than a year, 12%of the respondents had invested between 5 to 10 years, whereas the remaining 5% had invested for over 10 years. Information on the length of investment in years was very important since it also improved on the accuracy of the data collected

Figure 4.6: Duration of Investment with Mutual Funds.



4.3 Descriptive Statistics

This division represents the descriptive outcomes of the behavioral factors of overconfidence, herding, representative and availability bias factors. The effect of behavioral factors was undertaken in order to determine the extent to which it affects investment decisions of individual investors in Mutual funds, on a four point likert scale. The range was 'Disagree (1)' to 'Strongly Agree' (4). The scores of 'disagree' have been taken to represent a variable which had a mean score of less than 1.5 on the continuous Likert scale. The scores of 'Not sure' have been taken to represent a variable with a mean score of 1.6 to 2.0 on the continuous Likert scale .The scores of 'agree' have been taken to represent a variable with a mean of 2.1 to 2.5 while the score of 'strongly agree' have been taken to represent a variable which had a mean score of 2.6 to 3.5 on a continuous Likert scale. A standard deviation of > 0.9 implies a significant difference on the impact of the variable among respondents.

4.3.1 The influence of overconfidence on investment decisions.

The influence of overconfidence on investment decisions of mutual funds in Kenya was the first objective of the study. The respondents gave responses to statements on overconfidence. Rated on a four Likert scale, the responses were as obtained in Table 4.1.The results indicate that investors agreed to relying on their gut feelings when making investment decisions(mean=2.07),Investors strongly attribute superior performance to their knowledge and skills (mean=2.67), investors disagree that poor performance is purely from bad luck and not from poor decision making (mean=1.14),majority investors were not sure if they required professional advice to make a decision(mean=1.60),investors agreed that they tend to have set minds when making investment decisions(mean =2.35) and investors agreed that they believe in

themselves making better performance compared to their acquaintances(mean=2.26).From the analysis it can be concluded that investors strongly attributed superior performance to their skills and talent as the dominating factor (with highest mean of 2.67).

Table 4.1.Overconfidencefactors.

Descriptive Statistics			
	N	Mean	Std. Deviation
When making Investment decisions, I rely on my 'gut feelings'	43	2.07	0.99
I attribute any superior performance to my skills , knowledge and talent	43	2.67	1.06
I believe that inferior performance is purely bad lack and not from my poor decision making	43	1.44	0.83
I do not require any advice from a professional to arrive at a decision to buy or sell	43	1.60	0.90
How long have you invested in a Mutual Fund	43	1.84	0.81
I tend to have a set mind while making decisions to invest in a Mutual Fund	43	2.35	1.11
I believe that I get better performance compared to other investors am acquainted with	43	2.26	0.76

4.3.2 The influence of herding on investment decisions.

The influence of herding bias on investment decisions of mutual funds in Kenya was the second objective of the study where the respondents answered several questions which are indicators of herding behavior. Rated on a four Likert scale, the responses were as obtained in Table 4.2.The results indicate that investors buy or sell their holdings based on the prevailing trend(mean=2.27),Investors strongly tend to counter check with actions of other investors whom they perceive to be knowledgeable (mean=2.86), investors highly use price of the mutual fund to make investment decisions (mean=3.1628) and investors agreed that to some extent majority

decisions are always almost the best and they therefore tend to follow majority investors when making their own decisions.(mean=1.72).The results indicate that price movements in the market highly determine how investors made their decisions (with the highest mean of 3.1628).

Table 4.2.Herding factors.

Descriptive Statistics

	N	Mean	Std. Deviation
I buy or sell my holdings in line with prevailing trend of other investors in Mutual Funds	43	2.2791	1.16139
When making decisions to Invest, I tend to counter check with Actions of other investors I perceive to Be Knowledgeable	43	2.8605	0.91499
My decision to buy or sell is highly determined by price movements in the market	43	3.1628	0.68765
I believe that majority decisions are always almost the best and therefore I tend to follow the majority investors while making decisions	43	1.7209	1.03108

4.3.3 The influence of representative bias on investment decisions.

The influence of representative bias on investment decisions of mutual funds in Kenya was the third objective of the study where the respondents answered several questions which are indicators of representative bias. Rated on a four Likert scale, the responses were as obtained in Table 4.3. The results indicate that past history of a mutual fund strongly influences the current decision making(mean=2.907), Investors strongly agree that make reference to past transactions they have carried out in order to arrive at a current decision (mean=2.8837), investors consider mutual funds to be good investments by comparing financial performance of other funds (mean=3.1628), investors believe that the current performance predicts the future prospect of the fund.(mean=2.9535) however investors were unsure on whether mutual funds of small firms are

better than large firms because of their growth rate.(mean=2.000).From the results, it can be concluded that mutual funds were highly considered to be the best investments on basis of comparison of the financial performance. Further investors buy or sell their holdings with the belief that the current performance is an indication of future performance as shown by the high mean of 3.1628

Table 4.3.Representative Bias factors.

