BEHAVIORAL INVESTMENT TRAPS, FUND SIZE AND PORTFOLIO PERFORMANCE OF MUTUAL FUNDS IN KENYA.

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A RESEARCH THESIS SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE AWARD OF THE DEGREE OF DOCTOR OF PHILOSOPHY IN BUSINESS ADMINISTRATION (FINANCE OPTION) OF MASINDE MULIRO UNIVERSITY OF SCIENCE AND TECHNOLOGY

SEPTEMBER, 2025

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I declare that this thesis is my original work prepared with no other than the indicated sources and support and has not been presented elsewhere for a degree or any other award.

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The undersigned certify that they have read and hereby recommend for acceptance of Masinde Muliro University of Science and Technology of a thesis entitled "Behavioral Investment Traps, Fund Size and Portfolio Performance of Mutual Funds in Kenya".

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DEDICATION

This study thesis is dedicated to my wonderful children Keith, Natasha, Ivan, and Natalie as well as my wife Dorothy Mayoka for their emotional support and inspiration along this trip.

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ABSTRACT

This study investigated the decline in financial performance observed among mutual funds in Kenya, focusing on the potential role of behavioral investment traps in influencing portfolio trends. The objectives were to evaluate the effects of herd behavior, loss aversion, overconfidence, and the disposition effect on mutual fund performance, and to examine how fund size moderates the relationship between these behavioral factors and portfolio outcomes. The results of this study will inform decision making by the policy makers. This will be done through provision of data and evidence to support policies and strategies that enhance financial performance. The results of this study will also guide on resource allocation as well as enhancing accountability by investors and it will also assist academicians to further their knowledge in the field of finance. Prominent theories include the Prospect Theory which is the main theory which explores how investors perceive gains and losses asymmetrically; Modern Portfolio Theory (MPT), which emphasizes diversification to optimize returns for a given level of risk; the Efficient Market Hypothesis (EMH), which postulates that market prices reflect all available information; and the Capital Asset Pricing Model (CAPM), which provides a framework for assessing risk and expected return in investment decisions. The population in this study comprised all 16 registered Kenya‘s mutual funds in the country. A causal research design was employed, utilizing secondary data from mutual funds’ financial statements spanning 2011 to 2021. Data analysis was conducted using multiple regression analysis model, employing panel regression methods with fixed and random effects models. Stationarity was tested using unit root tests, including the Levin-Lin-Chu, Augmented Dickey-Fuller, Im Pesaran and Shin, Philips-Perron, and Hadri 2000 tests. Normality was assessed using the Jarque-Bera test, and multicollinearity was evaluated through pairwise correlation analysis. The Hausman test was used to differentiate between fixed and random effects models, while skewness and kurtosis tests confirmed proper variable distribution. The findings revealed that herd behavior had a positive but insignificant impact on mutual funds’ financial performance (regression coefficient: 0.0004163). Loss aversion demonstrated a positive and significant effect (regression coefficient: 0.0627507), as did overconfidence, which had a strong positive influence (regression coefficient: 2.7295960). Conversely, the disposition effect negatively impacted financial performance significantly (regression coefficient: -0.5455628). The study concludes that overconfidence plays a critical role in shaping mutual fund performance and recommends emphasizing this factor in financial investment decision-making processes. Results indicate that fund size with a coefficient of +0.224458 has a positive moderating effect on the relationship between herd behavior and financial performance of mutual funds in Kenya. Fund size with a coefficient of -0.008639 has a negative moderating effect on the relationship between loss aversion and financial performance of mutual funds in Kenya. Fund size with a coefficient of -3.023683 has a negative moderating effect on the relationship between overconfidence and financial performance of mutual funds in Kenya and fund size with a coefficient of +1.056512 has a positive moderating effect on the relationship between disposition effect and financial performance of mutual funds in Kenya.

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ABBREVIATIONS AND ACRONYMS

ADF	Augmented Dickey-Fuller test
ANOVA	Analysis of Variance
AUM	Assets under Management
CAPM	Capital Assets Pricing Model
CBR	Central Bank Rate
CEE	Central and Eastern Europe
CMA	Capital Markets Authority
CSAD	Cross Sectional Absolute Deviation
CSSD	Cross Sectional Standard Deviation
EGLS	Efficient Generalized Least Squares
EMH	Efficient Markets Hypothesis
IPS	Im Pesaran and Shin tests.
ISE	Islamabad Stock Exchange
IRA	Insurance regulatory Authority
KSE	Karachi Stock Exchange
LSE	Lahore Stock Exchange
MMF	Money Market Fund

MPT	Modern Portfolio Theory
NSE	Nairobi Securities Exchange
NSSF	National Social Security Fund
OLS	Ordinary Least Squares
PSPS	Public Service Pension Fund
RBA	Retirement Benefits Authority
RSE	Rwanda Stock Exchange
SACCOs	Savings and Credit Co-operative Societies

OPERATIONAL DEFINITION OF TERMS

Behavioral investment traps	Are psychological influences and biases which affect the financial behavior of investors and financial practitioners (Cervellati et al, 2024). They include herd behavior, loss aversion, overconfidence and disposition effect.
Disposition Effect	It is the retaining stock losers but selling stock winners (Gärling et al, 2017). It encompasses holding loser's stocks too long and selling winners stocks too soon.
Fund size	Fund Size denotes the aggregate volume of the fund to be accomplished by the fund managers (Yin, 2016). It is characterized by the entire assets under management of the mutual funds.
Herd Behavior	It's the measurement of the selling and Buying choices of stockholders, assessment of the choice of security to trade in by investors, evaluation of the bulk of stock to trade in by stockholders as well as approximation of the herding Speed (Dewan, 2019). It happens whenever stockholders tend to overrate the likelihood of precision of their statistics, their accomplishments and competencies.

	It is the propensity for stockholders to choose shunning losses somewhat compared to accruing gains. It takes place whenever individuals carry out activities which every other person is doing, even if their reserved statistics recommends, they should take a diverse judgment.
Loss Aversion	It is the measurement of whether stockholders pay attention on enormous loss in securities than missing a considerable addition (profits), whether stockholders get uneasy feelings when huge price falls in invested securities, whether stockholders decline to increase investment when the market's financial performance is subpar, examining whether when it comes to investment, no loss of invested money or capital is more significant than earnings or profits and whether stockholders escape selling stocks which have diminished in value and sell stocks which have improved in value (Bouteska et al 2020).
Overconfidence	Overconfidence is the measurement of whether investor experience in trading in stocks influences

	their choices, whether investors trust that their expertise and understanding of securities helps them to outdo the market performance, or whether stockholder overconfidence makes investors underestimate risks (Adielyani et al, 2020).
Portfolio performance	It's the market capitalization which will be measured using Matthew, Oluwatoyin & Odularu, Gbadebo. (2009) model which is characterized as a sum of Turnover, Profit after Tax and Dividends.

CHAPTER ONE

INTRODUCTION

1.1 Background of the study

Stockholders are often regarded as balanced wealth builders, yet their behavior challenges the assumptions of traditional financial theories. Among these theories, the Capital Asset Pricing Model (CAPM) and Modern Portfolio Theory (MPT) stand out as foundational frameworks in security investment and decision-making. However, empirical evidence from various financial markets reveals that investment decisions frequently deviate from the principles outlined in these conventional theories. This gap has paved the way for the rise of behavioral finance as a critical model in understanding security investment and decision-making processes. Behavioral finance seeks to explain investor behavior in scenarios where traditional financial theories fail to provide satisfactory answers (Almansour et al, 2023)

Behavioral investment traps are emotional stimuli and predispositions which have emotional influence on the financial behavior of savers and financial consultants. These behavioral investment elements may be a foundation of enlightenment of all types of irregularities and more particularly market inconsistencies in the stock market for instance undecorated rises and falls in the asset prices. Portfolio performance is the yield on a security portfolio which is ordinarily measured for a quantified epoch of time and in a certain currency (Kasimovas, 2024).

Lobão et al (2024) scrutinized the existence of herd behavior in the security Exchange of Greece as of 1995 February through to 2010 April. The research furthermore utilized Hwang and Salmon (2004) technique for measuring herd behavior. The study established that herd behavior was initiated during diverse times of the research. The study reflected herd behavior as a supplementary uncertainty component. The outcome of this study disputes that of Patwarani & Husodo (2023) which examined the existence of herd behavior in the Portuguese security exchange beginning 2003 January through to 2011 December. The research made use of Huang and Christie (1995) and Chang (2000) simulations in the measurement of herd behavior factor. The research established that there was not any indication of herd behavior factor in the Portuguese security exchange and the study recommended particular confirmation of the proficiency postulate of the Portuguese security exchange.

Mittal, S. K. (2022) conducted research on the influence of behavioral finance on India's portfolio investment choices. The study focused on the role that emotions like greed, fear, and expectation have in affecting decision-making regarding investments. Behavioral Finance in investment is an emerging venture which studies about how emotional aspects influence decision making processes under doubt. The study pursued to find out the impact of certain recognized behavioral finance partialities for example Representativeness, Anchoring, herding behavior, overconfidence, regret aversion, cognitive dissonance, mental Accounting, Hindsight Bias and Gamblers' Fallacy on investment decision making processes of distinct stockholders in the Indian security Market. Primary data for the investigation was collected by dispensing a designed questionnaire amid investors who were characterized as experienced and young. The study furthermore discovered the extent

of revelation to which the biases disconnected the behavioral alignment of the young and skillful investors. Anchoring, hindsight and gamblers' fallacy biases were found to influence the young investors considerably further than proficient investors. This research was motivated by the guidance of behavioral finance prejudices of decision-making processes of stockholders. Financial performance of mutual funds and behavioral finance in emerging countries like Kenya is an additional feature that this study explored as well as making an allowance for the moderating effect of fund size.

Øverseth & Andersen (2023) carried out a study about the contrast amongst behavioral finance mutual funds as well as the conservative mutual funds in the Norwegian stock market. The goal of the research was to evaluate the financial performance mutual funds which use behavioral investment biases and to liken their financial performance to non-behavioral funds and index funds. Nevertheless, not any of the assets in the Norwegian market plainly acknowledged having made investment decisions founded on behavioral finance. The assortment of assets was consequently constructed on a comprehensive and widespread appraisal of 67 brochures of Norwegian assets, circulated on the Morningstar and the stock manager's website so as to acquaint behavioral mutual funds in the Norwegian market. Experimental scrutiny was additionally functional, where a typical test for performance of six mutual funds recognized as behavioral in the Norwegian market was engaged. Additionally, examination was also accomplished so as to distinguish the policy approach of the tried behavioral funds. The experimental outcomes pointed out those behavioral funds which are able to outdo non-behavioral funds and index funds. The outcomes further more directed that behavioral funds are skewed in the direction of value investing, but they are unsuccessful in earning risk-adjusted unusual earnings. Given the

complications of ascertaining behavioral funds in the Norwegian market, it was challenging to induce any robust inferences from this study, but the outcomes points out that being aware of behavioral ineptitude may increase the financial performance of mutual funds.

Badola, et al (2024) carried out research on Behavioral Biases of Mutual Fund Stockholders in the USA. The study scrutinized the influence of behavioral biases on the selection of mutual funds of a large sample of the United States discount brokerage stockholders by use of firsthand processes of responsiveness to news, tax cognizance and fund level acquaintance bias additionally to demographic and behavioral features of prior researches. Stockholders who are behaviorally biased characteristically made unfortunate choices about expenditures and fund style, tradeoff occurrence, and timing, occasioning deprived performance. Additionally, trend-chasing looked as if it is linked to behavioral biases, reasonably than to rationally deducing decision-making ability from previous financial performance. The factor analysis findings submitted that biased stockholders repeatedly follow labels that can be regarded as" overconfident", "mature" "gambler", "narrow framer", and "smart".

Naveed (2022) conducted a study on the impact of behavioral biases on security decision-making processes in the Pakistan stock market, with financial knowledge serving as a moderating factor. Their research examined how behavioral factors influence financial decision-making, incorporating financial literacy as a crucial element in the analysis. The results revealed that herding behavior, overconfidence, and the disposition effect significantly and positively influenced financial investment decision-making processes. The study also found that financial literacy played a dual role: it negatively moderated

herding behavior but positively moderated overconfidence in financial decisions. Additionally, the findings highlighted that active investors exhibited higher levels of overconfidence, while passive investors demonstrated greater tendencies toward herding behavior. To mitigate these biases, the research recommended offering training and educational opportunities to stockholders.

These findings differ from those of Badola (2024) who concluded that behavioral biases negatively impacted investment decision-making, leading to suboptimal outcomes. Inspired by this contrast, the present study seeks to examine the influence of behavioral investment traps on the financial performance of mutual funds in Kenya, thereby contributing to a deeper understanding of how behavioral factors shape financial decision-making in different contexts.

Ogunlusi & Obademi (2021) conducted research on the impact of behavioral biases on the decision-making process for financial investments. A few Nigerian investment banks were the subject of their investigation. The impact of behavioral finance biases on the process of choosing investments utilizing specified financial investment institutions was taken into account in this study. An aggregate of two hundred questionnaire pieces were issued to respondents of four financial investment institutions comprising Meristem Securities, Vetiva Capital, Afrinvest West Africa Limited and also ARM Nigeria Limited and from which one hundred eighty questionnaire items were derived representing about ninety per cent.The all-inclusive empirical outcomes showed indication of a positive effect amongst investment decision making and behavioral finance, secondary to prior study and donating to generalization. The additional conclusions of the study were that there is a substantial

connection between discrete investment decision making process and heuristics; there is a noteworthy association between distinct investment decision making process and prospect theory; and in conclusion there is a solid and negative rapport between investment decision making process and heuristics. Correspondingly, the connection between investment decision and prospect theory was negative and robust. In contrast to the backdrop of the aforesaid outcomes and conclusion, the study suggested that stock holders ought to be educated that there are numerous behavioral elements that may distress their financial decisions on investment making processes and that they have to be made cognizant of aspects including prospect theory as well as heuristics. This study too contradicts the findings of Badola (2024) in that it shows a progressive association between behavioral finance and investment decision making.

Metawa et al (2024) carried out research about the influence of Herd behavior factor on the Estimated Yield in the Stock market of Egypt. The study scrutinized the influence of herd behavior on the projected yield in the Egyptian security market by using a supplementary risk aspect replicating herd behavior on the CAPM. The findings of this study did not back the CAPM Ideal previously in addition to subsequently including the herd behavior aspect, consequently there was certainly no influence of herd behavior on the projected yield. This study's conclusions differed from those of Naveed (2022) and Ogunlosi & Obademi (2021), which found a link between behavioral biases and the processes used to make financial investment decisions.

Kamau et al (2025) steered research on the behavioral finance influences on the financial performance of deposits or collections made by firms registered at the Nairobi Securities Exchange. The goal of the study was to ascertain how behavioral factors impact the

portfolio performance of stockholders of companies listed on the Nairobi Securities Exchange. The behavioral biases included anchoring, overconfidence, herding behavior and loss aversion while the financial performance of the Portfolio was evaluated using the Sharpe ratio. A descriptive study strategy was used to carry out this investigation. CMA data show that the 1.77 million or more retail stockholders of businesses listed on the NSE as of 2016 made up the entirety of the study's population. Based on past stock prices and Treasury bill rates, secondary data was provided by the National Bureau of Statistics and the Kenyan Nairobi Securities Exchange. According to the research, loss aversion, herding behavior, and anchoring are positively correlated with loss aversion being adversely associated with the financial success of the portfolio as evaluated by investor overconfidence and the Sharpe ratio. Because of this, behavioral factors often have a negligible positive impact on the portfolio's financial performance among retail stockholders of companies listed on the NSE. This study was conducted as a result of the contradictory findings about the relationship between investing decision-making and behavioral biases.

1.2 Statement of the problem

In recent years, mutual funds in Kenya have exhibited a declining trend in financial performance, attributed to liquidity challenges, small asset bases, rising liabilities, and high operating costs. For instance, the Amana Money Market Fund suspended client transactions due to liquidity constraints (CMA, 2020). Equity funds also revealed a downward trend in assets under management from Ksh 6.02 billion in Quarter two 2018 to Ksh 4.65 billion in Quarter one 2019. Despite overall market capitalization growth of 20.88% in Q1 2021 compared to Q1 2020, equity turnover year-on-year declined by

27.39%, indicating inconsistencies in mutual fund performance (CMA, 2021). This raises the critical question: could behavioral investment traps explain this erratic performance?

Portfolio performance evaluation requires both risk and return analysis. Yet, many investors emphasize returns while disregarding risk, leading to distorted decisions (Sahi & Arora, 2012). This deficiency in financial literacy, compounded by inadequate investment strategies, underscores the need to examine whether Kenyan investors' decisions diverge from rational finance principles and how such deviations affect mutual fund performance (Kimani, 2011).

Empirical evidence remains inconclusive. Mungai (2021) identified negative associations between investor behavior and mutual fund performance, while Kamau (2025) found a weak but positive effect. Kung'u (2023) showed that fund size positively influences performance and moderates' risks, whereas Oluoch (2021) documented overreaction and under-reaction behavior at the Nairobi Securities Exchange. These contradictions highlight a gap in understanding the extent to which behavioral investment traps affect mutual fund portfolio performance in Kenya.

Furthermore, while advanced markets have extensively examined behavioral finance biases, evidence in Kenya is limited, despite changing demographics, rising income levels, and technological advancements influencing investor preferences. Thus, it remains unclear whether modern finance's assumption of rational investors applies in the Kenyan mutual fund market. This study therefore sought to investigate the effect of behavioral investment traps on the financial performance of mutual fund portfolios in Kenya, while considering the moderating role of fund size.

1.3 Research objectives

1.3.1 General objective

The main objective of this research was to assess the moderating effect of fund size on the influence of behavioral investment traps on the mutual funds' portfolio financial performance in Kenya.

1.3.2 Specific objectives

i. To evaluate the impact of herd behavior on the portfolio financial performance of mutual funds in Kenya.

ii. To examine the influence of loss aversion on the portfolio financial performance of mutual funds in Kenya.

iii. To assess the effect of overconfidence on the portfolio financial performance of mutual funds in Kenya.

iv. To investigate the impact of the disposition effect on the portfolio financial performance of mutual funds in Kenya.

v. To analyze the moderating role of fund size on the relationship between behavioral investment traps and the financial performance of mutual funds' portfolios in Kenya.

1.4 Research hypotheses

The research was steered by the following hypotheses.

H_{01}: Herd behavior has no significant impact on the portfolio financial performance of mutual funds in Kenya.

H_{o2}: Loss aversion has no significant impact on the portfolio financial performance of mutual funds in Kenya.

H_{o3}: Overconfidence has no significant impact on the portfolio financial performance of mutual funds in Kenya.

H_{o4}: The disposition effect has no significant impact on the portfolio financial performance of mutual funds in Kenya.

H_{o5}: Fund size does not significantly moderate the relationship between behavioral investment traps and the financial performance of mutual funds' portfolios in Kenya.

1.5 Significance of the study.

1.5.1 Policy makers

The results of this study will inform decision making by the policy makers. This will be done through provision of data and evidence to support policies and strategies that enhance financial performance. The results of this study will also guide on resource allocation as well as enhancing accountability. This will be achieved through focusing on strategies that yield better performance and through creating a framework for holding financial institutions accountable for their financial management and investment practices. The outcomes of this research will furthermore assist financial consultants to recognize the different categories of behavioral traps and their corresponding effects on financial investment decision making processes amongst institutional stockholders. The financial investment consultants may moreover be capable of being acquainted about which behavioral biases influence the stockholder category for instance the active and the passive

stockholders in the mutual funds in Kenya. The research outcomes will also be of pronounced assistance to the distinct and established investors since they may be able to comprehend the diverse emotional influences that are there, and which of them is associated with them and how they impact on their decision-making processes about asset investments.

1.5.2 Academicians

The findings of this study will contribute to the overall body of information by expanding the theoretical understanding of behavioral finance influences investment decisions which impacts on the financial performance of mutual funds. The outcomes of this study will also help develop financial competencies through highlighting the need for strong financial investment skills which can also inform training programs for the financial institutions. The findings of this study will also help promote innovation by understanding the relationship between behavioral finance and performance, academicians can research and propose new models for financial investment. The outcomes of the study furthermore assist in elevating the prevailing writings in the financial field. Scholars and future researchers may use the study as an imminent material for reference when progressing their understanding in the behavioral finance field.

1.5.3 Investors in Mutual funds Institutions

Investors refer to those who commit to buying one or more of these firm's goods. Investors may have distinct preferences when it comes to return allocation; that is, particular ones may be enthusiastic about earning their profits right away, whereas other investors may be more interested in witnessing their investments appreciate in value. Notwithstanding these

disparities, all investors possess an interest in the investment's earnings. This research shows which investments yield greater return on investment. Better investment choices will be made possible by the investor's capacity to ascertain whether fund managers impart value to their capital investments by acknowledging significant growth components.

1.6 Scope of the study.

This study focused on fund size, portfolio financial performance, and behavioral investing traps in Kenyan mutual funds. The geographical scope listed all mutual fund institutions in Kenya. Listed firms are those institutions which trade their securities in the stock exchange. The research considered panel data on all registered and licensed mutual funds in Kenya and their financial performance for an eleven-year period ranging from 2011 to 2021. Secondary data was collected for the study from publicly available audited financial statements from the mutual funds. The period was chosen based on the fact that this is the period characterized by many economic activities.

1.7 Limitation of the study.

This research came across numerous impediments that hindered appropriate collection of the pertinent data required for the research study. Key among the challenges was cooperation by the regulatory body in relation to acquainting their personal investment information to the researcher whom they identified as an unfamiliar person to them. An additional noteworthy challenge was inadequate support by the targeted stock brokerage organizations in providing information and all the necessary particulars relating to their investment owing to the intimate basis of the financial investment division in Kenya today. The study ensured that the language used in the data gathering tool is simple and easy to comprehend so as to eradicate any form of uncertainty or misinterpretation.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter reviewed the research on how behavioral investment traps affect Kenyan mutual fund portfolio performance. Section 2.2 discussed the theoretical literature review on relevant theories. Section 2.3 discussed the conceptual review. Section 2.4 discussed a critical and analytical empirical literature review. Section 2.5 showed the summary and research gaps in the study. In Section 2.6, the conceptual framework was covered.

2.2 Theoretical Literature Review of the study.

Behavioral finance is a relatively recent field in asset investment decision-making, offering fresh insights into the psychological factors influencing market behavior. Over time, many investors, particularly seasoned ones, have recognized that psychological underpinnings play a significant role in explaining market dynamics. This perspective has enriched the understanding of investor behavior and its impact on asset investment decision-making in security markets (Padmavathy, 2024).

Theoretical literature highlights several key concepts related to the financial performance of mutual funds. Prominent theories include the Modern Portfolio Theory (MPT), which emphasizes diversification to optimize returns for a given level of risk; Prospect Theory, which explores how investors perceive gains and losses asymmetrically; the Efficient Market Hypothesis (EMH), which postulates that market prices reflect all available information; and the Capital Asset Pricing Model (CAPM), which provides a framework

for assessing risk and expected return in investment decisions. These theories collectively form the foundation for understanding mutual fund performance and investor behavior.

2.2.1 Prospect Theory.

Tversky and Kahneman's Prospect Theory, introduced in 1979, asserts that investors perceive gains and losses differently, often favoring perceived gains over equivalent losses. The theory suggests that when presented with two equally valued options, investors are more likely to choose the one framed in terms of potential gains rather than one framed in terms of potential losses.

Prospect Theory challenges the assumptions of Modern Portfolio Theory by demonstrating that investors frequently undervalue situations that conflict with their expectations. This results in risk aversion when decisions involve certain gains and risk-seeking behavior when decisions involve certain losses. These tendencies highlight the psychological biases that influence investor behavior, often leading to decisions that deviate from traditional financial predictions.

The theory also outlines various scenarios that impact institutional and individual investment decision-making processes (Rossi, 2018). Behavioral traits exhibited by investors are influenced by their psychological states when considering new investments or adjusting their portfolio securities (Kahneman & Tversky, 1979). This perspective underscores the importance of understanding investor psychology in financial decision-making.

Prospect theory is in line with the study's second objective which is to evaluate how loss aversion affects the financial performance of mutual fund portfolios in Kenya. One of the reproaches of the prospect theory is that it has deficiencies in psychological justifications for the development it talks about. The disapproval emanates from other psychologists who record that elements for example sentimental rejoinders and human emotional aspects which are momentous in the financial investment decision making processes are lacking in the model. The theory is similarly critiqued for the insufficient bordering theory which expounds on why players produce the frames that they custom. Framing which is grounded on one sided arrangement of facts is disreputable in supreme consumer behavior state of affairs. Decision makers habitually need to compact with conflicting frames through numerous subjects. Prospect theory is critiqued for being hired out from psychology devoid of suitable credit for demanding mathematical calculations which are further than the typical person, for not inspecting information processing throughout prospect theory choices and for missing submission to existent world decisions for example significant product and service selections made by buyers.

2.2.2 Modern Portfolio Theory (MPT)

Harry Markowitz (1952) advanced the Modern Portfolio Theory which postulates that investors can be able to construct portfolios to enhance or get the maximum out of projected yield owing to a specified degree of market risk, putting emphasis on the fact that risk is a fundamental portion of a progressive compensation. Modern portfolio proposition recommends that bearing in mind the expected risk and return of distinct assets only is not enough for investment decision making. As a substitute, it is by financing a number of

securities that a stockholder can be able to sum up the benefits of diversification and in particular a decrease in the insecurity of a number of stocks.

Modern portfolio theory has one of the main suppositions that in this hypothesis, an investor always looks forward to exploiting condensed expected returns and inconsistency of returns which is detrimental (Appiah, 2024). Dispersion is measured by variance which is determined from the expected returns and finally, the standard deviation is also calculated. Measurement of the expected returns is obtained from the yield of the stocks and on the other hand, variance of returns is measured as a risk of investment. In choosing the portfolio, the decision is carefully evaluated and done based on the variance of returns and expected return proposition.

Henceforth, the assessment of this association is the root cause of the optimal decision that investors make, and thereby disregarding decisions that theories inform. Modern portfolio theory advocates that it is promising to conceptualize an 'efficient frontier' made of a prime collection of assets, contributing the supreme likely anticipated return based on an assumed amount of risk that is given. An efficient frontier can roughly be defined as an amalgamation of securities having extreme anticipated yields which is paralleled to another alignment which proposes the ultimate amount of earnings based on the bottommost amount of risk (Hakem, 2025).

