INDIVIDUAL INVESTOR DYNAMICS AND STOCK MARKET PARTICIPATION DECISION AMONG SECONDARY SCHOOL TEACHERS FROM SELECTED SUB COUNTIES IN NAKURU COUNTY, KENYA

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A Thesis Submitted to the Board of Graduate Studies in Partial Fulfillment of the Requirements for the Conferment of the Degree of Doctor of Philosophy in Business Administration (Finance) of the University of Kabianga

UNIVERSITY OF KABIANGA

DECLARATION AND APPROVAL

Declaration

This thesis is my original work and has not been presented for the conferment of a degree or for an award of a diploma in this or any other University:-

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DEDICATION

Dedicated to God Almighty for the strength to pursue my studies, my parents Robert and Grace, my husband Cheruiyot, my son Jesse, my sisters Feliscus, Lydia, Flora and Naomi for support and encouragement in pursuit of my studies

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ABSTRACT

Stock market makes significant contribution to the general financial well-being of a country and individual investors. Despite the numerous benefits of stockholding, few individuals participate in the stock market. The purpose of this study was to investigate the relationship between individual investor dynamics and stock market participation decision among secondary school teachers from selected sub counties in Nakuru County, Kenya. Specifically, the study investigated the relationship between financial wealth, social interaction, risk aversion, financial literacy and individual investor stock market participation decision among secondary school teachers. The study also sought to establish the moderating effect of investment culture on the relationship between individual investor dynamics and stock market participation decision of secondary school teachers. The study was guided by the Modern Portfolio Theory. The study employed cross-sectional survey research design. The target population comprised of 1,609 secondary school teachers from selected sub counties in Nakuru County. Data was collected using structured questionnaires. A sample of 320 secondary school teachers was selected using stratified proportionate random sampling technique. Data was analyzed using descriptive and inferential statistics with the aid of SPSS version 25. Research hypotheses were tested at 0.05 significant levels. Correlation coefficient was used to establish the nature of correlation between dependent and independent variables. Regression analysis was used to establish the relationship between explanatory variables and the dependent variable. The study found that there exists positive significant relationship between financial wealth of individual investors and stock market participation decision ($r = 0.419$, $p < 0.05$); positive significant non-causal relationship between social interaction of individual investors and stock market participation decision ($r = 0.331$, $p < 0.05$); risk aversion of individual investors and stock market participation decision was positive and statistically significant ($r = 0.325$, $p < 0.05$) and that there exists a positive significant non- causal relationship between financial literacy of individual investors and stock market participation decision ($r = 0.313$, $p < 0.05$). The study established that jointly the independent variables included in the study could explain 51.4% ($R^2=0.514$) of variation in the stock market participation decision. The study concludes that individual investor dynamics of financial wealth, social interaction, risk aversion and financial literacy are important since the study found that they significantly explain stock market participation decision. The study also concludes that investment culture has a positive significant moderating effect on the relationship between social interaction and stock market participation decision (R^2 changed from 0.126 to 0.166, $p<0.05$). The study further concludes that investment culture has insignificant moderating effect on the effect of individual investor dynamics of financial wealth, risk aversion and financial literacy and stock market participation decision among secondary school teachers. The study recommends that the Nairobi Securities Exchange should sensitize Kenyans on the benefits of investing in the stock market in a bid to enhance the participation of individual investors excluded from the investment scene and that the Capital Markets Authority should implement awareness and public education in order to encourage individual investor participation in the stock market. There is need for

similar study to be carried out on a broader scale in Kenya. The study also recommends that further research should be carried out to test and validate the research findings using a quantitative approach. The study makes a contribution to the limited existing body of knowledge on individual dynamics that could explain the limited individual investor stock market participation. The study is expected to benefit the Policy makers both the national and county government and capital markets authority that can use the research findings in policy formulation and implementation regarding individual investor participation in the stock market.

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LIST OF ABBREVIATIONS AND ACRONYMS

CMA	Capital Markets Authority
EFA	Exploratory Factor Analysis
EMH	Efficient Market Hypothesis
EPS	Earnings Per Share
GDP	Gross Domestic Product
IPO	Initial Public Offering
IQ	Intelligent Quotient
KMO	Kaiser-Mayer Olkin
MRA	Moderated Regression Analysis
MMR	Moderated Multiple Regression
MPT	Markowitz Portfolio Theory
NACOSTI	National Commission for Science, Technology and Innovation
NSE	Nairobi Securities Exchange
OLS	Ordinary Least Square
PCA	Principle Component Analysis
SPSS	Statistical Package for Social Sciences
TSC	Teachers Service Commission
UK	United Kingdom
US	United States
USD	United States Dollar
VIF	Variance Inflationary Factor

DEFINITION OF TERMS

The following terms were operationalized as follows:-

Culture: Culture refers to the structure of shared values, beliefs, and attitudes that affects individual perceptions, inclinations, and conducts (Hofstede, 1980). According to the study culture is operationalized to encompass the beliefs and behavior developed over time that determines how individuals involve themselves in various investment activities.

Financial Literacy: Refers to the skills that enable individuals to make informed decisions through their knowledge of financial management (Lodhi, 2014). According to the study, financial literacy is the understanding that allows individuals to make proper and prudent decisions with regards to management of their financial resources and the general awareness of investors with regards to investment opportunities available at the security exchange.

Financial Wealth: According to Callado, González and Utrero (2014) financial wealth refers to the amount of money an individual accumulates. According to the study financial wealth is the abundance of valuable resources in both real and financial assets which can be invested in financial securities.

Herding: Bikhchandani and Sharma (2000) define herding as the situation whereby an investor's actions are influenced by the actions of others such that the investor changes their investment decision in order to imitate the actions of other investors in the market either to invest or not to invest. According to the study, herding is the condition where

individual investors emulate the decisions of other people in the stock market instead of following their own information and beliefs about their investment decision in the stock market.

Individual Investor Dynamics: According to Lodhi (2014) individual investor dynamics are the forces which influence individual investors to make investment decisions. According to the study, individual investor dynamics refer to the factors that influence the behavior of individual investors in their investment decisions on participating in the stock market and their level of trading with the stocks invested in. The dynamics selected for this study are financial wealth, social interaction, risk aversion and financial literacy.

Individual Investor: Levusaskait (2010) defines individual investors as those individuals who are investing on their own. According to the study, individual investors are the individuals who buy and sell financial securities on their own behalf for their own personal account and not for another organization. This study selected secondary school teachers as the individual investors.

Investment: This refers to the employment of funds for a period of time with the purpose of increasing investor's wealth in the future (Levusaskait, 2010). According to the study, investment refers to deferring current consumption for greater benefits in the future that compensates the individual for the time of making the investment, the level of inflation and the risk involved by investing in stocks.

Risk Aversion: Levusaskait (2010) defined risk aversion as the uncertainty about the actual return that will be earned from an investment. According to the study risk aversion

refers to the behavior of investors of trying to avoid uncertainties in their investment decision.

Social Interaction: Ammann and Schaub (2016) refer to social interaction as human interactions and how information is shared among individuals. According to the study, social interaction refers to communication between people and the investment behavior that follow as a result of that interaction.

Stock Market Participation: Brunnermeier and Nagel (2008) refer to stock market participation as investing in financial securities such as stocks and bonds and the level of trading activity related to the financial securities invested in by the investors. According to the study stock market participation is the trading of individual investors through buying and selling of financial securities.

CHAPTER ONE

INTRODUCTION

1.1 Overview

This chapter outlines the purpose of the study, the background, the statement of the problem, the general objective of the study, specific objectives of the study, research hypotheses, justification of the study, significance of the study, scope and limitation, and the assumption of the study.

1.2 Background of the Study

In a stock market, stocks, bonds and other securities are sold. Investment in shares is a common investment option which is preferred because it gives the investor the right to specific voting rights in the decision making of the company. The stock market provides an avenue for the buyers and sellers of shares to interact and transact. The share prices are dependent on the market forces of supply and demand by the participants. Apart from shares, bonds or debentures are also traded in the securities exchange. A bond is a security issued by a government body or a corporation for a specified period. It becomes due for payment at maturity and pays fixed periodic interest installments called coupons. Unlike shares, a bondholder does not possess any ownership rights. The investor who buys the bond becomes a creditor of the issuer (Levisauskait, 2010).

1.2.1 History of Investment

Emergence of investment as a trade can be traced back to the late 1800s when investment trusts were used as main investment vehicles in Great Britain. In the United States,

closed-end funds flourished during the 1920s with the emergence of open-ended funds. Exchange traded funds and hedge funds developed in the late 1940s. Investment as a trade later spread to other countries around the various continents (Anderson, Born and Schnusenberg, (2010). Investment sector has since gradually grown over the years.

Securities exchange is an important avenue for raising funds for most companies. It permits companies to sell securities to investors thereby allowing them to raise funds for growth and expansion. Investors can quickly and easily sell securities due to the liquidity offered by the securities exchange. This makes investment in stocks an attractive option against other illiquid investments such as real estates (Aduda, Masila and Osongo, 2012). Carmichael and Pomerleano (2002) are of the view that the capital markets create better platforms for marshalling both local and international capital. Therefore the securities exchange market plays a critical role in an economy.

Rutterford and Hannah (2016) observed that in the early 1900s, most securities both in equity and bond markets were held by individual investors who made their investment decision grounded on the information they had, or who relied on information they receive from family and friends. It appears therefore that initially the individual investors were more active compared to the institutional investors. Another study that evaluated stock ownership in the UK (Rutterford, Green, Maltby and Owens 2010) agrees that institutional ownership of UK Corporate securities was less than 10% before the First World War. The study revealed that there were just but 505 institutional investors from a sample of 33,078 shareholders in the 261 registers that were obtained from 47 UK

companies for the period 1870-1935 with the rest being owned by retail investors. Institutional investors owned only 4.2% of the value of these shares from 1900-1909.

This is further supported by another study by Rutterford and Hannah (2016) which observed that retail investors dominated the securities market up to about 1952 when the institutional investors took over the market. The study observes that by 2010, retail investors owned 42% in domestic holdings of United States shareholding with the 58% being owned by mutual funds, pension funds, exchange traded funds and insurance funds. Similarly, in the United Kingdom, ownership by retail investors stood at 54% in 1963 but in 2016, it was observed to be low at 11%. The study attributed the growth of institutional investment to the expansion of stockholding to the less rich individuals who lacked experience in the management of their investments.

Thus, the growth in institutional investment could have been as a result of the individuals who sought professional managers coupled with technologies that expedited cheaper data processing and lowered transaction costs and the numerous government policies that promoted investment by institutional investors (Rutterford & Hannah 2016). Although initially there were many individual investors participating in the stock market, their current participation rates have dwindled over time. Ameriks and Zeldes (2000) reported that many individual households do not participate in the market for stocks at any given point in time. The need to establish the explanation for the low individual investor participation in the stock market cannot be overemphasized. The current study investigated this phenomenon by focusing on secondary school teachers in Nakuru County.

Securities market in Africa has been observed to be generally underdeveloped and especially the Sub-Saharan financial system which has been found to be the least developed based on pointers of economic progress. Allen, Otchere and Senbet (2011) observed that there were widespread financial segment transformations in Africa that included policy procedures with the goal of developing financial markets principally in Sub-Sahara Africa. The study further revealed that African stock markets encounter key challenges in terms of depth in both numbers in listing and market capitalization. The findings showed that stock exchange markets of Africa, excluding Egypt and South Africa, remained the least compared to other regions in the number of companies listed and market capitalization.

This clearly shows the low participation rates for investors in many African countries. Allen, *et al*., (2011) reported that despite the rapidly growing stock exchanges, African stock markets were not only lean but also illiquid except for the reputable markets of Egypt and South Africa. It was observed that the value of stock traded as a proportion of GDP was insignificant (Allen *et al.,* 2011). In particular, East Africa markets liquidity was shown to be very low; in most cases having less than 1% of GDP of values in stocks traded. There was need to provide explanations for this limited stock market participation and this study sought to establish the relationship between individual investor dynamics of financial wealth, social interaction, risk aversion, financial literacy and stock market participation decision for secondary school teachers in Nakuru County.

1.2.2 Individual investors and stock market participation decision

Over the years the stock market has been dominated by institutional investors (Rutterford and Hannah 2016; Rutterford, *et al*., 2010). Rutterford and Hannah (2016) report that there was low individual investor participation in the stock market which stood at 11% for the UK companies in 2016. Further, the study reported a low individual investor participation in the US stock exchange which stood at 42% in the year 2010. Ameriks and Zeldes (2000) also reported that many individual investors do not participate in the market for stocks at any given point in time. Similar findings were also observed by Allen, *et al*., (2011) who revealed that African stock markets had few number of companies listed and were also limited in capitalization.

Several previous studies have attempted to explain the behavior of individual investors in the financial markets (Aduda, *et al.,* 2012; Wendo, 2015; Brown & Graff, 2013). Previous studies agree that individual investment is more important than focusing on the entire security markets. Shiller (2003), for instance suggested that stock movements of individual securities were more important than the movements of the entire stock markets. Aduda, *et al.,* (2012) conducted a study that sought to evaluate the behavior and the performance of individual investors for companies listed at the Nairobi Securities Exchange. The study found that individual investors behave differently when making the investment decision with some making decisions rationally while others make irrational decisions in their investment. The investors can also be speculative meaning that they invest in the short run or they can be long term investors or both.

Barber and Odean (2000) conducted a study to establish the influence of trading in stock market on the wealth of individual investors. The study found that the individual investors who traded more frequently earned lower returns when compared with the investors who bought and held the securities for longer periods. This further suggests that individual investors trade speculatively without making informed decisions about managing their investments.

In a subsequent study Barber and Odean (2011) examined the behavior of individual investors. Their main focus was on the trading of these investors in individual stocks. The study's findings reveal that individual investors tend to hold portfolios that are not well diversified because they do not have sufficient information about the securities resulting in low returns even before considering transaction costs. The study further reveals that individual investors prefer to take up investments in the stocks of companies close to where they stay or close to their work place. The study further observed that the media also influenced the behavior of individual investors and that investors purchased the stocks that were given attention in the news. This suggests that investors lack information about the securities traded and hence have inadequate ability to select the securities they can use to form portfolios leading to poor returns.

Another study by Barber, Lee, Liu and Odean (2008) sought to estimate the amount of loses incurred by individual investors as a result of their trading activities in Taiwan. The study showed that the economic losses incurred were significant accounting for 2.2% of the Country's Gross Domestic Product. This was also equated to 2.8% of the total annual income of an individual. This further pointed out the behavior of individual investors to

make uninformed decisions in their investment activities. As a result, the study concluded that individual investors should not engage in trading in the financial markets. Instead they should invest in well diversified portfolios and hold them.

Other studies suggest that individual investors are irrational even in obvious circumstances. Elton, Gruber and Busse (2004) sought to evaluate whether individual investors were rational in their investment decision making in the Standard and Poor's choice of index funds. The study investigated investors' choices of index funds where costs varied across funds with the funds having almost comparable investment strategies which predicted the anticipated differences in performance. Despite this predictability, investors invested in very costly securities with expected poorer performance. This means that individuals need to have proper knowledge and skills if at all they are to benefit from trading in the financial markets. The findings further suggested that the individual investors preferred to make investment in the stocks of companies closer to them because they have information advantage as a result of proximity and familiarity. However, this is not a justification to have too much of one investment in a portfolio. Therefore, individuals should form well diversified portfolios in order to reduce risk and earn high returns from investment in financial securities.

In another study, Constantinides, Donaldson and Mehra (2002) sought to examine the reasons for anomalies in the financial markets. The study attempted to establish the reasons why few individuals participated in the stock market. The study noted that financial theory was yet to provide explanations for the financial anomalies despite financial markets playing a vital role in capital allocation. The study suggested that

ignoring fundamental issues such as stock market participation made the fundamental processes of capital allocation, business cycles and growth on the macroeconomic level imperfect.

Calvet, Campbell and Sodini (2007) conducted a study to evaluate the efficiency of investment decisions by Swedish households. The study focused on the welfare costs of household investment mistakes and reported that individuals who were retired and those that invested mostly in pension plans were most likely to participate. This participation was also found to be positively correlated to higher income, greater wealth, and education of individuals. The study also found that participation was adversely affected by unemployment and age. Thus in relation to the study the terms of employment for teachers was always permanent and pensionable especially under Teachers Service Commission and therefore they were likely to invest in the stock market.

A study by Nderitu (2008) also observed that in developing countries, demand for securities is centered on institutions and investors found in the urban areas. This means that investors in the rural households participate less in the stock market since they have limited access to the stock market and also they may not have an understanding of the importance of participating in the stock market.

Previously reviewed studies have brought out the character of individual investors to make uninformed investment decisions and many researchers have tried to find explanations as to why few individual investors participate in the stock market (Calvet, *et al*., 2007; Barber & Odean 2011; Aduda, *et al.,* 2012). The explained literature has not provided a clear role of investor dynamics in their decision to participate in the stock

market and whether investment culture can modify the relationship between the dynamics and securities market participation decision. This study therefore sought to explain the decision to participate in the stock market by investigating individual investor dynamics of financial wealth, social interaction, risk aversion and financial literacy and the stock market participation decision of secondary school teachers from selected sub counties in Nakuru County.

1.2.3 Importance of the stock exchange

The importance of the stock exchange in any country cannot be ignored. Stock market makes significant contribution to the general financial well-being of a country. Emerson (1976), for instance, observed that the liquidity of the market for stock predicts economic growth, capital accumulation and stock markets existence which accelerate growth rate.

Olweny, Namusonge and Onyango (2012) found a positive relationship in their study on the association between the securities market and economic growth in Kenya. Demirgüç-Kunt and Levine (1996) evaluated the significance of the stock market and its contribution to the economy. They found that the countries with well-developed stock markets also had more advanced banking and nonbank financial mediating institutions like investment firms and brokerage houses and mutual funds. Contrary, countries with weak stock markets had weak financial intermediaries. This shows that the development of the market for stocks adds to the general growth of the economy since it goes hand in hand with other facets of financial development.