Descriptive Statistics

	N	Mean	Std. Deviation
Past history highly influences my current investment decisions in a Mutual Fund	43	2.907	0.8948
When investing in a Mutual Fund, I do so by comparing with similar transactions I have done in the past	43	2.8837	0.69725
I consider a Mutual Fund to be a good investment by comparing the financial performance with other funds	43	3.1628	0.68765
I hold or sell my investment based on the belief that the current performance predicts the future prospect of the fund	43	2.9535	0.84384
I believe that Mutual funds of small firms are better than large firms because of their growth rate and hence return	43	2.0000	0.9759

4.3.4 The influence of availability bias on investment decisions.

The influence of availability bias on investment decisions of mutual funds in Kenya was the fourth objective of the study where the respondents answered several questions which are indicators of availability bias. Rated on a four Likert scale, the responses were as obtained in Table 4.4. The results indicate that investors have a strong preference to mutual funds that are familiar to them(mean=2.721), Investors agree that the most recent information is the basis on which they make current decisions while ignoring past information (mean=2.093),investors

additionally rely on any current information as long as it is given by a professional advisor (mean=2.651), investors did not highly consider geographical location of their mutual funds to make decisions .(mean=1.488) while investors strongly agreed that they constantly make reference to current events in their mutual funds before making investment decisions.(mean=3.000).From the results it can be concluded that the behavior of herding was dominant where investors constantly make reference to current events before making investment decisions.

Table 4.4 .Availability bias factors.

Descriptive Statistics

	N	Mean	Std. Deviation
I only invest in funds that am familiar with	43	2.721	0.984
I base my decision to sell or buy in a Mutual fund based on the most recent information and ignore any past information	43	2.093	1.065
I base my decisions on any current information if given by a professional advisor	43	2.651	1.021
I only invest in funds that are geographically near to me	43	1.488	0.827
I constantly make reference to current events before making investment decisions	43	3.000	0.787

4.3.5 The influence of demographic factors on investment decisions in mutual funds.

The influences of demographic factors on investment decisions of mutual funds in Kenya were the control variables which are believed to influence investment decisions of mutual funds. The respondents answered several questions relating to demographic factors. Rated on a four Likert scale, the responses were as obtained in Table 4.5. The results indicate that men are generally prefer high risk investments compared to women (mean=2.395), Young investors are motivated

by income compared to older investors who go for capital gains (mean=2.791), investors agree that mutual funds are the best options of investment when seeking a sure return with low risk (mean=2.535) while the level of education did not seem to be very important when making an investment decision (mean=2.000).From the results, it can be concluded thatinvestors age highly influences investors decision. Young investors are motivated by income while older ones are motivated by capital gain.

Table 4.5 .Demographic factors.

Descriptive Statistics

	N	Mean	Std. Deviation
Generally men are more aggressive and go for high risk, high return investments compared to women who prefer low risk with low return investments.	43	2.395	1.094
Mutual funds investors based on age have varied reasons. Young people invest for the sole purpose of getting an income while older people are only motivated by capital gain	43	2.791	1.059
Mutual funds are the best options to invest in when seeking a sure return and are generally low risk investments.	43	2.535	1.054
The level of education is not important when making an investment decisions	43	2.000	1.113

4.4 Tests for data.

4.4.1 Test for Normality

As part of exploratory data analysis, tests for normality of distribution of the response variableswere conducted. The normality of the data was tested using the Shapiro – Wilk test at a significance level (p) of 5%. For $p \geq 0.05$ normality was assumed while for $p < 0.05$ deviation from normality was assumed. The normality tests results were as shown in Table 4.6 shown below. The results show that overconfidence and representative variables had slight deviations from normality while herding and availability variables had a normal distribution.

Table 4.6: Tests for normality

Tests of Normality

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Representative	.164	43	.005	.934	43	.016
Overconfidence	.169	43	.003	.937	43	.020
Availability bias	.166	43	.004	.952	43	.069
Herding	.167	43	.004	.948	43	.051

a. Lilliefors Significance Correction

4.4.2 Test for Multicollinearity

Multicollinearity is a test that evaluates whether the independent variables are highly correlated. The primary concern is that as the degree of Multicollinearity increases, the regression model estimates of the coefficients become unstable and the standard errors for the coefficients can get wildly inflated.Multicollinearity in this study was tested using Variance Inflation Factor (VIF). According to Sosa-Eacudero (2009) if VIF = 1, there is no correlation, if VIF is more than 5 but less than 10 , there is moderate correlation and if VIF is greater than 10, there is high correlation. The common rule of thumb is that VIF should be less than 3 (Kutner, Nachtsheim&Neter, 2004).The results in Table 4.7 below show that all the values for VIF were below 3 for all the independent variables. It was therefore concluded that the independent variables were not correlated.