The Yield of an individual portfolio is given as the subjective summation of all the projected yields of the fundamental assets. The contemporary portfolio philosophy summarizes that discrepancy puts forward a superior portfolio. Diversification decreases the risk with restraint being involved in authorizing that assets do not have a boundless covariance with one another.

The contemporary portfolio model has got flaws which ascend from the concern in approximating the association coefficient for any two assets. Operating with numerous securities makes it even additionally complex and or it may necessitate complex approaches to elucidate making it not applicable to work with. In truthfulness, an unspecified assortment of occasions of investments exists (Kinoti, 2018).

The contemporary portfolio concept is criticized as it doesn't deal with the factual world for the reason that all the measures used by MPT are founded on estimated values or carefully worked-out testimonials around what is a projected rather than tangible or prevailing occurrence. Investors have therefore to use forecasts established on ancient measurements of stock returns and unpredictability which means that they are subject to modification by variables presently not known or measured at the time of the resolution. Investors have to do an approximation from the previous market records since MPT attempts to model risk in terms of likelihood of fatalities deprived of a justification for why those damages could transpire making the procedure not structural. In other words, the carefully worked-out model of MPT makes investing seem systematic when its authenticity is far less so. Opposing what the concept envisages, (Rochmah, 2024) verified that small price earnings ratio securities overtook high price earning securities. Furthermore, (Rochmah, 2024) established that lesser capitalization securities overtook huge capitalization securities. This recommends that historical presentation does not essentially foretell impending outcomes.

2.2.3 Capital Asset Pricing Model (CAPM).

William Sharpe (1970) framed the CAPM model. The research suggested that the two categories of risk at all times occur in distinct asset investments. That is systematic Risk also known as market risk which represents the uncertainty that cannot be differentiated. Case in point of such risks comprise of declines, wars, interest rates and the subsequent form of risk is termed as explicit risk or random risk which is the uncertainty that is definite to discrete securities and this category of risk can be varied away as the quantity of securities in the investor portfolio intensifies (Sharpe, 1970).

The contemporary portfolio concept designates that precise risk can be disconnected through extension, but still broadening doesn't decide the complications of market uncertainty; even if a collection incorporates entirely all the securities in the market, whose uncertainty cannot be eradicated. Capital Asset Pricing Model consequently proposes a substitute technique of gauging organized risk while determining a warranted yield.
Sharpe (1964) revealed that the yield on a definite asset, or on a group of securities, has to correspond to its principal cost. The representative capital asset pricing principle which articulates the connection between expected return and its associated risk is specified by: $ER = Rf + \beta (R_m - Rf)$ (Sharpe, 1970). Where; Rf = the Risk-free rate of returnβ = the asset Beta of the R_m = Return of the Market and (Rm - Rf) = Market premium. Capital asset pricing hypothesis recommends the risk-free proportion of return which is ordinarily a ten-year government bond security.

In order to make up for the greater risk they face, stockholders always require a premium in addition to this. The market superior consists of the market's anticipated yield, which is smaller than the return of the free risk rate of return. The uncertainty premium is in general

reproduced by a constant identified as beta which characterizes security's comparative unpredictability on the market. That is, it designates how considerable the price of an individual stock keeps on fluctuating (Sarfraz, 2024).

A beta more than one points out that the security is furthermore insightful than the collection of the market and in that respect, it would have a superior divergence. A beta which is less than one points out that the stock is less insightful than the portfolio of the market and thus it would have a truncated systematic risk (Arun and Babu, 2018).

Take for instance, if the price of an asset changes diligently with respect to the market, then the security beta is one. If the market's return improved by even 10%, an asset with a beta of 1.5 would increase by 15%, and if it fell by 10%, it would fall by 15%. The procedure for obtaining beta is displayed as follows: β_i = Covariance (R_i R_m)/Variance R_m (Sharpe, 1970).

Capital asset pricing proposition consumes plenty of resolutions concerning investor behavior as well as markets to stretch a conventional set of proportioned circumstances that authorize us to estimate the yield of a security for its level of efficient risk by means of consuming organized risk that can be harmonized with additional securities in the stock market. Supposedly, fund managers are permissible to spread their portfolios as well as distinct and established investors being capable of finding their requisite return rate. Nonetheless, there are unlimited stocks in the portfolio of the market, making it quite difficult to be observed and as such, it's an index only that can be employed and hence restraining its testability (Elenev & Landvoigt, 2023).

CAPM has been criticized for its principal shortcomings reproduced in the model's responses and conventions comprising the risk-free risk rate of return which is the return

on short term government stocks which undergoes fluctuations on everyday basis and in so doing generating volatility. The return of the market which is characterized by dividends and capital gains for the market face some deficiencies when at any given time, the return on the market can be undesirable and that these yields are recessive and may not be an accurate characteristic of impending returns on the market. CAPM is founded on some conventions comprising one that replicates an impractical tangible world depiction that stockholders are able to borrow and lend at a risk-free rate of return which is unachievable in reality. Measurement of risk using beta can also not be precisely determined to appropriately evaluate the venture which ultimately touches on the consistency of the result (Vergara-Fernández et al, 2023).

2.2.4 The Efficient Market Hypothesis

Fama (1970) formulated the (EMH) which advanced the idea that asset prices echo all extensively accessible information. Transactions which are instituted on insider trading are illegitimate, and even if it was believable, not all stockholders would be in the know of such nonpublic information in order to make any considerable effect on the overall yields of any security. The study projected that those financial goods accessible to shareholders on a day-to-day basis take up the sacredness of the efficient market hypothesis. Intolerant investing, general market index and general divergence as a yardstick for routine asset investment processes are all as consequence of unsighted trust in the efficient market proposition (Asutay et al, 2023).

The efficient market proposition undertakes three things. Firstly, that all stockholders identify all indications obtainable in the same style. Secondly that under the efficient

market hypothesis, there is no solitary stockholder who is enthusiastic and able to progress greater productivity paralleled to the other investor having the same magnitude of exploited assets, their indistinguishable possession of information designates that they can only undertake corresponding yields. Thirdly, no stockholder should be in a position to accomplish better than the market and or the standard yearly yields that all investors are able to accomplish by using their unmatched determinations (Anjum, 2020).

On the other hand, the efficient market hypothesis does not give a rigorous depiction of how much time prices need to be capable of returning to reasonable prices. Furthermore, founded on the efficient market, indiscriminate arrangements are completely sufficient but they will continuously be overlooked as prices degenerate to the usual. EMH has similarly been criticized in that in an accurately efficient market, the short term sequential associations amongst security prices ought to be zero but various studies have revealed instances of short-term consecutive associations that are not zero signifying the likelihood of a discoverable arrangement. Case in point as momentarily as the indication of the January effect is made open, stockholders include evidence into their speculation decisions and the effect vanishes (Maloumian, 2022).

2.3 Conceptual Review

For the evaluation of conceptual literature, it was necessary to record and study literature from conceptions' point of view. It involved documenting and defining financial performance of mutual funds in Kenya as the dependent variable, behavioral investment traps as the independent variable and fund size as the moderating variable, all based on studies carried out by various institutions.

2.3.1 Behavioral investment traps

Behavioral investment traps incorporate behavioral qualities such as disposition effect, anchoring, loss aversion, overconfidence, confirmation bias, cognitive dissonance, representativeness, behavioral biases and herd behavior represented cautiously by distinct investors while making trading and investment decisions. These behavioral factors impact on the tendencies in the security exchange (Almansour, 2023). Stockholder's market behavioral influences are adjusted commencing on emotional philosophies of the processes of decision making by investors, a contemplation which could help cognize why stockholders sell or buy securities and how investors understand and act on the information during processes of financial investment decision making (Balooch, 2020).

2.3.1.1 Herd Behavior

Hirshleifer and Teoh (2003) describe Herding in the financial market as "mutual simulation which leads to a convergence of action". It pronounces how personalities in a cluster can act organized deprived of deliberate accomplishment. The term herd can be derived from the behavior of animals on herds, schools and flocks. It also relates to human behavior in the course of activities such as crashes and stock market bubbles (Ramezani, 2022). This is a collective blunder that investors have a habit of following from the financial investment choices made by the general public. Investors are impacted by herd behavior for the reason that they are concerned about what others think of their investment decision (Suresh, 2024). In Kenya, Makau (2021) determined the existence of herding behavior amongst established investors and its influence on security market performance by using the capacity of stocks traded and the worth of stocks traded as representations for herding by investors.

2.3.1.2 Loss Aversion

Investors prefer to avoid losses over acquiring corresponding gains. Compared to the same accumulation of wins, losses seem to be twice as prevalent. For instance, in a wager, a cautious person won't accept the bet when presented with a 50% scenario of winning $500 or losing $450 because the effect of forfeiture is ostensibly far more sophisticated than the impact of the rise even when the gains outweigh the associated loss. This indicates that the risk averse investors may use the rule of averages to purchase more financial instruments with below-par performance in order to make up for prior losses. Loss aversion was utilized by Maclachlan (2024) to give an explanation as to why negative rewards consistently outperform positive ones in terms of motivating investors.

2.3.1.3 Overconfidence

Overconfidence refers to the tendency of investors to overestimate their predictive abilities or rely excessively on their perceived knowledge during investment decision-making. This bias often leads to excessive trading, which numerous studies have identified as a primary consequence of overconfidence (Ahmad & Shah, 2022). Investors find it challenging to revise their beliefs, even when strong evidence contradicts their previous evaluations. For instance, market analysts often hesitate to adjust their assessments of a company's future financial performance, even when their existing valuations are demonstrably inaccurate.

Investors and market specialists frequently display overoptimism in their abilities, particularly in areas where they possess some level of expertise (Cherono, 2020). Among behavioral biases, overconfidence exerts one of the most significant impacts on the financial decision-making of individual investors, as evidenced by studies on stockholders

at the Nairobi Securities Exchange (NSE) (Shikuku, 2018). This highlights the critical role of overconfidence in shaping investment behavior and outcomes.

2.3.1.4 Disposition Effect

According to the disposition effect, investors should try to understand paper profits and avoid acknowledging paper losses. This reveals that if a stockholder purchased an asset at roughly $100 and the security well ahead drops to $85 before it previously goes back up to $95, majority of the stockholders will not want to dispose of the security lest and until it goes beyond $100. Henceforth, stockholders have a propensity to sell securities whose value has improved while possessing securities whose value has fallen, holding losers for an elongated period of time and selling winners almost immediately. (Kanan, Raman & Gurendra, 2018) recommend that stockholders in developing markets for instance China have a habit of suffering on or after exercising the disposition effect by selling securities which have treasured in value reasonably compared to securities that have run down in price.

2.3.2 Portfolio performance of Mutual funds

2.3.2.1 Portfolio Performance

A portfolio is a collection of financial investments for instance stocks, bonds, cash and cash equivalents comprising exchange traded funds and commodities and closed end funds. It is fundamentally understood that bonds, assets and cash incorporate the foremost part of a collection of securities which is not always the case. A portfolio may possibly consist of a comprehensive assortment of securities amongst which we have private investments, real estate investment trusts and countless others (Magnani & Sanfelici, 2023).

Assessment of financial performance of a Portfolio comprises determination of how an accomplished portfolio has performed proportional to some appraisal standard. The risk adjusted procedures regulate yields so as to take explanation of modifications in risk attitudes amongst the portfolio that is accomplished and the objective. Various investors misguidedly recount the attainment of their portfolio on yields only. Very limited investors anticipate the risk elaborated in accomplishing the projected yields. For several years, stockholders have acknowledged how to work out and measure risk with the discrepancy of yields but not any single measure fundamentally looked at both return and risk at the equivalent time (Ilmanen, 2022).

Portfolio performance in this research will be well-defined by market capitalization which was measured using Matthew, Oluwatoyin & Odularu, Gbadebo (2009) model which is characterized by:

$MKTCAP = \beta 0 + \beta 1TNO + \beta 2PAT + \beta 3DIV + e.$

Where, $\beta 0>0$, $\beta 1>0$, $\beta 2>0$, $\beta 3>0$, and e = statistical error term

Where: TNO is Turnover, PAT is Profit after Tax, DIV is Dividends and MKTCAP is Market Capitalization.

2.3.2.1.1 The state of financial markets in Kenya

Stock market development is a vital constituent in the development of a financial division which supplements the banking system in the economic development of a country. Precisely, security markets assist in the innovation of prices, establishment of transactions, cost reduction, liquidity and transmission of risks (Kinyua & Fredrick, 2022). Security markets lessen information costs by producing and distributing information on

organizations thus, occasioning to efficient markets, where prices assimilate totally prevailing information (Aru and Babu, 2018).

Generally, security markets offer liquidity of the market which accelerates the implementation of long-term strategies with long-term disbursements, thus encouraging the economic development of a country. Additionally, efficient security markets not only speed up the introduction of financial securities from foreign authorities into the local economy but they also make available wealth to stockholders as well (Aru and Babu, 2018). The role of the security market in the economic growth of a country can, for that reason, never be exaggerated (Kinoti, 2018).

Security market improvement in Kenya is among the furthermost significantly established security markets in the whole East and Central African region. Nonetheless, by international measures it is still fresh and experiencing progress. The Nairobi Securities exchange (NSE) offers a stage where shares, securities, and other capital market securities are transacted. The Nairobi Securities exchange was instituted in 1954, with 46 listed companies.

Even though the development of the security market in Kenya is still continuing, it still shows a noteworthy contribution in the economic expansion in the Kenyan market through innumerable ways. These consist of the consumption of indigenous investments headed for streamlining of economic resources from dynamic to sluggish representatives, the improvement of the institution of foreign investment, together with the excursion of transmission platforms of the Government (Cheng et al, 2023).

2.3.2.1.2 Investment funds in Kenya

In Kenya, Banks, insurance companies, mutual funds and or unit trusts, pension funds, savings and credit co-operative societies (SACCOS) and others are among the basic institutional stockholders in the Kenyan security market. Private equity firms are available; however, they only take on small projects compared to the other organizations (Kinoti, 2018).

A mutual fund is an arrangement of group investment configuration that authorizes investors with corresponding investment thoughts to pool their resources so as to be endowed in an assortment of securities. Mutual funds have legitimately demarcated structures with the ultimate selection being accomplished by a fund manager who is skillfully competent. In Kenya, Capital markets are still emerging and pioneering investment products are recurrently being obtainable to the market. (Kibera, 2024) perceives that in Kenya, considerable development in the course of cultivating the financial markets has been made which contains mechanized transactions, dematerialization of assets, outlining of agencies used in rating risks as well as a rough guide of immediate performance measurement tools, all of which have modified the investment atmosphere (Kibera, 2024).

The retirement benefits subdivision has overextended out significantly owing to the demonstration of the Retirement Benefits Act of 1997 and the establishment of the (RBA) Retirement Benefits Authority which is used to stimulate, regulate and administer the retirement benefits organizations sector in Kenya. The four crucial types of retirement benefits arrangements in Kenya comprise the Public Service Pension Schemes (PSPS), the National Social Security Fund (NSSF), distinct Schemes and Occupational retirement

benefits schemes (Kungu, 2016). NSSF is a mandatory scheme to all personnel in the recognized sector containing all public servants. The National Social Security Fund was designed by statute but it is under the supervision of the Retirements Benefits Authority (RBA) (Kinoti, 2018).

The insurance sector in Kenya ascended in the mid 20 th century were British settlers, through venturing in outsized scale farming together with many more profitable events, enticed the British insurance companies to come up with sustenance offices to deliver insurance services to supply the insurance essentials of investors of the time. Over time, the sustenance offices were converted into completely functioning channels (Koskey, 2023). In 1963 after liberation, the insurance division that was commonly organized by outlet offices of insurance companies established in India and Britain and was positioned under the Companies Act of between 1960 and 1978 when the finance minister conveyed a directive that all overseas insurance company channels be locally integrated. The Insurance Act, Cap. 487 was promulgated in 1987 and offered an organized base for the recommendation of the segment, under the office of the Commissioner of insurance. In 2006, an amendment of the Insurance Act molded the present-day regulatory body, the (IRA) (Cherono, 2020).

2.3.2.1.3 Performance of Mutual funds in Kenya.

Unit Trust Funds are primarily investment engagements that assemble finances as a collection from venture investors, which have a proficient fund Manager who is certified where he/she allocates the collected funds in an assortment of securities in order to recognize objectives of the mutual fund trust. The finances in the mutual fund trust obtain

earnings in form of income interest, bonuses and or capital extensions subject to the security category the finances are financed in (Namu, 2021).

Unit Trust Fund Managers publicized their quarter one 2019 results, which revealed that the overall securities under Management (AUM) belonging to the mutual funds segment improved at an annual rate of 17.3% to approximately Kshs 66.3 billion in quarter one 2019 up from Kshs 61.0 billion as at financial year 2018. In the preceding two-years, Assets under Management fitting to the Unit Trust Funds had improved at a rate of 6.1% (Kim & Yoon, 2023).

The financial performance on investment of Money Market Funds (MMFs) in Kenya in the contemporary past has considerably advanced with improvement rates surpassing bank deposits reports. The considerable faster development of MMFs proportional to deposits made in banks might be as a consequence of eradication of the credit rate cap base in August 2018 by the parliament that in the beginning necessitated banks to pay at minimum 70.0% of the Central Bank Rate (CBR) rate on investors. The elimination of the investment rate regulator intended that banks were unlimited in pricing the rate at which they could pay investors for use of their funds and thus, accountholders no more appreciated attractive yields from their savings. For (MMFs), in the conflict, shareholders are able to get good yields from their investments occasioning from the money market funds trading in a wide-ranging security distribution and being unreservedly organized to pledge asset classifications with the topmost earnings being financed first. In this type of grouping, money is financed in liquid interest-bearing assets which have a weighted average maturity of 12 months and beneath. These securities consist of other short term money market assets and bank credits organized with short term commercial papers. The money market Fund is

exceedingly well harmonized for investors who need an investment with little risks that delivers high-income returns, liquidity and capital equilibrium. The money market Fund is also a well-intentioned choice for shareholders who wish to change from a high-risk portfolio to a portfolio with a low risk predominantly all through times of high stock market unpredictability (Cheng et al, 2023).

2.3.3 Fund size.

The size of a mutual fund is considered a critical factor influencing the returns generated by the fund (Carlsson Hauff & Nilsson, 2023). Fund size refers to the total assets managed by the investment fund manager, encompassing the combined value of all securities held within the fund. The growth of a mutual fund's size can occur in two primary ways: through an increase in investor contributions or through strong performance of the assets within the portfolio (Carlsson Hauff & Nilsson, 2023).

In the first scenario, robust financial performance of the underlying assets leads to an increase in their value, subsequently expanding the overall size of the fund. In the second scenario, the mutual fund attracts additional investors, providing the fund manager with a significantly larger pool of resources to manage. This influx of investor capital is often driven by the fund's previous performance, which serves as a key factor in appealing to new stockholders (Collewaert et al, 2024). These dynamics highlight the interconnected relationship between fund size, performance, and investor behavior.

2.4 Empirical Literature review

This section reviewed various studies related to the research area. While there is an abundance of general research on mutual funds, the number of empirical studies specifically examining the financial performance of mutual funds remains relatively limited. This segment aimed to analyze and synthesize findings from a selection of these empirical studies to provide insights relevant to the study.

2.4.1 Herd behavior and portfolio performance

Ahmed et al, (2024) scrutinized herd behavior in the security market of Pakistan. The research utilized Christie and Huang (1995) and Chang et al. (2000) models in the measurement of herd behavior. The research utilized monthly as well as daily ultimate rates of the KSE-100 catalog beginning in the year 2002 and ending in the year 2007. The research established not any indication of herding behavior in the Pakistani security market. The research accredited the nonexistence of herding behavior to the irregularity in the market earnings. Conversely, in the year 2005 March, in the course of the Pakistani security market liquidity crisis, the existence of herd behavior was witnessed owing to irregularity of statistics amongst stockholders.

Ojala (2022) explored the manifestation of herding behavior in the Taiwan security market. The research similarly intended to determine the correlation amongst diverse market environments (herd behavior, trading volume, market index instability, interest rate, return on the S&P 500 index and the return on market portfolio). The multiple linear regression ideal founded on the conception of the hypothesis of non-linear established on the (CSAD) suggested by (CSSD) and employed Chang et al. (2000) and Huang and Christie (1995) in

the research of herding behavior amongst stockholders commencing 2000 January 4th, through to 2012 December 28th. The research established the existence of herding behavior amongst stockholders in the Taiwan security market constructed on the non-linear concept projected by Chang et al (2000), despite the fact that the (CSSD) employed by Christie and Huang (1995) was unsuccessful in demonstrating the herding behavior factor in the Taiwan security market. The research correspondingly established a constructive association between herding behavior and the yield on the S & P 500 guide. The study furthermore displayed an undesirable association between the interest rate and herding behavior where herding behavior was superior in the event of lesser rate of interest compared to the increase in rate of interest, which point towards the aspiration of stockholders to capitalize in securities in the cases where we have small interest rates.

Metawa et al (2024) carried out research on the Egyptian securities market's anticipated yield and herd behavior. The research scrutinized the influence of herd behavior on the projected yield in the Egyptian securities market through accumulating a supplementary threat element replicating herding behavior to the CAPM ideal. The research also used monthly surplus security yields of fifty securities registered on the Egyptian Security market as of 2014 January through to 2018 December. The outcomes of the study do not back up the CAPM ideal previously and subsequently tallying the herding behavior aspect there was no consequence of herding behavior on the projected yield.

Timmy (2022) carried out research on the herding behavior of stockholders in the Eastern and Central (ECE) security markets. This study examined the presence of herding behavior of stockholders from developing markets at production level using means of the information of the firm level. Herding behavior of stockholders characterizes a key

foundation of hypothetical bubbles and this indicates that stockholders are captivating comparable tradeoff decisions that may result in nonconformities of the security prices to their ultimate significance. The study scrutinized the occurrence of herding behavior on the capital markets CEE by means of the cross-sectional absolute deviation statistical technique suggested by Vieito (2022). Furthermore, the study points out the suggestions of diverse market environments on the existence of herding tendency and in conclusion, it investigates how the subprime financial circumstances affect investment behavior of stockholders from the capital markets of CEE. The outcomes of the study established that stockholders' herd behavior particularly during weakening phases and their behavior is diverse before the crisis and after the crisis periods paralleled with the catastrophe period. In this study, an adjusted account of the nonlinear ideal established by Chang et al, 2000, which escalates the power of the ideal and amends the manifestation of multicollinearity was utilized. The outcomes delivered Verification of investor herding behavior throughout all CEE stock markets, with one notable exception of Poland. The outcomes of this study challenge those of Metawa et al (2024) which disclosed that there is not any influence of herding behavior on the projected yield.

Abideen (2023) carried out research on the influence of mutual funds herding on security yields in the Pakistan security market. The research used security returns as a dependent variable and herding behavior of mutual funds being an independent variable. The population of this study encompassed all mutual funds registered in the Pakistan security exchange including (ISE) Islamabad security Exchange (LSE) Lahore security Exchange and Karachi security Exchange (KSE), while the study sample comprised of fourteen mutual funds enterprises registered in Karachi securities Exchange (KSE), nominated on

appropriate basis. The statistics for five years of mutual funds on a periodic basis as of the year 2006 through to 2010 were utilized in the research. Data was gathered from numerous sources. To calculate security yields, information on company security prices was compiled from the Business Recorder newspaper. The Karachi Security Exchange (KSE) provided the data that made up the KSE 100 Index, which was then utilized to calculate market yields. The Pakistan Mutual Funds Association provided a selection of circulars from which Previous evaluations of mutual funds' financial performance were retrieved. Mutual funds herding behavior was considered using the Amirat & Bouri ideal which was determined by the cross-sectional dispersal factor sensitivity of volume. The collective variance procedure was used to measure herding behavior. Data analysis was carried out using a combination of multiple regression analysis and descriptive statistics of mutual funds stock returns and herding behavior. The outcomes of the research disclosed the prevalence of a significant and beneficial association between herding behavior and mutual fund securities returns (Metawa et al, 2024)

Okumu (2024) conducted an investigation of how herd behavior affects the financial performance of the Kenyan security market. The study's objective was to look at the relationship between investor herding behavior and the mentioned Kenyan stocks' financial performance. The research's specific goals included examining the relationship between financial investor herding and the value of traded stocks and the financial performance of the equity markets at the Nairobi Securities Exchange, Analyzing the correlation between the volume of shares traded, the security market's performance, and financial investor herding and making suggestions in light of the study's conclusions. The study's primary goal was to provide investors with knowledge about the correlation between the financial

investment biases and the equity market's performance as well as to the academic community and decision-makers. The research used two alternative procedures of stockholder herding in contrast to market capitalization as a pointer of the financial performance of the security market. The two alternatives for stockholder herding behavior comprised the value of traded shares and capacity of traded shares. The research was grounded on Calderon-Russell (1991) behavioral ideal of the financial performance of the security market and the Inaccuracy Adjustment Ideal. The Herding behavior quantity was founded on the dynamic understanding of volume. The research used the Research design for a descriptive survey. The entire population that was involved in the study was all the 43,463 established stockholders at the NSE constructed on the capital markets authority bulletin (CMA) – Quarter one of 2016. The sample of the research entailed the 20 established shareholders that invest at NSE, nominated arbitrarily on appropriate bases. This research used periodical time series data beginning from the year 2010 through to 2014. The outcomes specified that there is an association between the investor herding indicators and Nairobi Securities Exchange financial performance. The research consequently suggested that stockholder assurance in Kenya be established more to increase market capitalization and consequently decrease the influence of herding (Kung'u, 2023)

Mudulia (2022) conducted a study to examine how behavioral biases affect financial success of the market shares of firms registered at the NSE. The research was steered by three objectives; to scrutinize Herd behavior's impact on the market share performance of companies listed on the Nairobi Securities Exchange, to explore the effect of mental accounting on the financial performance of market shares of companies listed on the

Nairobi Securities Exchange. A Longitudinal research design was utilized to enrich the collection of data from the identical target population at diverse points in time so as to study variations over a given period of time and to allow for the investigation of the correlation over a specified time period between the independent and dependent variables. The Dependent variable was established by use of asset yields founded on share price. Independent variables were overconfidence, herd behavior as well as mental accounting and were correspondingly measured by use of dispersion of returns, price-dividend ratio and volume of trade. The research targeted sixty-six firms registered in the NSE. The Census survey sampling method was used to acquire samples from the target population. Checklist and document analysis were used for gathering secondary data from electronic and print media. The Data collected was investigated by use of both quantitative and qualitative approaches. Numerical data was examined using descriptive statistics for example measures of central tendency. The research covered a period of one year beginning September 2018 through to September 2019. The research established that behavioral biases are substantial forecasters in demonstrating performance of the market in bivariate investigation. Additionally, mental accounting was negatively associated with performance of the market.