Participation in the stock market is not only beneficial to the general economy but also previous studies reveal that there are numerous benefits that accrue to the individual

investor when they take part in the market for stocks. Mehra and Prescott (1985) reported that investors in the stock market amassed more wealth when compared with nonparticipants in the stock market because of the numerous benefits that they obtained from participating. These conclusions corroborate the observations of Guvenen (2006) who reported that nonparticipation in the stock market built great disparities in terms of wealth. Mankiw and Zeldes (1991) also revealed that participants in the stock market enjoyed higher consumption in their lifetime. This suggested that it would be better for an individual to take part in the financial market as nonparticipation results in lower returns. Cocco, Gomes and Maenhout (2005) estimated that the individual wellbeing lost from a situation of being a non-investor in the stock market was considerable, at near two percent of the annual consumption of an investor. Therefore, the importance of individual investor participation in stock market cannot be over emphasized. Therefore, having more individuals taking part in the market for stocks improves the welfare of individuals through wealth maximization.

1.2.4 Stock market participation in Kenya

Trading in Securities Market in Kenya began in 1920s. However, it was only the white settlers who were allowed to participate. After independence in 1963, Africans and Asians began to participate in the exchange market (NSE, 2010). The local individual investors are key participants in the activities at the stock market. Wendo (2015) in a study on the factors that influenced individual investor participation in the securities market for advocates reveals that there was a time when individual investor participation in the stock market was high triggered by a number of Initial Public Offerings (IPO). The

study however reported that the enthusiasm of retail investors was fast waning away and many firms experienced an exit of individual shareholders. This suggests that the individual investor participation in Kenya is on the decline as it is in other developed economies (Ameriks and Zeldes, 2000; Rutterford and Hannah, 2016; Rutterford, *et al.*, 2010)

According to the regulator of capital markets in Kenya, individual investors reduced their investments in equity from a high of twenty seven percent (27%) of the market capitalization in 2008 to a low of fourteen percent (14%) in 2010. By the end of 2014, the total number of individual investors was fourteen percent of the total investors in the NSE (Aduda, *et al.* 2012). The Oxford Business Group study also reported that the percentage of individual investors as at 2015 was 4% of total investors in the stock market. This made institutional investors to take control of the market because they were the majority investors. Generally, individual investors participating in the stock market is low in Kenya (Aduda, *et al.*, 2012). Many researchers have tried to explain what guides investor in their participation decision and this continues in the empirical front. However, the individual investor participation is still in decline. This implies that the stockholding puzzle is far from being solved. It is on this basis that the study sought to establish individual investor dynamics of financial wealth, social interaction, risk aversion and financial literacy and stock market participation decision of secondary teachers from selected sub counties in Nakuru County.

Participation in the stock market is beneficial to both the general economy and to individual investors. Emerson (1976) is of the view that that the stock market

participation makes significant contribution to the financial well-being of a country. Similarly, individuals accrue numerous benefits as a result of participating in the stock market. Mehra and Prescott (1985) report that individuals participating in the stock market amass more wealth compared to non-participants in the stock market and enjoyed higher consumption in their lifetime. Cocco, *et al.,* (2005) contend that investor lost considerably in their well-being when they failed to participate in the stock market. Therefore, the importance of investor participation in stock market cannot be over emphasized and hence there was need to investigate the individual investor dynamics of financial wealth, social interaction, risk aversion and financial literacy on the stock market participation decision of secondary school teachers from selected sub counties in Nakuru County.

1.2.5 Investor dynamics and stock market participation decision

There are many factors that have been fronted to guide the investment decision of individual investors. For instance, Guiso, Sapienza and Zingales (2008) attributes limited participation rates to the objective stock market characteristics and also to the subjective individual investor characteristics. Guiso *et al.,* (2008) concluded that less trusting individuals were less likely to invest in the stock market and would buy very few stocks should they decide to participate. The problem of trust was found to be significant and this could explain non participation of many for the wealthiest households in the United States.

Sahi, Arora and Dhameja (2013) enumerate the psychological factors observed from people who had significant experience in investing. They included the predispositions to

favor well-known risks over unidentified risks, reliance on a point of reference, tendency for investors to make investment decisions centered on easily available information, the risk, source of income, investment goals, knowledge of securities, previous experience and friends and family referals.

Heukelom (2014) supports this view with the justification that individuals normally read and observe things differently thereby making them behave differently especially in the stock market participation decision. Reiger (2012) concluded that behavioral biases make investors to make erroneous estimates on the probabilities of outcomes connected to the returns of financial securities. Wendo (2015) reported that individual investor participation decision was influenced by the financial literacy levels of investors, the peer effects of friends and coworkers and the recent market trends of returns. Wamae (2013) in analyzing the behavioral factors affecting investment decision making identified that risk aversion, herding behavior of investors, anchoring and prospecting influenced the behavior of investment banks in the stock market.

Chandra and Kumar (2012) conducted a survey that sought to provide explanations as to why investors behave the way they do. The study collected data from 350 individual investors in India. The study revealed that investor behavior of individuals was influenced by information availability, mental accounting, overconfidence and heuristics. Islamoğlu, Apan and Ayval (2015) evaluated a numbers of factors that had an effect on individual investor in Bartin, Turkey. The survey used data that was obtained from bankers. Analysis was done using descriptive statistics while factor analysis was used to measure the validity of the instruments. The study established that level of income, past

experiences of investors in trading, their financial stability and the opinions of fellow investors and financial advisors significantly influenced the investment decision.

Waweru, Munyoki and Uliana (2008) investigated behavioral factors of overconfidence, availability bias, representatives, regret aversion, loss aversion and mental accounting in the investment decision making for institutional investors operating in the Nairobi Security's exchange. The study found that loss aversion and regret avoidance affected the investment decision of institutional investors at the market for stocks to a large extent.

Although several previous studies have attempted to explain individual investor stock market participation decision, many of the studies focused on only one variable at a time in examining important individual investor characteristics. A number of studies have provided an understanding of for instance financial wealth (Briggs, Cessarini, Lindquist and Ostling, 2015; Andersen and Nielsen, 2012), Social interaction (Lui, Zhang and Yang, 2014; Kaustia, 2010), risk aversion (Lee, Jackobsen and Berkman, 2013; Michailova 2010); and Financial Literacy (Sindambiwe, 2014, Lusardi, Rooij and Alessie, 2011, Mbabazi and Daniel, 2014) on participation in the stock market. In Kenya few studies have tried to explain the reasons why very few individuals participate in the stock market. Therefore there is need to investigate a range of individual investor dynamics of financial wealth, social interaction, risk aversion and financial literacy that have been observed to contribute to the individual investor decision to participate in the stock market.

Financial wealth has been observed to have positive and significant effect on the individual investor stock market participation decision (Lindquist and Ostling, 2015; Andersen and Nielsen, 2012; Vissing-Jorgenson 2002, Rooij, Lusardi and Alessie 2011). Social interaction has a direct impact on retail investor decision to take part in the market for stocks. Hong, Kubik and Stein (2004) revealed that it was more probable that individuals interacting with their fellow citizens participated more in the stock market compared to introvert individuals and this effect was found to be even stronger in countries where the participation was high. Speidell (2009) further noted that individual investors were exceedingly susceptible to trading in the stock market based on the trades of others particularly in emerging markets of Kenya and Bangladesh.

Aduda, *et al.,* (2012) observed that most investors relied on guidance from colleagues and friends in making their choice to invest in stocks. In addition, widely held opinions about the market and current trends in the movements of share prices could explain the herding behavior of investors as observed in the NSE. Wendo (2015) in another study found that investment decisions were influenced by widely held opinion in the market, latest trends in returns and profitability and by the sentiments of friends and colleagues. These studies bring out the important role of sociability in the stock market participation decision. However, few studies have been carried out in Kenya on the contribution that social interaction has on the stock market participation decision for individual investors and specifically for teachers hence the need to undertake this study.

Risk aversion has been observed to reduce the probability of stock market participation in previous studies. Gollier (2001) report that differences in individual risk preferences

influences the makeup of a portfolio for retail investors. Lee, *et al*., (2013) studied the relationship between investor expectations of return and their risk aversion levels. The study found that the relationship was not only significant but also negative. The study concluded that individual expectations and risk aversion significantly influence a person's stock market participation.

Further, Rooij, *et al.,* (2011) observed that risk is associated to ownership of stock with those households who are unwilling to take risks less expected to take part in the stock market. Another study by Wendo (2015) revealed that most investors were fundamentally risk averse and preferred to invest in real property instead of the stock exchange. This shows that there is need to investigate risk aversions contribution towards the stock holding puzzle especially for emerging markets like Kenya.

Financial literacy has been observed to influence participation in the stock market. Rooij, *et al.,* (2011) conducted a study on financial literacy and stock market participation. The study sought to establish the effect of financial literacy on stock market participation and found that individuals with little financial knowledge were significantly less expected to invest in stocks. The study further revealed that lack of stock ownership has not yet been well explored. The study suggested that since stocks were intricate assets individual investors may not appreciate them and this could be the reason for the low individual investor stock market participation. This agrees with the findings of Guisso and Japelli (2004) who observe that lack of financial knowledge has key implication for understanding the stock holding puzzle.

Aduda, *et al*., (2012) observed that a huge majority of the investors in the NSE were unable to precisely interpret market information and they were unable to properly interpret annual financial reports that were presented by most listed companies. Further, the study directly linked NSE's performance to the investor participation in the exchange. Similarly, Wendo (2015) observed that most people lacked the knowledge and skills that could enable them to make sound investment decisions on the securities market and for this reason the**y** relied on professional and investment advisors expertise when making investment decision. Therefore financial literacy is imperative in explaining the stock holding puzzle for individual investors hence the need to investigate its contribution to the stock market participation decision for secondary school teachers in Nakuru County, Kenya.

Campbell (2006) pointed out that a clear understanding of the participation puzzle helps to check if individuals make wrong investment decisions and if financial education can lower these losses that come as a result of making such errors. Therefore, it was important to investigate individual investor dynamics in order to provide explanation why few individual investors participate in the stock market. This was important because limited participation has important implication since it contributes to an individual's estimated lifespan income and consumption, general economic welfare and better developed financial markets.

Investment culture has been observed to have significant influence on individual investor decision to participate in the stock market. Chui, Titman and Wei (2010) suggest that cross-cultural dissimilarities are related to levels of trading activity. Hens and Wang

(2007) in a study showed that cultural differences are important in guiding financial decisions. Nderitu (2008) conducted a study on the influence of investor's distance and culture on stock holdings and trading for the four listed agricultural Companies at Nairobi Stock Exchange and found that cultural factors like the locality of directors have some significant influence on the shareholding of agricultural stocks listed at the Nairobi Security Exchange. These studies reveal how investment culture could influence the behavior of individual investors directly. However, none of the studies have shown how investment culture could interact with other individual investor dynamics in influencing their effects on individual investor stock market participation decision. There was need therefore to investigate the moderating effects of investment culture on the relationship between individual investor dynamics and stock market participation decision of secondary school teachers in Nakuru County.

1.2.6 Secondary school teachers and stock market participation decision

A teacher is a person who is a provider of knowledge usually as a job at a school. In the context of this study, teachers are those who teach in secondary schools and who are active as per the report by Teachers Service Commission. Teachers were considered for this study since they are diverse in terms of age, tribe and especially cultural background given that Nakuru County is cosmopolitan. They are also diverse in that they have different levels of incomes depending on the time from the date of employment and different ranks in terms of teachers, deputy head teachers and principals of various schools. For this reason, their levels of investments vary and they have been observed to have different investments. Other than the employment income, they are also investors in

business, farmers, investors in real estate with others being consultants in their various areas of specializations since they are respected and known to provide insight to others.

In addition, a report by the national treasury revealed that the Teachers Service Commission obtained the largest share of total country's budget for the financial year 2017/2018 of 201 billion out of a total of 2.62 Trillion government budget. This translated to slightly above 20% of the total budget estimate (National Treasury, 2017). Hence the contribution that teachers make to economy cannot be underestimated. They also have access to financial resources in form of income and from other financial institutions. Previous studies focused on other investors like advocates and entrepreneurs putting little attention to public servants like teachers serving under Teachers Service Commission who could also participate. Therefore it was important to study individual investor dynamics and the stock market participation decision for the secondary school teachers from selected sub counties in Nakuru County.

1.3 Statement of the Problem

All investors participate in the stock market with the aim of wealth maximization that is, maximizing returns with minimal risks (Mayo, 2006). Mehra and Prescott (1985) suggested that investors in the stock market amassed more wealth compared to nonparticipants in the stock market because of the numerous returns they obtained from participating. However, notwithstanding the notable benefits from diversification attained, many individual investors still do not participate in the stock market. In Kenya for instance, a study by the Oxford Business Group revealed that in the year 2015, only

four percent of the total investors in the Nairobi Securities Exchange were individual investors. Many researchers have tried to explain the reasons why individuals do not participate in the stock market. Rooij *et al*., (2011) observed that the participation puzzle had not been well explored. Notably, many of the previous researches on stock market participation focused on only one variable at a time in examining important dynamics. In addition, many of the studies that had been conducted in the past focused on institutional investors giving less attention to individual investors. Further, prior studies have been carried out mostly in developed countries where the securities markets are more vibrant with their individual investors' being active. In Kenya, previous studies conducted have focused on the factors influencing the investment decisions for investors like advocates and entrepreneurs giving little attention to civil servants like teachers under the Teachers service Commission who can also participate. Cumulatively, there exists scanty literature on factors influencing individual investors' stock market participation decision for teachers in Kenya. Therefore, little is known as to individual investor dynamics and decision to participate in the stock market. There is need for more studies focusing on individuals and different sectors to determine dynamics that inform individual participation in the stock market. This approach is necessary if the stockholding puzzle is to be resolved. The purpose of this study was to investigate the investor dynamics and stock market participation by focusing on secondary school teachers in Nakuru County. This study investigated financial wealth, social interaction, risk aversion and financial literacy to establish whether they could explain stock market participation decision for secondary school teachers in Nakuru County. The inquiry was an attempt to fill the gap in literature on the limited stock market participation by individual investors in Kenya.

1.4 General Objective

The general objective of the study was to investigate the relationship between individual investor dynamics and stock market participation decision among Secondary School Teachers from Selected Sub Counties in Nakuru County, Kenya.

1.5 Specific Objectives

The study was guided by the following five specific objectives to:

i. Determine the relationship between financial wealth of individual investors and stock market participation decision.
ii. Establish the relationship between social interaction of individual investors and stock market participation decision.
iii. Examine the relationship between risk aversion of individual investors and stock market participation decision.
iv. Assess the relationship between financial literacy of individual investors and stock market participation decision.
v. Establish the moderating effect of investment culture on the relationship between individual investor dynamics and stock market participation decision.

1.6 Research Hypotheses

The study was guided by the following research hypotheses:

$H_{o1:}$ There is no significant relationship between financial wealth of individual investors and stock market participation decision.

$H_{o2:}$ There is no significant relationship between social interaction of individual investors and stock market participation decision.

$H_{o3:}$ There is no significant relationship between risk aversion of the individual investors and stock market participation decision.

$H_{o4:}$ There is no significant relationship between financial literacy of the individual investors and stock market participation decision.

Ho_5: Investment culture has no significant moderating effect on the relationship between individual investor dynamics and stock market participation decision.

1.7 Justification of the Study

Investment in the stock market makes significant contribution to the general growth of the economy. This is because it encourages savings and investment among individuals. The stock market investment securities is associated with increased liquidity for investors. Therefore aggressive trading in the stock market increases availability of capital useful for investment. Stock market development contributes to the general growth in the economy since the development of the stock market goes hand in hand with other facets of financial progress.

Individuals participating in stock market stand to gain from the equity premiums and maximized returns as a result of diversification. This means that they have improved welfare through wealth maximization. A previous study found that individuals who participated in the stock market amassed more fortune compared to those who do not

participate. Another study also found that stock market participation created wealth inequalities.

However, individual stock market participation still remains low. In Kenya, for instance it was reported that only four percent of Kenyans invested individually in the Nairobi Securities Exchange out of the total investors. The study therefore, sought to investigate the variables that cause individuals not to participate in the stock market and also evaluate the robustness of these variables to an individual's stock market participation decision in an attempt to come up with the most influential factors. The study was also be conducted in the year 2019 since individual investor participation has been observed to be low despite the significant benefits they stand to accrue from participating in the stock exchange.

The study was focused on Nakuru since Nakuru County has been considered as a cosmopolitan county as it is home to Kenyans drawn from diverse ethnic backgrounds and specifically Nakuru, Molo, Njoro, Naivasha and Gilgil Sub Counties since they have been identified as the major towns in Nakuru County (Nakuru County Business Agenda, 2015). Nakuru was also selected based on the United Nations Cities Index Ranking report (2013) where Nakuru was named as the town having the highest annual growth of thirteen percent in Africa (United Nations 2013). The study sought to establish whether the growth in Nakuru Town as indicated by United Nations report has been reflected in investment segment among individuals.

The study also targeted secondary school teachers employed by the Teachers Service Commission. This is because other studies have focused on advocates and other investors. Little attention has been put on public servants like teachers serving under the Teachers service Commission who can also participate in the stock market. There exists scant literature on factors influencing individual investors' stock market participation decision for teachers in Kenya. Also because of the heterogeneity in terms of income levels and also in terms of the various investment opportunities that many teachers have exploited.

In addition, another report from the National Treasury also reveals the huge amount of government allocation meant specifically for Teachers Service Commission to be slightly above 20% of the total government budgetary allocation at 201 billion Kenyan shillings. Therefore, the contribution that teachers make to the general economy cannot be overemphasized yet the report by the Oxford Group study on low individual stock market participation seems to suggest that even this market for teachers has not been tapped.