Table 4.7: Tests for Multicollinearity

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	-1.060	.727		-1.458	.153		
	Overconfidence	.393	.220	.243	1.785	.082	.905	1.105
	Herding	.218	.161	.189	1.353	.184	.863	1.159
	Representative	.323	.179	.251	1.803	.079	.865	1.156
	Availability bias	.430	.204	.286	2.106	.042	.907	1.102

a. Dependent Variable: Investment Decisions

4.4.3 Test for Linearity.

Third the data was tested for linearity. The test for linearity using the ANOVAtests revealed that each of the independent variables had linear relationship with the dependent variable as show in Tables 4.8 to 4.11 below. The tests for linearity have significant values of less than .05, indicating that linear relationship exists between Overconfidence and Investment decisions (sig=0.011), Herding and Investment decisions (Sig=0.013), representativeness and Investment decisions (sig=0.04) and Availability bias and Investment decisions (sig=0.006)

Table 4.8: Tests for Linearity-Representative Bias and Investment decisions

ANOVA Table

			Sum of Squares	df	Mean Square	F	Sig.
Investments decision * representative	Between Groups	(Combined)	10.323	9	1.147	3.513	.004
		Linearity	3.227	1	3.227	9.885	.004
		Deviation from Linearity	7.096	8	.887	2.717	.020
	Within Groups		10.773	33	.326		
	Total		21.096	42			

Table 4.9: Tests for Linearity-Herding factors and Investment decisions

ANOVA Table(Herding and Investment decisions)

			Sum of Squares	df	Mean Square	F	Sig.
Investments decision * herding	Between Groups	(Combined)	9.409	9	1.045	2.952	.011
		Linearity	2.416	1	2.416	6.821	.013
		Deviation from Linearity	6.993	8	.874	2.468	.032
	Within Groups		11.687	33	.354		
	Total		21.096	42			

Table 4.10: Tests for Linearity-Availability bias factors and Investment decisions

ANOVA Table

			Sum of Squares	df	Mean Square	F	Sig.
Investments decision availability bias *	Between Groups	(Combined)	8.471	10	.847	2.147	.050
		Linearity	3.406	1	3.406	8.633	.006
		Deviation from Linearity	5.065	9	.563	1.427	.218
	Within Groups		12.625	32	.395		
	Total		21.096	42			

Table 4.11: Tests for Linearity-Overconfidence factors and Investment decisions

ANOVA Table

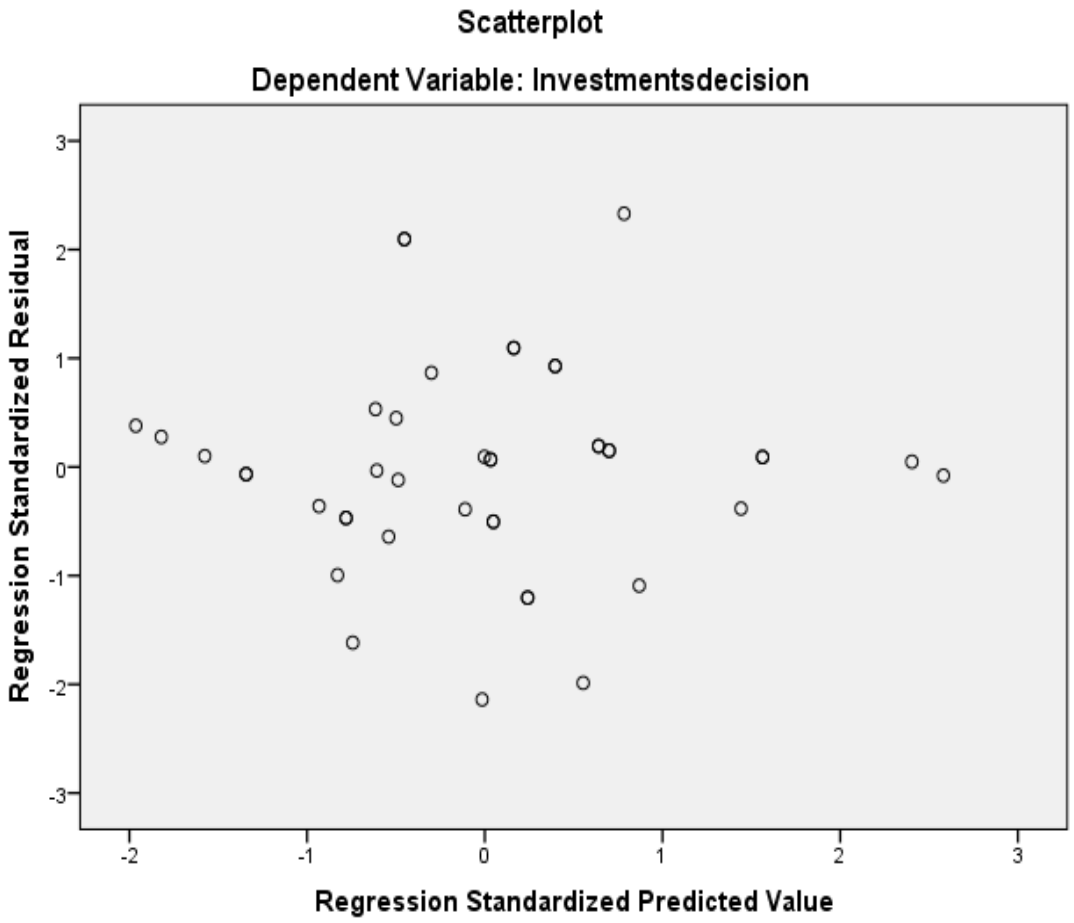
			Sum of Squares	df	Mean Square	F	Sig.
Investments decision * overconfidence	Between Groups	(Combined)	9.803	10	.980	2.778	.014
		Linearity	2.600	1	2.600	7.368	.011
		Deviation from Linearity	7.203	9	.800	2.268	.043
	Within Groups		11.293	32	.353		
	Total		21.096	42			