2.4.2 Loss Aversion and portfolio performance

Jain et al (2023) carried out research on the Loss aversion's impact on the process of choosing financial investments. The aims of the research were: To explore the dissimilarity amongst the gender in the direction of loss aversion behavioral bias, to investigate the effect of investment understanding and income of investors on the behavioral bias of loss aversion, to determine how investors' risk sensitivity affects loss aversion behavioral bias

and how loss aversion behavioral bias affects the process of making financial investment decisions. The primary data used in the study was gathered through the use of a specially created questionnaire. The research embraced the convenience sampling procedure. The respondents of the research originated from the brokerage firms of Thanjavur to Trichy establishments. The questionnaires were directed to one hundred and fifty respondents of which only 116 questionnaires were reverted. Three components were separated out of the questionnaire, the head section comprising the inquiries to gather facts around the demographic establishment of respondents and the investment framework, the subsequent section comprising the inquiries to assemble the risk attitude of respondents and the investment decision-making process and the final portion which included questions to assess the impact of loss aversion behavioral bias. The Primary data was examined by the assistance of SPSS software and the statistical techniques used for the research were the autonomous student T-test, Analysis of variance and multiple regression analysis.

The reliability of the test instrument of this study was scrutinized by use of the Cronbach alpha method. The Cronbach alpha value, for all the twenty-five parameters used in the research, was 0.855, which denotes that the questionnaire was 85.5% consistent. In this investigation, a multiple linear regression model was adopted. It was employed for addressing the qualitative components of the investigation. The outcomes of the first objective established the presence of a variance between loss aversion bias and gender which inferred that female and male stockholders did recognize the losses in a different way. The ANOVA findings showed that while stockholders' income significantly changed in response to the loss aversion behavioral bias, their comprehension of financial investments did not significantly change in response to the loss aversion behavioral bias.

The Multiple regression analysis results demonstrated that stockholders' perceptions of risk had a positive impact on loss aversion behavioral bias, and that stockholders who contributed to market securities were significantly impacted by loss aversion behavioral bias on the investment decision-making process. This research does not evidently specify the nature of influence of loss aversion on the financial investment decision making process of investors. It is on the foundation of these outcomes that this research pursues to determine the effect of behavioral investment traps on mutual funds financial performance in Kenya.

Raja & Messaoudi (2024) conducted a study on investor behavioral biases related to overconfidence and loss aversion and how these behavioral biases affect market performance as evaluated by the US stock markets. The purpose of the study was to take a glance at how two behavioral investment traps; specifically behavioral biases such as loss aversion and overconfidence have impacted the success of US corporations. First, the impact of loss aversion on US corporations' financial performance was investigated. Subsequently the impact of overconfidence bias on the market's financial performance was then discussed. Approximately 6,777 periodical interpretations of the US insured population and industrial company services were used in this study for the period commencing 2006 through to 2016. The research's hypotheses were tested using dual panel data simulations and Ordinary Least Squares regression analysis model. The study acknowledged that the loss aversion behavioral factor adversely influences the financial performance of enterprises in the US and this is accomplished for both segments. In divergence, the outcomes submit that overconfidence absolutely influences the market financial performance of manufacturing organizations but adversely influences financial

performance markets in the service organizations. Additionally, vigorous indication was established that overconfidence behavioral bias appears to be leading, and henceforth, stockholders may possibly lean towards being further overconfident somewhat than being more loss averse.

Angate & Jatta (2025) carried out a study on the influence of loss aversion bias on the financial investments at the Rwanda security exchange. This study's primary goal was to gain insight into how behavioral biases affect investments in finance in the Rwandan Security Market. The definite aim was to investigate the effect of loss aversion behavioral factor on the financial investment in the Rwandan securities market. The heuristics philosophy, herding concept and prospect model shaped the underpinning of this research. The fundamental research philosophy of the study was positivism; concentrating on investigating previously recognized philosophies beneath the supposition that certainty is factually assumed and that it can be designated by quantifiable characteristics autonomous of the spectator as well as the mechanisms. To ascertain and examine the impact of behavioral investment traps on speculation in the Rwandan securities market, a cross-sectional descriptive survey research technique was applied in this investigation. The likelihood of various opportunity consequences of the dependent characteristics were predicted using a multiple linear regression model, which additionally helped in predicting the likelihood that a stockholder would profit from the stock exchange in Rwanda.

The findings of this investigation established a substantial progressive association between the loss aversion behavioral factor and the financial investment in the Rwandan securities exchange. The research similarly established that utmost stockholders were negatively affected by behavioral biases during financial investment in security markets. The research

additionally endorses that the discrete shareholders pursue the recommendation of fund managers and or stock dealers to direct them consequently in relations of financial investment performance of a precise asset in which a stockholder would desire to capitalize in. The outcomes of this research diverge from the results of Raja & Messaoudi (2024) which indicated that the loss aversion behavioral factor adversely influences the enterprises' financial performance. This study aimed to determine the impact of behavioral investment traps on Kenyan mutual funds' financial performance due to the inconsistent outcomes.

2.4.3 Overconfidence and portfolio performance

Boumda et al. (2023) examined the influence of overconfidence bias on the financial performance of mutual funds. The study found that cross-sectional variations, characterized by high levels of confidence, self-reference, and conviction, contributed to heightened overconfidence, particularly following strong prior financial performance. Similar patterns were observed with hubris-related measures, further reinforcing the association between overconfidence and mutual fund performance. Consequently, the research ran Car hart four factor regression models with year dummy variables and overconfidence with outcomes signifying that surplus overconfidence does certainly weaken monthly yields following the journal of the yearly report, supposing everything else is held constant. This effect is forceful through diverse investment styles, even though it is resilient amongst growth preoccupied funds integrating typical scores of fund manager overconfidence over the preceding three annual outcomes in comparable regression coefficients, though comparatively weaker. Boumda et al. (2023) observed that self-reference and over-assurance were stronger indicators of overconfidence compared to

conviction. The study concluded that fund manager tenure appeared to correlate with hubris and overconfidence over time. For the same group of fund managers evaluated throughout the sample period, overconfidence was found to increase gradually, aligning with theoretical expectations.

Ong'eta et al (2021) conducted a study to explore how behavioral overconfidence bias affects the security returns of businesses listed on the Nairobi Securities Exchange (NSE). The research focused on the relationship between overconfidence and security yields among the 64 companies listed on the NSE. Secondary data obtained from the Nairobi Securities Exchange was analyzed using regression and descriptive statistics. Multiple linear regression analysis was employed to examine the relationship between stock returns and behavioral overconfidence bias, alongside variables such as firm size and profitability.

The findings revealed a strong positive correlation between overconfidence and security returns, with a correlation coefficient of 0.634, indicating a progressive association among profitability, security returns, overconfidence bias, and firm size. The study recommended the establishment of a regulatory framework to enhance market oversight and surveillance. Notably, the results of Ong'eta et al (2021) differed slightly from those of Boumda et al. (2023). While Makokha identified a strong positive relationship between overconfidence and security returns, Eshraghi found that the link between overconfidence bias and mutual funds' financial performance was comparatively weaker.

2.4.4 Disposition effect and portfolio performance.

Mansuri (2023) investigated Analysis and comparison of stock trading strategies on Pakistan Stock Exchange. The study examined how the disposition effect influences asset

prices in the PSE, employing regression analysis to evaluate the data. The findings revealed the presence of the disposition effect, which was associated with a reduction in expected returns. The study aimed to incorporate the disposition effect into traditional asset pricing models, using a sample of KSE-100 index firms from 2003 to 2007. Results showed that the disposition effect was absent for only one year within the study period, confirming its prevalence in the KSE. While the disposition effect negatively impacted stock returns, the beta of additional market returns exhibited a positive relationship with expected returns, significantly reducing actual returns.

Laura, Ortiz, and Sarto (2020) highlighted that the disposition effect is not uniformly pervasive across funds but becomes more pronounced during times of crisis. This effect is less significant in large management firms or those affiliated with bank holding groups. The disposition effect is influenced by transaction types rather than being solely a cognitive bias. Stocks with weaker past returns, domestic stocks, low portfolio weights, and partial sales are more prone to this bias.

Boumda et al (2021) observed that American equity funds, on average, tend to realize capital losses more readily than gains, although a substantial portion of funds exhibit the disposition effect, where gains are realized more quickly than losses. This behavior affects value-oriented and contrarian investment strategies by lowering market betas but does not significantly impact fund performance.

Silva, Mendes, and Abreu (2020) found that mutual fund investors exhibit a high disposition effect, though financial literacy mitigates this bias. Higher education levels, financial knowledge, and math skills reduce the tendency to hold onto losing assets.

Experience also plays a role in shaping this bias, with literacy acting as a moderating factor. Even after accounting for factors such as redemption costs, emotional responses, irrational beliefs, market sentiment, and scapegoating tendencies, evidence of the disposition effect remains. These findings underscore the complex interplay between cognitive biases and investor behavior in financial markets.

2.4.5 Fund size and portfolio performance.

Singh (2022) conducted a study on the impact of fund size on mutual fund financial performance, focusing on selected Indian mutual fund companies. The primary objective was to evaluate how specific mutual fund characteristics influence financial performance. These characteristics included fund size, fund inflow, fund age, expense ratio, and portfolio turnover rate. The study covered a five-year period from April 1, 2007, to March 31, 2012, and sought to answer key questions, such as whether a large security base hinders financial performance. Findings revealed that an increase in mutual fund inflow erodes financial performance, while higher portfolio turnover rates elevate expense ratios, indicating that increased trading activity incurs greater costs.

Farid and Wahba (2022) explored the relationship between fund size and mutual fund performance in the Egyptian stock market. Their findings demonstrated that both the logarithm of net asset value (NAV-log fund size) and mutual fund performance were negatively impacted by fund age. Additionally, the study concluded that mutual fund type significantly influences performance, while total fund expenses (log total fund expense) also have a notable negative effect on mutual fund performance.

In Kenya, mutual fund investments, particularly unit trusts, have underperformed compared to global counterparts. This poor performance not only deters individual and corporate investors but also hampers the achievement of financial stability as envisioned in Kenya Vision 2030. Nthimba, Jagongo, and Wamugo (2021) investigated the role of fund size in the performance of Kenyan unit trust funds. Empirical literature from both developed and emerging markets suggests that fund size is a critical factor influencing mutual fund success. This study emphasized the importance of fund size in understanding the performance challenges faced by Kenyan unit trust funds.

2.5 Summary and Research Gaps

The preceding literature made it clear that most studies were conducted in developed economies, with relatively little being done in Africa, mostly in Kenya. Additionally, the researches that have existed in the neighborhood have concentrated on the overall behavioral bias finance influences deprived of constricting down to any precise factor as having an immense inspiration on mutual fund financial performance.

For the past countless years, traditional finance ideology has been the overriding philosophy contained by the academic community. Nevertheless, researchers and stock investment specialists rein progress to examine an unconventional concept of finance recognized as behavioral bias finance. Behavioral bias finance attempts to enlighten and advance people's consciousness concerning the demonstrative features and mental developments of personalities and bodies that capitalize in financial markets investment. Behavioral biases finance researchers and venture experts are evolving an obligation for the interdisciplinary investigation that is the fundamental underpinning for this developing

restraint. This study will demonstrate the behavior in the stock market by numerous diverse types of institutional investors.

Omoding (2023) carried out a study on the influences of financial investment behavioral elements on the unit trust financial investment decisions in Kenya. The research established that singular investors as well as established investors incorporated heuristics in their process of making speculation decisions. The research pursued to investigate whether or not heuristics for instance, the unit trusts' investing decision-making processes are substantially affected through behavioral biases including anchoring, herding tendency as well as overconfidence. The study identified that herd behavior, anchoring, and overconfidence had an impact on unit trust investing decisions. The administrators of unit trust lean towards being over optimistic whereas making decisions on financial investment. Their choices are similarly influenced by knowledge of their financial performance of the past signifying the impact of anchoring behavioral bias. Herding behavior as a behavioral factor is not shared amongst the managers of unit trust as the greatest of them decide on creating their individual financial investment decisions. Permitting to the outcomes of this study, administrators who are overconfident are probably following the multitudes in making investment decisions. The research distinguished that behavioral bias finance representations are not empirically reinforced and consequently had better not be used by unit trusts in isolation for financial investment investigation. This research noted that anchoring and overconfidence affects trust administrators' investment decision making processes whereas herd behavior is not so public. Based on this foundation, the main objective of this study was to look into how behavioral investment traps affect the financial performance of mutual funds in Kenya.

Kamau (2025) conducted research on how behavioral factors affect investor portfolio financial investment success at the NSE. The study concentrated on identifying variables that influence a portfolio's financial success at the Nairobi Securities Exchange for instance overconfidence, loss aversion, anchoring, and herding behavior. The study indicated that herding, loss aversion, and anchoring all had favorable connections with the financial investment performance of a portfolio and investor overconfidence. In general, the research recognized that behavioral biases have an insignificant positive influence on financial performance of a portfolio amongst merchandizing investors at the NSE. The findings of this study contradict those of Omoding (2023), who acknowledged that overconfidence influences stockholders' decision-making regarding financial investments in a favorable way. Considering the contradictory findings, this study attempted to examine the impact caused by behavioral investment traps on the financial investment performance of mutual funds in Kenya.

This study examined the contribution of fund size as an additional moderating factor in the causal relationship between behavioral investment traps and portfolio financial performance in Kenya. Numerous studies have focused on how behavioral finance factors affect how people make financial decisions. The current study examined behavioral investment traps as well as the moderating impact caused by fund size on the financial performance of mutual fund investments in Kenya. This research sought to fill the gap of finding the foremost contributors headed for disparities between the actual returns and projected returns obtained by mutual funds in Kenya. This not only elucidated factors but also explored preceding researches and those resulting from predominant behavioral finance philosophies, but also introduced accompanying behavioral investment traps like

disposition effect and how they impact the financial performance of mutual funds in unpredictable markets, particularly in Kenya.

Table 2.1: Summary of Research gap.

Author and year	Title of study	Methodology	Findings	Research Gap
Omoding, (2023).	The effect of behavioral finance elements on unit trust companies financial investment decision making in Kenya	The descriptive research design was used in the study. Data collection was done by using a semi structured questionnaire with a response rate of 100% being recorded. The questionnaire was dispensed using drop and pick well ahead technique. The data analysis was done by the aid of SPSS. Correlation analysis descriptive statistics were utilized in recapping the study results.	The research recognized that the financial investment decisions of unit trusts are influenced by overconfidence, anchoring and Herd behavior. The findings also revealed that administrators of unit trusts have a tendency to be overconfident during Investment decisions making processes. Their pronouncements are similarly influenced by knowledge of their historical financial performance signifying the anchoring influence. Her behavior amongst unit trust administrators was not common as the majority of them chose to make their individual	The study contradicts that of Muriithi, (2014) which found that investor overconfidence and portfolio performance are inversely connected with herding, anchoring, and loss aversion, but positively correlated with these behaviors. In summary, the

			financial investment decisions. According to the Outcomes, administrators of unit trusts who are overconfident during financial investment decisions are correspondingly expected to follow the multitudes during the financial investment decision making processes.	study found that behavioral determinants among retail investors at the NSE have a favorable but modest impact on the financial success of the portfolio. The study also has no moderating variable
Kamau, (2025)	Behavioral finance investment and investor portfolio financial performance at the NSE.	The Sharpe ratio was used to quantify the financial success of a portfolio, whereas anchoring; loss version, herding behavior, and overconfidence were behavioral aspects. This investigation was carried out using a descriptive	The research found that portfolio financial performance and overconfidence are negatively associated but positively correlated with herd behavior, loss aversion and anchoring, In general, behavioral factors	The study findings contradicts those of Shikuku, (2010) which recognized that financial

		research design. The CMA estimates that the population of this study consisted of all retail stockholders at the NSE, who as of 2016 were thought to number roughly 1.8 million. A sample of 100 investors was selected by use of a snowballing method. Structured questionnaires directed to 100 respondents using the drop and pick later technique were used to assemble Primary data. The Kenya National Bureau of Statistics, the Nairobi Stock Exchange, and the Treasury bill rate were also used to obtain secondary data. A 53% response rate was attained. The data obtained was at that time amended and coded for analysis. The data analysis was carried out by using multiple regression analysis,	consequently had a marginally favorable impact on retail investors' portfolio financial performance at the NSE.	investment decisions of unit trusts are influenced by anchoring, Herd behavior and overconfidence. Unit trust administrators have a tendency to be overconfident during Investment decisions making processes. Their pronouncements are correspondingly influenced by

		correlation and descriptive statistics.		knowledge of their historical financial investment performance signifying the anchoring influence. Herd behavior amongst the unit trust administrators was not common as the majority of them chose to make their individual financial investment decisions. The

				Study also has no moderating variable.
Kisaka, (2015)	The impact of behavioral bias finance influences asset financial investment decision making in Kenya.	The research engaged a cross sectional survey research design. The study used a survey questionnaire to collect data from investors in NSE operating within Machakos County. This research occasioned employing qualitative research techniques only. The researcher exploited a field survey for data gathering and expansion. The research targeted a population of about 1.7 million dynamic Nairobi Securities Exchange investors with three asset brokerage corporations operating within Machakos County. A sample of sixty participants was arbitrarily gotten from the three security brokerage corporations to	This research recognized that an increase in Certain return bias by one unit corresponds to a -0.468 reductions in asset financial investment, fear of regret 0.278, random walk framing 0.340, loss aversion 0.445 growth while the coefficient of determination was found to be 26.5percent while other factors accounted for 73.5percent of the Nairobi Securities Exchange investors investment financial decision making processes.	The study findings established contradicts those of Cherono, (2020) which showed that loss aversion and overconfidence had an adverse statistically noteworthy influence on the reaction of the security market; Herding behavior bias had a statistically

		characterize the interests of the others. The study sample was to be exclusively established on the basis that it was not too bulky and had the option of being consolidated in Machakos County. The study exploited a closed ended structured questionnaire which was individually controlled to the participants whereas at the matching time directed small interviews to those participants who could have some time for the process of data collection. The data collection process was done individually by the researcher owing to the confidentiality and sensitivity of the research content. The data obtained was investigated by the aid of SPSS Version 20 to produce standard		positive but substantial influence on the reaction of the security market while mental accounting bias had an undesirable statistically inconsequential influence on security market reaction in Kenya.

		deviations, the mean, frequencies, percentages as well as multiple regression equations.		
Cherono, (2020)	investor behavior bias and security market reaction in Kenya.	The study's target demographic consisted of 67 NSE-registered businesses. Data study used a sample of forty-eight registered businesses. Secondary information was acquired from historical Nairobi Securities Exchange data on volume traded, turnover securities prices, number of deals, and dividend return of registered firms for the years 2004 through 2016. The research sampled enterprises that had been registered for a three years minimum period preceding the analysis date. This was to permit the study to deal with undercurrents of time constituents and to arrest financial investor	The regression constants disclosed that loss aversion and overconfidence had an undesirable but statistically substantial influence on the reaction of the security market; herding behavior had a progressive statistically noteworthy influence on the reaction of the security market while mental accounting bias had an adverse statistically inconsequential influence on the reaction of the security market in Kenya.	The study contradicts the findings of Kisaka, (2015) which concluded that an increase in Certain return bias by one unit corresponds to a - 0.468 reductions in asset financial investment, fear of regret 0.278, random walk framing 0.340, loss aversion 0.445 growth

		behavior elements and reaction of the security market in Kenya. The research embraced a quantitative research design.		while the coefficient of determination was found to be 26.5percent while other factors accounted for 73.5percent of the Nairobi Securities Exchange investors investment financial decision making processes.

2.6 Conceptual Framework

A dependent variable is that variable which is forecasted, measured or examined and it is anticipated to be influenced by manipulation of an independent parameter (Cooper and Schindler, 2011). An independent variable is one that the researcher influences, and its manipulation has an impact on the dependent variable (Cooper and Schindler, 2011). The performance of Kenyan mutual funds' financial investments served as the study's dependent variable. Behavioral investment traps were used as the independent variables. Four principles, including loss aversion, overconfidence, the disposition effect, and herd behavior, were used to depict the behavioral investment trap. Fund size was also a moderating element in the study. Figure 2.1 below presents an overview of the conceptual framework.

Conceptual Framework

INDEPENDENT VARIABLE **DEPENDENT VARIABLE**

Behavioral investment traps **Portfolio performance**

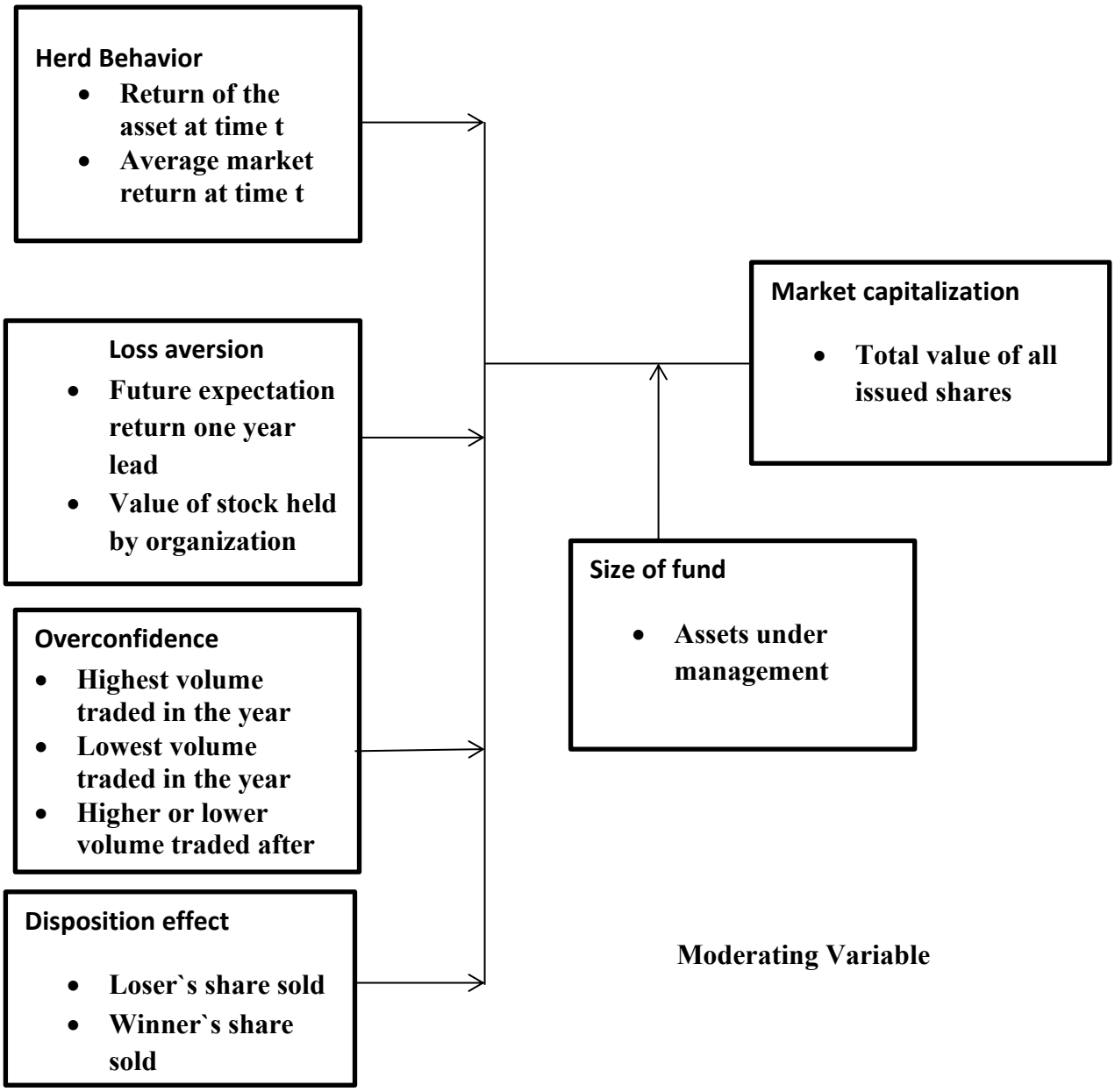

Figure 2. 1:Conceptual Framework

Source: Author's Compilation, 2023

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction.

The research methodology was presented in this chapter. Section 3.1 covered introduction. The study area was covered in Section 3.2. The research design was covered in Section 3.3. The research philosophy used in this study was addressed in Section 3.4, while Section 3.5 covered the study's target population, data collection methods were covered in Section 3.6, data analysis for the study was covered in Section 3.7, and ethical issues were covered in Section 3.8.

3.2 Research philosophy

A positivism research philosophy was embraced since quantitative techniques and tools highlighted counting and measuring. The research study employed this research philosophy for the reason that positivists desire quantitative methods such as structured questionnaires, social surveys as well as authorized statistics since these demonstrate an outstanding representativeness and consistency (Travers, 2001).

According to the positivists, society is a prime example for the individual and they are confident that social facts describe individual behavior. The positivist tradition places a strong emphasis on the significance of doing quantitative research such as extensive surveys, to uncover social trends and to gain an extensive comprehension of society, such as the causal connection between educational attainment and one's social standing. This school of sociology is more concerned with general trends and patterns than with particular individuals (Saunders, Lewis, & Thornhill, 2009).

Positivists also recognize that sociology should and is capable of applying the same methodologies and processes to examine the social world as conventional sciences including physics and biology do to study the physical world. By embracing consistent processes, sociologists should be proficient and in the long-run be able to discover the regulations that govern societies just as experts have revealed the regulations that supervise the physical domain. The relative approach is the term used to refer to sociologists' inclination to search for relationships and or correspondences connecting two or multiple parameters in positivist research (Cherono, 2020).

The positivist methodology encompasses causal associations, scientific principles, highly structured methodology, quantification, large samples as well as incremental input to philosophy. Positivist philosophy was used for the reason that the data involved extremely organized bulky samples, quantitative data and measurement (Cherono, 2020).

Interpretivism research philosophy is a contrasting epistemology to positivism. Its proponents share an opinion that the theme of the social sciences (institutions and people) is basically different from that of the natural sciences (objects). Therefore, it necessitates a diverse rationality of research procedure, one that replicates the uniqueness between the natural order and humans. The fundamental objective of interpretivism is to identify and to understand the significance of matters (acquired from the combined assembly and or reestablishment of meaning of lived practice) Interpretivist Philosophy emerged in Europe in the early and mid-twentieth century by German, French and English philosophers. It is hinged on interpreting symbols and phenomena to give meaning in a cultural and social context. Interpretivism research philosophy holds that the communal world can be understood in an independent way.