1.8 Significance of the Study

The study makes a contribution to the limited existing body of knowledge on individual dynamics that could explain the limited stock market participation by individual investors in Kenya. Specifically, the study has revealed that individual dynamics of financial wealth, social interaction, risk aversion and financial literacy are significant in explaining stock market participation decision for secondary schools in Nakuru County. The study also focused on an area that remains largely unexplored and therefore will serve as a theoretical guide to those who wish to explore further studies on individual investor stock

market participation in the context of Kenya or any other developing country. The study has presented findings that can be used to make comparison for other related studies to be done in the future.

The study's findings can be applied by the policy makers both the national and county government who can use the research findings in policy formulation and implementation regarding enhancement of individual investors' participation in the stock market. The findings can also assist in guiding decisions of policy makers and specifically the Capital Markets Authority who come up with policies that seek to increase individual investor participation in the securities market through widening their client base.

1.9 Scope of the Study

The study covered the stock market market participation and specifically the individual investor segment. The study was conducted on Secondary School teachers from the selected sub counties of Nakuru Town, Naivasha, Njoro, Molo and Gigil in Nakuru County, Kenya. The survey covered the period between March and May 2019.

1.10 Limitation of the Study

The study was limited to the following factors that were presumed to have an influence on the decision of individual investors to take part in the market for stocks: financial wealth, social interaction, risk aversion, and financial literacy. The study was also limited to Secondary School teachers. For this reason, the general findings were limited by the characteristics of the population under study. Since data was collected from secondary school teachers from selected sub counties in Nakuru County, the general findings may not be extrapolated to other groups within the general public in other areas. However, the

research findings were enhanced for purposes of generalization by conducting the study in a cosmopolitan area.

1.11 Assumptions of the Study

The study assumed that the population under study was heterogeneous in terms of the wealth, income levels, and financial literacy level and also in their cultural background. The study also assumed that the population under study had an understanding of stock market therefore were able to respond to the questions. Efforts were made to explain the context to the respondents in cases where the respondents did not have adequate knowledge. The study assumptions held since the data was collected from teachers drawn from diverse cultural background since data was collected from Nakuru County which is cosmopolitan and therefore the respondents were drawn from different ethnic communities. The respondents were also drawn from a wide range of age groups representing various experiences of the teachers with those having more experience earning more. Also the respondents were balanced across education categories and therefore they were in a position to respond to the questions asked in the questionnaire.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter provides a review of literature both theoretical and empirical studies. It encompasses a theoretical literature review that consists of theories relating to the study. It also contains an empirical literature review of similar or related studies. It also presents the conceptual framework explaining the variables that were used in the study. This chapter also presents the existing literature gap based on previous studies conducted thus setting out rationale for the current study.

2.2 Theoretical Framework

This research was guided by the following theories that were related to the behavior of individuals with regard to stock market participation.

2.2.1 Modern portfolio theory

This theory was introduced by Harry Markowitz who initiated the analysis of portfolios of investment in 1952. The Markowitz Portfolio Theory suggests that given a certain level of expected return, investors can reduce the risk of their portfolio by diversification. According to this theory, if investors have the same expected returns and have the same information about the investment vehicles in equilibrium they select identical safe and risky assets. In principle, the theory explains portfolio development by bearing in mind the expected risk, and return of individual assets and their relationship as determined by

correlation between the returns on these stocks. This theory suggests that investors should not only concentrate on the importance of diversification but should also learn about successful diversification (Levisauskait, 2010).

The risk-return trade-off is distinguished as the fundamental law in Modern Financial Economic Theory. This law provides direction to individual investors in decision making particularly in the management of a portfolio of assets. Friedman and Savage (1948) defined risk aversion as that with a given identical amount of return, investors will always choose the one with the lowest risk. Modern Portfolio Theory suggests that investors always desire higher returns therefore want to maximize returns on their investments. This is the assumption of non-satiation. However investors are fundamentally risk averse which means that given to choose between two assets having same return they will chose the one with lower risk. Markowitz further explained the need for investors to diversify their portfolios in order to reduce the risk by selecting assets that have negative correlation in their returns (Levisauskait, 2010).

The theory provided a framework that allows investors to construct and select portfolios grounded on the expected performance and the risk tolerance of investors. The theory is applicable in investment management since it helps to describe a standard behavior that investors should adopt when faced with the investment decision. The theory suggests that given estimates of the returns, volatilities and correlations of investments coupled with constraints on investment choices, investors can perform an optimization that results in the efficient frontier. For this reason, this theory is applicable in the areas of asset

allocation, portfolio construction, management of portfolio and investment management in general (Fabozzi, Gupta & Markowitz 2002).

Although the theory has provided numerous insights on the concept of investment and diversification, a number of critics have argued that the assumptions of the theory may not be practical in the real world. For instance the assumption that investors behave rationally may not be entirely true since it has been observed that market participants sometimes follow the behavior of others in their investment decision. Also in reality, investors in the stock markets have been observed to have information asymmetry therefore the assumption of perfect information may not be entirely true. Similarly previously observed market booms and bubbles illustrate that markets are far from efficient. MPT further disregards other factors that are social, strategic and environmental factors and give prominence to risk adjusted returns (Mangram, 2013). Fabozzi *et al*., (2002) notes that the computation of mean variance analysis can be complicated as it requires many inputs of expected returns for each security, risk for each security, covariance and correlation between the returns of securities.

MPT has made significant contributions to modern financial theory and practice. The theoretical conclusions have formed a basis on which all other theoretical analysis on portfolio selection and investment management are based. The Markowitz Portfolio Theory brings out the importance of risk and its relationship to securities return. Individual investors are faced with the decision to invest in the stock market and this decision will be founded on their views of risk, and the risk and returns for individual asset and ultimately total portfolio risk should they consider having more than one

security in their investment. It is on the basis of this theory that the study sought to establish the relationship between risk aversion of individual investors and stock market participation decision among secondary school teachers in selected sub counties in Nakuru County, Kenya.

2.2.2 Behavioral finance theory

Behavioral finance was developed by Kahneman, Traversky and Thaler in the year 1980. The theory posits that individuals make decisions founded on the potential values of gains and losses instead of basing their decisions on the utility strategies of those decisions. The theory explains investors' anomalies in their investment decisions when driven by emotions and other factors in decision making.

Finance as a field of study has operated on the assumption that there exists efficient markets and that all individuals are rational decision makers. Efficient Markets Hypothesis (EMH) explains that all securities being traded in the market at any point in time have their prices reflecting all the available market information. This is contrary with the situation that exists in the real world because a professional trader will not trade in the same level as a casual investor. Also, stock prices in the real world have wide variations. This is the problem of excess volatility. These two challenges only lead to the conclusion that investors cannot be said to be rational.

This theory explains that since participants in the stock market are human beings their ultimate investment decision is guided by emotions and other factors where action is determined from the point of view of rationality, awareness, self-education and the ability

to learn from past investment mistakes. This theory seeks to explain the rational or irrational behavior of investors in order to provide the most reasonable prediction that guides investors who wish to invest profitably in the stock market. The theory therefore seeks to provide explanations on the behavior of investors and was therefore relevant to the study since the study sought to explain the limited stock market participation of individual investors. This theory was important to the study since the study sought to explain individual investor dynamics of financial wealth, social interaction, risk aversion and financial literacy that could influence the decision to participate in the stock market by teachers of Nakuru County, Kenya.

2.2.3 Social development theory

This theory was advanced by Lev Vygotsky in 1978. The theory proposes that social interaction precedes development. This is because social development is important in the process of learning. It also argues that cognition and consciousness come as a result of socialization. Vygotsky's theory is one of the basics of constructivism. The theory suggested method of knowledge expansion centered on an individual's vigorous participation in critical thinking and problem solving. According to this theory there exists a more knowledgeable person who in this case provides insight to the learner. The theory concentrated on the people and their interaction with the sociocultural environment. He proposed that human beings utilize the tools that develop from culture to mediate their social environments and the result of whose internalizations results in higher thinking skills (Vygotsky, 1978).

The theory was deemed relevant to the study since it was used to explain the relationship among sociable people or peers in terms of social patterns in making individual investors and specifically secondary school teachers make a decision on investing in the stock market. These people normally have common beliefs and values grounded on their culture who can be family, classmate, neighbors or friends. The theory seems to suggest that for members in a sociable group, there are those who provide insight to others thereby guiding the decisions of others. In this case social interaction of individual investors was expected to influence the stock market participation decision of the secondary school teachers because they share experiences.

The theory covers the social interaction on determination of individual investor's stock market participation decision. It was important in the investigation on the bearing of social interaction on stock market participation by the secondary school teachers of Nakuru County, Kenya.

2.2.4 Theory of planned behavior

The Theory of Planned Behavior was developed by Ajzen in 1985. The theory was used to predict an individual's plan to engage in a certain behavior. The theory is grounded on behavioral intentions that are guided by the probability that certain expected outcomes will be achieved against the individual subjectively evaluated risks that are within the control of the individual. According to this theory, the actual behavior of individuals can be predicted by understanding the attitudes towards a specific behavior and by considering the subjective norms of an individual. Ajzen further opened the theory for addition of predictor variables in 2008. Kennedy (2013) in his study added financial

literacy to Ajzen's theory and established that individual attitudes on financial literacy could be used to predict financial behavior and that this would be useful in developing programs that were aimed at improving personal finance behavior.

The theory was relevant to the study because it could predict behavior of individual investors with regard to investing in the stock market. Despite the benefits of this theory, an attitude towards a behavior and intention has impact of about 0.60 on an individual final behavior (Ajzen, 2011). This means that even with good measures attitudes alone cannot explain individual behavior Sheeran (2002). Also, a study by Kor and Mullan (2011) found that intentions are poor predictors of behavior with a correlation of 0.17 in relatively short time periods. The theory is also assumed to be too rational as it ignores other cognitive and affective factors such as beliefs and emotions that are known to affect human behavior.

This theory can be applied in various areas of interest since it helps provide information in an attempt to understand the behavior of individuals. Intentions, attitudes to behavior and subjective norm reveal aspects of behavior through which the behavior of individuals can be influenced or changed (Ajzen, 1991).

Another relevance of this theory for the current study is that individual investor stock market participation decision could be influenced by an individual's attitude towards investment in the stock market. In addition, Braunstein and Welch (2002) revealed that acquiring new information could lead to improved financial behavior and acknowledged that well informed investors made the financial markets more efficient. Further, when the

importance of behavior is recognized; financial behavior is often expected to follow from improved understanding of financial concepts.

Therefore, the theory seems to suggest that action is preceded by financial knowledge. This means that individual investors take action depending on their knowledge of financial concepts. The already acquired knowledge by the investor guides their decision. This theory was used to guide the study in the evaluation of the effect of financial literacy on individual investor's decision to participate in the stock market.

2.2.5 Dual process theory

Dual-process theory was developed by William James in 1980. He proposed that decisions are normally as a result of two processes. An implicit process that remains unchanged for long and an explicit process that can be varied through education and persuasion. This theory is relevant for the study in that financial literacy is a variable that is presumed to influence the stock market participation decision by individual investors. Hilgert, Hogarth and Beverly (2003) found a strong relationship between knowledge and behavior in their investigation of different groupings of financial activities. Evans (2008) in his study concluded that the dual process theories agree that decisions are driven by both intuitive and cognitive processes. Siekei, Wakoki, and Kalio, (2013) in a study supported that financial literacy expedites the decision making processes. Financial literacy facilitates the making of decisions related to investment and particularly individual stock market participation decision. The theory guided the investigation on the relationship between financial literacy and individual investors' decision to participate in the stock market.

2.3 Review of Related Literature

Several researchers have explored the area of stock market in general and stock market participation in particular. The study discussed the existing literature by focusing on the variables under study.

2.3.1 Financial wealth and stock market participation decision

Existing literature seems to suggest that financial wealth is an important factor for individual household stock market participation decision.

Briggs, Cesarini, Lindquist and Ostling (2015) examined the effects of wealth on stock market participation using a large sample of Sweddish lottery players. The study used cross sectional analysis and used observed data obtained in the year 1999. The study found a positive relationship between stock market participation and wealth. The study also found that the effect on participation is not only immediate but also permanent as the increase in participation was observed years after the lottery. Despite this, the estimated effect of wealth on participation for investors who directly owned stocks was observed to be much lower with the effect being greater for those households which purchased mutual funds. The study further revealed that the fixed cost of participation was more relevant to the non-participating households with participating costs of 2800USD being able to explain non-participation for 75% of non-participants while the effect to participating households was negligible. The study also revealed that it is highly improbable that fixed costs, both participation costs and entry costs, would provide credible justification for stock market non participation and suggested that there were

other factors that drove non-participation. The study population also may not be representative of the entire population since they were elderly and less likely to have finished college education. For this reason, the study may have suffered lack of external validity and the findings could not be extrapolated to other populations or other countries.

Briggs, *et al*. (2015) in another study evaluated the effects of windfall gains on the participation in the stock market. Data was collected from Swedish samples of lottery players to whom wealth was assigned. The results reported that these gains resulted in an increase in stock market participation by 12%. However, this increase in investment in the stock market was experienced by the non-participants in the lottery and did not reflect in the individuals already taking part in the lottery. The effect on participation was also observed immediately after the assignment of the money and was experienced for a long time. The non-participants to whom the gains were assigned were observed to also prefer the bond market segment. The models similarly used in the study further predicted that the wealth effects on participation could be far too large than the observed effects. The study however admits that there could be other investor factors that could explain non-participation of investors.

Callado, González and Utrero (2014) investigated the factors influencing portfolio choice for households in Spain. The study obtained data from the Spanish population about their household finances on income, debts, assets and other household characteristics. The study employed multivariate fractional regression model and multinomial logit regression in analyzing the data. This methodology was preferred as it allowed the study to establish how the household characteristics under study influenced the investment decisions among

the various asset classes identified for the study. The study found that net wealth and age were important factors that guided household financial portfolio choice. This study revealed that net wealth was important in influencing the investment decision making. The study however focused on different investor asset classes that were available for the investors who were already participating in investment. There is need however to collect data from diverse sample including those who have not yet participated in stock market to unearth the reasons behind their investment choices.

Andersen and Neilsen (2012) used a natural experiment to examine determinants of individual investor's decisions to participate in the market for stock. The study used panel data from 1998-2003 from unexpected inheritance as a result of sudden death of family members in Denmark. The study found that windfall wealth resulting from unexpected inheritance due to sudden death had a positive effect on stock market participation. However, investor's participation in the stock market was not found to be affected by the costs of participation. The study used wealth that was unexpected since it was inherited from family members who had died suddenly. The effects on stock market participation could differ in circumstances where this wealth belongs to the investor and therefore was expected from income sources of the investor. This study however specifies unexpected wealth as a source of income. It is important to also find out how similar study using individuals earned wealth influences stock market participation decision.

Grinblatt, Keloharju and Linnainmaa (2011) examined how investor cognitive abilities could influence participation in the stock market. The study revolved around the assumption that individuals having limited cognitive abilities tend to lack the ability to

process information and act on it. This becomes an extra cost for the investor who has no choice but to incur other costs to acquire the needed information in order to make the investment decision. Data was collected from Finnish investors in all registered stocks for the period 1995-2002. The study employed the probit regression methodology to analyze the participation rates for the wealthy investors. The results revealed IQ plays a significant role in influencing affluent individual investor decision to participate in the stock market. The study suggested that moderate transaction costs inhibit less wealthy individuals from participating. This suggests that the effect of participation costs is relevant to the less affluent investors only. The study used panel qualitative data collected from available records of Finnish investors. Such records are not available in Kenya about the household characteristics of secondary school teachers and therefore the current study used qualitative primary data collected through a questionnaire.

Previous studies have tried to establish whether changes in individual wealth could affect the portfolio composition of investors. Chiappori and Paiella (2011) for instance, assessed whether changes in wealth of investors could result in the changes in portfolio between risky and riskless investments. The study tried to separate the effects of wealth from its association with risk. Panel data was collected from a survey of household income and wealth from 8,000 households of Italy through the use of questionnaires for the period 1989-2004. The study's results revealed that individuals have different risk attitudes. The study also reported that changes in financial wealth did not result in significant portfolio changes for the investor. Further the study reported a significant negative correlation between affluence and risk aversion. The study revealed that

financial wealth estimated effects on the investment decision differ depending on the circumstances.

Similarly Calveat, Campbell and Sodini (2009) evaluated how portfolio composition of investors varies with wealth. Panel data was used for the study. The data was collected from statistics Central bureau for 4.8 million Swedish households for the period 1999-2002. The data collected comprised information about the demographic characteristics of the people, their incomes and aggregate wealth. Income measured included labor and business income attributable to each individual and capital income in the forms of interest and dividends earned. The securities were categorized in terms of their riskiness. The study revealed that the investors who were more educated and wealthy had higher chances of participating and were less likely to stop investing in the stock market. The study also found that the more affluent and educated investors having better compositions in their portfolios revised them more frequently. Further, the wealthy investors rebalanced by including riskier assets in their compositions as their affluence levels went up. This means that wealth makes investors less risk averse since they are able to accommodate higher levels of risk as their wealth increases. The investors who directly owned stocks were found to have a tendency of selling well performing securities. However, the tendency of selling well performing securities did not apply in the case of wealthy investors holding well diversified portfolios. This study was interested with investment behavior of individuals who have already invested in the stock market. It does not uncover the reason for their initial decision to participate in stock market.

Brunnermeier and Nagel (2008) investigated whether changes in affluence of individuals affected portfolio distributions for individual investors. Data was collected from the panel study of income dynamics for a 20 year period. Regression analysis was used to analyse the data. The study found that the likelihood of participation in the stock market was positively and significantly correlated to changes in liquid wealth. The study also observed that even with seemingly significant wealth changes, many investors were reluctant to change the compositions of their portfolios. The study suggested that there were that other factors other than wealth that influenced participation and recommended further research.