4.4.4: Tests for Homoscedasticity

Heteroskedasticity occurs when the variance of the error terms differ across observations. Homoscedasticity test is useful to examine whether there is difference in residual variance of the observation period to another period of observation (Godfrey, 1996).The residual plots (Appendix VII) showed that the error term (εi) was normally and identically independently

distributed with mean zero and constant.This meant the error variance in performance was constant along service improvement strategy. Hence the data did not suffer from Heteroskedasticity and instead was Homoscedastic. The study proceeded with regression analysis.

Table 4.12: Tests for Homoscedasticity



4.5 Regression Analysis

Toidentify theeffect of behavioral factors on investment decisions in mutual funds by individual investors in Kenya,the study used a linear multiple regression to establish the effects of the behavioral factors. The findings are discussed in the following sections.

Table 4.13 Model Summary

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.602[a]	0.363	0.276	0.60283

a. Predictors: (Constant), Demographic factors, Availability bias, Herding, Overconfidence, Representative factors

According to table 4.13 above,R squareis the coefficient of determination which tells us the variation in the dependent variable due to changes in the independent variables.The results indicate the extent of changes on investment decisions explained by the independent variables. The R^2 value is 0.363. This means that the independent variablesof Overconfidence, Herding, Representative, Availability bias and demographic factors explain 36.3 percent of the changes in investment decisions. The rest 63.7 percent are explained by other factors not in the model or which were not focused in the study. Other factors may include fund attributes, fund performance and fund size which would be more appealing to the individual investor.

Table 4.14 Analysis of Variance ANOVA

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	7.649	5	1.53	4.21	.004[b]
	Residual	13.446	37	0.363		
	Total	21.096	42			

a. Dependent Variable: Investment decisions

b. Predictors: (Constant), Demographic factors, Availability bias, Herding, Overconfidence, Representative factors

Analysis of Variance (ANOVA) consists of calculations that provide information about levels of variability within a regression model and form a basis for tests of significance. The "F" column provides a statistic for testing the hypothesis that all $\beta \neq$ 0 against the null hypothesis that β = 0 (Weisberg, 2005).

From the findings the significance value is .004 which is less than 0.05 thus the model is statistically significant in predicting thatOverconfidence factors,Herding factors, Representative bias factor, Availability bias and Demographic factors influence investment decisions in Mutual funds by individual investors in Kenya.

Table 4.15: Regression Results

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-1.049	0.748		-1.403	0.169
	Overconfidence	0.397	0.228	0.246	1.743	0.09
	Herding	0.219	0.164	0.19	1.337	0.189
	Representative	0.329	0.196	0.256	1.68	0.101
	Availability bias	0.429	0.207	0.286	2.074	0.045
	Demographicfactors	-0.016	0.187	-0.013	-0.085	0.933

a. Dependent Variable: Investment decisions

Source: Researcher (2017)

The findings in table 4.15 show the coefficients of the regression. According to the findings, only Availability bias factors (p=0.045) were significant in predicting investment decisions since the p-value<0.05.Overconfidence factors (p=0.09), Herding (P=0.189), Representative factors (P=0.101) and Demographic factors (p=0.933) were not significant in predicting investment decisions.

The resulting regression equation was:

$$Y = -1.049 + 0.397X_1 + 0.219X_2 + 0.329X_3 + 0.429X_4 - 0.016X_5 + \varepsilon$$

Where

Y=Investment Decisions

X_1=Overconfidence Factors

X_2 =Herding Factors

X_3 =Representative Bias Factors

X_4 =Availability Bias Factors

X_5 =Demographic Factors, and ε =Error term

From the regression equation above, taking all factors (Overconfidence, Herding, Representative, Availability and Demographic factors) constant at zero, the influence on investment decisions in mutual funds by individual investors in Kenya would be-1.049. The results further indicate that a unit increase in Overconfidence factors will lead to increased influence on investment decisions by a magnitude of 0.397; a unit increase in Herding factors would lead to increased influence on investment decisions by a magnitude of 0.219;a unit increase in Representative bias factors would lead to increased influence on investment decisions by a magnitude of 0.329;a unit increase in Availability bias factors would lead to increased influence on investment decisions by a magnitude of 0.429;while aunit increase in demographic factors would lead to reduced influence on investment decisions by a magnitude of 0.16.At 5% significance level, Overconfidence factors, Herding factors, Representative factors and Demographic factors did not have significant influence on Investment decisions. Availability bias factors had a 0.045 level of significance.This finding concurs with Luong (2011), who observes that people always look at available information while making investment decisions which is an availability bias behavior.