The paramount consideration here is given to considerate ways through which people experience the social world. This study did not adopt the inter pretivism research philosophy.

3.3 Study Area

The research area of this study was mutual funds in Kenya. This is because of the role played by mutual funds towards the economic development in Kenya being a developing country.

3.4 Research design.

A research design provides a framework outlining the methods and techniques used to collect and evaluate data in a study. According to Mugenda and Mugenda (2003), it acts as a blueprint for the research activities. This study adopted a causal research design, aiming to determine the effects of behavioral investment traps on the portfolio performance of mutual funds in Kenya. The behavioral investment traps were analyzed to observe their impact on mutual funds' portfolio performance.

The study evaluated, described, and analyzed the influence of behavioral investment traps on the financial performance of mutual funds in Kenya from 2011 to 2021, utilizing panel data regression analysis to ensure the use of the most recent and comprehensive data. The panel data regression model was chosen because it effectively addressed the heterogeneity among mutual funds in Kenya by incorporating specific individual variables.

By combining cross-sectional observations with time-series data, panel data provided greater variability, richer insights, additional degrees of freedom, reduced collinearity among variables, and improved analytical efficiency. This research design was well-

suited for this study as the collected data covering past trading volumes, security prices, and market capitalization was quantitative and allowed for a thorough analysis of the research variables.

3.5 Scope of the study.

This study focused on fund size, portfolio financial performance, and behavioral investing traps in Kenyan mutual funds. The geographical scope listed all mutual fund institutions in Kenya. Listed firms are those institutions which trade their securities in the stock exchange. The research considered panel data on all registered and licensed mutual funds in Kenya and their financial performance for an eleven-year period ranging from 2011 to 2021. Secondary data was collected for the study from publicly available audited financial statements from the mutual funds. The period was chosen based on the fact that this is the period characterized by many economic activities.

3.6 Target Population.

A population is an assortment of entirely all objects in a field of study (Kothari, 2004). A Population denotes an all-inclusive group of characters, objects and or events having shared characteristics which follow a given description (Cherono, 2020). The population in this study comprised all 16 registered Kenya ‘s mutual funds in the country. The list of entirely all registered mutual funds in Kenya is provided as appendix 1.

3.7 Data collection instruments.

This study investigated the implications of behavioral investment traps on mutual fund financial performance in Kenya by employing secondary data. The secondary data came from previous mutual fund financial statements that were published and covered an eleven-year period starting in 2011 and ending in 2021. Sources of secondary data

included the capital markets authority, the online database of the World Bank and the retirement benefits authority database. The secondary data was acquired by the help of the data collection tool provided as appendix II.

3.8 Data analysis.

The data analysis was conducted by utilizing a Stata software version 15. The Panel data regression model was used since it allowed for individual specific variables and protected against heterogeneity related to Kenyan mutual funds. The association involving behavioral investment traps as an independent variable and mutual fund financial performance as a dependent variable was examined by means of a fixed and random effect regression analysis model. The relationship was established using the model as follows:

$Y_t = \beta_0 + \beta_1 H_t + \beta_2 LA_t + \beta_3 OC_t + \beta_4 D_t + \varepsilon_t$ where;

Y_t = Mutual fund financial performance at time t. $\beta 0$ = Intercept term which is the mutual fund financial performance when all other factors remain constant i.e. t=0

H = Herd behavior at time t. LA = Loss aversion at time t.OC = Overconfidence at time t and D = Disposition effect at time t. ε_t = Statistical error term at time t.

By including fund size in the regression equation and taking into account its influence, additionally investigated was the moderating influence of fund size on the effect of behavioral investment traps on the financial performance of mutual funds in Kenya. The correlation was established as follows:

$Y = \beta_0 + \beta_1 HFS + \beta_2 LAFS + \beta_3 OCFS + \beta_4 DEFS$ where FS= Fund size as a moderating variable.

The study also considered taking natural logarithms in order to avoid effects of multicollinearity.

3.8.1 Tests for Model Specifications

The evaluations of the ensuing model descriptions were.

3.8.1.1 Stationarity Test/Unit Root Test

Unit root tests were employed in order to avoid estimation changes over time caused by non-stationarity in order to examine or pinpoint non-stationarity in each and every variable under study. Its existence can go unconsidered and result in an accurate estimate. (Brooks, 2014). The subsequent unit root tests were conducted:

3.8.1.1.1 Augmented Dickey-Fuller test

A unit root exists in the sample of a time series, which is the null hypothesis H_0 evaluated using the augmented Dickey-Fuller (ADF) standard. Depending on the test form applied, the alternative hypothesis H_1 differs, but is typically trend-stationarity or stationarity. The augmented Dickey-Fuller test reflects a more extensive and comprehensive compilation of time series and it is an improved Dickey-Fuller test. The test makes use of a negative augmented Dickey-Fuller signal. The rejection of the hypothesis that there is a unit root at an expected level of confidence increases with the increase in its degree of negativity. In order to determine if a time series is stationary, a single fundamental statistical approach is the Dickey-Fuller test. For the purpose detecting non-stationarity, it analyzes the presence of a unit root. The test serves as necessary tool for evaluating assumptions in statistical arbitrage, mean reversion approaches, and economic modeling in financial time series analysis. The Dickey-Fuller test evaluates a model with autoregressive characteristics for its existence of a unit root. A statistical model that has a unit root is said to be non-stationary, which indicates that its statistical properties vary over time. The decision rule is that Reject H_0 if the p-value is less than the critical value in this case 0.05, that the series is

stationary and if the p-value is greater than the critical value, H_0 cannot be rejected thus the series is stationary.

3.8.1.1.2 Levin-Lin-Chu test

Levin, Lin, and Chu (2002) proposed a stationarity test considering the alternative hypothesis H_0 that the þi could be both negative while remaining recognizable. Since þi is stationary through i, this is one and only of the furthermost complex of the assessments for the motivation that the data from the diverse entities need to be joined into a solitary concluding model of regression. To separate the regression residuals of Δ_{yit} and $_{yi,t-1}$as of all the "nuisance" variables (deterministic and lags) are obtained by means of regressions of individual by individual. The Frisch-Waugh Proposition is put forward to a stacked linear regression crossway individual in this particular instance. A comparable standardized approximation of the adjustment's deviation is used to compensate for every individual's data of $\varepsilon_{it.}$ This yields two series ˜vi,t−1 (from yi,t−1) and ˜ei,t (from Δ_{yit}). The fundamental test used is the t statistic on the linear regression of ˜ei,t on ˜vi,t−1 intended for a singular entity which would similarly be the Dickey-Fuller t-test statistic for the definite set of expanding deterministic components in addition to lags and that is the provision of the Frisch Waugh Proposition.

3.8.1.1.3 Philips-Perron test

A unit root test is employed in the time series investigation in order to arrive at the null hypothesis, H_o that an integrated time series of order 1 exists. It discusses the null hypothesis' augmented Dickey Fuller test. The Phillips-Perron test indicates that the technique used to create the data for analysis may have a greater autocorrelation order recognized in the test balance leading to endogenous and invalidate the improved

Dickey Fuller t-test. The t-test statistic is non-parametrically corrected by the Phillips Perron test; however, the enhanced Dickey Fuller test highlights this problem by showing lags as repressors in the test equivalence. This test is rigorous in its adherence to unspecified heteroscedasticity and autocorrelation in the test comparison's disruption development. MacKinnon and Davidson (2004) reports that the Phillips–Perron test achieves poorer in predictable samples as compared to the augmented Dickey–Fuller test.

3.8.1.1.4 Im,Pesaran and Shin (2003) tests

Pesaran and Shin (2003) afterwards exhausting the probability background, proposed a different extra computationally simple and flexible procedure of testing unit root for panel data which is denoted as *T*-bar statistic which permits for instant an illusion-stationary and stationary sequences.

Additionally, this test permits for heterogeneity and outstanding serial correlation of the underlying forces error variances through groups. When the error term unit of the ideal is consecutively interrelated, likely with various sequential correlation arrangements crosswise cross-sectional units, IPS reflects the average of ADF statistics considered for each individual cross-section component in the panel data instead of merging the data. The prevalent unit root test processes will typically have sufficient influence to be functionally independent to each and every individual in the panel data if the value of T is quite large, however combining a lesser cluster of distinct time sequences can be beneficial in management of further wide-ranging configurations of association through individuals (Park,1990;Johansen,1991).If the value of *T* is very inconsequential and the value of *N* is very enormous, then the prevailing panel data technique will be suitable permitting for very universal sequential relationship

arrangements (Hsiao, 2003; Holtz-Eakin et al., 1988; Breitung and Mayer, 1994; MaCurdy, 1982). It is crucial to emphasize that only well-adjusted panel data are measured in this method. Additional replication should be enabled in order to develop crucial values if uneven data are used. ADF t-test for discrete sequences is advised by IPS in the case of successive association. When drawing conclusions from the results of these panel data unit root testing, extreme caution should be used. The unit root null hypothesis is sometimes not automatically rejected whenever the null hypothesis is rejected because of the variety of alternative hypotheses.

3.8.1.1.5 Hadri (2000) test

Hadri (2000) suggests a parameterization that produces an acceptable demonstration of both stationary and nonstationary parameters and documents are laced preparation for an excellent centered LM test of stationarity. The Hadri (2000) test's primary advantage is that its instants have an exact consequential asymptotic distribution. Above and beyond, these tests tolerate the disorder expressions to be heteroscedastic through. occasionally it is also conceivable to allow for consecutive dependence replacing the hypothesis that the miscalculations over time t with the supposition that they fulfill the durable collaborating consistency settings of Phillips Peron test earlier discussed.

3.8.1.2 Normality tests

3.8.1.2.1 Jarque bera test

The Jarque Bera Test is a category of Lagrange multiplier normality assessment. The Normality test is unique amongst the conventions for numerous numerical tests, equivalent to the t-test statistic or the F-test statistic. The Jarque Bera test is frequently administered beforehand as one of the earlier tests to approve consistency. It is frequently utilized for huge sets of data for the reason that the other supplementary normality tests are not consistent when the number of items n is huge (for instance the Shapiro-Wilk test is not consistent when the number of items n is greater than 2,000 items).

The Jarque-Bera test unquestionably evaluates kurtosis and skewness in order to assess whether or not the data matches the distribution. A normal distribution is utterly symmetrical about the mean whenever its skewness coefficient is zero and similarly, the coefficient of kurtosis value of three, which denotes the amount of information contained in the tails and provides an approximation of how peaked a distribution is. Recognizing the mean or standard deviation of the data is not necessary for carrying out this test.

The typical approach for estimating the Jarque-Bera test statistic, which is frequently simplified to just the JB test statistic, is given as:

$JB = n\,[(\sqrt{b1})^2 / 6 + (b_2 - 3)^2 / 24]$.Where: n is the sample size, b_2 is the coefficient of kurtosis and $\sqrt{b_1}$ is the sample coefficient of skewness.

The Jarque-Bera test's negative hypothesis proposes that the data is typically distributed; the alternative hypothesis of the jarque-Bera test is that the data is not derived from a normal distribution.

Overall, an elevated JB value suggests that errors are not typically dispersed.

An outcome of one, for instance, demonstrates that the null hypothesis has been invalidated at the 5% level of significance in stata version 15. Furthermore, the data usually is not sourced from a normal distribution. A normal distribution of data is represented by a Jarque-Bera indicator which is zero.

Regrettably, numerous statistical software do not sustain this kind of test. So as to understand outcomes, one might possibly require to do a slight contrast and so one ought to be familiarly conversant with testing of the hypothesis. Checking values of probability is at all times a worthy hint. For instance, a small probability value of probability compared to a huge value of chi-square as of this test indicates that one can reject the null hypothesis which stipulates that the data is ordinarily distributed.

Typically, a p-value is employed in reporting the Jarque-Bera test outcome. Considering that the null hypothesis is correct (i.e., the data is normally distributed), the p-value reflects the possibility of encountering a test statistic as extreme as the one that was generated. The data does not follow a normal distribution, consequently the null hypothesis should be rejected if the p-value is less than the significance level, which is frequently established at 0.05. There is no justification to believe that the data does not follow a normal distribution, and the null hypothesis cannot be rejected if the p-value surpasses the significance level.

3.8.1.3 Hausman test

In the panel data analysis, the fixed effects model and the random effects model were separated using the Hausman test. Due to their increased efficacy, the random effects were preferred in this case for the null hypothesis, whereas the fixed effects were preferred for the alternative hypothesis because they were at least dependable.

The Hausman test delivered the value of a chi-square and an equivalent value of probability that forms the foundation of rejecting or accepting the null hypothesis as suitable. Nevertheless, the fixed effects ideal is believed to enforce limitations which are testable on the condensed procedure model constraints as specified by Chamberlain (1984) which proposes that someone ought to scrutinize the legitimacy of the limitations in advance assuming the fixed effects ideal. Consequently, when carrying out the test, if the p value is greater than a 5% level of significance, it is implied that the random effects approach is effectively used to depict the discrete level effects. Once the random effects ideal has been developed, the results will be fully prepared for discussion (Hausman, 1978).

3.8.2 Measurement of Study Variables.

The following study variables were measured in a manner that was comparable:

Portfolio performance was measured by market capitalization which was measured using Matthew, Oluwatoyin & Odularu, Gbadebo (2009) model which is characterized as:

MKTCAP = β0 + β1TNO + β2PAT + β3DIV + e. Where, β0>0, β1>0, β2>0, β3>0, and e = error term Where: PAT: Profit after Tax, TNO: Turnover, DIV: Dividends and MKTCAP: Market Capitalization

3.8.2.1 Herd Behavior

Herd behavior was measured by means of Huang and Christie (1995) model, which endorse the application of cross-sectional standard deviation (CSSD) of returns to differentiate investor group conduct in a universal market setting. In precise, $CSSD_t$was considered as:

$$\mathrm{CSSD}_t = \sqrt{\frac{\sum_{i=1}^{N}\left(R_{i,t} - R_{m,t}\right)^2}{N-1}}$$

Where $R_{m,t}$ is the average yield of the market at time t, $R_{i,t}$ is the asset return at time t, which is determined as the cross-sectional weighted yield of the market at a given time t and N is the population of the study.

3.8.2.2 Loss Aversion

Loss aversion was measured by (Barberis & Huang, 2001) procedure which was obtained as follows:

$$X_{i,t+1} = S_{i,t}R_{i,t+1} - S_{i,t}R_{f,t}$$

Where:

$S_{i,t}$ Is the reference state of the value of the investor's holdings of asset *i* at time *t*

$X_{i,t+1}$Is the measure of loss or gain on asset *i* flanked between time t-1 and time t, with the addition of a positive score indicating growth and a negative number indicating a loss.

$R_{f,t}$Is risk free rate of return (Treasury bill rate)

$R_{i,t+1}$Is the future expected yield (one-year lead)

3.8.2.3 Overconfidence

Overconfidence was measured by computing the monthly average volume of trade of mutual Funds for the period under study.

The quantity of overconfidence was obtained using Parkinson procedure which is quantified below:

$$\sigma_{i,t} = \sqrt{12}\frac{\sqrt{\ln\left(\frac{H_{i,t}}{L_{i,t}}\right)^2}}{4\ln(2)}$$

Where:

H= Maximum volume traded during the year under study, L= Bottommost volume traded during the year under study.

$\sigma_{i,t}$: Is the overconfidence bias measure. 12= number of months in a year under study.

i= low or high capacity that Mutual Funds may gain subsequently one month in the study timet,

In= natural logarithm

t is the number of surveys.

3.8.2.4 Disposition Effect

Disposition effect was measured by Weber and Camerer (1998) model which recommended the following representation:

$$DE = \frac{S_+ - S_-}{S_+ + S_-}$$

This proxy outlines a coefficient of disposition for every single subject calculated as the variance between winners S+ (the stock has winners S+ or stock which has improved value) of the sold shares and losers S− (stock which has declined its value) of the sold shares.

Table 3.1: An overview of the variable measurement.

Dependent Variable	**Measure**	**Proxy**	**Data**
Market capitalization	Turnover Profit after tax Dividends	β0 + β1TNO + β2PAT + β3DIV + e.	Past returns
Independent variables	**Measure**	**Proxy**	**Data**
Herd behavior	Returns of the asset Average market return	$\mathrm{CSSD}_t = \sqrt{\frac{\sum_{i=1}^{N}\left(R_{i,t} - R_{m,t}\right)^2}{N-1}}$	Past returns
Loss aversion	Future expected returns one year lead Risk free rate Value of stock held	$X_{i,t+1} = S_{i,t}R_{i,t+1} - S_{i,t}R_{f,t}$	Past returns
Overconfidence	Highest volume traded Lowest volume traded High or low volume traded after one month	$\sigma_{i,t} = \sqrt{12}\frac{\sqrt{\ln\left(\frac{H_{i,t}}{L_{i,t}}\right)^2}}{4\ln(2)}$	Past returns
Disposition effect	Winners shares sold Losers shares sold	$DE = \frac{S_+ - S_-}{S_+ + S_-}$	Past returns

Source: Researcher, 2023

3.9 Hypothesis Testing

The study was founded on the premise that the financial performance of mutual fund institutions, the dependent variable, was impacted by the independent variables that were established. As a result, the conceptual framework developed five salient hypotheses that would direct the investigation. At the 95 percent confidence level (level of significance, $\alpha = 0.05$), each assumption was analyzed. The relative significance of each independent variable to the dependent variable was assessed using the p-value to determine how to test the hypotheses that were presented. We adopted the null hypothesis that the variable was significant if the p-value was less than 0.05. This could back up the hypothesis that the dependent variable financial performance of mutual fund institutions) was significantly impacted by the independent factors (i.e., herd behavior, loss aversion, overconfidence, and disposition effect).

3.10 Ethical considerations.

This study was undertaken while observing satisfactory moral standards. A study clearance permission from the National Commission for Science, Technology, and Innovation (NACOSTI) and an authority letter from Masinde Muliro University of Science and Technology were among the approvals that the study obtained from relevant institutions. Additionally, no harm was done to participants in the trial. Anonymity was respected; privacy as well as confidentiality of respondents was maintained. The study also avoided dishonesties; it treated participants with self-respect and avoided conflict of interest.

Throughout the study, Akpabio and Esikot (2014) recommended that all participants be treated equally and with honesty in their reporting. As recommended by Drew and Hardman (2007), each of the three elements of informed approval capacity, information, and willingness to participate were observed so as to secure the

participants' informed consent. All participants received the respect they needed, and the confidentiality of the data generated has been safeguarded as guaranteed during the data collection procedures.

CHAPTER FOUR

DATA ANALYSIS AND DISCUSSION

4.1 Introduction

This chapter grants outcomes and their subsequent discussion owing to the research design described in chapter three. Section 4.1 discusses introduction. Section 4.2 discusses the pilot study. Section 4.3 discusses the descriptive statistics which was carried out to test normality of the data. Section 4.4 outlines model specification tests, including the Pearson Correlation Test, which was used to examine the relationship between the variables in the raw data, unit root tests which were carried out to test for stationarity, heteroscedasticity tests, autocorrelation test and Hausman test. Section 4.5 discusses panel efficient generalized least squares (EGLS) Random effect model using the multiple regression relationship. Section 4.6 highlights the moderation hierarchical model which discusses the moderating influence of size of the fund on the correlation between behavioral investment traps and mutual funds financial performance in Kenya. Section 4.7 highlights the summary of the chapter.

4.2 Pilot Study

The pre-made instrument that was used in this investigation is given in appendix II. It was used to gather secondary data for this study. The data collection device was developed with the assistance of financial professionals, including professors in the field of finance and research field marshals at the Nairobi Securities Exchange and at the Capital Markets Authority. The data collection instrument was deliberated upon by the experts preceding data gathering and the essential review done in order to guarantee that the data collection instrument seized entirely all the basic information to govern the requisite historical data from CMA. No additional piloting was accompanied on the

data collection instrument preceding data collection having settled on the appropriateness of the data collection instrument.

4.3 Descriptive Statistics

The section includes descriptive data for each parameter utilized in the research. Descriptive statistics are concerned with the enhancement of a number of significant statistical indices or measures which are utilized summarizing data, for instance measures of spread, measures of location, measures of correlation, statistical averages, and measures of skewness, as well as additional raw data measures (Kothari, 2004). Market capitalization was the dependent variable, and loss aversion, herd behavior, overconfidence as well as disposition effect were used as independent parameters. An overview of the descriptive statistics for each of the study's parameters, with market capitalization serving as the dependent variable, was presented in Table 4.1 below.

Annual observations from historical data for mutual funds from 2011 through to 2021 were the data used in this investigation. The sources of secondary data included the capital markets authority, the online database of the World Bank as well as the retirement benefits authority database. With the use of the data collecting instrument included in appendix II, secondary data was gathered.

Table 4.1: Descriptive Statistics

The Market capitalization, Fund size, Herd behavior log, Loss aversion log, Overconfidence log, disposition effect log and statistics: (Mean, Se (mean), Max, Min, Std Dev, CV,Obs(N)by categories of year summary.

Statistic	Market Capitalization	Fund Size	Herd Behavior	Loss Aversion	Disposition Effect	Overconfidence
Mean	20.50923	20.50923	-0.551730	21.16340	-0.0471938	-0.0087145
Se(Mean)	0.060926	0.192289	0.072128	0.162220	0.0024062	0.0019833
Maximum	22.38728	25.70594	1.011601	26.21221	0.0000000	0.0606437
Minimum	18.23680	16.24238	-3.68887	15.64074	-0.1259354	-0.1639964
Std Dev	0.808280	2.551005	0.956887	2.152098	0.0319214	0.0263266
CV	0.039410	0.124383	-1.84972	0.101689	-0.6763891	-3.021004
Obs(N)	176	176	176	176	176	176

Source: Research data, 2023

4.3.1 Descriptive Statistics Analysis.

From table 4.1 above, the market capitalization average was 20.50923. The maximum market capitalization put up at 22.38728 while the lowest stood at 18.23680.The spread or standard deviation of market capitalization was found to be 0.808280. The standard error for the mean was 0.060926. The understanding of this was that data of the parameters was distributed normally. This pointed out to the strength of the respective variables and that the conventional expectations were reinforced. The deduction of this

remained that the market capitalization variable had no substantial deviation compared to the projected mean.

Market Capitalization.

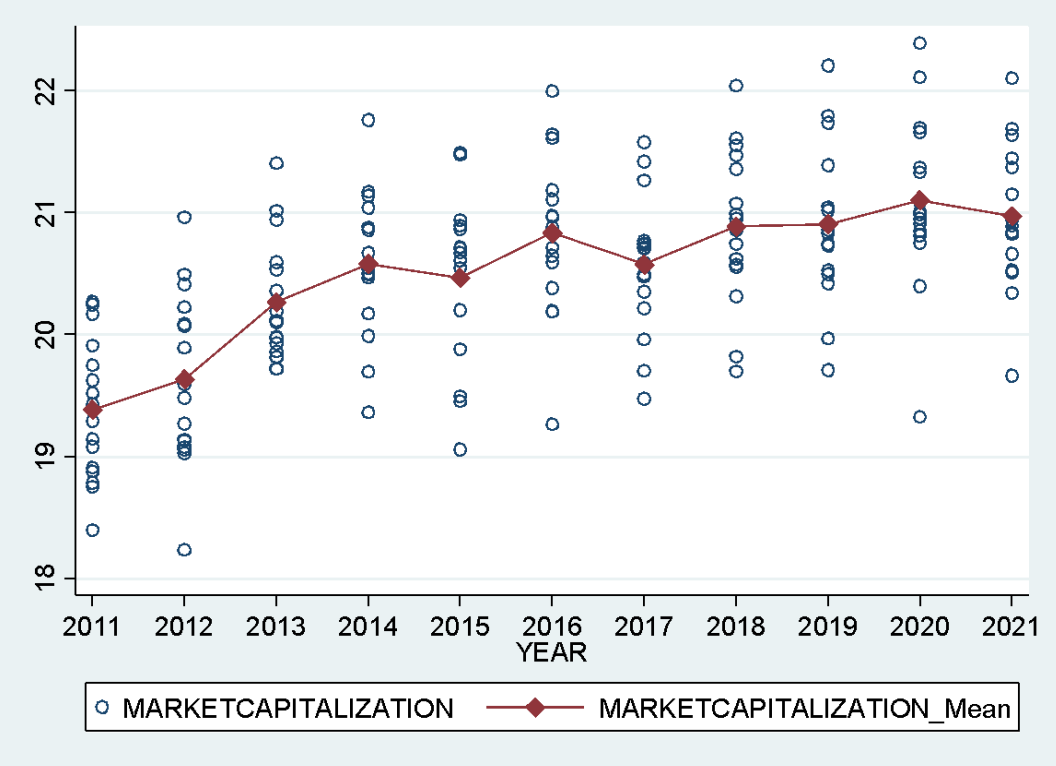

Figure 4.1: Descriptive Statistics Analysis –Market Capitalization

Source: research data, 2023

The average for herd behavior from table 4.1 above was –0.55173. The maximum for herd behavior level was 1.011601 while the minimum stood at-3.68887whereas the standard deviation or spread of data stood at 0.956887. The standard error for the mean was 0. 072128. The explanation of this was that data for the parameters was distributed normally. This showed the constancy of the variable and also that the conventional suppositions were maintained. The deduction was that the variable for herd behavior had no substantial non conformities from the probable mean.

Herd behavior.