Calvet, Campbell and Sodini (2007) evaluated the efficiency of household investment decisions from Swedish data. They obtained household level data on wealth from statistics Sweden on capital income of interest, dividends and capital gains, capital losses and assets of households. Panel data was used for the years 1999-2002. They obtained data on income from gross labor income and income from business. Financial assets were also measured using bank balances, mutual funds and stocks. The entire Swedish population was used in the study. The study found that financial wealth had the greatest effect on stock market participation and increased participation by 20%. Further, the study reported that other factors like disposable income, age, education also had significant effects on participation. The study found that wealthy households not only invest more efficiently but also more actively. Therefore wealthier households are expected to make more investment in the stock market than poor households do. This

could be used to explain the wealth inequalities that were observed by Guvenen (2006) and Mehra and Prescott (1985).

Another study by Vissing-Jorgenson (2003) sought to evaluate whether wealth would have an impact on the irrational behavior of investors by examining the departure of actual actions from the expected reactions. Data was collected through telephone surveys from US individual investor during the period 1996-2002. The study found that low participation rates and infrequent trades in the market dropped with the increase investor's wealth and sophistication and that this could be explained by the costs of participating. The study suggested that transaction cost could provide an explanation for investor participation since even small amounts of annual cost could explain nearly the participation of half of the investors who did not participate in the market for stocks.

Vissing-Jorgensen (2002) conducted a study which sought to investigate the causes of limited participation in the stock market. Data was collected from the US consumer expenditure survey on income and asset holdings for the stock market participants from 4842 respondents. The study found a positive effect of income levels on the stock market participation of the investors and also on the proportions of wealth invested in the stocks traded. However, nonfinancial income was found to have a negative influence on participation and the amount invested in stocks for the participants. The study further reported that transaction costs could also explain non participation for almost half of non-participants and for the households having low financial wealth. Further, the study revealed that many households had low levels of activity. They rarely traded in the assets already invested in neither did they actively change their portfolio already held.

Guiso, Haliassos and Jappelli (2003) conducted a study to investigate stock ownership for households in major European countries: Netherlands, France, Italy, Sweden, Germany and UK. The study obtained data from the detailed household level data from the countries although the study used different sample designs and different ways to establish household financial assets. The study investigated investor participation for stocks held directly and those held indirectly through financial institutions. The study revealed that stock market participation increased with increase in the resources of investors measured by income and wealth. This suggests that varying participation rates is expected for population with varying degrees of wealth. The study found that at the individual household level, there was a strong positive relationship between participation in the financial market and wealth and that for individual households, lower participation costs explained higher stock market participation. Sameulson, (1994) agrees with this finding by asserting that it is not prudent for retail investors to participate in the financial market when their income levels is too low to take up huge shocks occasioned by volatility of markets that would most likely be witnessed majorly in the short run.

The studies reviewed on financial wealth and stock market participation have helped identify wealth as an explanatory variable for stock market participation. Although, the reviewed studies have found increase in wealth to be associated with increased likelihood of participating in the stock market, the degrees of estimated effects differ. Also, these studies have been conducted in developed countries of Europe, Spain, Sweden and Denmark. These countries have better developed markets compared to a developing economy like Kenya and therefore the findings from these studies may not be

extrapolated to other developing countries like Kenya. The studies also focused on only one variable, wealth. The studies also suggest that there are other factors that drive non-participation other than wealth. This study sought to fill this gap through research by investigating a number of individual investor dynamics in order to establish the contribution of each variable to the stock market participation puzzle and the study will also be carried out on teachers in Nakuru County, Kenya.

2.3.2 Social interaction and stock market participation decision

Social interaction has been shown by previous studies to provide an explanation for the stock market participation decision for individual investors. Social interaction provides an important channel through which information about investment can be obtained and spread by individual households.

Rantala (2017) conducted a study on how social interaction influences the spread of investment ideas. Data was collected from individual investors who had participated in the collapsed Ponzi scheme in Finland. The scheme was not available publicly and new members could be recruited into the scheme through an invitation from existing members. Previously earned returns facilitated the recruitment of new members into the scheme. The results revealed that social interaction caused the investment idea to spread wildly among the population steadily attracting more and more investors especially through word of mouth communication. The study reported that social structures were significant in facilitating the spread of investment ideas and though this facilitated welfare improving results, but it could also result in individuals making grave investment

mistakes. This study suggests that social interaction can be important avenue for investment ideas, which is not limited to stock market participation. There is need to incorporate this variable determination of antecedents of stock market participation by individuals.

Although many previous studies have linked social interaction to more trading activity among individual investors, a study by Heimer (2016) sought to investigate whether social interaction could result in the negative trading by retail investors. The study examined the relationship between social interaction and the disposition effect. Primary data used was collected from a sample of 2,598 traders through a social networking platform developed by the researcher. Regression analysis was used to analyze the data. The study observed that social interaction contributes to the disposition effect in as much as it also leads to more trading of investors in the financial market. This was attributed to the fact that investors sought to portray good images about themselves and their investment decisions. The study further revealed that inexperienced traders had the greatest increase in the disposition effects since they relied mostly on the social connections.

Ammann and Schaub (2016) sought to examine the role played by social interaction in influencing the investment decision of investors. Data was collected from European investors using a sample of 1,000 investors through an online social trading network designed to allow provided trading strategies that followers could immediately make investment in. The study revealed that only investors with successful investments communicated about their investment strategies and although they did not give the actual

values in terms of returns, many investors followed their strategies. This suggests that investor behavior is influenced by sentiment. Further, the study reported that it was mainly small unsophisticated traders who relied on these social networks to make the investment decision. The study suggests that uninformed investors behavior is influenced more by the social interactions when compared to the sophisticated investors.

Tauni, Fany and Iqbal (2016) conducted a survey that sought to assess the influence of the sources of information on the trading behavior of individual investors in the futures market of China with a special focus on investor personality traits. The study used the Big Five personality framework and structural equation modeling was used to establish the moderating effects of personal traits on the relationship between the information source and investor behavior in the market. The study reported that the sources of information significantly impacted the frequency of trading of investors and specifically information acquired through word of mouth communication resulted in more trading in outgoing investors.

Hvide and Östberg (2015) conducted a study on social interaction at work and its effects on individual investment decisions. The study reported that he investment decisions of individuals were positively correlated with the choices of investment of coworkers. This means that the choice an individual makes in their investment was strongly influenced by the choices of their fellow colleagues. However, the study also showed that this effect did not result in better investment decision by the individuals because following the decisions of others did not result in higher investment return.

Another study by Macours and Vakis (2014) conducted an experiment that sought to establish the causal effects of social interactions of leaders on the investment behavior of households in Nicaragua. The study explored the effects of proximity to the leaders coupled and forms of communication between the leaders and the beneficiaries of the conditional cash transfers on household investment behavior. Survey instruments were used to collect data about the households. The study found that social interaction with leaders positively impacted investment behavior of individual households and that continuous motivation and communication of leaders was important in facilitating the positive change in the investment patterns of households. The study further recommended that the programs should be tailored in such a manner to enhance social interactions since it resulted in positive investor behavior of households. In Kenya, Wendo (2015) also found that majority of the advocates relied on professional and investment advisors in making the investment decision. Further the study found that the opinions of colleagues did not affect their stock market participation decision.

Lui, Zhang and Yang (2014) conducted a survey on social interaction and participation in the financial market. The study not only looked at the traditional way of social interaction, but also the modern social interaction. They obtained data from a sample from all 150 Chinese Counties using well-structured questionnaires. They analyzed data using linear regression models and from the findings reported that social interaction, both traditional and modern interaction has a positive influence on stock market participation.

Li (2014) investigated the effect of sharing information among extended members of the family on individual participation in the financial market in the future. Data was

collected from the Panel Study of Income Dynamics from a sample of more than 13,600 individuals belonging to over 2,500 families for a seven year period concerning their stock market participation. Logistic analysis was used to measure the participation of investors. The study revealed that sharing of information among the members of the families significantly influences stock market participation decision by individuals. The study found that investors who had members of their families previously participating were 30% more likely to participate in the market for stocks within a period of 5 years. The results suggest that the knowledge acquired on investment and the experiences that were shared among family members about investment attracted non participants to start investing in stocks.

Heimer (2014) conducted a household survey on the relationship between social interaction and the level of activity of investors in the US stock market. The survey used data obtained from the consumer expenditure quarterly interview survey. Data was analyzed through the use of logistic regressions. The results of the study reported that the chances that an investor will be an active trader increases by 20% if the investor is social. This means that social interaction is positively related to active stock market participation. The study however ignores other factors like income and aggregate returns of investors which can explain the level of active trading by investors. Also, it does not provide direction on the causal relationship between the social interaction and level of active trading of investors.

Hellström, Zetterdahl, and Hanes (2013) examined the influence of family members on the stock market participation decision of individuals. The objective of the study was to

establish the effects of both the community interactions and interactions within the family setting. The study found that individuals were more likely to increase their participation rates after the close family members had experienced positive returns from their trading in the stock market. Similarly, negative returns of family members would negatively influence participation rates for individuals. The study further revealed that the results would be more pronounced on individuals who were less knowledgeable. The effect of family was also found to affect male and female investors positively while community effects influenced the males largely.

Aduda, *et al.*, (2012) conducted a study on the behavior and the performance of retail investors for companies listed at the Nairobi Securities Exchange (NSE) in Kenya. The study sought to establish how individual investors make their investment decisions. The study observed that most investors relied on advice from colleagues and friends (3.65 on a likert scale of (1-5) in making their decision to invest in stocks. Also widely held opinion about the market at 3.58 and latest trends in share price movements at 3.53 could explain the herding behavior of investors as observed in the NSE. These findings were similar to the conclusions of Speidell (2009) which found that investors were inclined to the trades of others in emerging markets. These factors drive investors to behave rationally or irrationally in their decision to invest or not to invest.

Kaustia and Knüpfer (2012) conducted a study seeking to investigate the effects of peer performance on investment in the stock market in Finland. The study hypothesized that peers could influence stock market entry decision through peer outcomes. Panel data was obtained from Finnish Central Depository on entry dates and portfolio returns in a

neighborhood of 2,668 observations for 93 months. Regression analysis was used in this study and fixed effects were used to eliminate effects from other observable characteristics. The study found that there was an increase in new stock market participants in a neighborhood that reported high stock returns. The study concluded that the neighborhood effect is positive and significant predictor of entry into the stock market. The study also concluded that the social interaction influence provides explanation for the reason why stock market participation tends to increase sharply in situations of high market returns. This means that investor stock market entry decision can be motivated by the positive performance of the investments of investors' local peers.

Shanmugham and Ramya (2012) assessed the impact of social factors on the trading behavior of individual investors for individual investors who actively traded in the Indian stock market. The study sought to establish the drivers of investment behavior of retail investors by examining the role of the media, social interactions and the internet in influencing investor decision making. Primary data was collected from the 500 respondents that were identified using snowballing sampling techniques. Data was then analyzed using regression analysis. The study found a positive relationship between social interaction and the intention to trade. Similarly, the media showed a positive relationship with the intention to trade in the market. The study concluded that social factors influence the trading activities of retail investors to a large extent.

Laasko (2010) investigated stock market participation rates and household characteristics in Europe. The study sought to shed more light on the stock market participation puzzle by investigating a comprehensive list of participation drivers in order to analyze their

explanatory power. The data used was collected from the Cross European Survey on Health Ageing and data that was collected from a set of questions about the household characteristics under study. The study observed that risk aversion in the strongest driver for the decision to invest in the stock market while out of the other variables under study, sociability provides the most explanation in the stock market participation.

Ng and Wu (2010) assessed the influence peer effects have on the trading activities of retail investors of Mainland China. Data about the Chinese investors was collected from the Shanghai Stock Exchange for a period of one year. The study's findings revealed that word of mouth had a strong influence on the trading decisions of retail investors particularly those who had close proximity to each other. Further, these effects were observed more in the purchase of stocks rather than in the sale of local stocks. Since there was likelihood that the investors were inexperienced, the results suggest that the peer effects observed through word of mouth could explain the speculative behavior of individual investors.

Brown and Taylor (2010) investigated the relationship between social interaction and stock market participation among individual investors. The study used panel data from the British National Child Development Study. Data was collected from a sample of 7,286 individuals. Social interaction was measured by establishing whether the individuals attended church and the frequency of attending church, whether the individual believes that people can be trusted, whether the individuals belonged to any club, whether the individual was a member of a sports club and whether this individual had friends that they had visited twice or thrice prior to the time of conducting the study. Their findings

found that there exists a positive relationship between social interaction and stock market participation within a fixed effects logit framework that controlled for time invariant unobserved data. Further, the study found that the relationship prevailed across almost all the measures of interaction. The study found that the effect of social interaction on participation was even greater for the individuals who were members of many clubs. This implies that individuals who were socially excluded were less likely to participate in the financial markets and therefore they would miss out on the profitable opportunities brought about by investing in the stock market.

A study by Brown, Ivković, Smith and Weisbenner (2008) investigated the effect of community interaction in the form of spoken word effects on participation in the stock market. Particularly, the study sought to establish the extent to which an individual is influenced to participate in the market for stocks where a greater number of individuals in the community were investors in the stock market. The study obtained 10 year panel data on taxpayers and included fixed effects to control for observable and unobservable factors. The study revealed that retail investor participation increases by 4% with a 10% rise in community stock ownership. The results further suggest that whenever stock ownership in a community increases it has a multiplier effect since it increases the likelihood that other individuals will also start to invest in the stock market. Despite the findings, the study suggests that the strong causal relationship could be as result of influence from other unobserved factors.

Hong, Kubik and Stein (2004) carried out a survey that examined the effect of social interaction on participation in the stock market. The study developed a model that

predicted that greater stock market participation among social households than among non-social individuals when all other factors of wealth, risk aversion, race and education were controlled. The model further predicted that the participation rates to be sensitive to exogenous factors. Data was collected from the Health and Retirement on 7500 households. The study revealed that it was more probable that individuals interacting with their neighbors and those who attended church participated more in the market for stock compared to non-social individuals and this effect found to be even stronger in states where the participation was higher.

Duflo and Saez (2002) investigated the effect colleagues had on participation in a retirement plan. Data was collected from 12,500 staff of a University from US. The study wanted to establish whether the decision to participate and the choice of mutual fund vendor could be affected by the decisions of other members in the same department. The study noted that members who belonged in one group operated within the same joint environment and that they grouped themselves together because they shared the same preferences. The University provided data about the individuals under study through their tax deferred account plan. Ordinary Least Square regression was used in the analysis of data. The study reported that peer effects were significant for both participation and the choice on the vendor of mutual fund.

Another study by Madrian and Shea (2001) sought to investigate the savings behavior of employees in a U.S. Corporation before and after introducing automatic enrollment to the 401(k) retirement plan. Data was collected for a two year period before and after the introduction of the automatic enrollment to evaluate the saving behavior of the employees

under study. The employees had many options of fund choices namely foreign stock, stock mutual funds, money market fund, stable value fund and a bond fund. The study observed that decisions to participate in the plan were inclined to the selections of coworkers. Similarly, Speidell (2009) observed that resident investors account for the greatest share of trading in numerous developing markets like Kenya and revealed that investors are exceedingly inclined to trading centered on the trades of others in these emerging countries.

Many of the reviewed literature have focused not only on the countries with developed markets, but also most of the studies have investigated one variable at a time. Further, empirical literature on the effects of social interaction is still limited for developing countries like Kenya. The study that sought to examine several factors investigated the individuals who were already investing in the stock market in analyzing their findings leaving out those individuals who may not have invested in the financial market. There was need to investigate a wide range of factors that are presumed to have an effect on participation in the stock market in Kenya. Also there was need for studies focusing on both participants and non-participants in order to determine the reasons for investor decision to participate in the stock market. This study therefore sought to investigate the relationship between social interaction and stock market participation decision among secondary school teachers from Nakuru County.

2.3.3 Risk aversion and stock market participation decision

Risk aversion is the desire for an individual to circumvent uncertainty. (Tversky & Kahnemann, 1974) define risk aversion as a preference for a certain outcome over a prospect with an equal or better expected value. According to earlier studies individuals are risk sensitive and tend to avoid risk as much as possible. Kahneman & Tversky (1979) is of the view that investors are not prudent and they are inconsistent when faced with risky choices and that they recognize risk after defining it. Therefore their risk orientation changes depending on the situation at hand.

Risk aversion has been observed to reduce the probability of stock market participation in previous studies. Gollier (2001) reported that difference in individual risk preference influences the makeup of a portfolio for retail investors. Guiso, *et al.*, (2018) conducted a survey to establish whether risk aversion was influenced by the financial crisis of 2008. Data was collected from clients from a large Italian Bank from a sample of 1,686 customers stratified according to geographical area, financial wealth and the size of City. The study revealed that risk aversion increases more for the investors who experienced very huge losses. Further, the study found that risk aversion increased even for those who had not experienced any loss. These results suggest that individuals will trade off their stocks after a fall in the prices of the securities bought.

Andersen, Hanspal, and Nielsen (2018) conducted a study that sought to examine risk taking preferences and the past experiences of investors. Data was collected from the Danish population about investors for 20 years and above who had invested in the stocks

of the local banks. The data collected contained investor information about personal data and financial data of the investors together with information about their deceased parents. The study sought to investigate the impact of the financial crisis of 2008 to check the impact that default had on the risk attitudes of investors. The study established that those who had invested in the banks experienced huge losses as a result of default and were thereafter unwilling to hold risky investments despite the inherited wealth that could cover their losses. The study's results showed that the investor's risk attitude was affected by their personal experiences to a great extent and that the experiences of close family members influence their risk taking minimally. Using the logit model, the study reported that the individuals living where the head offices of publicly listed banks were located had increased the chances of investing by 3.8% before the financial crisis. Further, the study found that stock market participation rates dropped significantly in banks that had defaulted after the crisis. The study suggests that risk attitudes of investors determine their decision to participate in investment.