CHAPTER FIVE: SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter presents summary of findings, conclusions and recommendations of the study based on the study objectives. The chapter also highlights suggested areas for further research. The study sought to establish the effect behavioral factors on investment decisions in Mutual funds by individual investors in Kenya.

5.2 Summary

5.2.1Overconfidence Factors and Investment Decisions.

For this study, respondents generally agreed that they rely on their skills and talents to make investment decisions implying that they exhibit overconfidence. The regression resultsfound that there is a positive relationship between overconfidence factors and investment decisions. This shows that overconfidence factors have an effect on investment decisions. However the level of influence is not significant. The study therefore is in agreement with a study done byEshraghi (2011) who investigated the extent to which mutual fund managers as individuals exhibit overconfidence and provides evidence of a positive relationship between overconfidence of fund managers and investment decisions and subsequent performance. The extent of the influence however was not established.

5.2.2 Herding Factors and Investment Decisions.

The study found out that majority of the investors rely heavily on price movements in the market as well highly counterchecking with behaviours of other investors before making their own investment decisions and thus adopted herd mentality.The regression analysis results found that

there is a positive relationship between Herding factors and investment decisions. This shows that Herding factors have an effect on investment decisions. The level of influence was also not significant.These results concurred with a study by Patro (2012) who analyzed the trading activity of Indian mutual funds and investigated whether Indian mutual fund managers are engaged in herding behavior found strong evidence of herding.

5.2.3 Representative Factors and Investment Decisions.

The study found out that majority of the investors hold or sell their investment based on the belief that the current performance predicts the future prospect of the fund which means they adopt representative bias behavior.Regression analysis results found that there exists a positive relationship between representative factors and investment decisions, implying that representative factors influence investment decisions. The influence however is insignificant.

5.2.4Availability bias Factors and Investment Decisions.

The study found out thatinvestors constantly make reference to current events before making investment decisions.The regression analysis results show a positive relationship between availability bias and investment decisions. This implies that availability bias factors influence investment decisions. The results further show a significantrelationship. These results concur with a study done by Luong (2011), who observes that people tend to look at the most recent and available information while making investment decisions and end up making poor investment decisions.

5.2.5Demographic Factors and Investment Decisions.

The study found out that investors generally considered demographic factors of age,gender,risk

profile and level education when making their decisions.Regression results however show an insignificant negative relationship (with a beta value of- 0.013) between demographic factors and investment decisions.This also implies that demographic factors do not influence investment decisions.

5.3 Conclusions.

Individual investor decisions were influencedby majority behavioral factors but the influence was insignificant. The investors therefore showed that their decisions are influenced by other factors which were not included in the model and therefore investors of mutual funds in Kenya are considered to be rational in decision makers as they do not heavily rely on behavioral factors. This is contrary to the findings of many studies which have found out that investors make mistakes as a result of adopting behavioral biases when making investment decisions.

5.4 Policy recommendations

The study recommends that fund managers facilitate increased awareness about other factors such as fund attributes that are most important to check out while making investment decisions. This can be done by way of education and constant training programs to individual investors

5.5 Limitations of the study

The study had the following limitations:

The research targeted only the investors in Nairobi County as a representative of the whole country, Kenya. This is due to the fact that Mutual Funds are concentrated in Nairobi since the field of mutual funds is still a new field. Additionally the researcher had financial constraints which limited her to concentrate in Nairobi. More objective findings would be possible given an extension of the research to include other Counties once they are established

The researcher used a sample of forty three respondents. This was due to the fact that it was very hard to trace most of the individual investors and it was costly on the part of the researcher. The limited knowledge about mutual funds by most investors also meant that sampling was limited to a small number. A bigger sample would increase the reliability of statistical estimates.

The research was constrained by time as the researcher had to balance the research undertaking with other commitments mostly work related. Thus, a more comprehensive study was not possible.

5.5 Suggested Areas for Further Research

Since this study explored the effect of behavioral factors in mutual funds in Kenya using the four variables and only limited to Nairobi County, the study recommends that a similar study be done over an extended period, extending the study to other counties and using a larger sample size. This will improve the reliability of the findings.

APPENDICES

APPENDIX I: List of Approved CIS (Mutual Funds)

Approved Collective Investment Schemes:

African Alliance Kenya Unit Trust Scheme.
British-American Unit Trust Scheme.
Stanbic Unit Trust Scheme.
Commercial Bank of Africa Unit Trust Scheme.
Zimele Unit Trust Scheme.
ICEA Unit Trust Scheme.
Standard Investment Trust Funds.
CIC Unit Trust Scheme.
Madison Asset Unit Trust Funds.
Dyer and Blair Unit Trust Scheme
Amana Unit Trust Funds Scheme
Diaspora Unit Trust Scheme.
First Ethical Opportunities Fund
Genghis Unit Trust Funds:
Sanlam Unit Trust Scheme.
Nabo Africa Funds.
Old Mutual Unit Trust Scheme.
Equity Investment Bank Collective Investment Scheme.
Dry Associates Unit Trust Scheme.