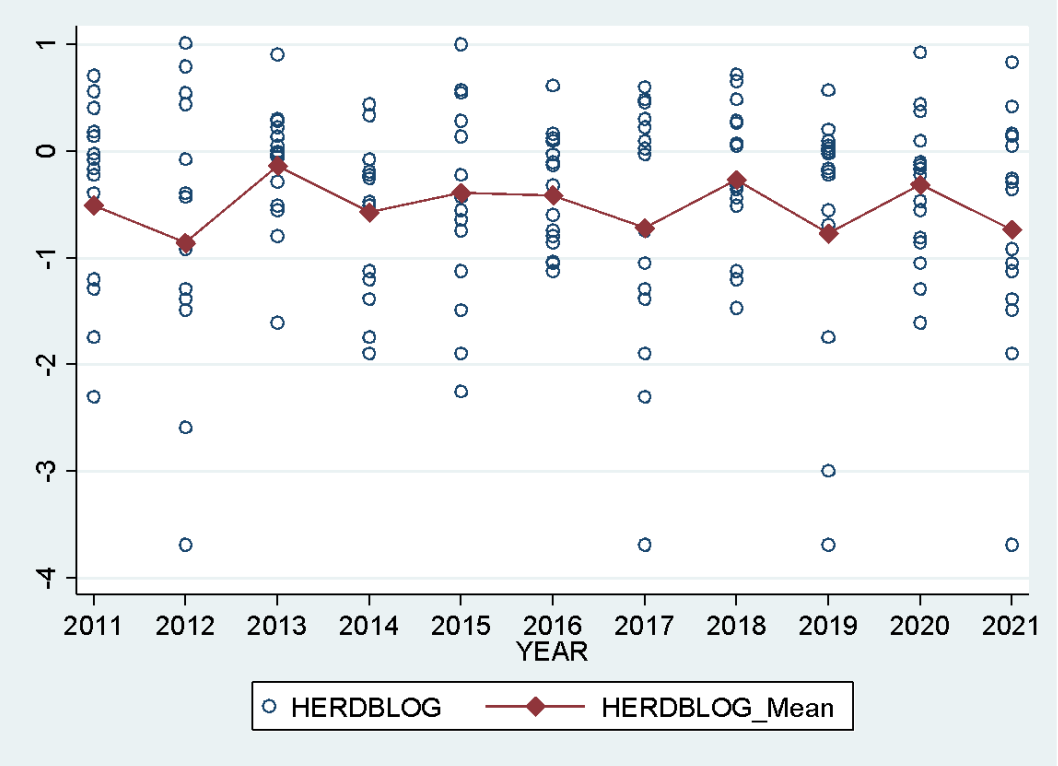

Figure 4.2: Descriptive Statistics Analysis –Herd Behavior

Source: research data, 2023

The loss aversion mean, according to table 4.1 above, was 21.16340. The maximum for loss aversion was 26.21221while the smallest for loss aversion was 15.64074 and the spread or standard deviation stood at 2.152098. The standard error for the mean was 0.162220. The explanation of this was that data for the parameters was distributed normally. This showed the variable reliability and also that the conventional suppositions stood maintained. The deduction was that the loss aversion variable did not have any noteworthy nonconformities compared to the probable mean.

Loss Aversion

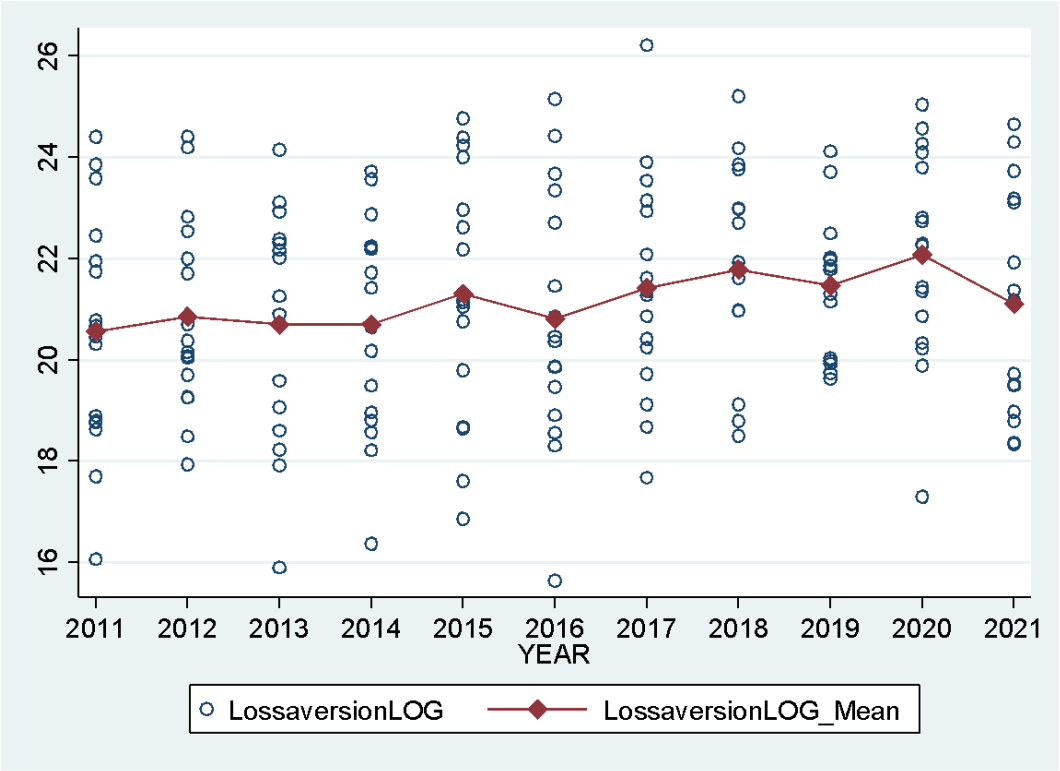

Figure 4. 1: Descriptive Statistics Analysis –Loss Aversion

Source: research data, 2023

Table 4.1 above revealed that the overconfidence mean was -0.0087145. The maximum for overconfidence was recorded at 0.0606437; the lowest for overconfidence was -0.1639964 and the spread or standard error of the mean stood at 0.0263266. The explanation of this was that data for the parameters was distributed normally. The deduction was that the variable for overconfidence had no substantial nonconformities from the probable mean.

Overconfidence

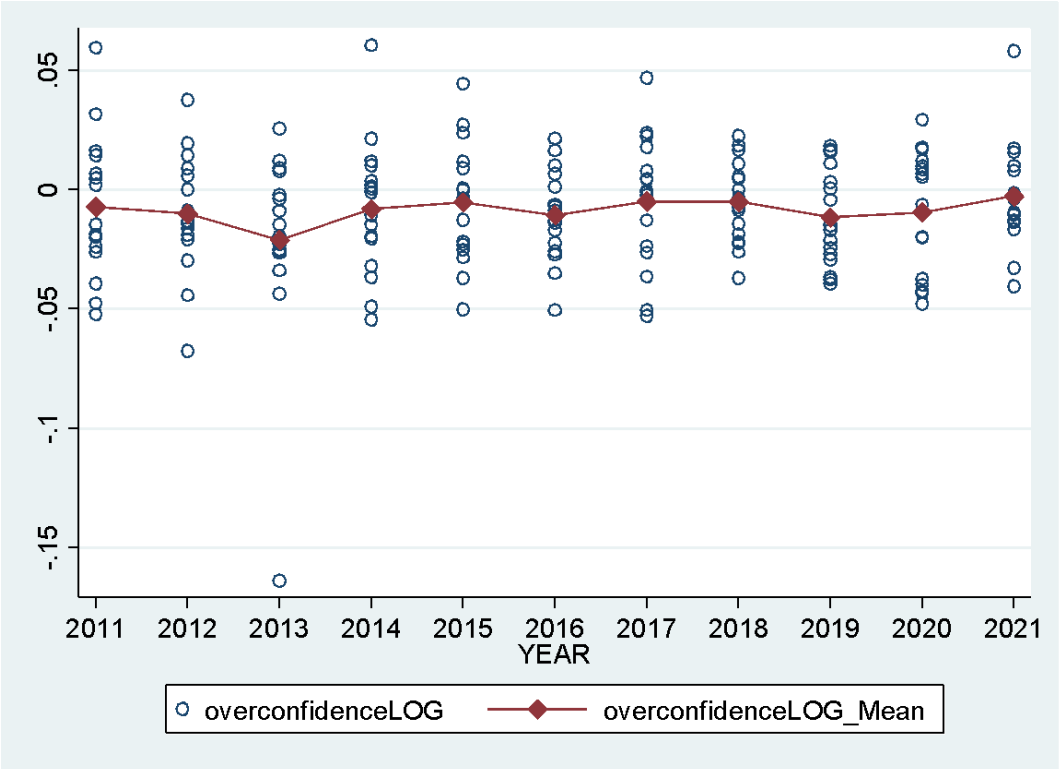

Figure 4.4: Descriptive Statistics Analysis –Overconfidence

Source: research data, 2023

The disposition effect mean from table 4.1 above was -0.0471938. The maximum for disposition effect was 0.000000while the smallest for disposition effect was -0.1259354 and the spread or standard deviation stood at 0.0319214. The standard error for the mean was 0.0024062. The explanation of this was that data for the parameters was distributed normally. This showed the variable dependability and similarly that the conventional suppositions were maintained. The deduction was that the disposition effect variable had no momentous nonconformities compared to the probable mean.

Disposition Effect

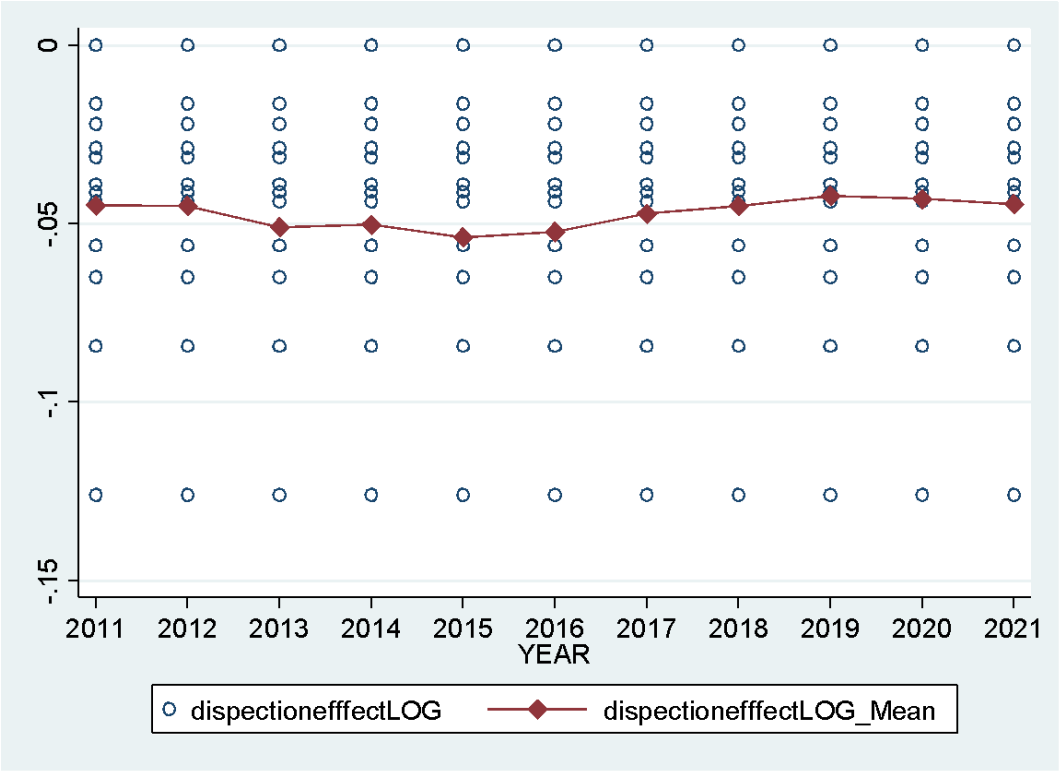

Figure 4.5: Descriptive Statistics Analysis –Disposition Effect

Source: research data, 2023

Table 4.1 above showed that the mean of fund size was 20.50923. The fund size ranged from a maximum of 25.70594 to a minimum of 16.24238 for the fund size, with a standard deviation or spread of 2.551005. 0.192289 was the standard error for the mean. This was explained by the fact that the parameters' data had a normal distribution. This demonstrated the varying dependability, and in a similar vein, the traditional assumptions were upheld. The deduction was that, in comparison to the likely mean, the fund size variable showed no significant nonconformities.

4.3.2 Normal Distribution Analysis.

Table 4.2: Normal Distribution Analysis.

Statistic	Market Capitalization	Fund Size	Herd Behavior	Loss Aversion	Disposition Effect	Overconfidence
Skewness	0.319224	0.638237	-0.159918	0.134118	-1.089272	-0.9620693
Kurtosis	2.836192	2.210537	4.448466	2.431349	3.782764	8.964203
Jarque-Bera	3.186000	16.52	55.31	19.04	39.3	288
Probability	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
CV	0.039410	0.124383	-1.84972	0.101689	-0.6763891	-3.021004
Observations	176	176	176	176	176	176

Source: research data, 2023

The inferential statistics are intended to determine whether there was any fundamental association amongst the corresponding parameters for determination of successive investigation. Study variables were exposed to tests of normality in order to establish whether or not the delivered data was distributed normally. In order to be able to know the conclusion to take, the guideline is that if the probability value is greater than 0.05, then the null hypothesis H_0 is accepted and that the alternative hypothesis H_1 is rejected and if the value of probability was lesser than 0.05, the null hypothesis H_0 was rejected and the alternative hypothesis H_1 was accepted.

In this research, the homogeneous skewness as well as kurtosis moments were established. The Jarque–Bera test that was derived from the kurtosis and skewness estimations was additionally amplified in this study. From Table 4.2 above, the skewness value computed for market capitalization which is the dependent variable was 0.319224.The skewness value for fund size which is the moderating variable was

recorded as 0.638237. The skewness values for the herding behavior, loss aversion, disposition effect as well as overconfidence independent variables were recorded as-1.15991, 0.134118, -1.089272 and -0.9620693 correspondingly.

The documented statistics for kurtosis as of market capitalization, fund size, herding behavior, loss aversion bias, disposition effect as well as overconfidence are 2.836192, 2.210537, 4.448466, 2.431349, 3.782764 and 8.964203correspondingly. The outcomes obtained by the probability values attained by applying the Jarque-Bera test statistic in conclusion recommended that at five percent significance level, entirely the variables approved the normality test. The study disproved the null hypothesis H_0 that the data for this investigation were not evenly distributed in its interpretation of this information.

4.4 Model Specification Tests

There were several model specification tests performed alongside the panel data in order to determine whether they were suitable for mathematical research. The model specification tests targeted at instituting whether or not the panel data satisfied the fundamental necessities of conventional multiple linear regression analysis which encompassed the pearson test for correlation, test of multicollinearity, the test of autocorrelation, the unit root tests as well as the test of heteroscedasticity. This segment offered outcomes of innumerable pinpointing tests supported on the data organized together with significant corrective action carried out to guarantee appropriateness of data.

4.4.1 Pearson Correlation Test

Table 4.3: Pearson correlation test.

	Market capitalization, fund size, herd behavior log, Loss Aversion log, Overconfidence log, Disposition effect log, Observations.

Variable	Market Capitalization	Fund size	Herd Behavior log	Loss Aversion log	Overconfidence log	Disposition effect log
Market Capitalization	1.0000					
	176					
Fund Size	0.3168	1.0000				
	0.000					
	176	176				
Herd Behavior log	0.0681	0.0562	1.0000			
	0.3691	0.4584				
	176	176	176			
Loss Aversion log	0.1415	0.0661	0.1854	1.0000		
	0.0611	0.3831	0.0138			
	176	176	176	176		
Overconfidence log	0.1501	0.1484	0.0510	-0.0837	1.0000	
	0.0468	0.0493	0.5013	0.2694		
	176	176	176	176	176	
Disposition effect	-0.0484	0.0936	-0.0493	0.2090	0.0023	1.0000
	0.5236	0.2164	0.5158	0.0054	0.9756	
Log	176	176	176	176	176	176

Source: research data, 2023

The Pair wise correlation test was utilized in scrutinizing the collinearity level existing amongst illustrative variables in the research. The association analysis, which was used to understand the presence of multicollinearity, was prioritized in order to appreciate the association between the independent variables and the dependent variable. To evaluate the robustness of the study variables in the correlation analysis, a pairwise correlation test was employed to ascertain whether a relationship arises between the variables considered in the research. The correlation investigation's consequential values revealed whether changes to the independent variables were what caused changes in the dependent variable, market capitalization, or not (Cohen, Cohen, West & Aiken, 2002).

The background of the pairwise correlation between mutually independent and dependent variables is displayed in table 4.3 above. The relationship on this occasion

was carried out to pretest any impending multicollinearity in the course of additional investigation. Multicollinearity was the problematic issue which transpired when the descriptive variables were precisely extremely interrelated with one another. If multicollinearity was not present, then addition or elimination of a parameter from a multiple regression equation would not alter the constant value on the other parameters (Brook, 2002).

The outcome for pairwise correlation displays that multicollinearity problem was not present as the greatest association across the independent variables amounted to 0.2090 between disposition effects besides loss aversion. The weakened correlation between the independent variables was a noteworthy symptom and, as a result, a key pointer of orthogonality. This demonstrated that a regression equation could have been fitted by someone without necessarily running into managing collinearity concerns. It was currently a typical practice to carry out a correlation analysis in advance before carrying out a regression analysis. Accordingly, independent variables altogether were reserved for additional investigation.

4.4.2 Unit Root Test

Table 4.4: Unit Root Test at 5% significance level

Market Capitalization	Method	Statistic	Prob.	Interpretation
	Null:Unit root(assumes common unit root process)			
	Levin,Lin & Chut*	-11.6234	0.0000*	Stationary
	Hadriz-stat	11.7875	0.0000*	Stationary
	Null:Unit root(assumes individual unit root process)			
	Im,Pesaran ShinW-stat	-3.7078	0.0001*	Stationary
	ADF–Fisher Chi-squared pm	8.9956	0.0000*	Stationary
	PP – Fisher Chi-squared pm	8.9956	0.0000*	Stationary
Fund size	**Method**	**Statistic**	**Probability**	**Interpretation**
	Null:Unit root(assumes common unit root process)			
	Levin,Lin & Chut*	-2.8548	0.0022*	Stationary
	Hadriz-stat	2.3891	0.0084	Stationary
	Null:Unit root(assumes individual unit root process)			
	Im,Pesaran ShinW-stat	-0.9955	0.0015*	Stationary
	ADF– Fisher Chi-squared pm	3.5095	0.0002*	Stationary
	PP – Fisher Chi-squared pm	3.5095	0.0002*	Stationary
Herd behavior	**Method**	**Statistic**	**Probability**	**Interpretation**
	Null:Unit root(assumes common unit root process)			
	Levin,Lin & Chut*	-9.3669	0.0000*	Stationary
	Hadriz-stat	-0.7638	0.0005*	Stationary
	Null:Unitroot(assumes individual unit root process)			
	Im,Pesaran ShinW-stat	-4.8811	0.0000*	Stationary
	ADF– Fisher Chi-squared pm	14.1461	0.0000*	Stationary

	PP – Fisher Chi-squared pm	14.1461	0.0000*	Stationary
Loss Aversion	**Method**	**Statistic**	**Probability**	**Interpretation**
	Null:Unit root(assumes common unit root process)			
	Levin,Lin & Chut*	-2.7992	0.0026*	Stationary
	Hadriz-stat	3.9320	0.0000*	Stationary
	Null:Unit root(assumes individual unit root process)			
	Im,Pesaran &ShinW-stat	-3.9351	0.0000*	Stationary
	ADF– Fisher Chi-squared pm	16.7269	0.0000*	Stationary
	PP – Fisher Chi-squared pm	16.7269	0.0000*	Stationary
Overconfidence	**Method**	**Statistic**	**Probability**	**Interpretation**
	Null:Unit root(assumes common unit root process)			
	Levin,Lin & Chut*	-1.6873	0.0046*	Stationary
	Hadriz-stat	6.5893	0.0000*	Stationary
	Null:Unit root(assumes individual unit root process)			
	Im,Pesaran ShinW-stat	-1.9802	0.0238*	Stationary
	ADF– Fisher Chi-squared pm	4.2088	0.0000*	Stationary
	PP – Fisher Chi-squared pm	4.2088	0.0000*	Stationary

Disposition Effect	Method	Statistic	Probability	Interpretation
	Null:Unit root(assumes common unit root process)			
	Levin,Lin & Chut*	-4.4082	0.0000*	Stationary
	Hadriz-stat	10.8767	0.0000*	Stationary
	Null:Unit root(assumes individual unit root process)			
	Im,Pesaran &ShinW-stat	-2.0200	0.0001*	Stationary
	ADF– Fisher Chi-squared pm	8.2770	0.0000*	Stationary
	PP – Fisher Chi-squared pm	8.2770	0.0000*	Stationary

Source: research data, 2023

The Root tests for the panel units were conducted on each and every variable which was utilized in the investigation to determine the stationarity of the panel data. The results of the unit root tests for the cross-sections of the parameters altogether including fund size, market capitalization, loss aversion, herd behavior, disposition effect as well as overconfidence were discussed. Table 4.4 above disclosed that entirely 16 cross sections were stationary. The collective unit root test that was created by Levin, Lin, and Chu as well as the Hadri z-statistic were available for use in the first segment of each variable. The experiments showed that when all variables were measured concurrently, they all showed stationarity for all cross-sections. Additionally, there was no unit root issue, as shown by the probability of 0.0000 and the fact that the unit root's null hypothesis H_0 was rejected. In the next section, three further stationarity tests using panel data were presented. These tests included the Im, Pesaran, and Shin w- statistic, the Augmented Dickey Fuller- Fisher Chi-square test, and the Phillips Perron- Fisher Chi-square test. The assessments assumed that a unit root technique was available on various cross sections. The null hypothesis H_0 of non-stationarity was rejected owing

to the evidence provided by the probability values because they were statistically significant. The explanation for this was that all variables remained stationary in both instances of the test. In deduction, the stationarity test was essential for the reason that it facilitated in the identification of the order of combination of variables as well as escaping unauthentic regression analysis. Consequently, all variables were established to be united of zero order.

4.4.3. Heteroscedasticity Test

Table 4.5: Heteroscedasticity Test

Breusch and Pagan Lagrangian multiplier test for random effects

Market Capitalization

Estimated results:

Variable	Variance	Std Dev =sqrt(variance)
Market	0.6533170	0.8082803
Capitalization	0.5050168	0.7106454
e	0.1207800	0.3475342
u		

Source: research data, 2023

Test statistics

F- Statistic	1.73924	**Obs* R-squared**	2.976238
ProbabilityF(1, 15)	0.27650	**Probability Chi-square**	0.146500
Var(u)	0.00000	**Chibar2(01)**	28.27000
Probability>Chibar2	0.00000		

Source: research data (2023)

Test for Heteroscedasticity intended that preceding error terms predisposed other error relations and therefore negating the statistical hypothesis which says that the error relations took a persistent adjustment. However, according to the hypothesis of homoscedasticity, the financial performance of mutual funds, which is the dependent variable, has an

equivalent amount of inconsistency for any value of the independent variables (Garson, 2012). To check for consistency in the residuals from the regression equation, a homoscedasticity test was utilized. If at hand there was identical discrepancy of the error terms, then it means that the distribution of data was normal. Nonexistence of an equivalent inconsistency level for every independent variable value was recognized as heteroscedasticity. (Breusch &Pagan, 1979), established a homogeneity test used for testing the analysis of the multiple linear regression.

The results from Table 4.5 above, points out the heteroscedasticity statistics test. The probability value was recorded at 0.27650which is greater than 0.05 which is the critical value and the F-statistic was recorded at 1.73924. The test for chi-square was correspondingly statistically inconsequential with probability of 0.146500 and an Obs*R-squared of 2.976238. This inferred the absence of heteroscedasticity in the analysis ideal. The heteroscedasticity test was intended to evaluate whether the discrepancy was persistent or it was mounting. If the discrepancy was persistent then it means that the coefficients of the protected adjustment as the descriptive parameters ought not be statistically noteworthy. Results from table 4.5 above were apparent showing absence of heteroscedasticity as the chi-square as well as the F-statistic was statistically irrelevant.

4.4.4 Test for Autocorrelation.

Table 4.6: Autocorrelation Test

Market Capitalization Herd Behavior log Loss aversion log Overconfidence log Disposition effect log

Wooldridge test for autocorrelation in panel data

H_0: No first order autocorrelation

Variable	**Coefficient**
F(1,15)	0.9974
Probability>F	0.0065

Variable	**Coefficient**
F(1,15)	0.9974
Probability>F	0.0065

Source: research data, 2023

The outcomes of the test for sequential correlation were presented in theTable 4.6 above. The probability was 0.9974, and the F-statistic was 0.0065. Table 4.6 above offered the outcomes on Wooldridge test for autocorrelation in the panel data. The dependent variable was the residuals. A regression analysis was conducted on the residuals as a dependent variable in addition to an insulated residuals value. The decision that was arrived at founded on F-statistic in this case was statistically inconsequential. The inference arising from this was that there was not at all sequential association in the ideal.

4.4.5 Hausman Test

Table 4.7: Hausman Test

Hausman fixed random Coefficients

Variable	Fixed (b)	Random (B)	Difference (b-B)	S.E Sqrt(dia(gV_b-V-B))
Herd Behavior log	-0.0135468	0.0004163	-0.0139632	0.0122735
Loss Aversion log	0.0627479	0.0627507	-2.6800600	0.0052876
Overconfidence log	1.7158590	2.7295960	-1.0137360	0.4706487
Disposition Effect log	0.7309071	-0.5455628	1.2764700	1.2331040

Source: research data, 2023

b = consistent under Ho and Ha; obtained from xtreg

B = inconsistent under Ha, efficient under Ho; obtained from xtreg

Test: Ho: difference in coefficients not systematic

chi2 (4) = (b-B)'[(V_b-V_B) ^ (-1)] (b-B) = 8.81

Prob>chi2 = 0.061

The Hausman test was still regarded as valid for the definite panel data regression analysis in order to generate the approximate influences between random as well as fixed effects and to produce improved research outcomes. The test was carried out in defiance of the null hypothesis H_0, which claimed that the random effects ideal was the favored one. The test results rejected the null hypothesis H_0 if the panel data's chi square statistic was significant at the 5% level of significance; or else, the null hypothesis H_0 was acknowledged.

Table 4.7 above contains the findings of the Hausman test, which was utilized in checking whether there had been a change between the fixed effect model and the random effect model. Hausman (1978) initially recommended an indigenous test statistic that was founded on a careful evaluation of constant values. The results of the Hausman test were shown in table 4.7 above. The random effects model was initially approximated in the Hausman test. The fixed effects model was similarly predicted by the Hausman test. After assessing the fixed effect approximations, the most recent phase led to the deduction of the random effects. The conclusion on this was that if the change was statistically noteworthy, then at that point, the fixed effects model was embraced. Contrary to this, if there was no variance, literature recommended that the random effect model be approved which anticipated that there was no correlation between the unobservable effects and the explanatory variables. From the table 4.7 above, the value of 8.81 for chi-square was statistically inconsequential and indicated that there was no variance in the random effect model and the fixed effect model.