Mahina, Muturi, and Memba (2014) conducted a study that sought to investigate behavioral biases of individuals and their effects on investments. The study specifically investigated loss aversion influence on the investments of investors in the Rwandan Security Exchange. Data was collected from 374 individual investors in the exchange and were identified through simple random sampling from a target population of 13,543 individual investors. Cross sectional descriptive survey research design was adopted for the study. The study reported that there exists a significant positive relationship between the loss aversion and investment in the Rwandan Security Market. This study

investigated loss aversion influence on the investments for investors who were already participating in the stock market.

Ratemo (2016) conducted a study that sought to explain how individual investor choices are affected by behavioral biases of mental accounting, loss aversion bias, representativeness bias, anchoring bias, and overconfidence bias. The study targeted Kisumu County investors in the Nairobi Security's Exchange (NSE). Data was collected from a sample of 60 individual investors. The study employed descriptive and correlation research design. The study found that the choices of investors are affected by behavioral biases and particularly by loss aversion. The study found that investors are generally risk averse and for this reason they prefer to dispose winning stocks but hold onto losing stocks for longer with the hope that the prices would rise at a later period in order for them to dispose such stocks.

Wendo (2015) investigated the factors that influence participation of advocates in the Nairobi Security exchange. The study evaluated participation by examining the preferred investment avenue of the investors. The study further sought to investigate the reasons why the advocates invested whether for savings, to get returns or to finance expenses. The study found that investors preferred the investments that had lower chances of losses. Further, the study found that the respondents considered the level of uncertainty in determining their investment decision.

Omery, (2014) also sought to investigate the effect of behavioral factors of loss aversion, price changes, herding, past market trends of stocks, overconfidence and anchoring on

individual investor behavior. The study employed descriptive research design. Primary data was collected through structured questionnaires and interviews from a sample of 63 individuals who had invested in the stock market. Analysis was done using Pearson's product moment correlation and linear regression techniques. The study found that investors become more risk averse after a prior loss and that they readily sell shares whose values has increased and avoid selling shares whose values have gone down in order to avoid regrets. These findings reaffirm the findings of Ratemo (2016).

Paravisini, Rappoport and Ravina (2016) examined the relationship between wealth and the risk attitudes of investors. The study used data that was collected from 2,168 investors from a club made up of lenders. The data obtained was used to correlate risk attitudes and the affluence of investors for the members of the club. The observed repeated patterns of investments of lenders enabled the study to draw conclusions about the effects of wealth changes on the risk attitudes of the investor. The study found that the richer investors were more risk averse and that after experiencing a loss of wealth in their trading activities; the risk aversion levels of investors similarly increased.

Lee *et al.,* (2013), studied the relationship between stock market return expectations and risk aversion of individuals. The objective of the study was to investigate the interaction between the expected returns of individual investors and their risk aversion levels and to establish how these two factors singly affect participation in the market for stock. The study also tested how the joint results arising from the bringing together the two variables impacts on decisions for investment on individuals. The study used data from the Dutch National Bank Household Survey for the period 2004-2006. The study measured

individuals' stock market expectations from a set of inquiry on the anticipated year head price changes. Risk aversion level was measured by questions that allowed them to evaluate individual risk inclinations in terms of investment strategies. The study found that risk aversion has negative impact on expectations about the stock market and also on the decision to participate in the market for stocks. Further, the study reported that stock market expectations have significant and positive effects on the decisions on portfolio allocation. The study observed that upon individuals participating in the market for stocks, risk aversion becomes immaterial in determining their portfolio allocation decision. The study concluded that individual expectations and risk aversion significantly influence a person's stock market participation.

Wamae (2013) conducted a survey that sought to evaluate behavioral factors influencing retail investors' decisions at the Nairobi Stock Exchange for 17 investment banks. The study utilized primary data sources to collect data from a sample of 47 respondents. The study found that risk aversion influences individual investor's investment decision making. Lakshmi, Visalakshmi, Thamaraiselvan and Senthilarasu (2013) investigated how behavioral characteristics differ in short term and long term investors and the effects on the investment behavior. Data was collected from a sample of 318 individual investors. The study used the structural equation model to bring out the relationship between the investment decisions and the behavioral characteristics of the investors having different time horizons. The results showed that risk aversion had a positive and significant influence on the investment decision making for long term investors. This implies that with higher risk aversion levels comes a greater tendency of retail investor to

prefer longer term investments.

Grinblatt and Keloharju (2001) investigated the reasons why both individual and institutional investors traded in the market in their buy, sale or holding of securities. Data was collected from central register about the Finnish stocks for the period 1994-1997. Logit regression analysis were used to analyze the data. The results revealed that previous uncertainties of the return of investors did not have any impact on the decision to trade in securities and specifically it did not result in investors selling their already held securities. Instead, the influence of past returns on the level of trading is more relevant for previously earned positive returns that for previously earned negative returns.

Michailova (2010) conducted an experiment that sought to investigate the influence of behavioral factors of overconfidence and risk aversion on the behavior of individual investors in the asset market. Data was collected from ten experimental sessions from a sample of 32 people and regression analysis was used to analyze the data. The study revealed that participation of individuals in the asset market is driven by overconfidence and not risk aversion. Despite this, the study predicted that individual higher levels of risk aversion will have negative effects on trading activity of these individuals in the asset markets. This implies that risk aversion discourages individual investor trading activities.

Elton, *et al.* (2004) investigated investors' choices of index funds where costs varied across funds with the funds having almost comparable investment strategies; the variations drove anticipated differences in performance. Despite the predictability, investors invested in very costly securities with expected poorer performance. The study

suggested that individuals should form well diversified portfolios in order to reduce risk and earn high returns from investment in financial securities.

Charness and Gneezy (2010) conducted an experiment on the influence of risk attitudes of investors on their portfolio selection decision. Data was collected from the Graduate School of Business of the University of Chicago from a sample of 275 individuals. The study reported that the preferences of risk of individuals did not affect the investment behavior. The study findings conflicted with those of Laasko (2010) who reported that risk aversion has important bearing on investment decision and specifically stock market participation decision.

Laakso (2010) conducted a study that sought to shed more light on the stock market participation puzzle by investigating a comprehensive list of participation drivers in order to analyze their explanatory power. The study obtained data from European Survey on Health, Ageing and Retirement in Europe. Analysis was done using probit regressions to assess the individual factors affecting the decision on direct and indirect stock market participation. The study identified risk aversion as the single most economically important explanation for stock market participation and that this effect was observed for all specifications of stock holding.

Another study by Gollier (2009) examined the portfolio problem using comparative statistics with one asset being uncertain while the other was a safe asset. The study revealed that more ambiguity aversion does not reduce the demand for the asset with unpredictable return. If anything, the study reported that investors demand increased for

the ambiguous asset with the introduction of uncertainty aversion due to the resulting increase in equity premiums.

Waweru, *et al*., (2008) investigated behavioral factors of overconfidence, availability bias, representatives, regret aversion, loss aversion and mental accounting in the investment decision making for institutional investors operating in the Nairobi Securities Exchange (NSE). Data was collected from a sample of 23 institutional investors. The study found that loss aversion and regret avoidance affected the investment decision of institutional investors at the market for stocks to a large extent. In another survey conducted by Rooij, Lusardi and Alessie (2011), an aspect of risk was introduced in the investigation of the effects of financial literacy on stock market participation and evaluated the association between stock market participation and risk aversion. They observed that risk is associated to ownership of stock with those individuals not willing to take risks less expected to participate in the financial market.

Barberis, Huang and Thaler (2006) established the importance of assessing individual risk per trade in isolation without relating it to previous experiences could be more relevant to the investment decision making. The study further sought to address the stock market participation puzzle by evaluating investor preferences. The study obtained data from analyzing independent money gambles. The study revealed that first order risk aversion could explain the non-participation. This means that first order risk is more important than overall market risk in determining the participation decision. Bellemare, Krause, Kröger and Zhang (2005) conducted an experiment to evaluate the effects of risk aversion on investment behavior of individuals having information disseminated. The

study results reported that risk aversion affected the behavior of investors even without increasing the period the investment was held and that this risk aversion was determined by the level of information the investor had about the investment.

The studies reviewed suggest that risk aversion could explain person's stock market participation for investors. However, many of the findings could not be extrapolated to developing countries like Kenya and therefore there was need to conduct this research to investigate risk aversions contribution towards the stock holding puzzle especially for emerging markets like Kenya and particularly for secondary school teachers in Nakuru County.

2.3.4 Financial literacy and stock market participation decision

Financial literacy has potential of enhancing stock market participation by reducing the cost of obtaining information related to investment vehicles and stock market in general. For instance, Lusardi (2008) in a study revealed that it is more probable for better educated people to hold stocks after controlling for labor income, wealth and unemployment risk. According to the study, education gives individuals ability to understand information about the stock market and the available investment opportunities.

Mouna and Jarboui (2015) sought to determine whether financial literacy could explain investor portfolio selection in the emerging market of Tunisia Stock Market. The study used ordinary least square regression to analyze the data due to the continuous nature of the portfolio diversification variable. The study found that the investor's with greater

financial knowledge also held more assets in their portfolios and the higher the diversification, the lesser the risk. The results show that financial literacy has important implications on an investor's investment management. The study recommended that investors should be educated so that they can become well equipped to make rational decisions in their investment choices. The results suggest that investors should make informed decisions regarding their investments in order to maximize their returns from their investments.

Mbabazi and Daniel (2017) investigated the effects of financial literacy on 130 small and medium enterprises participation in the market for stocks among small and medium enterprises in Rwanda. The study found that there is a positive significant association between financial literacy and stock market participation. The regression analysis revealed that financial literacy explained 81% in the stock market participation. The study further recommended that these enterprises should be trained on financial literacy in order to encourage more stock market participation. This implies that financial literacy is the main determinant of stock market participation.

Sindambiwe (2014) conducted a study on financial literacy, stock market awareness and capital market participation of an emerging stock market. The main focus was the Rwandan Stock Exchange. The objective of the study was to investigate the influence of stock market awareness of leaders of 91 selected organizations on the level of stock market participation. The study used descriptive correlative research design and collected data both qualitative and quantitative using interviews and a detailed questionnaire. The study found that directors of organizations were highly financially literate and that they

apply this financial literacy in the daily running of their business. However, the study also reveals that despite the directors' high literacy levels, their organizations' level of stock market participation on the Rwandan Market was low.

The study further noted that despite the findings that Commercial banks ranked first in stock market awareness, insurance firms reported the highest level of stock market participation with the manufacturing organizations ranking lowest in in both stock market awareness and participation in the stock market. The study found a significant and positive relationship between stock market awareness and stock market participation and recommended that Capital Markets Authority should develop programs aimed at increasing awareness and financial literacy training in order to increase the stock market awareness which in turn increases stock market participation. This agrees with the study Guisso and Jappelli (2004) who note that lack of financial awareness has important implication for understanding the stock holding puzzle.

Li, Geng, Subrahmanyam and Yu (2014) conducted a study that sought to establish whether the rich individual investors have an advantage over normal investors in terms of information. Data was obtained from a national brokerage firm in China for 1.8 million individual investor's trading and also about their record of holding for the period 2007-2009. The study employed monthly time series regression to measure the return of the portfolios held by each individual investor sampled for the study. The investors were categorized into four groups the super investors, small, middle and big investors. The study found that although generally individual investors perform poorly, the super investors were able to earn positive significant returns and that the more these super

investors traded, the greater the returns they earned from their investment activities. The study concluded that these super investors were able to get positive returns because they have informational advantage over the other groups of investors. The study further suggested that investor with high value portfolios also became wealthy due to their higher cognitive abilities. This means that smart investors those who have information about financial securities are in a better position to make greater gains as they are able make informed investment decisions.

Lodhi (2014) sought to investigate the influence that financial literacy on individual investors decision making. Primary data was collected from 60 individual investors drawn from Karachi population. Probability sampling method was used to identify the final sample. The study targeted entrepreneurs, teachers, executives, officers, housewives, and students from different religious and cultural backgrounds. The study reported that financial literacy lowers information asymmetry thereby allowing investors to invest in risky securities.

Marobe (2013) conducted a study on the determinants of stock market participation by individuals in Dares-Salaam Stock Exchange (DSE) Tanzania. The objective of the study was to examine factors that influence stock market participation in Tanzania. The study specifically investigated the effects of economic, social and financial literacy factors on stock market participation. The study applied a survey approach using both purposive and incidental data collection techniques to administer the questionnaires. The study found that income, occupation, education and age significantly explained stock market participation in Tanzania. The study also found financial literacy and gender to be

insignificant to the stock market participation decision. The study emphasized the need for the DSE to provide training and education to people in order to increase awareness on stock issues in order to attract more participants to trade in stock market. Following the recommendation, it was therefore important to investigate whether the lack of awareness could be the reason why we have few individual investors in the Nairobi Stock Exchange.

Brown and Graf (2013) conducted a survey that sought to evaluate how investment and borrowing is influenced by financial literacy among Swiss households. Data was collected through the use of telephone interviews from 1500 individuals aged between 20-74 years. Regression analysis was used to analyze the data. The study found that the Swiss population was relatively financially knowledgeable as they understood knowledge in basic financial concepts. The study's results reported that financial literacy positively influenced investment behavior and that more financially knowledgeable individuals were more likely to participate in the stock market, saving for retirement and mortgage borrowing.

Yoong (2011) investigated the effects of financial literacy on stock market participation. Data was collected from American Life Panel from a sample of 1000 individuals who were 40 years of age and above. The study found that lack of financial knowledge affects the decision to participate in the stock market. The findings reported that lack of knowledge in finance hinders investors from participating in the stock market and the impact is worse for risk averse individuals as the lack of awareness in financial concepts

affects their ability to amass wealth. These findings illustrate the importance of financial literacy in influencing the investment decision of individual investors.

In another study, Hastings and Mitchell (2011) sought to explain whether financial literacy has a role to play in the savings for retirement and the investment behavior using data obtained from 14,000 respondents drawn from the Chilean firms'EPS over a ten year period. The results from the study reported that financial literacy is actually related with retirement saving but less associated with to the investment decision making. The study further recommended that policy makers should come in to guide individual investors in making the right investment decisions and especially where long term investment opportunities are being considered especially now that the choice of investment rests on the investors themselves. The study suggests that individual investors especially the less educated ones are incapable of making optimal investment decisions and there is need to provide training on financial literacy.

Grinblatt, Keloharju and Linnainmaa (2011) examined the effects of investor cognitive abilities on participation in the stock market. The study was revolved around the assumption that individuals having limited cognitive abilities tend to lack the ability to process information and act on it. The results reported that IQ plays a significant role in influencing individual investor decision to participate in the stock market. The study further revealed the central role that cognitive abilities played in influencing other variables of wealth and income which have direct effect on the stock market participation. The results suggest that investors with lower cognitive abilities participate

less frequently in the market and in turn earn lower returns. This could explain the wealth disparities witnessed between the low and high IQ individuals.

Barber and Odean (2011) in another study examined the behavior of individual investors. The main focus was on the trading of these investors in individual stocks. The study found that individual investors do not behave rationally as they tend to hold portfolios that are not well diversified because they do not have sufficient information about the securities resulting in low returns even before considering transaction costs. The study further reveals that individual investors prefer to invest in the stocks of companies close to where they stay. The study further observed that the media also influenced the behavior of individual investors and that investors purchased the stocks that were given attention in the news. This suggests that since investors lack information about the securities traded, they have inadequate ability to select the securities they use to form portfolios.

Müller and Weber (2010) conducted an online survey on the relationship between financial literacy of retail investors and their investment in mutual funds. Data was collected from a sample of 3,228 participants in investments through an online questionnaire. The results reveal that there are majorly two distinct groups of individual investors. The more knowledgeable who have a better ability to select their investments. These investors select these investments mostly on their own and rely on information obtained from the internet therefore they reduce their overall transaction costs. Unsophisticated investors on the other hand relied heavily on advice from financial advisors who recommend investment in actively managed funds and as a result such

investors incur greater costs on commissions. The study revealed that financial literacy improves the investment decisions of individual investors when considering investment in mutual funds as it improves their ability to select investments and helps in their assessment of expected returns and risks and reduces their overall transaction costs.

Hassan Al-Tamimi and Anood Bin Kalii (2009) conducted a study that assessed the relationship between financial literacy and the effects of dynamics that influence the investment decision among United Arab Emirates individual investors. Data was collected through a structured questionnaire from a convenient sample of 290 individual investors who had invested in the stocks of local companies. The study reported that financial literacy among the individual investors was far below the required level. Further, the study revealed that financial literacy was also affected by the level of education and income. With regard to gender, the women were found to be less financially knowledgeable than men. The study concluded that financial literacy influences the investment decisions of retail investors significantly. However, purposive sampling has serious limitations which may impact on reliability of the findings (Mugenda and Mugenda, 2003). There is need to replicate this study using other designs to corroborate the findings.

In a study dedicated to education and financial market participation, Cole and Shastry (2009) carried out a study that sought to examine the association between education and stock market participation. Data was collected from individual households from a large sample of United States Census data through the use of a detailed questionnaire. The study revealed that education was important in boosting individual investor participation

and estimated that stock market participation for households would increase by 1.5% with one additional year of schooling.

Calvet, Campbell and Sodini (2009) evaluated the investment mistakes that many investors make in the stock market. Calvet *et al*., identifies these mistakes to include little diversification, risk taking and the inclination of investors to sell well performing stocks too soon and holding poorly performing stocks too long. Data was collected from Swedish panel and was analyzed using regression analysis. The results revealed that households that were more educated committed smaller investment mistakes and that wealth negatively influenced the three investment errors. Finally, the study reported that financial sophistication increased significantly with the affluence and household size of the investors.