Source: Capital Markets Authority

APPENDIX II: Questionnaire

QUESTIONNAIRE TO PRESENT INVESTORS IN MUTUAL FUNDS

Dear Sir / Madam,

I am Nancy Kiogothe an MSC student at KCA University department of Finance and Investments. I am currently engaged in a study on **behavioral factors influencing investors decisions in Mutual Funds in Kenya** .In this connection I am requesting you to fill for me this questionnaire as accurately as possible. The information obtained will be confidential and will only be used purely for academic purpose. Please put a tick mark in the square corresponding to your choice.

PART A: General Information

1. Gender : Male ☐ Female ☐

2. Age in completed years:

Below 30 ☐ 31 – 40 ☐ 41 – 50 ☐ Above 50 ☐

3. Highest Academic Level:

High School ☐ Graduate ☐ Post – Graduate ☐ Professional ☐

4. Do you have sufficient Knowledge on Mutual Fund Investment? Yes ☐ No ☐

5. How long have you invested in a Mutual Fund?(In years)

Less than 1 ☐ 1-5 ☐ (5-10) ☐ Above 10 ☐

PART B*: **Behavioral Factors:***

On a scale of 1 to 4, Kindly tick appropriately 1=Disagree **2**=Not sure **3**=Agree 4=Strongly Agree

BEHAVIOURAL FACTORS INFLUENCING INVESTMENT DECISIONS

Kindly tick appropriately.

1. There is a general believe that most investors of Mutual Funds tend to trade excessively and are always certain in their investment decisions, in other words they exhibit **overconfidence**indecision making . State the extent to which you agree to the following statements.

	1(Disagree)	**2(Not sure)**	**3(Agree)**	**4(Strongly agree)**
a) When making Investment decisions, I rely on my 'gut feelings'				
b) I attribute any superior performance to my skills , knowledge and talent				
c) I believe that inferior performance is purely bad lack and not from my poor decision making.				
d) I do not require any advice from a professional to arrive at a decision to buy or sell.				
e) I trade a lot more after achieving a good past performance.				
f) I tend to have a set mind while making decisions to invest in a Mutual Fund				

g) I believe that I get better performance compared to other investors am acquainted with.				

2. Investors of Mutual funds are believed to be reluctant to act according to their own information and beliefs due to the fear that their behavior may damage their reputations as rational decision makers. They hence tend to adopt the follow the leader mentality a behavior known as **Herding**. To what extent do you agree to the following statements?

	1(Disagree)	**2(Not sure)**	**3(Agree)**	**4(Strongly agree)**
a) I buy or sell my holdings in line with prevailing trend of other investors in Mutual Funds.				
b) When making decisions to Invest, I tend to counter check with Actions of other investors I perceive to Be Knowledgeable				
c) My decision to buy or sellis highly determined by price movements in the market				
d) I believe that majority decisions are always almost the best and therefore I tend to follow the majority investors while making decisions				

3. When making Investment decisions, Investors of Mutual Funds are believed to refer to or recall a past experiences which to a large extent determine their current decisions; they thus exhibit a **representative bias**. State the extent to which you agree with the statements below;

	1(Disagree)	**2(Not Sure**	**3(Agree)**	**4(Strongly agree)**
a) Past history highly influences my current investment decisions in a Mutual Fund.				
b) When investing in a Mutual Fund, I do so by comparing with similar transactions I have done in the past				
c) I consider a Mutual Fund to be a good investment by comparing the financial performance with other funds				
d) I hold or sell my investment based on the belief that the current performance predicts the future prospect of the fund				
e) I believe that Mutual funds of small firms are better than large firms because of their growth rate and hence return				

4. It is believed that most investors including Mutual Funds are reluctant to carry out the necessary research required before an investment decision and therefore tend to only refer to recent information or current events. They adopt **availability bias** behavior. State the extent to which you agree to the following statements as a Mutual Fund Investor.

	1(Disagree)	2(Not Sure)	3(Agree)	4(Strongly agree)
a) I only invest in funds that am familiar with.				
b) I base my decision to sell or buy in a Mutual fund based on the most recent information and ignore any past information				
c) I base my decisions on any current information if given by a professional advisor				
d) I only invest in funds that are geographically near to me				
e) I constantly make reference to current events before making investment decisions				

PART C*: **Demographic Factors***:

Please tick appropriately.

5. State extent to which you agree with the following statements.

(a) Generally men are more aggressive and go for high risk, high return investments compared to women who prefer low risk with low return investments.

Strongly agree ☐ Agree ☐ Not sure ☐ Disagree ☐

(b)Mutual funds investors based on age have varied reasons. Young people invest for the **sole** purpose of getting an income while older people are only motivated by capital gain

Strongly agree ☐ Agree ☐ Not sure ☐ Disagree ☐

(c)Mutual funds are the best options to invest in when seeking a sure return and are generally low risk investments.

Strongly agree ☐ Agree ☐ Not sure ☐ Disagree ☐

(d).The level of education is not important when making an investment decisions.