4.5 Panel EGLS Random Effect-Model

Table 4.8: Panel EGLS Random Effect-Model

Dependent Variable: Market Capitalization; Method: Panel EGLS Random Effect Model

Variable	Coefficient	Std. Error	t statistic	probability
Herd behavior	0.0004163	0.0643681	0.32	0.7470
Loss aversion	0.0627507	0.0293010	2.15	0.0330
overconfidence	2.7295960	0.2297870	2.18	0.0310
Disposition effect	-0.5455628	0.1913090	-1.08	0.0020
Constant	0.9130920	0.0655430	29.18	0.0000

Source: research data, 2023

Test Statistics

R-squared	0.68900	**Adjusted R-squared**	0.68610
Mean Dependent variable	0.257156	**S.D. Dependent variable**	4.067320
S.E. of Regression	0.795340	**F-statistic**	243.5647
Prob(F-statistic)	0.000100	**Sum squared residuals**	114.3304

5% level of significance

Source: research data, 2023

By using the random effects ideal, the EGLS estimator which was anticipated to be a reliable estimator under random effects model compared to the ordinary least squares (OLS) was embraced. The result, which details the goodness of fit statistics for the general

model, is shown in Table 4.8 above. The resulting p-value of 0.000, which was below the threshold of 0.05, was reported together with the F-statistic value of 243.5647. 0.68900 was the corrected R squared value. This figure clearly specified that there was a significant influence of behavioral investment traps on the Kenyan mutual funds' financial performance when the degrees of freedom are changed. This observation indicated that all independent factors were fully replicated which led to a discrepancy of 68.610% in the Kenyan mutual funds' financial performance.

The following is an overview of the causal connection between the dependent and independent variables using multiple linear regression models:

$Y_t = 0.9130920 + 0.0004163H_t + 0.0627506LA_t + 2.729596OC_t - 0.5455628D_t + \varepsilon_t$

where;

Y_t = financial performance of the Mutual fund at time t. (0.9130920)β0 = Intercept term which is the mutual fund financial performance when all other factors remain constant i.e. t=0, βi are the regression coefficients for independent variables at time t.

H = Herd behavior at time t. LA = Loss aversion at time t. OC = Overconfidence at time t and D = Disposition effect at time t. ε_t = Statistical error term at time t.

The findings of this regression analysis shows that an increase in financial performance of the mutual fund by one unit results into an increase in herd behavior by 0.0004163 units, an increase in Loss Aversion by 0.0627506 units, an incease in Overconfidence by 2.729596 units and it decreases disposition effect by 0.5455628 units. Based on this outcomes, overconfidence with the highest positive coefficient of 2.729596 should be emphasized during mutual fund financial investment processes.

4.5.1 Herd Behavior's Effect on Kenya's Mutual Funds' Financial Performance

The regression's findings are displayed in Table 4.8 above, and the anticipated value of the regression coefficient for herd behavior was 0.00004163. This demonstrates that, when all additional factors affecting the mutual funds, financial performance are held constant, The financial performance of mutual funds in Kenya improved by 0.00004163 units for every additional unit in herd behavior. The beneficial effect demonstrates that herd behavior and mutual fund financial performance in Kenya were positively correlated. With a t-statistic of 0.32, the regression coefficient was likewise determined to be statistically significant. The probability value was found to be 0.7470. The explanation is that herd behavior in Kenya had a small but positive impact on the financial performance of mutual funds. The outcome demonstrates that herd behavior has a modest but favorable influence on the financial performance of Kenyan mutual funds.

This study's findings conflict with those of Alla and Sobh (2019), who looked into the impact of herding behavior on the anticipated return on the Egyptian stock exchange. By accumulation of a surplus risk component simulating herding behavior to the CAPM, the study examined the influence of herding behavior on the anticipated yield on the Egyptian securities exchange. The findings of this research do not back up the CAPM previously and subsequently totaling the herding behavior aspect, consequently there is no consequence of herding behavior on the projected yield.

The outcomes of this study are however consistent with those of Latief and Syed (2014) who carried out research on the influence of mutual funds herding on security yields in Pakistan. The research used security returns as a dependent variable and mutual funds

herding as an independent variable. The population of the study consisted of all mutual funds registered with Pakistan's stock markets, including the Karachi Securities Exchange (KSE), the Lahore Securities Exchange, and the Islamabad Securities Exchange (ISE). In contrast, the sample consisted of 14 mutual fund companies that were duly chosen from among those registered in the Karachi Securities Exchange (KSE). The research made use of five years' worth of periodic mutual fund statistics from 2006 to 2010. The Amirat and Bouri ideal, which was established by the cross-sectional dispersal factor sensitivity of volume, were used to analyze the herding behavior of mutual funds. Herding behavior was assessed using the collective variance method. Descriptive statistics and Multiple Regression analysis were utilized in analyzing the data on herding behavior and the returns on mutual fund stocks. The research's findings showed that herding behavior and mutual fund security yields had a substantial and favorable link (Latief &Syed, 2014).

4.5.2 Influence of Loss Aversion on mutual funds' financial performance in Kenya

The coefficient of the loss aversion variable from the regression equation was calculated based on the linear regression outcomes demonstrated in Table 4.8 as 0.0627506. The constant disclosed that a rise in loss aversion by a solitary unit initiated a growth in the mutual funds financial performance in Kenya by a value of 0.0627506 units when all other factors affecting mutual funds financial performance are held constant. The positive effect demonstrates a positive correlation between loss aversion and the financial success of mutual funds in Kenya. The loss aversion coefficient of regression was revealed to be statistically substantial at the value of 2.15 for the t-statistic. 0.0330 was reported as the probability's value. The explanation is that Loss aversion has a positive but considerable

impact on the financial performance of mutual funds in Kenya. According to the data, loss aversion substantially impacted the Kenyan mutual fund financial performance.

The results of this research are consistent with those of Angate et al (2025) who carried out a study on the influence of loss aversion bias on investments at the Rwanda security exchange. The main aim of this research was to investigate the influence of behavioral bias factors on investment in the Rwandan Security Market. The definite aim was to investigate the effect of loss aversion factor on the financial investment in the Rwandan security market. The heuristics concept, herding behavior philosophy and prospect model shaped the underpinning of the research. The fundamental research philosophy of the study was positivism; concentrating on investigating previously recognized philosophies in the supposition that certainty is factually specified and can be designated by quantifiable characteristics autonomous of the spectator and the mechanisms involved. In order to ascertain and examine the impact of behavioral determinants on speculation in the Rwandan security market, a cross-sectional descriptive survey research approach was used. A multiple linear regression ideal was utilized to forecast the likelihood of diverse opportunity consequences of the dependent characteristics, assisting to forecast the likelihood of a stockholder to capitalize in the Rwandan security market. The data demonstrated a considerable positive linear relationship among the loss aversion component and the financial participation in the Rwandan security exchange.

Additionally, the results of this study are in direct opposition to those of Raja and Messaudi (2024), who investigated the impact of investor overconfidence and loss aversion on the financial performance of the market using data from the US stock exchanges. The goal of

the study was to carefully examine how the two behavioral characteristics that is overconfidence and loss aversion affect the financial performance of US-based businesses. The influence of loss aversion on US companies' financial performance was investigated. Subsequently, the impact of overconfidence on stock market financial performance was then discussed. This research utilized approximately 6,777 periodical interpretations on the US-insured services population as well as industrial enterprises for the period commencing 2006 through to 2016. The Ordinary Least Square regression analysis in two panel data simulations was utilized in testing the propositions expressed for the research. It was acknowledged that loss aversion factor adversely influences the financial performance of enterprises in the US and this is accomplished for both segments.

4.5.3 Overconfidence's impact on Kenyan mutual funds' financial performance

The results of the multiple linear regression analysis, presented in Table 4.8, indicate that the regression coefficient for the overconfidence parameter was 2.729596. This result shows that an increase in overconfidence by one unit leads to a rise in the financial performance of Kenyan mutual funds by 2.729596 units, assuming all other factors influencing mutual funds' financial performance remain constant. This positive relationship demonstrates a significant correlation between overconfidence and the financial success of Kenyan mutual funds. With a t-statistic value of 2.18 and a probability coefficient of 0.0310, the regression coefficient was deemed statistically significant. Overconfidence was found to have a substantial and positive impact on the financial performance of Kenyan mutual funds.

These findings contrast with those of Mungai (2021), who investigated the influence of overconfidence on Kenyan mutual funds' financial performance. Eshraghi's study observed that strong prior financial performance fosters overconfidence, as measured through indicators such as excessive confidence, self-reference, and conviction. Additionally, the study found a similar pattern with hubris, which is closely linked to overconfidence. Using Carhart four-factor regression models with year dummy variables, Mungai concluded that excessive overconfidence weakens monthly returns following the release of annual reports, assuming all other variables remain constant.

Conversely, the findings align with the conclusions of Muema (2022), who explored the impact of overconfidence on security yields among businesses listed on the Nairobi Securities Exchange (NSE). Muema's study examined how overconfidence influences the security returns of the 64 companies listed on the NSE, using secondary data sourced from the exchange. The analysis employed both descriptive statistics and multiple linear regression to explore the relationships between profitability, firm size, stock returns, and overconfidence. The results demonstrated a strong positive relationship between overconfidence and security yields, with a correlation coefficient of 0.634. This highlights that profitability, firm size, and overconfidence bias are all positively correlated with security earnings for companies listed on the NSE.

Overall, the findings of this study confirm the significant and positive influence of overconfidence on the financial performance of Kenyan mutual funds, while offering insights consistent with previous research on the broader impacts of overconfidence in financial markets.

4.5.4 Effect of disposition on the financial performance of mutual funds in Kenya

The multiple linear regressions' outcomes provided in table 4.8 were used to calculate the coefficient of disposition effect variable, which was found to be -0.5455628. This constant showed that an increase in the disposition effect by one unit caused a decline in the Kenyan mutual funds' financial performance to fall by a value of 0.5455628 units when all other parameters that affect the mutual funds 'financial performance were maintained constant. The adverse effect illustrates that there was a contradiction between the disposition effect and the mutual fund's financial performance in Kenya. With a t-statistic value of -1.08, the regression coefficient was in addition considered to be statistically significant. A value of 0.0020 is given for the probability. For this reason alone, the disposition effect significantly negatively impacts the mutual fund industry's financial performance in Kenya.

The findings of this study demonstrated that the disposition effect significantly but negatively influenced the financial performance of mutual funds in Kenya. This Outcome consequently discloses that the null hypothesis H_0 of the variable of disposition effect had a noteworthy influence and was rejected. The explanation was that the disposition effect variable had a statistically significant influence on Kenyan mutual funds' financial performance. This inferred that intensification in shareholder disposition effect variable would cause a reduction in the Kenyan mutual funds' financial performance. The results for the disposition effect variable had an undesirable but noteworthy influence on Kenyan mutual funds' financial performance.

The outcomes of this research are consistent with the findings of Cheng et al (2023) who carried out research on security pricing and disposition effect in a developing stock market.

The investigation examined the Karachi Stock Market's disposition effect along with the way it affects asset prices in the comparable market. The data were examined using regression analysis for experimental resolutions. Very interestingly, the research revealed that there is a disposition effect on the Karachi Stock Exchange, and that this effect lowers expected returns. This research attempted to integrate the disposition effect in the old-style asset pricing model. The research used a sample of KSE-100 index enterprises over the period ranging from the year 2003 through to the year 2007. The results demonstrated that the disposition effect did not exist for merely one year throughout the period. Consequently, the disposition effect in KSE is prevailing and the beta of additional yields of the market is positively associated with anticipated yields whereas the disposition impact has a negative correlation with the stock's return. Consequently, the disposition impact lowers actual wages.

The outcomes of this research also conflict with those of Naveed (2022), who investigated how behavioral finance biases affected Pakistani security investment decisions by utilizing the financial expertise as a moderating variable. The research was centered on the effects of behavioral factors on investment decision-making processes in Pakistan, with the importance of financial literacy as a controlling factor. A modest assessment questionnaire was utilized in gathering data from one hundred fifty-eight stockholders trading in the Pakistan security exchange. The results of the study demonstrated that the process of making financial investment decisions was significantly influenced favorably by overconfidence, herding behavior as well as the disposition effect.

4.6 Moderating effect of fund size.

Table 4.9: moderating effect of fund size

Dependent Variable: Market Capitalization; Method: Moderation

hierarchical-moderating effect of fund size

Variable	Coefficient	Std. Error	t statistic	probability
Herd behavior Fund size	0.2244580	0.0643681	0.37	0.7090
Loss aversion Fund size	-0.008639	0.0123200	-0.70	0.4840
Overconfidence Fund size	-3.023683	0.9650300	-3.13	0.0020
Disposition effect Fund size	1.056512	0.7409770	29.18	0.1560
Constant	0.913092	0.0655430	29.18	0.0000

Source: research data, 2023

Test Statistics

R-squared	0.583197	**Adjusted R-squared**	0.582364
Mean Dependent variable	0.653317	**S.D. Dependent variable**	3.198300
S.E. of Regression	0.743100	**F-statistic**	456.9547
Prob(F-statistic)	0.000000	**Sum squared residuals**	114.3304

5% level of significance

Source: research data (2023)

The association between the financial performance of mutual funds and behavioral investment traps was shown to be moderated by fund size, as shown in table 4.9 above. According to the study, fund size affects mutual fund financial performance in Kenya by positively influencing herding behavior, adversely modifying loss aversion, favorably modifying overconfidence, and negatively modifying the impact of disposition.

The results as indicated in table 4.9 above displays the general model's goodness of fit statistic. The probability-value for the associated F-statistic was then reported as 0.000, which was below the threshold value of 0.05. The F-statistic value was then recorded as 456.9547. It was computed that the modified R square value was 0.582364. This finding made it abundantly evident that fund size considerably moderated the causal connection between behavioral investment traps and the financial performance of mutual funds in Kenya after controlling for degrees of freedom. This point out that entirely all independent variables reflected triggered a disparity of 58.2364 % on the moderating role of fund size on the association between behavioral investment traps and mutual funds financial performance in Kenya.

The multiple linear regression model was applied to summarize the causal connection between the independent variables and the dependent variable as follows:

$Y_t = 0.913092 + 0.224458HFS_t - 0.008639LAFS_t - 3.023683OCFS_t + 1.056512DEFS_t$

where FS= Fund size as a moderating variable;

Y_t = Mutual fund financial performance at time t. (0.9130920) $\beta 0$ = Intercept term which is the mutual fund financial performance when all other factors remain constant i.e. t=0, βi are the regression coefficients for independent variables at time t. H = Herd behavior at

time t. LA = Loss aversion at time t. OC = Overconfidence at time t and D = Disposition effect at time t.

From the findings on table 4.6 above on Moderating effect of fund size on the relationship between behavioral investment traps and financial performance of mutual funds in Kenya, the results indicate that fund size with a coefficient of +0.224458 has a positive moderating effect on the relationship between herd behavior and financial performance of mutual funds in Kenya. Fund size with a coefficient of -0.008639 has a negative moderating effect on the relationship between loss aversion and financial performance of mutual funds in Kenya. Fund size with a coefficient of -3.023683 has a negative moderating effect on the relationship between overconfidence and financial performance of mutual funds in Kenya and fund size with a coefficient of +1.056512 has a positive moderating effect on the relationship between disposition effect and financial performance of mutual funds in Kenya.

4.7 Summary.

The causal connection between behavioral investment traps and the financial performance of mutual funds in Kenya was moderated by fund size, which was also examined in this study along with the impact of behavioral investment traps on the Kenyan mutual funds' financial performance. Results were produced after the data underwent multidimensional processing. The data was put through descriptive statistics in order to carry out the normality checks necessary for the fusion of the limits to their actual values. It was determined that every variable was evenly distributed. Skewness and kurtosis as well as measures of location engaged discovered that the variables were normally distributed. Variables were furthermore exposed to other diagnostic tests including assessing the

stationarity of the parameters using the unit root test. The research established that entirely all the parameters were stationary as obtainable by the unit roots tests results. The importance of Stationarity was to recognize the assimilation order of parameters. If stationarity is overlooked, it can result in a regression analysis that is unauthentic which eventually gives erroneous conclusions. A Pair wise correlation analysis test was utilized in this research for testing multicollinearity amongst the independent parameters. Approaching multicollinearity in the pairwise correlation did not display any signal. The study additionally carried out a multiple linear regression analysis in order to investigate the link between the independent variables and the dependent variable in a greater depth. The study additionally investigated the way in which fund size significantly moderated the relationship between behavioral investment traps and mutual fund performance in Kenya.

Table 4.10: List of the propositions rejected or accepted founded on the implication of outcomes

Hypothesis	Sign	Significance	Decision
H_{01}: Herd behavior does not significantly affect portfolio performance of mutual funds in Kenya.	positive	insignificant	H_{01} Accepted
H_{02}: Loss aversion does not significantly affect portfolio performance of mutual funds in Kenya.	positive	significant	H_{02} Rejected
H_{03}: overconfidence does not significantly affect portfolio performance of mutual funds in Kenya.	positive	significant	H_{03} Rejected
H_{04}: disposition effect does not significantly affect portfolio performance of mutual funds in Kenya.	Negative	significant	H_{04} Rejected
H_{05}: Fund size does not significantly moderate the relationship between behavioral investment traps and the financial performance of mutual funds' portfolios in Kenya.		significant	H_{05} Rejected

All the hypotheses were tested at 95 per cent confidence level (level of significance).

Source: research data, 2023

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This section summarizes the research findings, the contribution of earlier research, the conclusion, potential areas for further research as well as recommendations. The introduction is covered in Section 5.1, the study's results are summarized in Section 5.2, the conclusion is discussed in Section 5.3, recommendations for further research are provided in Section 5.4, theoretical contributions are covered in Section 5.5, and suggestions for further research are suggested in Section 5.6. The primary objective of the study was to investigate how behavioral investment traps influenced the financial performance of mutual funds in Kenya. The specific objectives of the research study were linked to the research findings, the contribution of earlier research, the conclusion, potential areas for further research as well as recommendations.

5.2 Summary of findings

This research study investigated the influence of behavioral investment traps on mutual fund financial performance in Kenya. The research study investigated behavioral investment traps and the effects they have on Kenyan mutual fund financial performance. Loss aversion, Herd behavior, overconfidence and disposition effect were the behavioral investment traps parameters which were used to measure and describe behavioral investment biases of investors in institutional investors like mutual funds that results in un characteristic yields which directly influences the mutual funds' financial performance in Kenya. This study looked into how behavioral investing traps affected Kenyan mutual

funds' financial performance. This included investigating the effect of behavioral investment traps i.e. Loss aversion, Herd behavior, overconfidence and disposition effect on unusual yields i.e. mutual funds' financial performance in Kenya. The discussion as well as the summary shadowed the research hypotheses and objectives as framed in chapter one.

5.2.1 Influence of herd behavior on financial performance of mutual funds.

This research investigated the influence of herd behavior on the financial performance of Kenyan mutual funds. Herd behavior was measured by means of Huang and Christie (1995) model, which endorsed the application of the cross sectional standard deviation (CSSD) of returns to differentiate investor group conduct in a universal market setting and the mutual funds' financial performance in Kenya as a dependent variable measured by means of market capitalization as specified earlier. Herd behavior was measured using the average yield of the market at a given time t and the yield of the asset at a given time t. The results of this study indicated that herding behavior had a positive but statistically negligible effect on Kenyan mutual fund financial performance, indicating the possibility of a favorable but minimal impact of herd behavior. The results demonstrate that herding behavior promotes Kenyan mutual funds' financial performance, but it has an insignificant effect.

5.2.2 Influence of loss aversion on mutual funds' financial performance.

This research investigated the influence of loss aversion on the mutual funds' financial performance in Kenya. Loss aversion was measured by (Barberis & Huang, 2001) procedure which was measured by determining the investor's stock holding value, the

measure of gain or loss on stocks, the risk free return rate as well as the anticipated return in the future (one year lead). The financial performance of mutual funds in Kenya was used as a dependent variable measured by means of market capitalization as specified earlier. The findings of this study show that loss aversion affects the financial performance of Kenyan mutual funds in a positive yet significant way.

5.2.3 Influence of overconfidence on mutual funds' financial performance.

This research explored the impact of overconfidence on the financial performance of mutual funds in Kenya. Overconfidence was assessed by calculating the monthly average trading volumes during the study period. The level of overconfidence was determined using the Parkinson procedure, which incorporates the highest and lowest trading volumes within the year under review, as well as the subsequent low or high trading volumes achieved by mutual funds one month later. The findings indicate that overconfidence has a significant and positive influence on the financial performance of mutual funds in Kenya.

5.2.4 Influence of disposition effect on mutual funds' financial performance.

This study examined the impact of the disposition effect on the financial performance of Kenyan mutual funds. Following the approach by Weber and Camerer (1998), the disposition effect was measured as the variation between "winners' stocks" (stocks that have increased in value upon sale) and "losers' stocks" (stocks that have decreased in value upon sale). The findings revealed that the disposition effect had a significant negative impact on the financial performance of Kenyan mutual funds.

5.3 Conclusion

The findings of this research revealed that herding behavior had a statistically insignificant but positive impact on the financial performance of Kenyan mutual funds. This indicates that while herd behavior contributes positively to the financial performance of these funds, its effect is negligible, leading to the acceptance of the null hypothesis (H_0). In contrast, a couple of prior investigations revealed that herding behavior either completely stopped or drastically decreased at times of crisis. Ay et al (2024) for instance, observed an overall reduction in herding behavior during the crises in Asia and Russia. In particular instances when investors deviated from the market consensus, Kiran et al (2020) presented evidence of significant disparities in the Pakistan stock exchange. According to Sibarani (2024), there was an improvement in equity return dispersions during times of sharp market fluctuations. It was observed that increased rationality among market players may have resulted from regulatory reforms and the significant presence of foreign investors in the Indian market.

Furthermore, the findings of this study are consistent with those of the Muharam et al (2021) who came to the conclusion that herding in the US Real Estate Investment Trust (REIT) was not intensified by the global financial crisis. The findings of this study are consistent with those of kung;u and kinya (2024) who carried out a study on the Effect of herding behavior on stock market liquidity at Nairobi securities exchange and found that the liquidity of the NSE stock market is not influenced by herding behavior. Furthermore, the study discovers that Market Yields, which it used as a control variable, likewise has no bearing on NSE stock market liquidity.

In contrast, a couple of prior investigations revealed that herding behavior positively influence the financial performance of mutual funds. Wachasundar and Sumant (2024) for instance, carried out a study on the Impact of Herding Behavior on Mutual Fund Performance and found that Preliminary data suggests that herding behavior significantly affects mutual fund performance. The precise nature of this influence, however, differs depending on the type of fund and the state of the market. Herding can lead to short-term increases in price momentum and liquidity-driven returns, but if it persists, it eventually results in mispricing and reversals. Additionally, trading expenses and portfolio turnover brought on by herding may degrade the long-term performance of less liquid asset types. Both investors and fund managers are affected by these findings.

The findings of this study also contradict those of Sarfaraz, Nazia, Muhammad and Kwal (2025) who carried out a study on Herding behavior, disposition effect, and investment decisions and presented evidence that Herding behavior significantly influences investment choices in a positive way. Furthermore, by adding risk perception and dividend policy as mediators, this direct association is further evaluated. Observing the particular consequences demonstrated the multi-mediation. The findings supported people's intention to act more favorably after making an investment decision. Therefore, the simultaneous mediating effects of dividend policy and risk perception reduce the herding behavior of individual investors, which has an emphasis on investment decisions.

The findings of this study also demonstrated that loss aversion had a statistically significant and positive impact on the financial performance of Kenyan mutual funds. This suggests that loss aversion significantly enhances the financial performance of these funds, resulting in the rejection of the null hypothesis (H0). The findings of this study are consistent with

those of Oyetade et al. (2025) who carried out a study on the impact of loss aversion on investment decisions made by Nigerian retail investors. Financial literacy and risk perception were taken into account and the results were contextualized in the sub-Saharan African context by comparing them with South African research results. The aim was to understand how loss aversion influences investment decisions in a market with unique economic, regulatory and cultural factors. Key findings included the confirmation of the significant impact of loss aversion, with higher loss aversion leading to more conservative investments.

The findings of this study are also consistent with those of Bohnenkamp, Judith, Delikouras, and Stefanos (2025) who carried out a study on the Risk and Loss Aversion in Financial Decision Making and found out that whereas risk aversion does not explain participation, portfolio allocation, or savings decisions, loss aversion does, both statistically and economically. It also found that the primary factor influencing household financial decisions should be loss aversion rather than an auxiliary behavioral feature. In contrast, the findings of this study contradicts those of Ahmed and Boutheina (2020) who carried out a study on Loss aversion, overconfidence of investors and their impact on market performance evidence from the US stock markets. The study documented that Loss-aversion bias has a detrimental impact on businesses' financial performance, and this is true for both industries. Furthermore, the research found that overconfidence had a statistically significant and positive effect on the financial performance of mutual funds in Kenya. This highlights that overconfidence significantly boosts the financial performance of these funds, leading to the rejection of the null hypothesis (H0). The findings of this study are consistent with those of Lasisi, Isiaka & Mailafia (2025) who did research on the Effect of investors'

overconfidence and mental accounting on investment performance of deposit money banks in Nigeria and found that Investor overconfidence significantly and favorably affects Nigerian deposit money banks' investment performance. Based on the study's findings, it is advised that overconfidence be taken into account when making financial investment decisions since it has been shown to have a positive and noteworthy impact on investment performance. The findings of this study contradict those of Mohd, Yogita and Shamim (2022) who carried out a study on how financial literacy moderate the association between behavior biases and investment decision and found that the impact of overconfidence on the influence of investing decision-making among female investors was statistically negligible.

Lastly, the study established that the disposition effect had a statistically significant and negative impact on the financial performance of Kenyan mutual funds. This finding indicates that the disposition effect detrimentally influences the financial performance of these funds, resulting in the rejection of the null hypothesis (H0). The findings of this study contradict those of Mariana, Claudia and William (2021) who carried out a study on the Disposition effect, demographics and risk taking and found out that Male individuals are less likely to exhibit this cognitive bias, the disposition impact is not related to age, and risk-averse investors are more likely to exhibit it. The tendency to experience the disposition effect rises in bear markets and falls in bull markets, according to this paper. According to this study, knowledgeable investors are also more likely to hang onto losses and sell winning assets.

The findings of this study also contradict those of Sarfaraz, Nazia, Muhammad and Kwal (2025) carried out a study on Herding behavior, disposition effect, and investment

decisions and found out that the disposition effect has a very favorable influence on investment choices. Furthermore, risk perception and dividend policy are introduced as mediators to further evaluate this direct association. Therefore, because risk perception and dividend policy act as simultaneous mediating factors, individual investors' disposition effect has an emphasis on investment decisions. The findings of this study contradict those of Mohd, Yogita and Shamim (2022) who carried out a study on how financial literacy moderate the association between behaviour biases and investment decision and found that The impact of the disposition effect on the influence of investing choices was statistically negligible among female investors. On overall, this study underscores the varying impacts of behavioral biases on the financial performance of mutual funds in Kenya, emphasizing the need to account for these factors in investment decision-making processes.