Korniotis and Kumar (2010) examined the impact of cognitive abilities on investment decisions of individual investors in US. They collected data from a sample of 62,387 individual households from a US brokerage house for the period1991-1996. The study estimated cognitive abilities together with the demographic characteristics of the retail investors. Using multivariate cross sectional regression analysis, the study found that investors with cognitive abilities perform better than investors without these abilities by 6% when there are significant differences in the securities in their portfolio. The difference in the performance between the high and the low cognitive abilities investors was positive and significant at 0.05. The study suggests that investors having low cognitive abilities would be better off if they invested indirectly in the financial markets as their direct investment in the financial market would result in economic losses.

In another study, Ivkovic, Sialm and Weisbenner (2008) investigated the role of information on the selection of securities that make a portfolio for individual investors. Data was collected from 78,000 household trades from their monthly statements of position for the period 1991-1996 obtained from a discount broker. The main focus was on common stocks traded in various security markets. The households were divided into two groups of concentrated and diversified households. The data collected was analyzed using regression analysis. The study reported that the holdings of concentrated households performed better that the households that held too many stocks in their portfolios. The study revealed that households that held one or two assets in their portfolio performed better than diversified portfolios. The study also showed that these returns were more in situations of greater information asymmetry. The study suggests that the wealthy households are able to earn higher returns because they have better ability to identify and select the stocks of superior performance because they have more information about the securities.

Guisso and Japelli (2008) conducted a survey on the effect of financial literacy on portfolio diversification decision. Data was collected from a sample drawn from the largest Italian Bank from the 2007 Unicredit Customers Survey. The regression results reported a high correlation between financial literacy and portfolio selection. The study also revealed that the investors with limited financial literacy held undiversified portfolios. The study also found those investors that were risk averse, older investors, little income and less educated investors were less sophisticated financially. The study

further recommended that more training should be done to improve investors' financial literacy and ultimately their investment decision making.

Lusardi (2008) sought to establish the influence of financial literacy on financial decision making. The study data was obtained from the US population and the respondents were between the ages of 40 and 60 years. The findings of the study showed that there was widespread financial illiteracy among many households in the US and particularly among individuals with little education. The study found that there was a direct relationship between financial literacy and financial decision making on matters such as savings, investing and the decision to participate in the stock market. The study further recommended that individuals should be trained on financial concepts to enable them make wise investment decisions. This shows that financial literacy is important in the decision to participate in the stock market.

Rooij, *et al.,* (2007) conducted a study to investigate the effect of financial knowledge on stock market participation. The study found that knowledge in the field of finance increases the efficiency of processing financial information and in this way result in a more individuals participating in the stock market. Data was collected through questionnaires having wide ranging questions for measuring various levels of financial literacy. The study revealed that many individuals had adequate knowledge of basic financial concepts but lacked knowledge in complex financial matters. For instance, the study observed that investors did not have adequate knowledge on financial securities like stocks and bonds and their relationship with interest rates nor were they aware about the importance of diversification. Upon including risk aversion in their empirical

specification, financial literacy did not change appreciably in magnitude. It remained positively and statistically significant in explaining stock market participation.

Beckmann, Menkhoff and Suto (2007) conducted comparative study on asset managers' behavior in the United States, Germany, Japan and Thailand reveal that fund managers with a lesser learning degree were prone to herding behavior. Elton, *et al*. (2004) investigated investors' choices of index funds where costs varied across funds with the funds having almost comparable investment strategies; the variations drove anticipated differences in performance. Despite this predictability, investors invested in very costly securities with expected poorer performance. This means that individuals need to have proper knowledge and skills if at all they are to benefit from trading in the financial markets.

The studies reviewed reveal that there are mixed results on whether or not financial literacy contributes to stock market participation. The studies that have found a positive relationship between financial literacy and stock market participation decision show that the estimated effects differ. Further, many of the studies reviewed have been conducted in developed countries and therefore their findings may not be similar as those of stock markets of developing countries like Kenya. Many of these studies have also focused on other populations and none has looked at civil servants and specifically teachers who can also invest in the stock market. Therefore there was need to investigate how individuals' stock market participation can be affected by financial literacy and awareness in Kenya and specifically for secondary school teachers in Nakuru County.

2.3.5 Moderating effect of investment culture

Investment culture has been observed to have significant moderating influence on individual investor dynamics and the decision to participate in the stock market. In Kenya, cultural influences have been observed widely and the moderating effects of culture have been observed even in the educated elite in the society.

Culture can be defined as a structure of shared values, beliefs, and attitudes that affects individual perceptions, inclinations, and conducts. Hofstede (1980) describes culture as programming of the mind exhibited in values and norms and in rituals and symbols. This programming of the mind is consistent with time meaning that the person displaying regularly same behavior in same situations. Hofstede in his definition was referring to national culture.

Hofstede's (1980, 2001) developed a framework for cultural dimension and four dimensions of culture. The first was Individualism, the degree to which one expresses individuality meaning that personal relationships are not viewed as important. The second dimension Hofstede identified was Power Distance. These are the inequalities of power, wealth and prestige that have become acceptable by members of a society. The third dimension was Masculinity. This describes the division in roles between the two sexes, male and female. The fourth dimension was Uncertainty Avoidance, a situation where a society's members try to avoid uncertain situations.

Guiso, Sapienza and Zingales (2009) reported that cultural dissimilarities could be used to explain participation in market for stocks and other facades of investment. Similarly,

Chui, Titman and Wei (2010) suggest that cross-cultural dissimilarities are related to levels of trading activity. In another study, Beugelsdijk and Frijns (2010) found that culture was significant when explaining foreign prejudice in portfolio apportionments. Hens and Wang (2007) in another study showed that cultural differences are important in guiding financial decisions. The study observed that cultural dissimilarities lead to regular deviations from rationality in decision making and specifically affects aspects of risk taking as well as in returns of stocks.

Levinson and Peng (2007) carried out an empirical study in China and the United States that investigated cultural background and its influence on economic decision making. They wanted to examine whether morality, framing and outgroup information affected financial worth and property possession judgements across the two cultures. The study revealed cultural differences influenced financial value approximations.

Jong and Semenov (2002) investigated cross country cultural dimensions of uncertainty avoidance and Masculinity effects on stock market activity. The study used the national score the dimensions of Uncertainty Avoidance and Masculinity to express these attitudes brought about by the deeply rooted norms and values. The study observed that stock markets were relatively more important for countries where inhabitants accepted more uncertainty avoidance and where they regarded competition positively (high score of Masculinity).

Zhan (2019) investigated the influence national culture has on the collective behavior across universal financial markets and the association between national culture and investor behavior and stock market instability. The study found that countries with lesser

individualistic culture were expected to have a greater number of resultant stock price movements while those with high individualistic culture having comparably low number of resultant stock price motions and smaller stock market instability, and that the positive relationship between harmonized stock price motions and stock market instability is stronger for developing markets during times of financial crunch.

Pirouz & Graham (2010) evaluated the influence of culture on the stock prices instability. Their findings revealed that cultural dimension of linguistic structure and cultural values influence stock market volatility. The study also revealed that this influence is moderated by the level of globalization of the countries.

Anderson *et al*. (2010) investigated cultural effects on home preference and international diversification by institutional investors. The study examined the determinants of international diversification in institutionally managed portfolios from more than 60 countries. Specifically, the study examined the worldwide equity stock holdings of 25,000 institutional portfolios from above 60 countries, which in turn were invested across more than 80 countries. The study showed that investment funds for countries characterized by great uncertainty avoidance had poorly diversified foreign holdings and display greater home bias.

The study also found that portfolios from countries with higher levels of masculinity and long-term orientation display lower levels of home bias. The study concluded that the economic significance of cultural variables is high and analogous in enormousness to geographic distance. Their findings suggest that a portion of the home-country prejudice

is due to characteristics of culture that contrast across investor countries. This influence on foreign diversification was consistent with prior studies. Their study further brings out clearly the role that culture plays in investment. They note that culture impacts investor behavior directly and not through indirect channels such as the legal and regulatory framework. This emphasizes the need to investigate the cultural influences on individual investment behavior because if it influences the institutional investors then the same influence would be expected to be observed for the individual investor.

Beckmann, *et al.,* (2007) conducted survey on asset managers' views and behavior in the United States, Germany, Japan and Thailand. The study relied on Hofstede's four cultural dimensions and found cultural differences were most helpful in understanding country differences that could not be explained purely by economic reasoning. They study observed that the culturally different importance of herding, age, experience, gender, tracking error and research effort affect investment behavior in an sophisticated way. The study found that managers from more individualistic countries showed less behavior in herding and that the interrelation was significant.

Beckmann *et al.,* (2007) also observe that uncertainty avoidance also has effects on investment as it is related to the magnitude of safety margin leading to the problem that asset managers may not invest as actively as expected. Uncertainty Avoidance can be used to explain the lesser returns generated by asset managers. The study showed that since the impact of these variables are multi-faceted; the robustness of their findings should be tested with a close examination of the further consequences for each country.

Nderitu (2008) conducted a study on the influence of investor's distance and culture on stock holdings and trading for the four listed agricultural Companies at Nairobi Stock Exchange. The study explored the influence of investors distance, language and culture on stock holding and trading for listed agricultural companies at Nairobi stock Exchange. The study revealed that shareholding is to a large extent not affected by distance because stock purchase decisions are not influenced by the proximity to the firms' operations. The study also found that cultural factors like the locality of directors have some significant influence on the shareholding of agricultural stocks listed at the Nairobi Security Exchange. Notably also, the study revealed that for firms whose operations were not near urban areas, the rural communities in those areas tend to be poor and as such were unable to participate in the stock market. Further, in such communities there was very little awareness about the operations of the stock market.

These studies reveal how culture could influence the behavior of individual investors directly. However, none of the studies have shown how culture could interact with other individual investor dynamics in influencing their effects on individual investor stock market participation. There was need therefore to investigate the moderating effects of investment culture on the relationship between individual investor dynamics and stock market participation decision of secondary school teachers in Nakuru County.

2.3.6 Stock market participation decision

Many researchers have tried to explain why individual investors who make direct investment in the stock markets are few. In Kenya few individuals participate in the market for securities. (CMA, 2014)

Wendo (2015) in the investigation on the factors that influence participation of advocates in the Nairobi Security exchange, evaluated participation by examining the preferred investment avenue of the investors. The study identified the avenues as investment in shares, fixed income securities, real estate and other ventures. The study further sought to investigate the reasons why the advocates invested. The study found that investors invested for the purpose of income and capital gains. The study further found that some individuals invest in order to increase their savings. The study also reveals that although there was a time when retail investor participation in the stock market was high the enthusiasm of retail investors was fast waning away and many firms experienced an exit of individual shareholders.

Ameriks and Zeldes (2000) evaluated the influence that age of investors had on equity allocations. Pooled cross sectional data was collected from accounts of participants for the period 1987-1996. The study observed that almost half of the participants did not make changes to their retirement plan over the period of the study. This showed that there was limited trading activity for the stocks that were held within retirement plans that were employer sponsored.

Grinblatt, Keloharju and Linnainmaa (2011) examined how investor cognitive abilities could influence participation in the stock market for Finnish investors. The participation in the financial markets was measured through observing the investor portfolio sizes and their levels of trading activity and relating the same to their cognitive abilities. The study revealed that the investors that had high IQ rating traded more frequently therefore cognitive abilities were important in influencing the participation of investors.

Agnew, Balduzzi, and Sunden (2000) conducted a study that sought to examine the portfolio choices, trading behavior and returns earned. Data was collected from 401(k) accounts for the period 1994-1998. Regression analysis was used to evaluate the data the study revealed that the investors had very little trading activity and specifically in altering their portfolios already held. Further, the study revealed that the trading activities of the participants varied depending on their demographic characteristics and other participants' factors. For instance the study reported that male participants traded more frequently than their female counterparts and older employees similarly traded more frequently with those participants earning more trading more frequently.

Briggs, *et al*. (2015) examined the effects of wealth on stock market participation using a large sample of Sweddish lottery players. The study found a positive relationship between stock market participation and wealth and that the effect on participation is not only immediate but also permanent as the increase in participation is observed years after the lottery. The study further revealed that the fixed cost of participation was more relevant to the non-participating households with participating costs of 2800USD being able to explain non-participation for 75% of non-participants while the effect to participating households was negligible.

Yoong (2011) investigated the effects of financial literacy on stock market participation. Data was collected from American Life Panel from a sample of 1000 individuals who were 40 years of age and above. The study used split sample analysis to measure the participation variable. The individuals from whom data was collected were categorized into two groups; the individuals who owned stocks and the individual who did not own

stocks. The two categories of individuals were further grouped into the ones with and without a planner. The study found that lack of financial knowledge affects the decision to participate in the stock market. The findings reported that lack of knowledge in finance impedes investors from participating in the stock market and the impact is worse for risk averse individuals as the lack of awareness in financial concepts affects their ability to amass wealth.

Lusardi, *et al.* (2007) evaluated the effects of financial literature on participation in the stock market. The study measured participation in terms of stock ownership or investment in mutual funds. The study reported that very few less educated individuals participated in the stock market. The study further noted that although education was important even those with university education had not invested. This suggested that there were other factors other than financial literacy that could explain non participation in the stock market.

Vissing-Jorgensen (2002) conducted a study that sought to provide reasons for limited participation in the stock market. Data was collected from the US consumer expenditure survey on income and asset holdings for the stock market participants from 4842 respondents. In order to measure market participation, data about the individual holdings on stocks, bonds, mutual funds and other securities were obtained. The households were then separated into those who held stocks and the ones who did not, as well as those who held other securities verses those who did not. The study found a positive effect of income on the stock market participation of the investors and also on the proportions of wealth invested in the stocks traded. The study further reported that transaction costs

could also explain non participation for fifty percent of non-participants and for the households having low financial wealth. Further, the study revealed that many households had low levels of activity. They rarely traded in the assets already invested in neither did they actively change the portfolios already held.

Calveat, *et al*. (2009) evaluated how portfolio composition of investors varies with wealth. Panel data was used for the study. The data was collected from statistics Central bureau for 4.8 million Swedish households for the period 1999-2002. On participation in the financial market, the study revealed that the investors who were more educated and wealthy had higher chances of participating and were less likely to stop investing in the stock market. The study also found that the more affluent and educated investors having better compositions in their portfolios revised them more frequently. The study suggests that informed investors traded actively in the financial markets.

Guiso, Sapienza and Zingales (2008) conducted a study that sought to provide explanation for the limited stock market participation. The study measured participation in terms of the individuals who either invested in the stocks of companies and those who did not. The study revealed that less trusting individuals were less likely to invest in the stock market and should they decide to participate would buy very few stocks. The problem of trust was found to be significant and this could explain non participation of many on the wealthiest households in the United States.

Brunnermeier and Nagel (2008) investigated whether changes in affluence of individuals affected portfolio distributions for individual investors. The study found that the

likelihood of participation in the stock market was positively and significantly correlated to changes in liquid wealth. The study also observed that even with seemingly significant wealth changes, many investors were reluctant to change the compositions of their portfolios. This shows that investors are inactive in their trades in the financial markets.

Constantinides, Donaldson and Mehra (2002) examined the reason why there were anomalies in the financial markets. First, the study sought to establish the reasons why few individuals participated in the stock market. The study also sought to provide explanations why investors preferred investing in bonds despite equity securities having a history of better performance. The study divided the population into three categories the young who receive low endowment income, middle age who are employed and therefore have a large mean income and the old who retire and depend on what was saved in the second stage. The study further introduced aspects of borrowing constraints and calibrated the investments for each of the categories of individuals in the economy. Stock market participation was measured through individual investment in both equity and bond securities and the portfolio compositions between the two securities for each of the categories evaluated. The study found that although the young wanted to borrow and invest in equity, the borrowing constraint restricted them. The middle age investor, even with the borrowing constraint is able to borrow against their labor income. The middle age investor further seeks to diversify in order to secure their returns in the future by investing in both equity and bond securities. The young were found to invest in equity in the absence of borrowing constraint.

The Security's exchange in Kenya provides an avenue for various investment opportunities. Despite this, investment ratios for individuals still remain abysmally low (CMA, 2015). Therefore it was important to investigate individual investor dynamics and how they affect individual investor stock market participation decision.

2.4 Conceptual Framework

A conceptual framework is a model that explicitly depicts the relationship between variables (Mugenda & Mugenda, 2003). The conceptual framework for this study is illustrated in Figure 2.1. According to this framework, explanatory variables for stock market participation are the independent variables whereas participation in the stock market is the dependent variable.

The independent variables comprised the explanatory variables of financial wealth, social interaction, risk aversion and financial literacy. Financial wealth was measured in terms of participation cost and net worth of investors. Social interaction was measured using the interactions between family members, co-workers, friends, financial advisors and welfare groups. Risk aversion was measured using risk preferences, investment risks, and expected returns while financial literacy was measured using financial education and training, financial market information, awareness of investment opportunities and information on fundamental stock analysis and diversification. The arrows point the relationship that exists between the independent variables and dependent variable.

The dependent variable was measured by the investment in traded securities, the level of trading activity of individuals and the reason for investing. The moderating variable of

investment culture was used to account for dynamics other than the theoretical concepts of interest in its role in influencing the relationship between the individual investor dynamics and the stock market participation decision. The arrow on investment culture illustrates that investment culture could influence the relationship between the independent variables and the dependent variable and hence the need to measure its moderating effect on the relationship.