Strongly agree ☐ Agree ☐ Not sure ☐ Disagree ☐

PART D*: **Investment decisions***:**

Please tick appropriately

6. State extent to which you agree with the following statements.

(a) With available information on prices, I always purchase Mutual Funds which are low in price with an expectation that the prices will more than double in the near future.

Strongly agree ☐ Agree ☐ Not sure ☐ Disagree ☐

(b) I tend to sell my investments faster when they are profitable but I take a longer period to sell the loss making ones to avoid the feel of the loss.

Strongly agree ☐ Agree ☐ Not sure ☐ Disagree ☐

(c) I use **price** as the only point of reference when purchasing or selling my Investments in Mutual fund and ignore other factors.

Strongly agree ☐ Agree ☐ Not sure ☐ Disagree ☐

Thank you for your time.

APPENDIXIII: Work plan

Activities	2017					
	Jan	June	July	Aug	Sept	Sept
Proposal Writing						
Proposal Writing						
Proposal Presentation						
Data Collection						
Data Analysis						
Report Submission						

APPENDIX IV: Budget

NUMBER	ITEMS	AMOUNT (SHs.)
1.	Stationery (Pens, Paper)	6,500.00
2.	Photocopying, Printing and Binding Costs	4,000.00
3.	Internet and Browsing	2,500.00
4.	Transport (Fuel)	8,000.00
5.	Research Assistants Wages (3RAs)	7,500.00
6.	Airtime phone calls	3,000.00
7.	Contingency costs	5,000.00
8.	**TOTAL**	**36,500.00**

REFERENCES

Amunga, P. I. (2015). *Factors affecting performance of mutual funds in Kenya* (Doctoral dissertation, University of Nairobi).

Baddeley, M., Burke, C., Schultz, W., &Tobler, P. (2012). Herding in financial behaviour: a behavioraland neuroeconomic analysis of individual differences.

Bailey, W., Kumar, A., & Ng, D. (2011). Behavioral biases of mutual fund investors. *Journal of Financial Economics*, *102*(1), 1-27.

Bakar, S., & Yi, A. N. C. (2016). The Impact of Psychological Factors on Investors' Decision Making in Malaysian Stock Market: A Case of Klang Valley and Pahang. *Procedia Economics and Finance*, *35*, 319-328.

Barber, B. M., & Odean, T. (2001). Boys will be boys: Gender, overconfidence, and common stock investment. *The quarterly journal of economics*, *116*(1), 261-292.*18*(6), 605-628.

Barber, B. M., Odean, T., &Zheng, L. (2005). Out of sight, out of mind: The effects of expenses on mutual fund flows. *The Journal of Business*, *78*(6), 2095-2120.

Barberis, N., & Huang, M. (2001). Mental accounting, loss aversion, and individual stock returns. *The Journal of Finance*, *56*(4), 1247-1292.

Bergstresser, D., Chalmers, J. M., &Tufano, P. (2009). Assessing the costs and benefits of brokers in the mutual fund industry. *The Review of Financial Studies*, *22*(10), 4129-4156.

Capon, N., Fitzsimons, G. J., & Prince, R. A. (1996). An individual level analysis of the mutual fund investment decision. *Journal of financial services research*, *10*(1), 59-82.

Capon, N., Fitzsimons, G. J., & Prince, R. A. (1996). An individual level analysis of the mutual fund investment decision. *Journal of financial services research*, *10*(1), 59-82.

Cooper, D.R. & Schindler, P.S. (2001). Business Research Methods (7th ed.). New York, USA: The Irwin/McGraw-Hill Series

Davar, Y. P., & Gill, S. (2007). Investment Decision Making: An empirical study of perceptual view of Investors. *Metamorphosis: A Journal of Management Research*, 6(2), 115-135.

De Bondt, W. F., & Thaler, R. H. (1995). Financial decision-making in markets and firms: A behavioral perspective. *Handbooks in operations research and management science*, *9*, 385-410.

Dittrich, D. A., Güth, W., &Maciejovsky, B. (2005). Overconfidence in investment decisions: An experimental approach. *The European Journal of Finance*, *11*(6), 471-491.

Dwyer, P. D., Gilkeson, J. H., & List, J. A. (2002). Gender differences in revealed risk taking: evidence from mutual fund investors. *Economics Letters*, *76*(2), 151-158.

Eshraghi, A. (2011). How does Mutual Fund Manager Overconfidence Impact Mutual Fund Investment Performance? *Retrieved November*, *10*, 2012.

Fiotakis, T. H., &Philippas, N. (2004). Chasing trend and losing money: open end mutual fund investors' trading behavior in Greece. *Applied Economics Letters*, *11*(2), 117-121.

Frey, S., Herbst, P., & Walter, A. (2014). Measuring mutual fund herding–a structural approach. *Journal of International Financial Markets, Institutions and Money*, *32*, 219-239.

Goetzmann, W.N. (1993).Cognitive Dissonance and Mutual Fund Investors. *Journal of Finance*

Grover, P. (2015). Study on Behavioral factors influencing Investment Decision in Real State: A Case study of Udham Singh Nagar (Uttarkhand). *International Journal of Engineering Technology, Management and Applied Sciences*, *3*(7), 150-158.