5.4 Recommendations of the study.

The study recommends that overconfidence, which demonstrated a significant positive impact on the financial performance of mutual funds in Kenya (regression coefficient of 2.7295960), should be given priority in financial investment decision-making processes. However, it emphasizes that behavioral investment biases should not be considered in isolation when scrutinizing financial decisions by fund managers in institutional investors. Shareholders must remain vigilant and monitor the financial performance of their investments, as fund managers are not immune to behavioral biases that could affect their decision-making.

Supervisory bodies like the Capital Markets Authority (CMA) and the Nairobi Securities Exchange (NSE) should establish robust regulatory frameworks to monitor and mitigate the influence of behavioral biases in investment decisions. To enhance market efficiency and attract more investors, the CMA should consider relaxing listing requirements, increase public awareness, and ensure a transparent and fair securities market. These measures will promote a competitive and equitable environment while discouraging dominant market players from manipulating the market in their favor.

Additionally, the CMA and NSE should improve the mechanisms for displaying stock prices to better reflect the flow of information, incorporating insights from behavioral finance to account for biases that may influence market outcomes. This approach would increase transparency, bolster investor confidence, and encourage higher capital inflows and participation in the stock market. The regulatory bodies should also provide guidance

to investors on the risks posed by behavioral biases that may drive stock prices away from their fundamental values.

Finally, trading activities and relevant market information should be disclosed comprehensively to all market participants. This transparency would enable investors to make well-informed decisions when considering alternative investment strategies, reducing the impact of herd behavior and promoting a more efficient and stable securities market in Kenya.

5.5 Contributions to theory

This research contributes a lot to financial markets and more specifically to the prevailing behavioral finance theory. The study draws a lot of interest in measuring behavioral investing traps, such as loss aversion, herd behavior, overconfidence, and the disposition effect, and their impact on the financial performance of mutual funds in Kenya. The outcomes in this research indicate that behavioral investment traps parameters for example loss aversion, overconfidence and disposition effect had a significant impact on the Kenyan mutual funds' financial performance which was measured by market capitalization of mutual funds in Kenya. Conversely, herd behavior had an inconsequential influence on the mutual funds' financial performance in Kenya.

The research displays how herd behavior influences the financial performance of Kenyan mutual funds. The outcomes of this research show that herd behavior has an insignificant but positive effect on the mutual funds' financial performance in Kenya. The outcome of this study contributes to the existing theory on how shareholders should evaluate herd behavior variables in mutual funds in order to investigate its influence on the Kenyan

mutual funds' financial performance.

Furthermore, the study contributes to the domain of knowledge about how loss aversion parameters affected the financial performance of mutual funds in Kenya. It described ways in which investors in stocks should avoid taking on loss-inducing risk. According to this study, Kenyan mutual funds' financial performance was significantly impacted by loss aversion. It was noticeable that the loss aversion metric significantly and favorably affected the mutual fund industry's financial performance in Kenya, and that this impact resulted in an increase in market capitalization in Kenya. Subsequently, stock brokers and investors have to evaluate the influence of loss aversion parameter while making financial investments to determine whether loss aversion has a substantial influence on the financial performance of Kenyan mutual funds.

This study supports prior research on how overconfidence affects the financial performance of Kenyan mutual funds in a positive but significant way. There was no mutual funds' financial performance in Kenya occasioning from disparities in overconfidence while investigating the overconfidence variable. Overconfidence variables led to improvement in the mutual funds' financial performance in Kenya from its essential standards. In this study, it was discovered that overconfidence significantly but favorably impacted the financial performance of mutual funds in Kenya.

The research supports the existing literature on how disposition effect causes a substantial but negative impact on the Kenyan mutual funds' financial performance. A considerable decline in the financial performance of mutual funds in Kenya was brought about by the disposition effect which was measured using market capitalization. In this study, it was established that disposition effects had a substantial but undesirable influence on the

mutual funds' financial performance in Kenya. Stock brokers and Investors should evaluate the influence of disposition effect while making financial investment decisions so as to establish whether disposition effect influences the Kenyan mutual funds' financial performance.

5.6 Suggestions for further research

This research suggests other zones where additional research should be done for example under heuristic influences including anchoring, representativeness, gambler's fallacy, conservatism and availability bias and under prospect theory factors such as framing, regret aversion, mental accounting and their subsequent influences on financial performance of financial markets.

This research also suggests further study on the presence of anomalies for example winner's curse, January effect and equity premium puzzle in the financial markets and their influences on behavioral finance traps because the anomalies have continuously disrupted the financial market's fundamental behavior which undertakes that all investors are logical and rational.

Additionally, this study recommends more investigation into the impact of behavioral biases on issues such as under reaction and overreaction to whichever updates about price variations, disregarding the facts concerning the first principles of security prices, extrapolating future trends by means of previous trends and unwarranted inclination towards hot securities.

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APPENDICES

APPENDIX I: List of Registered mutual funds in Kenya as at 2021.

1) British-American Asset Managers Limited

2) Amana Capital Limited

3) Kenindia Asset Management Company Ltd

4) African Alliance Kenya Investment Bank Ltd

5) Old Mutual Asset Managers (Kenya) Ltd

6) ICEA Asset Management Ltd

7) Pinebridge Investment East Africa Company Ltd

8) Sanlam Investment Management Kenya Ltd

9) Apollo Asset Management Company Ltd

10) Jubilee Financial Services Limited

11) Madison Asset Management Services Ltd

12) Co-op Trust Investment Services Limited

13) Zimele Asset Management Company Ltd

14) Dry Associates Ltd

15) Stanbic Investment Management Services (EA) Ltd

16) Genesis Kenya Investment Management Ltd

Source: Retirement Benefits Authority, 2021

APPENDIX II: Data collection tool

A) Herd Behavior

I) Return of the asset

ORGANIZATION	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Jubilee financial services Ltd											
Pinebridge investment East Africa company											
Genesis Kenya investment management Ltd											
Stanbic investment management services (AE) Ltd											
Madison Asset management services Ltd											
Apollo Asset management company Ltd											
Old mutual asset managers Ltd											
ICEA Asset management Ltd											
Dry associates Ltd											
Kenindia Asset management company Ltd											
Co-op Trust investment services Ltd											
African alliance Kenya investment Bank Ltd											
Amana capital Ltd											
Sanlam investment management Kenya Ltd											
British American Asset managers Ltd											
Zimele Asset management company Ltd											

II) Average returns of the market

ORGANIZATION	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Jubilee financial services Ltd											
Pinebridge investment East Africa company											
Genesis Kenya investment management Ltd											
Stanbic investment management services (AE) Ltd											
Madison Asset management services Ltd											
Apollo Asset management company Ltd											
Old mutual asset managers Ltd											
ICEA Asset management Ltd											
Dry associates Ltd											
Kenindia Asset management company Ltd											
Co-op Trust investment services Ltd											
African alliance Kenya investment Bank Ltd											
Amana capital Ltd											
Sanlam investment management Kenya Ltd											
British American Asset managers Ltd											
Zimele Asset management company Ltd											

Loss Aversion

I) **Future expected return one year lead**

ORGANIZATION	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Jubilee financial services Ltd											
Pinebridge investment East Africa company											
Genesis Kenya investment management Ltd											
Stanbic investment management services (AE) Ltd											
Madison Asset management services Ltd											
Apollo Asset management company Ltd											
Old mutual asset managers Ltd											
ICEA Asset management Ltd											
Dry associates Ltd											
Kenindia Asset management company Ltd											
Co-op Trust investment services Ltd											
African alliance Kenya investment Bank Ltd											
Amana capital Ltd											
Sanlam investment management Kenya Ltd											
British American Asset managers Ltd											
Zimele Asset management company Ltd											

II) **Value of stock held by organization**

ORGANIZATION	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Jubilee financial services Ltd											
Pinebridge investment East Africa company											
Genesis Kenya investment management Ltd											
Stanbic investment management services (AE) Ltd											
Madison Asset management services Ltd											
Apollo Asset management company Ltd											
Old mutual asset managers Ltd											
ICEA Asset management Ltd											
Dry associates Ltd											
Kenindia Asset management company Ltd											
Co-op Trust investment services Ltd											
African alliance Kenya investment Bank Ltd											
Amana capital Ltd											
Sanlam investment management Kenya Ltd											
British American Asset managers Ltd											
Zimele Asset management company Ltd											

Overconfidence

I) Highest volume traded

ORGANIZATION	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Jubilee financial services Ltd											
Pinebridge investment East Africa company											
Genesis Kenya investment management Ltd											
Stanbic investment management services (AE) Ltd											
Madison Asset management services Ltd											
Apollo Asset management company Ltd											
Old mutual asset managers Ltd											
ICEA Asset management Ltd											
Dry associates Ltd											
Kenindia Asset management company Ltd											
Co-op Trust investment services Ltd											
African alliance Kenya investment Bank Ltd											
Amana capital Ltd											
Sanlam investment management Kenya Ltd											
British American Asset managers Ltd											
Zimele Asset management company Ltd											

II) Lowest volume traded

ORGANIZATION	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Jubilee financial services Ltd											
Pinebridge investment East Africa company											
Genesis Kenya investment management Ltd											
Stanbic investment management services (AE) Ltd											
Madison Asset management services Ltd											
Apollo Asset management company Ltd											
Old mutual asset managers Ltd											
ICEA Asset management Ltd											
Dry associates Ltd											
Kenindia Asset management company Ltd											
Co-op Trust investment services Ltd											
African alliance Kenya investment Bank Ltd											
Amana capital Ltd											
Sanlam investment management Kenya Ltd											
British American Asset managers Ltd											
Zimele Asset management company Ltd											

III) High or Low volume traded after one month

ORGANIZATION	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Jubilee financial services Ltd											
Pinebridge investment East Africa company											
Genesis Kenya investment management Ltd											
Stanbic investment management services (AE) Ltd											
Madison Asset management services Ltd											
Apollo Asset management company Ltd											
Old mutual asset managers Ltd											
ICEA Asset management Ltd											
Dry associates Ltd											
Kenindia Asset management company Ltd											
Co-op Trust investment services Ltd											
African alliance Kenya investment Bank Ltd											
Amana capital Ltd											
Sanlam investment management Kenya Ltd											
British American Asset managers Ltd											
Zimele Asset management company Ltd											

B) Disposition Effect

I) **Winners shares sold**

ORGANIZATION	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Jubilee financial services Ltd											
Pinebridge investment East Africa company											
Genesis Kenya investment management Ltd											
Stanbic investment management services (AE) Ltd											
Madison Asset management services Ltd											
Apollo Asset management company Ltd											
Old mutual asset managers Ltd											
ICEA Asset management Ltd											
Dry associates Ltd											
Kenindia Asset management company Ltd											
Co-op Trust investment services Ltd											
African alliance Kenya investment Bank Ltd											
Amana capital Ltd											
Sanlam investment management Kenya Ltd											
British American Asset managers Ltd											
Zimele Asset management company Ltd											

II) Losers shares sold

ORGANIZATION	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Jubilee financial services Ltd											
Pinebridge investment East Africa company											
Genesis Kenya investment management Ltd											
Stanbic investment management services (AE) Ltd											
Madison Asset management services Ltd											
Apollo Asset management company Ltd											
Old mutual asset managers Ltd											
ICEA Asset management Ltd											
Dry associates Ltd											
Kenindia Asset management company Ltd											
Co-op Trust investment services Ltd											
African alliance Kenya investment Bank Ltd											
Amana capital Ltd											
Sanlam investment management Kenya Ltd											
British American Asset managers Ltd											
Zimele Asset management company Ltd											

C) Market Capitalization

I) Turn Over

ORGANIZATION	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Jubilee financial services Ltd											
Pinebridge investment East Africa company											
Genesis Kenya investment management Ltd											
Stanbic investment management services (AE) Ltd											
Madison Asset management services Ltd											
Apollo Asset management company Ltd											
Old mutual asset managers Ltd											
ICEA Asset management Ltd											
Dry associates Ltd											
Kenindia Asset management company Ltd											
Co-op Trust investment services Ltd											
African alliance Kenya investment Bank Ltd											
Amana capital Ltd											
Sanlam investment management Kenya Ltd											
British American Asset managers Ltd											
Zimele Asset management company Ltd											

II) **Profit After Tax**

ORGANIZATION	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Jubilee financial services Ltd											
Pinebridge investment East Africa company											
Genesis Kenya investment management Ltd											
Stanbic investment management services (AE) Ltd											
Madison Asset management services Ltd											
Apollo Asset management company Ltd											
Old mutual asset managers Ltd											
ICEA Asset management Ltd											
Dry associates Ltd											
Kenindia Asset management company Ltd											
Co-op Trust investment services Ltd											
African alliance Kenya investment Bank Ltd											
Amana capital Ltd											
Sanlam investment management Kenya Ltd											
British American Asset managers Ltd											
Zimele Asset management company Ltd											

III) **Dividends**

ORGANIZATION	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Jubilee financial services Ltd											
Pinebridge investment East Africa company											
Genesis Kenya investment management Ltd											
Stanbic investment management services (AE) Ltd											
Madison Asset management services Ltd											
Apollo Asset management company Ltd											
Old mutual asset managers Ltd											
ICEA Asset management Ltd											
Dry associates Ltd											
Kenindia Asset management company Ltd											
Co-op Trust investment services Ltd											
African alliance Kenya investment Bank Ltd											
Amana capital Ltd											
Sanlam investment management Kenya Ltd											
British American Asset managers Ltd											
Zimele Asset management company Ltd											

D) Size of the Fund

I) **Assets Under Management**

ORGANIZATION	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Jubilee financial services Ltd											
Pinebridge investment East Africa company											
Genesis Kenya investment management Ltd											
Stanbic investment management services (AE) Ltd											
Madison Asset management services Ltd											
Apollo Asset management company Ltd											
Old mutual asset managers Ltd											
ICEA Asset management Ltd											
Dry associates Ltd											
Kenindia Asset management company Ltd											
Co-op Trust investment services Ltd											
African alliance Kenya investment Bank Ltd											
Amana capital Ltd											
Sanlam investment management Kenya Ltd											
British American Asset managers Ltd											
Zimele Asset management company Ltd											

APPENDIX III: Measurement of study variable

Dependent Variable	**Measure**	**Proxy**	**Data**
Market capitalization	Turnover Profit after tax Dividends	β0 + β1TNO + β2PAT + β3DIV + e.	Past returns
Independent variables	**Measure**	**Proxy**	**Data**
Herd behavior	Returns of the asset Average market return	$CSSD_t = \sqrt{\frac{\sum_{i=1}^{N} \left(R_{i,t} - R_{m,t}\right)^2}{N-1}}$	Past returns
Loss aversion	Future expected returns one year lead Risk free rate Value of stock held	$X_{i,t+1} = S_{i,t}R_{i,t+1} - S_{i,t}R_{f,t}$	Past returns
Overconfidence	Highest volume traded Lowest volume traded High or low volume traded after one month	$\sigma_{i,t} = \sqrt{12}\frac{\sqrt{ln\ ln\left(\frac{H_{i,t}}{L_{i,t}}\right)^2}}{4\ ln\ ln\ (2)}$	Past returns
Disposition effect	Winners shares sold Losers shares sold	$DE = \frac{S_+ - S_-}{S_+ + S_-}$	Past returns

APPENDIX IV: Descriptive Statistics

Statistic	Market Capitalization	Fund Size	Herd Behavior	Loss Aversion	Disposition Effect	Overconfidence
Mean	20.50923	20.50923	-0.551730	21.16340	-0.0471938	-0.0087145
Se(Mean)	0.060926	0.192289	0.072128	0.162220	0.0024062	0.0019833
Maximum	22.38728	25.70594	1.011601	26.21221	0.0000000	0.0606437
Minimum	18.23680	16.24238	-3.68887	15.64074	-0.1259354	-0.1639964
Std Dev	0.808280	2.551005	0.956887	2.152098	0.0319214	0.0263266
CV	0.039410	0.124383	-1.84972	0.101689	-0.6763891	-3.021004
Obs(N)	176	176	176	176	176	176

APPENDIX V: Normal distribution analysis

Statistic	Market Capitalization	Fund Size	Herd Behavior	Loss Aversion	Disposition Effect	Overconfidence
Skewness	0.319224	0.638237	-0.15991	0.134118	-1.089272	-0.9620693
Kurtosis	2.836192	2.210537	4.448466	2.431349	3.782764	8.964203
Jarque-Bera	3.186000	16.52	55.31	19.04	39.3	288
Probability	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
CV	0.039410	0.124383	-1.84972	0.101689	-0.6763891	-3.021004
Observations	176	176	176	176	176	176

APPENDIX VI: Pearson Correlation test

Variable	Market Capitalization	Fund size	Herd Behavior log	Loss Aversion log	Overconfidence log	Disposition effect log
Market Capitalization	1.0000					
	176					
Fund size	0.3168	1.0000				
	0.000					
	176	176				
Herd Behavior log	0.0681	0.0562	1.0000			
	0.3691	0.4584				
	176	176	176			
Loss Aversion log	0.1415	0.0661	0.1854	1.0000		
	0.0611	0.3831	0.0138			
	176	176	176	176		
Overconfidence log	0.1501	0.1484	0.0510	-0.0837	1.0000	
	0.0468	0.0493	0.5013	0.2694		
	176	176	176	176	176	
Disposition effect log	-0.0484	0.0936	-0.0493	0.2090	0.0023	1.0000
	0.5236	0.2164	0.5158	0.0054	0.9756	
	176	176	176	176	176	176

APPENDIX VII: Unit Root Test

Market Capitalization	Method	Statistic	Prob.	Interpretation
	Null: Unit root (assumes common unit root process)			
	Levin,Lin & Chut*	-11.6234	0.0000*	Stationary
	Hadriz-stat	11.7875	0.0000*	Stationary
	Null:Unitroot(assumes individual unit root process)			
	Im,Pesaran ShinW-stat	-3.7078	0.0001*	Stationary
	ADF– Fisher Chi-squared pm	8.9956	0.0000*	Stationary
	PP – Fisher Chi-squared pm	8.9956	0.0000*	Stationary
Fund size	**Method**	**Statistic**	**Probability**	**Interpretation**
	Null:Unitroot(assumes common unit root process)			
	Levin,Lin & Chut*	-2.8548	0.0022*	Stationary
	Hadriz-stat	2.3891	0.0084	Stationary
	Null:Unitroot(assumes individual unit root process)			
	Im,Pesaran ShinW-stat	-0.9955	0.0015*	Stationary
	ADF– Fisher Chi-squared pm	3.5095	0.0002*	Stationary

	PP – Fisher Chi-squared pm	3.5095	0.0002*	Stationary
Herd behavior	**Method**	**Statistic**	**Probability**	**Interpretation**
	Null:Unitroot(assumes common unit root process)			
	Levin,Lin & Chut*	-9.3669	0.0000*	Stationary
	Hadriz-stat	-0.7638	0.0775*	Stationary
	Null:Unitroot(assumes individual unit root process)			
	Im,Pesaran ShinW-stat	-4.8811	0.0000*	Stationary
	ADF– Fisher Chi-squared pm	14.1461	0.0000*	Stationary
	PP – Fisher Chi-squared pm	14.1461	0.0000*	Stationary
Loss Aversion	**Method**	**Statistic**	**Probability**	**Interpretation**
	Null:Unitroot(assumes common unit root process)			
	Levin,Lin & Chut*	-2.7992	0.0026*	Stationary
	Hadriz-stat	3.9320	0.0000*	Stationary
	Null:Unitroot(assumes individual unit root process)			
	Im,Pesaran&Shin W-stat	-3.9351	0.0000*	Stationary
	ADF– Fisher Chi-	16.7269	0.0000*	Stationary

	squared pm			
	PP – Fisher Chi-squared pm	16.7269	0.0000*	Stationary
Overconfidence	**Method**	**Statistic**	**Probability**	**Interpretation**
	Null: Unit root(assumes common unit root process)			
	Levin,Lin & Chut*	-1.6873	0.0046*	Stationary
	Hadriz-stat	6.5893	0.0000*	Stationary
	Null:Unit root (assumes individual unit root process)			
	Im,Pesaran ShinW-stat	-1.9802	0.0238*	Stationary
	ADF– Fisher Chi-squared pm	4.2088	0.0000*	Stationary
	PP – Fisher Chi-squared pm	4.2088	0.0000*	Stationary

Disposition Effect	**Method**	**Statistic**	**Probability**	**Interpretation**
	Null:Unitroot(assumes common unit root process)			
	Levin,Lin & Chut*	-4.4082	0.0000*	Stationary
	Hadriz-stat	10.8767	0.0000*	Stationary
	Null: Unit root (assumes distinct unit root procedure)			
	Im,Pesaran&Shin	-2.0200	0.0001*	Stationary

W-stat			
ADF– Fisher Chi-squared pm	8.2770	0.0000*	Stationary
PP – Fisher Chi-squared pm	8.27	0.0000*	Stationary

APPENDIX VIII: Heteroscedasticity Test

Estimated results:

Variable	Variance	Std Dev =sqrt(variance)
Market Capitalization	0.6533170	0.8082803
e	0.5050168	0.7106454
u	0.1207800	0.3475342

Source: researcher, 2022

Test statistics

F- Statistic	1.73924	**Obs* R-squared**	2.976238
ProbabilityF(1, 15)	0.27650	**Probability Chi-square**	0.146500
Var(u)	0.00000	**Chibar2(01)**	28.27000
Probability>Chibar2	0.00000		

APPENDIX IX: Autocorrelation Test

Variable	Coefficient
F(1,15)	0.9974
Probability>F	0.0065

Source:researcher, 2022

APPENDIX X: Hausman Test

Variable	Fixed (b)	Random (B)	Difference (b-B)	S.E Sqrt(dia(gV_b-V-B))
Herd Behavior log	-0.0135468	0.0004163	-0.01396832	0.0122735
Loss Aversion log	0.0627479	0.0627507	-2.68006e-06	0.0052876
Overconfidence log	1.7158590	2.7295960	-1.01373760	0.4706487
Disposition Effect log	0.7309071	-0.5455628	1.27647700	1.2331040

Source: researcher, 2022

b = consistent under Ho and Ha; obtained from xtreg

B = inconsistent under Ha, efficient under Ho; obtained from xtreg

Test: Ho: difference in coefficients not systematic

chi2 (4) = (b-B)'[(V_b-V_B) ^ (-1)] (b-B) = 8.81

Prob>chi2 = 0.0661

APPENDIX XI:Panel EGLS Random effect model

Variable	Coefficient	Std. Error	t statistic	probability
Herd behavior	0.0004163	0.0643681	0.32	0.7470
Loss aversion	0.0627507	0.0293010	2.15	0.0330
Overconfidence	2.7295960	0.2297870	2.18	0.0310
Disposition effect	-0.5455628	0.1913090	-1.08	0.0020
Constant	0.9130920	0.0655430	29.18	0.0000

Source: researcher, 2022

Test Statistics

R-squared	0.68900	**Adjusted R-squared**
0.68610		
Mean Dependent variable	0.257156	**S.D. Dependent variable**
4.067320		
S.E. of Regression	0.795340	**F-statistic**
243.5647		
Prob(F-statistic)	0.000100	**Sum squared residuals**
114.3304		

5% level of significance

Variable	Coefficient	Std. Error	t statistic	probability
Herd behavior Fund size	0.2244580	0.0643681	0.37	0.7090
Loss aversion Fund size	-0.008639	0.0123200	-0.70	0.4840
Overconfidence Fund size	-3.023683	0.9650300	-3.13	0.0020
Disposition effect Fund size	1.056512	0.7409770	29.18	0.1560
Constant	0.913092	0.0655430	29.18	0.0000

APPENDIX XII: Moderation Hierarchical Model

Test Statistics

R-squared	0.583197	**Adjusted R-squared**
0.582364		
Mean Dependent variable	0.653317	**S.D. Dependent variable**
3.198300		
S.E. of Regression	0.743100	**F-statistic**
456.9547		
Prob(F-statistic)	0.000000	**Sum squared residuals**
114.3304		

5% level of significance

APPENDIX XIII: Introduction letter from Masinde Muliro University of Science and Technology

Tel: 0702597361
Tel: 0733120020
email: deansobe@mmust.ac.ke
website:mmust.ac.ke

P.O Box 190
Kakamega 50100
Kenya

MASINDE MULIRO UNIVERSITY OF SCIENCE AND TECHNOLOGY (MMUST)
SCHOOL OF BUSINESS AND ECONOMICS (SOBE)

REF: PBA/H/01-54781/2017 **DATE:** 18th January, 2022

TO: DOUGLAS WAFULA SIMIYU

SUBJECT: SUCCESSFUL DEFENCE OF RESEARCH PROPOSAL, DOUGLAS WAFULA SIMIYU REG. NO. PBA/H/01-54781/2017

The above subject refers.

Following your successful defense of your research proposal titled "***Behavioral Investment Traps, Fund Size and Portfolio Performance of mutual funds in Kenya***" before the School of Business and Economics Graduate Studies Committee, your research proposal is hereby submitted to Director School of Graduate Studies for documentation and processing. Your supervisors are **Prof. Charles Tibbs and Prof. Benedict Ondiek Alala.**

On behalf of the School of Business and Economics Graduate Studies Committee, you are hereby permitted to proceed and collect the data needed to complete your thesis.

By copy of this letter, relevant institutions/bodies are humbly requested to assist you in achieving your endeavor.

Dean
School of Business & Economics(SOBE)
Masinde Muliro University of

PROF. ROBERT K.W. EGESSA
Associate Professor and Dean
School of Business and Economics
Mobile: 0722-672-264, Email: regessa@mmust.ac.ke

APPENDIX XIV: Approval Letter

MASINDE MULIRO UNIVERSITY OF SCIENCE AND TECHNOLOGY (MMUST)

Tel: 056-30870
Fax: 056-30153
E-mail: directordps@mmust.ac.ke
Website: www.mmust.ac.ke

P.O Box 190
Kakamega – 50100
Kenya

Directorate of Postgraduate Studies

Ref: MMU/COR: 509099

31st January 2022

Shmiyu Wafula Douglas,
PBA/H/01-54781/2017,
P.O. Box 190-50100,
KAKAMEGA.