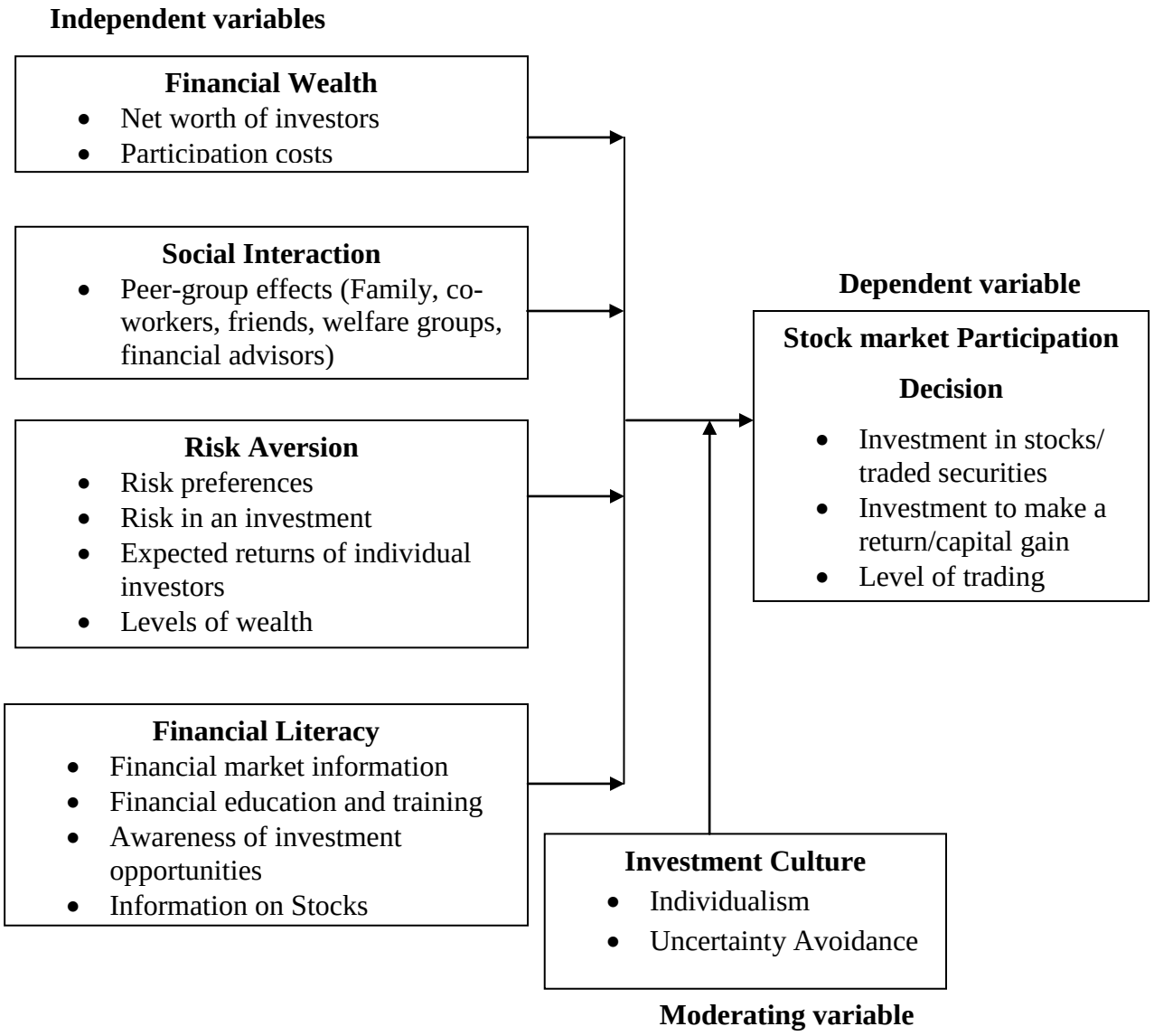

Figure 2.1: Conceptual framework of the relationship between individual investor dynamics and stock market participation decision

Source: Author, (2019)

2.5 Identification of Knowledge Gap

The studies reviewed were useful in providing variables that could explain the stock market participation puzzle. However, the degrees of estimated effects differed in the

studies. These mixed results could be attributed to the differences in individual investor dynamics examined, the period covered, the methodology employed, the countries and groups within the population examined.

Further, most of the prior researches on stock market participation have evaluated one variable at a time while seeking to find answers to the stock market participation puzzle. In addition, many of the studies that have been carried out in the past have focused on institutional investors giving less attention to individual investors. Further, many of the previous studies have been conducted in developed countries where the securities markets are more vibrant with their individual investors' being active (Briggs, *et al.*,2015; Tauni *et al*., 2016; Andersen, *et al.,* 2018; Li *et al*., 2014). Moreover, many of these developed countries have available statistics about important household characteristics making it possible to obtain quantitative panel data that can be used to conduct longitudinal surveys about the investment behavior of individual households. Further, many of these countries have better developed markets compared to developing economies like Kenya and therefore the findings from these studies could not be extrapolated to developing economies with emerging securities markets like Kenya.

In Kenya, previous studies conducted have focused on the factors influencing the investment decisions for individuals and firms who are already investing in the Nairobi Security's Exchange. In addition, most of the studies have focused on psychological biases that affect investor behavior for individuals who are already participating in the stock market leaving out non participants in the stock market. A study which attempted to study individuals in particular sector in Kenya was conducted on advocates and none of

the studies has been conducted on teachers. The current study is a pioneer study on secondary school teachers in Kenya. The studies also suggest that there are many factors that drive non-participation hence the need to investigate a number of variables.

There exists scant literature on factors influencing individual investors' stock market participation decision in Kenya. This study therefore sought to fill this gap through research. This study therefore sought to investigate the variables of financial wealth, social interaction, risk aversion and financial literacy that have been observed to have an effect on individual stock market participation and to establish the contribution they make in influencing individual investor stock market participation. The study further sought to investigate the moderating effect that investment culture has on the relationship between individual investor dynamics and individual investor stock market participation decision among secondary school teachers from Nakuru County. The objective was to check the strength of these variables and to define the most relevant of these dynamics behind individual investors' decision to participate in the stock market in Kenya.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter discusses the research methodology that was used to address the objectives of the study. Specifically, it presents the research design that was used, the target population, the sampling procedure that was followed, the research instrument that was used, the way in which validity and reliability of instruments was determined, data interpretation, data analysis and presentation method adopted for the study.

3.2 Research Design

Tharakan (2006) identified two discrete philosophical methods: the positivistic and the anti-positivistic that are useful in the field of social sciences. Positivism stands for predictability, objectivity, controllability and measurability and aids to create laws that govern human behavior. Non-positivism on the other hand stresses understanding and clarification of phenomena and creating meaning out of this process (Cohen, Lawrence & Morrison, 2000).

The study was based on positivism research philosophy. Easterby-Smith, Thorpe and Jackson, (2015) assert that positivism involves theory testing and the key argument of positivist orientation is that the world exists externally, and that its characteristics should be evaluated objectively, rather than being inferred subjectively through reflection, sensation, or intuition. Positivist orientation is related to the quantitative approach, a

research strategy to conduct research (Bryman & Bell, 2007). Quantitative approach is construed as a research approach that stresses measurability in the collection and analysis of data and involves a deductive approach in which a conceptual and theoretical structure is developed and then tested by empirical observation, thus particular examples are deduced from general interpretations (Hussey & Hussey, 1997).

The research design is the blueprint for the collection, measurement and analysis of data (Kothari, 2005). The study employed cross-sectional survey research design. According to Easterby-Smith, Thrope and Jackson (2008), research design is the way the research is planned, the way in which data is gathered, where the data will be collected and how this data will be analyzed and interpreted. Research design holds all elements of research together (Kombo & Tromp, 2006)

Cross-sectional survey research design was found suitable because it describes the behavior of respondents with regards to participation in the stock market at a specific point in time but it is also the most appropriate method when the researcher seeks to establish the relationship between variables (Sekaran, 2004). The study obtained information that helped to evaluate the behavior of respondents with regards to participation in the stock market from the teachers from the selected sub counties in Nakuru County, Kenya.

3.3 Location of Study

The study was focused on Nakuru County, on the five major Sub Counties of Nakuru, Molo, Njoro, Naivasha and Gilgil. The study was focused on the Kenya Stock market and

specifically in the individual investors segment. Nakuru was selected because it has been ranked as the town having the highest annual growth in Africa based on a ranking by United Nations report and therefore the study sought to establish whether the growth has been reflected in the investment segment among individuals. *(See Appendix VII)*

3.4 Target Population

Target Population is a whole group of components that have one thing in common (Orodho, 2003). Accordingly, the study population comprised 1,609 secondary school teachers from the Nakuru, Molo, Njoro, Naivasha and Gilgil sub counties of Nakuru County (TSC Report, 2018). Teachers were selected because none of the previous studies conducted in Kenya had focused on teachers. Also, a report by the National Treasury reveals that nearly 20% of the total government budget is allocated to the Teachers Service Commission. This implies that teachers make significant contribution to the general economy of a country. Also, secondary school teachers are deemed to have certain level of education and exposure. They are also found in social interaction groups which make it ideal for the study purposes.

Table 3.1

Target Population Per Category

Categories	**No. of Staff**
Nakuru Sub County	530
Molo Sub County	303
Njoro Sub County	193
Naivasha Sub County	233
GilGil Sub County	350
Total	1609

Source: Nakuru County Education Office, 2018

3.5 Sample Size and Sampling Procedures

A sampling frame is the distribution of the population from which a sample is drawn. It is a list of all elements within a population who can be sampled Orodho (2003). The sample frame for this study was derived from the target population and included a list of number of secondary school teachers as per the Nakuru County TSC records.

Stratified proportionate random sampling was used in this study. The Sub Counties represented the strata then simple random sampling was used to select the final respondents in each strata. Simple random sampling was then used to determine the representative sample in each stratum. This sampling method ensured that different groups of the population were satisfactorily embodied in the sample so as to increase the level of precision when approximating parameters. To select the appropriate sample size, the study used Israel (1992) formulae.

$$n = \frac{N}{1 + N(e)^2}$$

$$n = \frac{1609}{1 + 1609(0.05)^2} = 320$$

Where;

n = sample size,

N = target population

e = margin error (0.05 for 95% confidence level).

Stratified proportional sampling was used to allocate the sample size proportional to size of the strata as; nh=$\underline{Nh/N*n}$

Where:

- nh is the strata sample size
- Nh is the strata population
- N is the target population
- n is the optimum sample size.

The following are representative samples from each stratum

Table 3.2

Sample Size Per Category

Categories	Strata Population	Sample Size
Nakuru Sub County	530	106
Molo Sub County	303	60
Njoro Sub County	193	38
Naivasha Sub County	233	46
GilGil Sub County	350	70
Total	**1609**	**320**

Source: Author, 2019

3.6 Data Collection Instruments

According to Mugenda and Mugenda (2003), data collection is the ways through which data is obtained from the designated research subjects. Structured questionnaires were used to collect primary data. The questionnaires were carefully developed on the basis of the objectives of the research. The questionnaire consisted of structured closed-ended questions and Likert rating scales relating to the area of interest and space was provided to allow the respondents to give various responses. Closed-ended questions are advantageous since they allow the researcher to gather viable quantitative data. On the other hand open-ended questions give the research subjects liberty in their responses and provision to give in-depth responses (Mugenda & Mugenda, 2003). However, it needs proper preparation as it may fail to capture vital information required for the study (Mugenda & Mugenda 2003). It is usually preferred as a research instrument in survey studies as it enables the gathering of data over a large sample (Kombo & Tromp, 2006). The questionnaire has the advantage of giving discretion to the respondent, saves time and lowers biasness of the interviewer.

3.6.1 Validity of research instruments

Validity is the degree to which the findings of the study represent the subject of research (Mugenda & Mugenda, 2003). As relating the instrument, validity is the ability of an instrument to measure what it is expected to measure. This is only possible where gathered data provides sufficient explanation for the subject under research.

Content validity was useful in examining whether the instrument truly measured the variables it was supposed to measure (Kathuri & Pals, 1993). Content validity of an instrument is the extent to which it covers adequately the topic under study. It is the extent to which a measure embodies all aspects of a given construct. There must be agreement about what each construct represents. This is because subjectivity arises when determining content validity. Content validity was achieved by the use of professionals in the subject matters who assisted in examining the test items. The contents of the constructs in the questionnaire were subjected to panel of experts from CMA and experts in investment as well as discussion with supervisors.

To test construct validity, factor analysis approach was conducted. Construct validity is the extent to which the test measures an intended theoretical variable (Mugenda, 2003). Factor analysis was conducted using exploratory factor analysis (EFA). EFA was used to analyze the items in the research constructs because of its common usage and simplicity using principle components analysis (PCA) to identify constructs. Exploratory factor analysis yielded factor loadings was also used to determine the extent to which each item in the scales contributed to the respective factor. The study only considered significant

the factor loadings that were greater than 0.4 after varimax rotation. Hair, Babin, Anderson and Tatham (2011) asserts that factor loadings greater than 0.4 should be accepted. The results of factor analysis confirmed the validity of the questionnaire. (*See Appendix II*)

3.6.2 Reliability of research instruments

Reliability is the degree of a research instrument to yield consistent results with repetitions (Kothari, 2003). To achieve reliability the questionnaire was pretested in a pilot study before the actual survey. Pilot study is useful in establishing flaws in the instrumentation and to deliver correct data for identification of a sample (Young, 2009). Polit and Beck (2003) explained that a pilot study is a trial of the real collection of data done ahead of the main study. A pilot test was carried out using questionnaires administered to the respondents in order to test the reliability of the questionnaire for collection of data.

Orodho (2003) asserts that a pilot study is necessary for checking instruments reliability. Cooper and Schindler (2001) clarify that research reliability is a measure of the extent to which the research really measures that which it was envisioned to measure or whether the research findings are true. Mugenda and Mugenda (2003) emphasized that the reliability of data collection instruments controls the levels of precision of data obtained. Connelly (2008) posits that a pilot study sample should be 10% of the sample projected for the larger parent study. Consequently, the data collection instrument was piloted by administering the questionnaire to 32 secondary school teachers in Kericho County.

Cronbach alpha was used to test reliability of items measuring a particular construct. The results obtained an overall Cronbach Alpha correlation coefficient of 0.845. Sekaran (2003) asserts that a Cronbach alpha of 0.8 is favorable, 0.7 acceptable while anything below 0.6 is considered poor. The reliability results on Table 3.3 indicate that all the constructs returned reliability alpha values greater than 0.7. Pallant (2011) showed that Cronbach alpha values range between 0 and 1.0 and that 0.7 is the lower level of acceptability while 1.0 indicates perfect reliability.

Table 3.3

Reliability Test

Constructs	**Cronbach's Alpha**	**Number of items**
Financial wealth	0.713	7
Social Interaction	0.769	7
Risk Aversion	0.869	8
Financial Literacy	0.845	9
Investment Culture	0.817	4
Stock Market Participation	0.853	5
Overall Reliability	**0.845**	**40**

Source: Research Data, 2019

3.7 Data Collection Procedures

Self-administered questionnaires were used in order to provide explanations in cases where the respondents lacked adequate knowledge. Prior to the actual data collection, the researcher visited the area under study for familiarization and sought permission from relevant administration and made preparations and agreed on the actual dates for collection of data. After receiving permission from the University of Kabianga and a

research permit from NACOSTI, the researcher progressed to collect data from the selected respondents.

3.8 Data Analysis and Presentation

Data analysis seeks to fulfill objectives and answer research questions (Sekaran, 2006). Data collected was well scrutinized and checked for totality and clarity. Data was then summarized, coded and tabulated. Descriptive and inferential statistics were used to analyze the data with the aid of Statistical Package for Social Scientists (SPSS) version 25. Descriptive statistics entailing frequencies, percentages and chi-square values were used to summarize data, while inferential statistics such as correlation coefficient, ANOVA and regression analysis were used. Correlation coefficient was used to establish the nature of correlation between the dependent and independent variables. Regression analysis was used where the dependent variable was regressed against all explanatory variables to establish the effects of explanatory variables on variation of the dependent variable. To determine the interaction effects, moderated multiple regression, and ordinary least square (OLS) equation were created. OLS models which were models before interaction effect were compared with the MMR models which were models after interaction effect.

Data was subjected through econometric tests to check that the assumptions of regression analysis were met. The data was checked for linearity, normality, multi-collinearity and heteroscedasticity of residuals. The research hypotheses were tested using regression analysis.

The following regression models were used.

In the first step, the dependent variable was regressed on each of the independent variables without a moderator. Regression model (i) was used.

OLS equation $\mathbf{Y = \beta_0 + \beta_i X + \varepsilon \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots i}$

Where;

Y - Stock market participation decision

X - independent variables

B_i - Regression coefficients for the independent variable

β_0 - Regression Constant

ε - Stochastic error term assumed to be normally distributed

The same model was replicated for each of the independent variables in the study

In the second step, the dependent variable was regressed on each of the independent variables and a potential moderator introduced. Regression model (ii) was used.

MMR equation $\mathbf{Y = \beta_0 + \beta_i XM + \beta_{ii} XM\ \varepsilon \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots ii}$

Where;

Y - Stock market participation decision

X - independent variables

β_1 - Regression coefficients for each independent variable

β_0 - Regression Constant

ε - Stochastic error term assumed to be normally distributed

M - Moderating variable

XM - Interaction between the independent variable and the moderator (cross multiplication)

Similar MMR model was replicated to test moderation effect for each independent variable.

In the third step, the dependent variable was regressed on all the independent variables combined without a moderator. Regression model (iii) was used.

OLS equation $\mathbf{Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \varepsilon \ldots\ldots\ldots\ldots iii}$

Where;

Y - Stock market participation decision

β_0 - Regression constant or coefficient of intercept

X_1 - Financial wealth of individual investors

X_2 - Social interaction of individual investors

X_3 - Risk aversion of individual investors

X_4 - Financial literacy of individual investors

$\beta_1, \beta_2, \beta_3, \beta_4$ - Coefficient factors for independent variables

ε - Stochastic error term assumed to be normally distributed

Findings were presented through the use of tables and discussions.

3.8.1 Diagnostic tests for regression analysis

The study employed regression analysis as the main analysis technique therefore it was important to ensure that the assumptions of linear regression were met. Field (2005) explained the assumptions that must be tested if conclusions are to be drawn about a population on the basis of a regression analysis done on a sample. These assumptions

include linearity and heteroscedasticity, independence of residuals, normality and multicollinearity. Consequently, the assumptions were tested.