Habib H. K, Iram N., Fiza Q,&Abdul G.(2016). Heuristics and stock buying decision: *Evidence*

from Malaysian and Pakistani stock markets, Borsa Istanbul Review, Volume17,Issue 2,2017.

Hayat, A., & Anwar, M. (2016). Impact of Behavioral Biases on Investment Decision; Moderating Role of Financial Literacy.

Hirshleifer, D., & Hong Teoh, S. (2003). Herd behaviour and cascading in capital markets: A review and synthesis. *European Financial Management*, *9*(1), 25-66.

Huang, J., Wei, K. D., & Yan, H. (2007). Participation costs and the sensitivity of fund flows to past performance. *The Journal of Finance*, *62*(3), 1273-1311.

Hiltunen, A. (2015). Trading of Individual Investors.

IOSCO. (2006). *Collective Investment Schemes in the Emerging Markes.* Retrieved from IOSCO Website: www document: IOSCO

Ippolito, R. (1992). Consumer Reaction to Measures of Poor Quality: *Evidence From the Mutual Fund Industry*, Journal of Law and Economics35 pp. 45-70.

Joehnk, G., &Gitman, L. J. (2008). Personal Finance: A User's Perspective. *Cengage Learning, South-Western, India Edition.*

Kahuthu, D. G. (2011). Effects of herd behaviour on trading volume and prices of securities at NSE. *MBA Research Project. University of Nairobi*.

Kannadhasan, M. (2006). Role of behavioural finance in investment Decisions. *Retrieved December*, *29*, 2014.

Klapper, L., Victor, S., & Dimitri, V. (2004). The development of the mutual funds around the world.*Emerging Markets Review*, *5*, 1-38.

Mugenda, O., &Mugenda, A. (2003). Research methodology: qualitative and quantitative

techniques.

Nagy, R., &Obenberger, R. (1994). Factors Influencing Individual Investor Behaviour.*Financial Analysts*, 63-68.

Ngode, O. B. (2013). The Effect of Behavioral Biases on The Mutual Fund Choices By Investors In Kenya. *Unpublished MBA Research Project, University of Nairobi*.

Nicolosi, G., Peng, L., & Zhu, N. (2009). Do individual investors learn from their trading experience.*Journal of Financial Markets*, *12*(2), 317-336.

Odean, T. (1998). Are investors reluctant to realize their losses?.*The Journal of finance*, *53*(5), 1775-1798.

Patro, A., &Kanagaraj, A. (2012). Exploring the herding behaviour in Indian mutual fund industry. *Asian Journal of Finance & Accounting*, *4*(1), 189-204.

Phillip A. W. (2003). The representative Heuristic in judgments involving entrepreneurial success and Failure. *Management decision*, Vol.41 Issue 2, pp 156-167.

Phuoc Luong, L., &Thi Thu Ha, D. (2011). Behavioral factors influencing individual investors´ decision-making and performance.: A survey at the Ho Chi Minh Stock Exchange.

Polit, D. F., & Beck, C. T. (2008). Analyzing qualitative data. *Nursing research: Generating and assessing evidence for nursing practice Philadelphia, PA: Lippincott Williams & Wilkins*.

Pütz, A., Pütz, S. R., &Ruenzi, S. CFR CFR-Working Paper NO. 08 Overconfidence among Professional Investors: Evidence from Investors: Evidence from Mutual Fund Managers.

Schwenk, C. R. (1984). Cognitive simplification processes in strategic decision-making. *Strategic management journal*, *5*(2), 111-128.

Schwert, G. W. (2003). Anomalies and market efficiency. *Handbook of the Economics of Finance*, *1*, 939-974.

Singh, S. P. (2014). Stock market anomalies: Evidence from emerging BRIC markets. *Vision*, *18*(1), 23-28.

Sirri, E. R., &Tufano, P. (1998). Costly search and mutual fund flows. *The journal of finance*, *53*(5), 1589-1622.

Statman, M., Fisher, K. &Anginer, D. (2008). Affect in a behavioral asset-pricing model. *Financial analysis journal*, 74(2), 20-29.

Theriou, N., Maditinos, D., &Šević, Ž. (2009). Herding by mutual fund managers in the Athens Stock Exchange. *The European Journal of Finance*.

Tversky, A., & Kahneman, D. (1981). *Evidential impact of base rates* (No. TR-4).

Wamae, J. N. (2013). Behavioral factors influencing investment decision in stock market: A survey of investment banks in Kenya. *International Journal of Social Sciences and Entrepreneurship*, *1*(6), 68-83.

Waweru, N. M., Munyoki, E., &Uliana, E. (2008). The effects of behavioural factors in investment decision-making: A survey of institutional investors operating at the Nairobi Stock Exchange. *International Journal of Business and Emerging Markets*, *1*(1), 24-41.

Wermers, R. (1999). Mutual fund herding and the impact on stock prices. *the Journal of Finance*, *54*(2), 581-622.