Dear Mr. Wafula,

RE: APPROVAL OF PROPOSAL

I am pleased to inform you that the Directorate of Postgraduate Studies has considered and approved your Ph.D. proposal entitled: ***"Behavioral Investment Traps, Fund Size and Portfolio Performance of Mutual Funds in Kenya."*** and appointed the following as supervisors:

1. Prof. Tibbs Charles - SOBE, MMUST
2. Prof. Benedict Alala - SOBE, MMUST

You are required to submit through your supervisor(s) progress reports every three months to the Director Postgraduate Studies. Such reports should be copied to the following: Chairman, School of Business and Economics Graduate Studies Committee and Chairman, Department of Accounting and Finance. Kindly adhere to research ethics consideration in conducting research.

It is the policy and regulations of the University that you observe a deadline of two years from the date of registration to complete your Ph.D. thesis. Do not hesitate to consult this office in case of any problem encountered in the course of your work.

We wish you the best in your research and hope the study will make original contribution to knowledge.

Yours Sincerely,

MASINDE MULIRO UNIVERSITY
OF SCIENCE AND TECHNOLOGY
DIRECTORATE OF POSTGRADUATE STUDIES
P.O. Box 190 - 50100, KAKAMEGA (K)
Date:..... Sign:.....

Prof. Stephen O. Odebero, PhD, FIEEP
DIRECTOR, DIRECTORATE OF POSTGRADUATE STUDIES

APPENDIX XIV:Research Permit

REPUBLIC OF KENYA

NATIONAL COMMISSION FOR
SCIENCE,TECHNOLOGY & INNOVATION

Ref No: **105524**

Date of Issue: **24/January/2022**

RESEARCH LICENSE

This is to Certify that Mr.. Douglas Simiyu Wafula of Masinde Muliro University of Science and Technology, has been licensed to conduct research in Nairobi on the topic: Behavioral Investment Traps, Fund Size and Portfolio Performance of Mutual Funds in Kenya for the period ending : 24/January/2023.

License No: **NACOSTI/P/22/15370**

105524

Applicant Identification Number

Director General
NATIONAL COMMISSION FOR
SCIENCE,TECHNOLOGY &
INNOVATION

Verification QR Code

NOTE: This is a computer generated License. To verify the authenticity of this document, Scan the QR Code using QR scanner application.

APPENDIX XV: SAMPLE RAW DATA

AFRICA

AFRICAN ALLIANCE KENYA UNIT TRUST SCHEME

AUDITED FINANCIAL STATEMENTS FOR THE YEAR ENDED 31 DECEMBER 2021

African Alliance Kenya Money Market Fund (formerly African Alliance Kenya Shilling Fund)

	Statement of Comprehensive Income	Year ended 31 December 2021 (Kshs '000')	Year ended 31 December 2020 (Kshs '000')
.0	**Income**		
3	Interest Income	14,327	16,601
14	**Total Income**	14,327	16,601
.0	**Expenses**		
2	Professional fees	(3,359)	(3,721)
10	Other Expenses -Distribution	(10,968)	(12,880)
11	**Total Expenses**	(14,327)	(16,601)
0	**Operating Profit/ (loss)**	-	-
0	**Profit /loss after tax**	-	-
)	**Statement of Financial Position**	31 Dec 2021 (Kshs '000')	31 Dec 2020 (Kshs '000')
0	**Non Current Assets**		
14	Other long term Assets -Financial assets at amortised costs	12,038	-
15	**Total Non Current Assets**	12,038	-
0	**Current Assets**		
3	Other trade receivables	267	694
10	Total Clients cash and bank balances	36,033	68,273
12	Other current assets-Financial assets at amortised costs	121,400	112,753
13	**Total Current Assets**	157,700	181,720
14	**TOTAL ASSETS**	169,738	181,720
0	**Non-Current liabilities**		
5	Other non - Current liabilities - Net Assets attributable to holders	167,960	180,060
6	**Total Non-current liabilities**	167,960	180,060
0	**Current Liabilities**		
5	Trade payables	791	795
12	Other Current liabilities -Distribution	987	865
13	**Total Current Liabilities**	1,778	1,660
14	**TOTAL EQUITY AND LIABILITIES**	169,738	181,720

N ALLIANCE

African Alliance Kenya Enhanced Yield Fund			
A)	**Statement of Comprehensive Income**	**Year ended 31 December 2021 (Kshs '000')**	**Year ended 31 December 2020 (Kshs '000')**
1.0	**Income**		
1.3	Interest Income	**1,741**	1,019
1.13	Other Income - **Income Equalisation**		57
1.14	**Total Income**	**1,741**	**1,076**
2.0	**Expenses**		
2.2	Professional fees	**(170)**	(518)
2.10	Other Expenses -Distribution	**(1,571)**	(558)
2.11	**Total Expenses**	**(1,741)**	(1,076)
3.0	**Operating Profit/ (loss)**	**-**	-
7.0	**Profit /loss after tax**	**.**	.
B)	**Statement of Financial Position**	**31 Dec 2021 (Kshs '000')**	**31 Dec 2020 (Kshs '000')**
1.0	**Non Current Assets**		
1.14	Other long term Assets - Financial assets at fair value through profit or loss	**12,396**	
1.15	**Total Non Current Assets**	**12,396**	-
2.0	**Current Assets**		
2.1	Clients debtors		
2.3	Other trade receivables	**1,048**	643
2.10	Total Clients cash and bank balances	**11,489**	597
2.12	Other current assets-Financial assets at fair value through profit or loss	**11,974**	11,705
2.13	**Total Current Assets**	**24,511**	**12,945**
2.14	**TOTAL ASSETS**	**36,907**	**12,945**
4.0	**Non-Current liabilities**		
4.5	Other non - Current liabilities - Net Assets attributable to holders	**36,615**	12,426
4.6	**Total Non-current liabilities**	**36,615**	**12,426**
5.0	**Current Liabilities**		
5.5	Trade payables	**27**	519
5.12	Other Current liabilities -Distribution	**265**	.
5.13	**Total Current Liabilities**	**292**	**519**
5.14	**TOTAL EQUITY AND LIABILITIES**	**36,907**	**12,945**

AMANA CAPITAL LIMITED
STATEMENT OF COMPREHENSIVE INCOME
FOR THE YEAR ENDED 31 DECEMBER 2020

	Notes	2020 Kshs	2019 Kshs
Revenue	3 (a)	7,189,037	15,202,418
Other income	3 (b)	19,159	569,577
Operating Expenses	4	(15,709,783)	(29,115,626)
Operating Loss		**(8,501,587)**	**(13,343,631)**
Tax charge	6 (a)	-	3,902,293
Net loss after Tax		**(8,501,587)**	**(9,441,338)**
Other comprehensive income		-	-
Total comprehensive profit/loss		**(8,501,587)**	**(9,441,338)**

The notes set out on pages 12 to 24 form an integral part of the financial statements.

ANANA CAPITAL LIMITED
STATEMENT OF CASH FLOWS
FOR THE YEAR ENDED 31 DECEMBER 2020

	Notes	2020 Kshs	2019 Kshs
Cash Flow from Operating Activities			
Net profit/Loss before tax		(8,501,587)	(13,343,631)
Adjustments for:			
Depreciation	7	881,774	775,013
Prior year adjustment		-	-
Operating loss before working capital changes		*(7,619,813)*	*(12,568,618)*
Changes in working capital:			
Decrease/(increase) in trade and other receivables	9	(2,184,052)	(3,209,184)
Increase/(decrease) in trade and other payables	13	1,221,648	(1,270,366)
(Increase) in amounts due from related parties	12	(50,000)	(550,339)
Cash used in operating activities		(8,632,218)	(17,598,507)
Income tax paid	6 (c)	(239,030)	(475,670)
Net cash flows used in operations		**(8,871,248)**	**(18,074,177)**
Cash Flow from Investing Activities			
Purchase of property and equipment	7	(160,080)	(1,259,513)
Increase in un-allocated equity		14,346,667	15,614,523
Movement in financial assets	8	(9,993,047)	(100,865)
Net cash used in investing activities		4,193,540	14,254,145
Cash Flow from financing Activities			
Repayment of shareholders loans		-	(250,837)
Decrease in cash and cash Equivalents		(4,677,708)	(4,070,869)
As at the beginning of the year		5,569,842	9,640,711
As at the end of the year	10	**892,135**	**5,569,842**

The notes set out on pages 12 to 24 form an integral part of the financial statements.

AMANA UNIT TRUST GROWTH FUND
STATEMENT OF FINANCIAL POSITION
AS AT 31 DECEMBER 2021

Assets	Notes	2021 KES	2020 KES
Investments	9	9,041,025	8,563,519
Bank balances	10	1,116,722	5,549,699
Dividend Receivable	11	36,800	-
		10,194,547	**14,113,218**
Represented by			
Unit holders fund	14	10,505,765	14,915,520
Fair value reserve	13	(371,134)	(1,073,788)
Total unit holders fund		10,134,631	13,841,732
Accrued liabilities	12	59,916	271,486
		10,194,547	**14,113,218**

The Financial statements set out on page 14 to 24, were approved by the Amana Capital Limited on 31 MAR 2022 as Amana Capital Limited does not have a trustee in place and is not currently accepting new funds.

Director

Director

The notes set out on pages 20 to 28 form an integral part of the financial statements.

Britam

With you every step of the way

Britam Asset M

Audited Financial Statements fo

The Board of Directors is pleased to announce t

STATEMENT OF COMPREHENSIVE INCOME	31 Dec 2018 Shs'000	31 Dec 2017 Shs'000
Income		
Fund management fees	721,901	856,436
Unrealised gain / (loss) on investments	39,449	11,540
Realised loss on investments	(840)	(469)
Interest income	2,662	4,350
Dividend income	2,104	2,870
Total Income	**765,276**	**874,727**
Expenses		
Direct expenses	103,894	76,122
Professional fees	29,112	14,289
Legal fees	4,550	4,750
Employee costs	203,975	207,401
Rent expenses	19,739	15,807
Directors emoluments	7,509	4,800
Operational and administration expenses	211,869	154,569
Depreciation expense	6,667	7,095
Amortization expense	45,684	22,845
Total Expenses	**632,999**	**507,678**
Operating Profit	132,277	367,049
Finance costs	(7,016)	(8,423)
Profit before tax	**125,261**	**358,626**
Income tax expense	(83,316)	(50,817)
Profit after tax	**41,945**	**307,809**

OTHER DISCLOSURES	31 Dec 2018 Shs'000	31 Dec 2017 Shs'000

Statement of profit or loss and other comprehensive income

	Year ended 31 December 2021 Shs '000	2020 Shs '000
Income		
Interest income	1,249,619	996,986
Realised gains/(losses) on investments	93,208	(3,500)
Total income	1,342,827	993,486
Service fees	(483,498)	(316,749)
Total expenses	(483,498)	(316,749)
Profit before tax	859,329	676,737
Income tax expense	-	-
Profit for the year	859,329	676,737
Other comprehensive income, net of tax	-	(9,705)
Total comprehensive income for the year	859,329	667,032

The above Statement of Comprehensive Income is an extract from the Financial Statements which have been audited by PricewaterhouseCoopers LLP and have received an unqualified opinion.

Genesis Kenya Investment Management Limited
Financial Statements
For the year ended 31 December 2012

Statement of comprehensive income

	Notes	Year ended 31 December 2012 Shs	2011 Shs
Revenue	5	271,010,944	225,341,148
Other income	6	144,300	439,500
Administrative expenses		(170,299,149)	(142,810,020)
Finance income	7	8,679,580	4,726,398
Profit before income tax		109,535,675	87,697,026
Income tax expense	10	(34,931,977)	(28,392,472)
Profit for the year		74,603,698	59,304,554
Other comprehensive income (net of tax)		-	-
Total comprehensive income		74,603,698	59,304,554

The notes on pages 10 to 27 are an integral part of these financial statements.

Statement of changes in equity (continued)

	Notes	Share capital	Capital redemption reserve	Retained earnings	Proposed dividends	Total equity
		Shs	Shs	Shs	Shs	Shs
Year ended 31 December 2011						
At start of year		10,000,000	8,750,000	42,814,091	50,000,000	111,564,091
Comprehensive income						
Net profit for the year		-	-	59,304,554	-	59,304,554
Other comprehensive income, net of tax		-	-	-	-	-
Total comprehensive income for the year		10,000,000	8,750,000	102,118,645	50,000,000	170,868,645
Transactions with owners						
Dividends:						
- Final for 2010		-	-	-	(50,000,000)	(50,000,000)
- Proposed final for 2011	11	-	-	(30,000,000)	30,000,000	-
- Interim paid for 2011	11	-	-	(20,000,000)	-	(20,000,000)
Total distributions to owners		-	-	(50,000,000)	(20,000,000)	(70,000,000)
At end of year		10,000,000	8,750,000	52,118,645	30,000,000	100,868,645

The notes on pages 10 to 27 are an integral part of these financial statements.

THE MADISON BALANCED FUND
ANNUAL REPORT AND FINANCIAL STATEMENTS
FOR THE YEAR ENDED 31 DECEMBER 2020

STATEMENT OF PROFIT OR LOSS

	Notes	2020 Shs	2019 Shs
Investment income	2	807,289	1,538,055
Fair value gain on investments	3	-	56,538
Total income		807,289	1,594,593
IFRS 9 impairment provisions	4	(19,780)	9,961
Profit before tax	5	787,509	1,604,554
Tax	6	-	(8,771)
Profit for the year		787,509	1,595,783

THE MADISON MONEY MARKET FUND
ANNUAL REPORT AND FINANCIAL STATEMENTS
FOR THE YEAR ENDED 31 DECEMBER 2021

STATEMENT OF PROFIT OR LOSS

	Notes	2021 KShs	2020 KShs
Investment income	2	231,720,430	175,923,368
Operating expenses	3.1	(50,070,372)	(36,839,605)
IFRS 9 impairment provisions	3.2	(7,900,229)	(3,849,927)
Profit before tax	4	173,749,829	135,233,836
Tax		-	-
Profit for the year		173,749,829	135,233,836

The notes on pages 15 to 28 form an integral part of these financial statements. report of the independent auditor - pages 8 to 10.

SANLAM

GROUP STATEMENT OF FINANCIAL POSITION

at 31 December 2018

R million	Note	2018	2017
ASSETS			
Equipment	1	1 587	876
Owner-occupied properties	2	2 010	963
Goodwill	3.1	19 985	4 158
Value of business acquired	3.2	9 985	1 930
Other intangible assets	4	1 082	517
Deferred acquisition costs	5	3 446	3 659
Long-term reinsurance assets	6	1 971	1 063
Investments	7	690 744	656 020
Properties	7.1	21 349	11 505
Equity-accounted investments	7.2	18 361	26 476
Equities and similar securities	7.3.1	184 787	201 095
Interest-bearing investments	7.3.2	211 770	185 363
Structured transactions	7.3.2	21 341	15 381
Investment funds	7.3.2	190 005	177 235
Cash, deposits and similar securities	7.3.2	43 131	38 965
Deferred tax	8.1	2 249	2 083
Assets of disposal groups classified as held for sale	31	139	321
General insurance technical assets	9	9 540	6 400
Working capital assets		72 863	55 593
Trade and other receivables	10.1	44 712	33 633
Cash, deposits and similar securities	34	28 151	21 960
Total assets		815 601	733 583
EQUITY AND LIABILITIES			
Capital and reserves			
Share capital and premium	11	5 657	22
Treasury shares		(3 934)	(3 811)
Other reserves	12	10 495	9 084
Retained earnings		57 288	52 125
Shareholders' fund		69 506	57 420
Non-controlling interest	13	12 111	6 017
Total equity		81 617	63 437
Long-term policy liabilities	14	543 785	524 441
Term finance	15	7 413	6 426
Margin business		3 654	1 918
Other interest-bearing liabilities		3 759	4 508
Structured transaction liabilities	7.3.2	15 629	4 187
External investors in consolidated funds	34	66 146	62 329
Cell owners' interest		3 305	3 217
Deferred tax	8.1	5 460	2 435
General insurance technical provisions	9	37 950	18 668
Working capital liabilities		54 296	48 443
Trade and other payables	10.2	50 761	46 507
Provisions	16	450	333
Taxation		3 085	1 603
Total equity and liabilities		815 601	733 583

Non-distributable reserve	Foreign currency translation reserve	Retained earnings	Subtotal: equity holders Retained earnings	Consolidation reserve	Total: equity holders	Non-controlling interest	Total equity
9 876	552	47 255	53 915	(525)	53 390	5 696	59 086
–	(1 044)	10 316	9 272	–	9 272	908	10 180
–	–	10 923	10 923	–	10 923	1 067	11 990
–	(1 044)	(607)	(1 651)	–	(1 651)	(159)	(1 810)
–	–	(270)	(291)	172	(119)	(19)	(138)
–	–	340	340	–	340	36	376
100	–	(100)	–	–	–	–	–
–	–	47	47	(47)	–	–	–
–	–	(5 400)	(5 400)	–	(5 400)	(796)	(6 196)
–	–	(63)	(63)	–	(63)	192	129
9 976	(492)	52 125	57 820	(400)	57 420	6 017	63 437
–	–	(429)	(429)	–	(429)	(12)	(441)
–	1 717	11 981	13 698	–	13 698	1 402	15 100
–	–	11 627	11 627	–	11 627	1 175	12 802
–	1 717	354	2 071	–	2 071	227	2 298
–	–	–	5 635	–	5 635	–	5 635
–	–	(289)	(412)	(610)	(1 022)	(29)	(1 051)
–	–	358	358	–	358	26	384
178	–	(178)	–	–	–	–	–
–	–	(141)	(141)	141	–	–	–
–	–	(6 053)	(6 053)	–	(6 053)	(867)	(6 920)
–	(15)	(86)	(101)	–	(101)	5 574	5 473
10 154	1 210	57 288	70 375	(869)	69 506	12 111	81 617

Group and Company statement of profit or loss

	Note	GROUP Year ended 31 December 2019 KShs'000	GROUP Year ended 31 December 2018 KShs'000	COMPANY Year ended 31 December 2019 KShs'000	COMPANY Year ended 31 December 2018 KShs'000
Interest income	6	20,960,926	19,247,721	1,579	16,214
Interest expense	7	(7,613,186)	(7,118,076)	-	-
Net interest income		**13,347,740**	**12,129,645**	**1,579**	**16,214**
Credit impairment losses	23 (d)	(3,150,559)	(2,064,462)	-	-
Net income after credit impairment losses		**10,197,181**	**10,065,183**	**1,579**	**16,214**
Fees and commission revenue	8	5,652,635	4,997,605	-	-
Fees and commission expense	9	(545,202)	(442,225)	-	-
Net fees and commission income		**5,107,433**	**4,555,380**	**-**	**-**
Trading revenue	10	5,386,939	5,350,670	-	-
Net income from financial instruments at fair value through profit and loss	11 (a)	172,942	40,938	-	-
Other income	12	48,760	16,842	1,924,000	2,500,016
Other gains and losses on financial instruments	11 (b)	716,999	891	-	-
Net trading and other income		**6,325,640**	**5,409,341**	**1,924,000**	**2,500,016**
Total income		**21,630,254**	**20,029,903**	**1,925,579**	**2,516,230**
Employee benefits expense	13	(6,633,135)	(5,894,324)	-	-
Depreciation and amortisation expense	26, 28	(704,364)	(667,536)	-	-
Depreciation on right-of use assets	27	(357,470)	-	-	-
Other operating expenses	14	(6,076,275)	(4,424,078)	(21,769)	(26,866)
Finance costs	15	(149,246)	(96,208)	(738)	(860)
Total operating expenses		**(13,920,490)**	**(11,082,146)**	**(22,507)**	**(27,726)**
Profit before income tax		**7,709,764**	**8,947,757**	**1,903,072**	**2,488,504**
Income tax expense	16	(1,329,148)	(2,670,591)	(555)	(4,938)
Profit for the year		**6,380,616**	**6,277,166**	**1,902,517**	**2,483,566**
Earnings per share					
Basic and diluted (KShs per share)	17	16.14	15.88	4.81	6.28

STATEMENT OF COMPREHESIVE INCOME	Notes	2019 KShs	2018 KShs
GROSS INCOME			
Revenue	4	35,253,649	35,213,712
Total Income		35,253,649	35,213,712
Less:			
Direct Service Costs	5	273,710	578,673
Administative Expenses	6	29,296,615	25,119,658
Establishment Expenses	7	4,763,739	4,963,274
Finance Costs	8	858,374	862,133
Total Expenses		35,192,439	31,523,738
Profit Before Tax		61,211	3,689,974
Corporation Income Tax	9	(18,363)	(1,106,992)
Profit/(Loss) After Tax		42,847	2,582,982

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The Moderating Role of Fund Size on the Relationship between Overconfidence and Portfolio Financial Performance of Mutual Funds in Kenya

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ABSTRACT

A decline in financial performance has recently been observed for a number of mutual funds in Kenya. Overall, differences in important metrics show inconsistent economic performance among Kenya's mutual funds year over year. It was critical to determine whether overconfidence bias would be to blame for the portfolio performance trend while evaluating this. The goal of this study was to ascertain the impact of overconfidence bias on mutual funds' performance in Kenya and to scrutinize the moderating effect of fund size on the relationship between overconfidence and mutual funds' portfolio performance in Kenya. The study employed a causal research design. Study panel data were gathered. Secondary information was gathered from previously released financial statements of mutual funds during a period of eleven years, from 2011 to 2021. With the use of the data gathering tool, secondary data was gathered. Stata software version 15 was used to conduct the data analysis. A test for stationarity called the unit root test was conducted. Regression using panel data was utilized. Regression analysis with fixed and random effects was utilized. The following tests were run to determine the validity and reliability of the data: the Levin-Lin-Chu test, the Augmented Dickey-Fuller test, the Im-Pesaran and Shin tests, the Philips-Peron test, and the Hadri 2000 test. The Jarque-Bera test was used to gauge normality. In the panel analysis, the random effects model and the fixed effects model were separated using the Hausman test. The variables were distributed properly, as shown by the skewedness and kurtosis tests. There was no approaching multicollinearity among the variables, according to the pairwise correlation study. The findings showed that Overconfidence had a positive substantial influence on the financial performance of mutual funds in Kenya with a regression coefficient of 2.7295960. The study additionally found that fund size influences the financial performance of mutual funds in Kenya by negatively moderating the relationship between overconfidence and mutual funds' financial performance in Kenya with a coefficient of -3.023683. Based on the results of the multiple regression analysis, it should be underlined when making financial investment decisions that overconfidence, with a regression coefficient of 2.7295960, had a favorable but significant impact on the financial performance of Kenyan mutual funds. The study, therefore, recommends that overconfidence should be emphasized during financial investment decision-making processes.

Keywords: Overconfidence; Mutual Funds' Portfolio Financial Performance; Fund Size; Mutual Funds; Kenya

I. INTRODUCTION

A stock market is advantageous for investors since it offers chances to build money. In order to mobilize savings and investments and to plan the production of products and services that create jobs, healthy stock markets can be quite important. In the end, this improves the nation's overall economic development. Long-term investors in particular boost the economy's potential for production with their riches. The preferences of individual investors for a company's stock in terms of risks, liquidity, returns, and other non-financial variables have a significant impact on the financial markets.

Hayat and Anwar (2016) carried out a study on the impact of Behavioral Biases on Security Decision making processes with the moderating role of Financial Knowledge in the Pakistan stock market. The research concentrated on the influence of behavioral factors on the financial making of investment decisions by using financial knowledge as a moderating role in Pakistan. A simple valuation questionnaire was used for data collection as of one hundred fifty eight stockholders transacting in the stock market of Pakistan. The outcomes indicated that herding behavior; overconfidence as well as disposition effects have substantial constructive influence on financial investment decision

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The Moderating Role of Fund Size on the Relationship between Disposition effect and Portfolio Financial Performance of Mutual Funds in Kenya

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ABSTRACT

Several Kenyan mutual funds' financial performance has recently been on the downturn. Overall, variations in critical criteria reveal variable economic performance over time among Kenya's mutual funds. It was crucial to assess whether the portfolio performance pattern may be attributed to behavioral investing traps. The objective of this study was to determine how the disposition effect affected the financial performance, and how closely the fund size affected the relationship between behavioral investment traps and mutual funds' performance. The research method used was a causal research design. Data from a study panel were gathered. Over an eleven-year period, from 2011 to 2021, secondary data was obtained from mutual funds' previously published financial statements. Secondary data was acquired using the data collection tool. Data analysis was done with Stata software, version 15. The unit root test, a stationarity test, was carried out. Panel data regression was applied. The use of regression analysis with fixed and random effects was also carried out. The Levin-Lin-Chu test, the Augmented Dickey-Fuller test, the Im-Pesaran and Shin tests, the Philips-Peron test, and the Hadri 2000 test were all used to evaluate the validity and reliability of the data. Jarque-Bera test was employed to evaluate normality. In the panel analysis, the random effects model and the fixed effects model were separated using the Hausman test. The variables were distributed properly, as shown by the skewedness and kurtosis tests. There was no approaching multicollinearity among the variables, according to the pairwise correlation study. The results of this study revealed that disposition effect had a negative but substantial influence on financial performance of mutual funds in Kenya with a regression coefficient of -0.5455628. The study additionally found that fund size with a probability value of 0.1560 which was not significant. This therefore shows that fund size does not have a significant effect on the relationship between disposition effect and mutual funds financial performance. The results of this study demonstrated that the disposition effect had a negative but considerable impact on the financial performance of the Kenyan mutual fund. This suggested that the financial performance of mutual funds in Kenya is subject to a sizeable yet adverse disposition effect. According to the results of the multiple regression study, the financial performance of mutual funds in Kenya was negatively but significantly impacted by the disposition effect. But when institutional investors and fund managers are dissecting financial investing decisions, they should not use behavioral investment traps in isolation. Based on the findings, stakeholders should be aware of the information that fund managers in institutional investors are not insusceptible from behavioral biases arising from behavioral finance in the financial investment decision making processes.

Keywords: Disposition effect; Mutual Funds' Portfolio Financial Performance; Fund Size; Mutual Funds; Kenya

I. INTRODUCTION

Stockholders are seen to be balanced wealth builders who also cast a shadow over theories of current financial regulations in the theory of conventional finance. The Capital Asset Pricing Theory and the Modern Portfolio Theory are the two most important concepts in security investment and decision-making processes. The results of numerous empirical studies in countless financial markets have shown that financial investment decision-making is not always based on the fundamentals of theories of modern finance, and as a result, behavioral finance studies has recently emerged as a significant model in security investment and decision-making (Ogunlusi & Obadeni, 2019; Bakar & Yi, 2016; Raut et al., 2018). In cases where there are no satisfactory answers provided by contemporary financial principles, behavioral finance attempts to explain investor behavior (Areiqat et al., 2019).