3.8.1.1 Normality of the dependent variable

The assumption of normality implies that the variables are normally distributed. Tests of normality are used to confirm the significance and to construct confidence interval levels for the parameters in the study. Ali, Namusonge and Sakwa (2016) assert that the assumptions and application of statistical tools as well as suitability of the tests are important aspects for statistical analysis. Normality test of data is applied to determine whether data is well-modeled by a normal distribution and to compute the likelihood that an underlying random variable is normally distributed (Kothari & Garg, 2014). Further, normality can be tested using graphical method and non-graphical method. By using graphical method to test for normality, the normal probability plot was used; and the plotted data values were compared with the diagonal. Further, a histogram was used to test for normality Figure 3.1 and Figure 3.2 shows the results of the test for normality. The results show that the data is normally distributed.

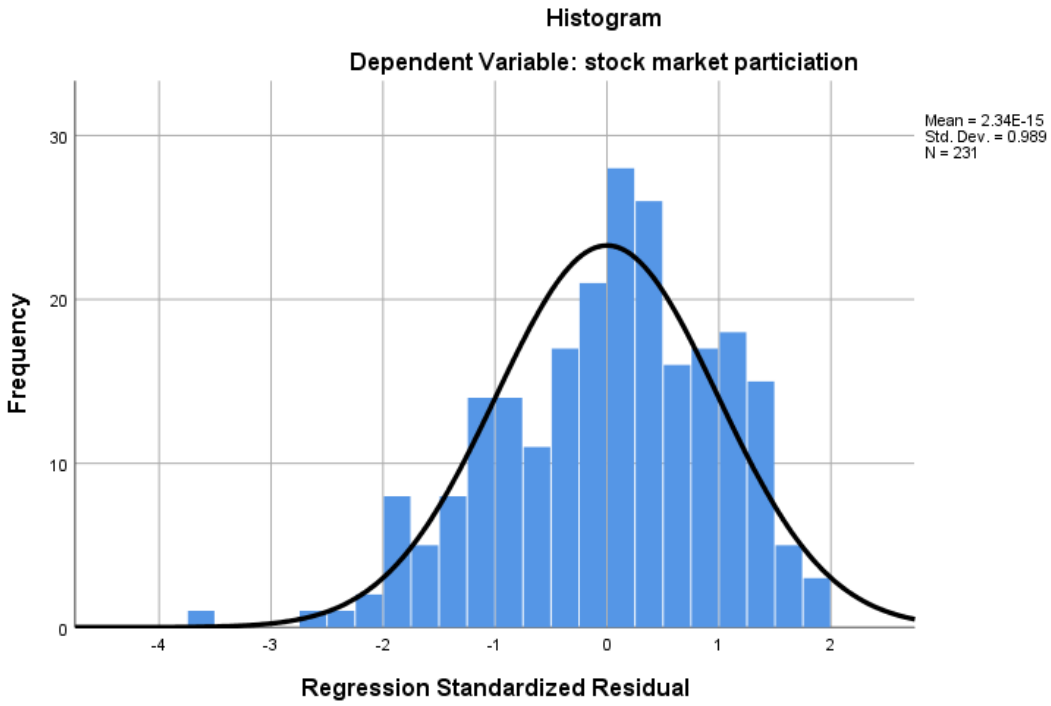

Figure 3.1: Histogram for stock market participation decision

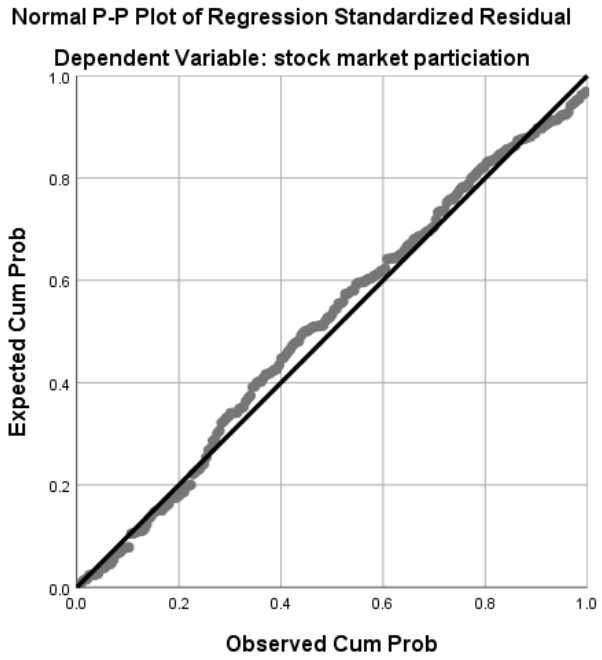

Figure 3.2: Normal probability plot for stock market participation

Further, in testing for normality non-graphical method (Skewness and Kurtosis) was used. According to Kothari and Garg (2014) measurement of skewness is based on mean and median while that of kurtosis measures the peaked-ness of the curve of the frequency distribution. The results presented in Table 3.4 show that a skewness coefficient of -0.209 and kurtosis coefficient of -0.398. These results show that data was normally distributed since their statistic values were between -1 and +1.

Table 3.4

Skewness and Kurtosis Test

	N	Mean	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
Stock Market Participation	231	3.3077	-.209	.160	-.398	.319
Valid N	231					

Source: Research Data, 2019

3.8.1.2 Multicollinearity results

Multicollinearity test was carried out to establish whether there exists correlation between the variables. Gujarat and Porter (2009) assert that multicollinearity is a situation whereby predictor variables in a multiple regression model are found highly correlated. Multicollinearity among predictor variables makes it difficult to establish the individual contribution of each variable in a multiple regression since it increases the standard errors of the β coefficients. Multicollinearity problem arises where there is a linear relationship among two or more predictor variables in an equation (Gujarat and Porter, 2009). The study obtained results on multicollinearity of the independent variables through tolerance and variance inflation factor. Field (2000) reveals that a tolerance of below 0.20 and a

VIF of 10 and above indicates a problem of multicollinearity. Tolerance value obtained were greater than 0.2 while the VIF and results were less than 10 meaning that there was no collinearity in the explanatory variables as presented on Table 3.5.

Table 3.5

Multicollinearity Tests

Model		Collinearity Statistics	
		Tolerance	**VIF**
1	Financial wealth	0.808	1.237
	Investment culture	0.791	1.264
	Social interaction	0.700	1.429
	Risk aversion	0.760	1.317
	Financial literacy	0.839	1.191

Source: Research Data, 2019

3.8.1.3 Heteroscedasticity of the residuals of the dependent variable

Heteroscedasticity arises whenever there is the presence of extreme values in a regression (Gujarati, 2003). Outliers are extreme values as compared to the rest of the data and are determined by the size of the residual in an OLS regression where all of the observations are used. It was important to test whether this assumption has been met since it affects the accuracy of the *r* coefficient (Field, 2005). In order to detect outliers, the study sought to determine whether the residual values were extreme values. This was obtained by establishing the error by finding the difference between the predicted and the actual to check for extremely positive or extremely negative values. Plotting the standardized residual versus the predicted values can determine which errors are large, after running the regression (Cousineau and Chartier 2010). Figure 3.3 shows that data points are

evenly and randomly dispersed around zero, the graph does not funnel out and there is no sort of curve in the graph. This pattern indicates that the assumption of heteroscedasticity was met. The plot shows that there were no significant outliers meaning that the residual values did not have extreme positive or negative values. Further, the study assumed linearity of the variables since the extreme values that had been observed were dropped as show by the box plots on Figure 3.3, 3.4, 3.5, 3.6, 3.7 and 3.8.

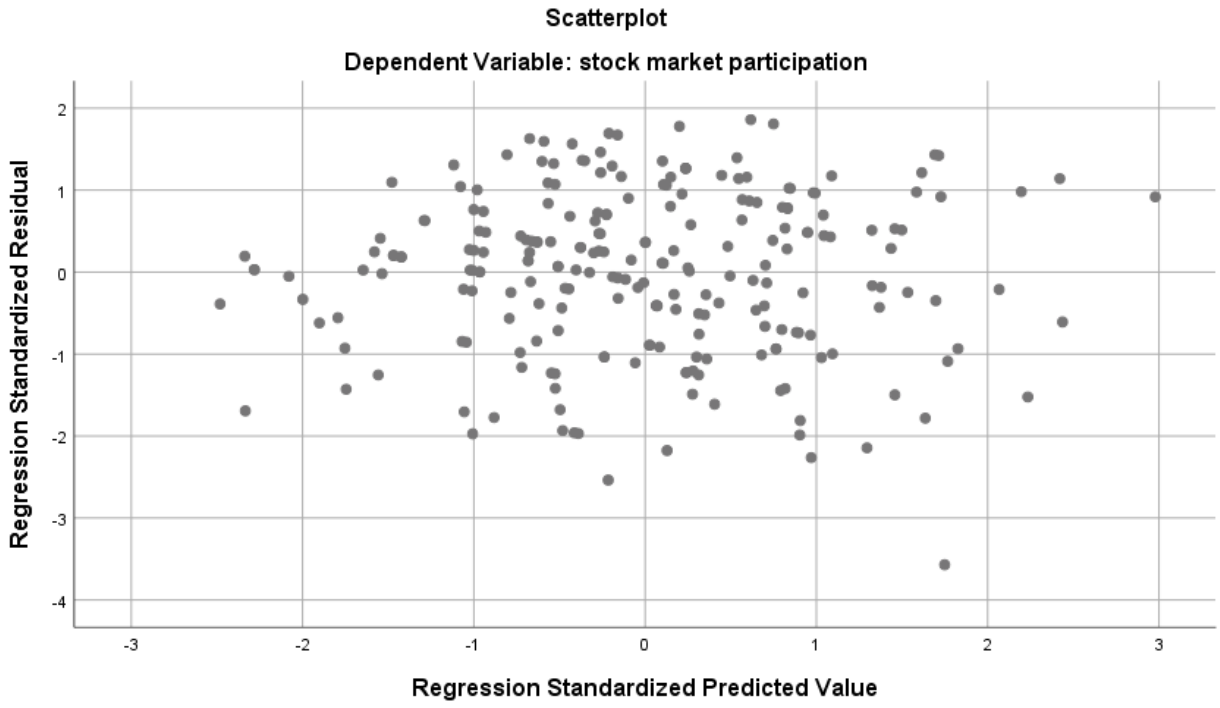

Figure 3.3: Scatter plot for stock market participation

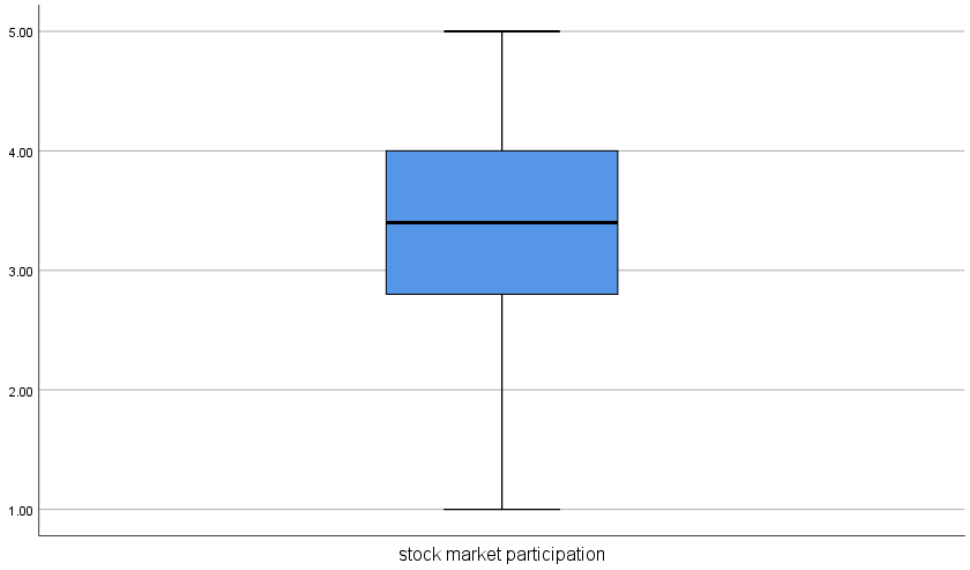

Figure 3.4: Box plot for stock market participation

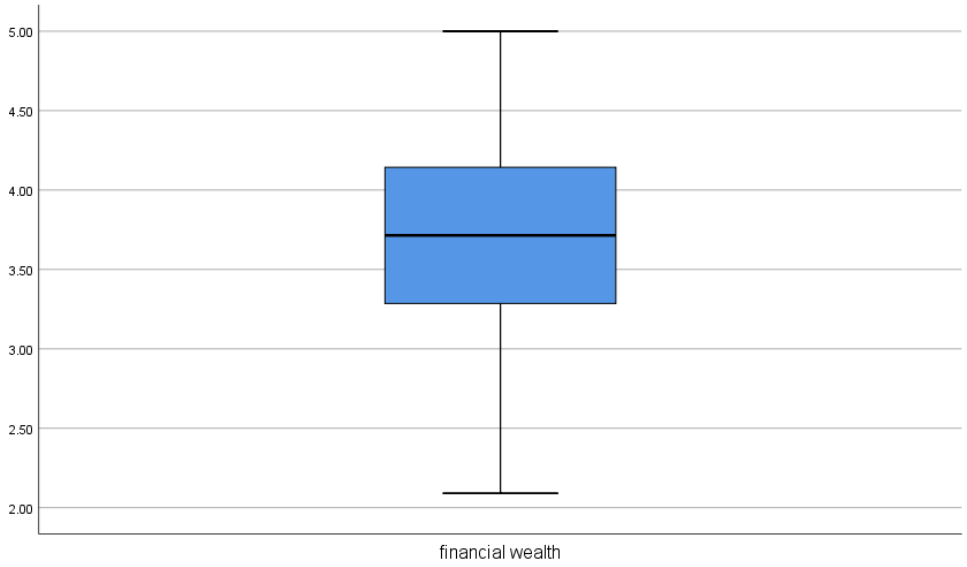

Figure 3.5: Box plot for financial wealth of individual investors

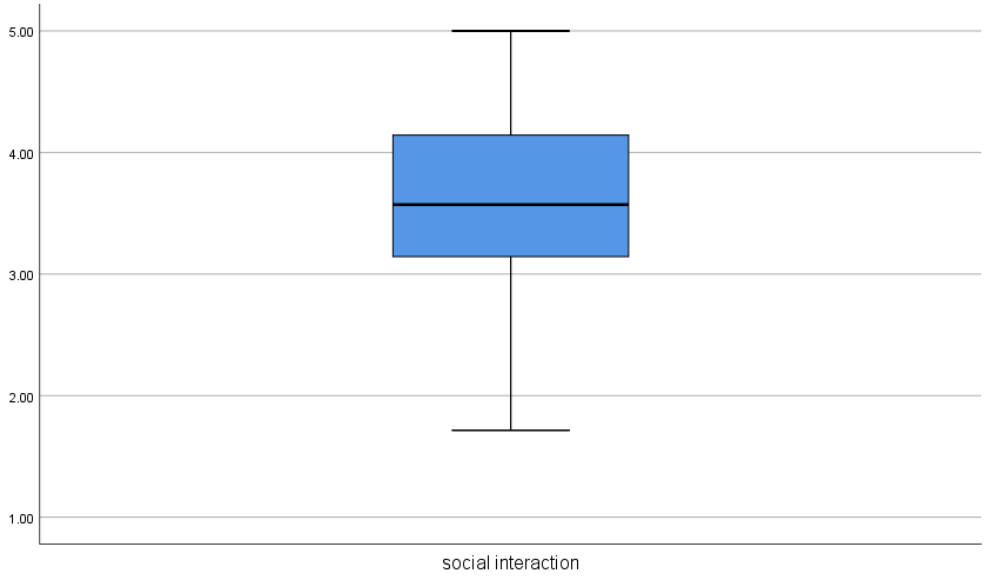

Figure 3.6: Box plot for social interaction of individual investors

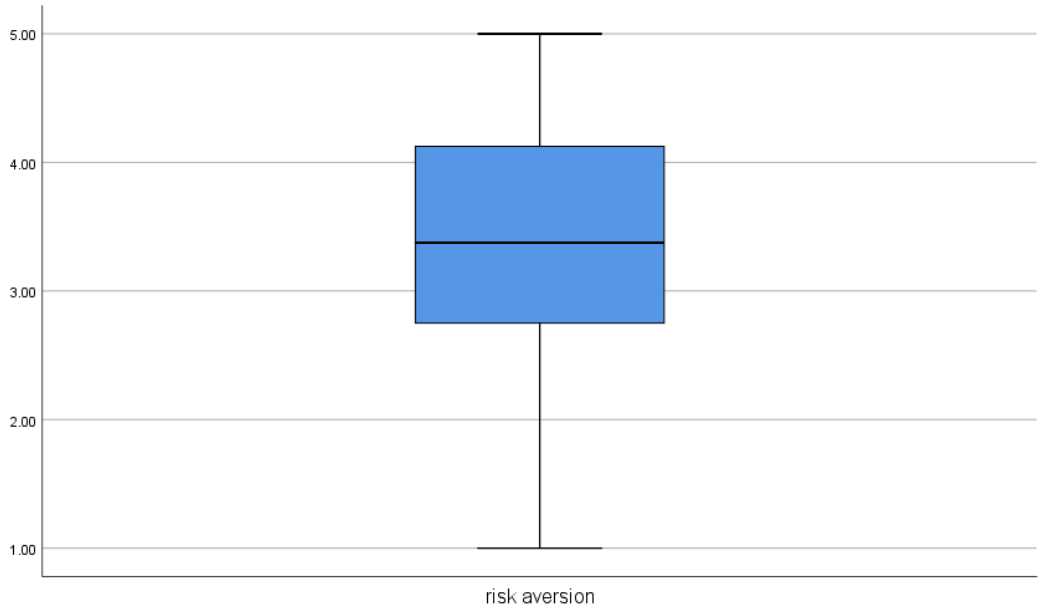

Figure 3.7: Box plot for risk aversion of individual investors

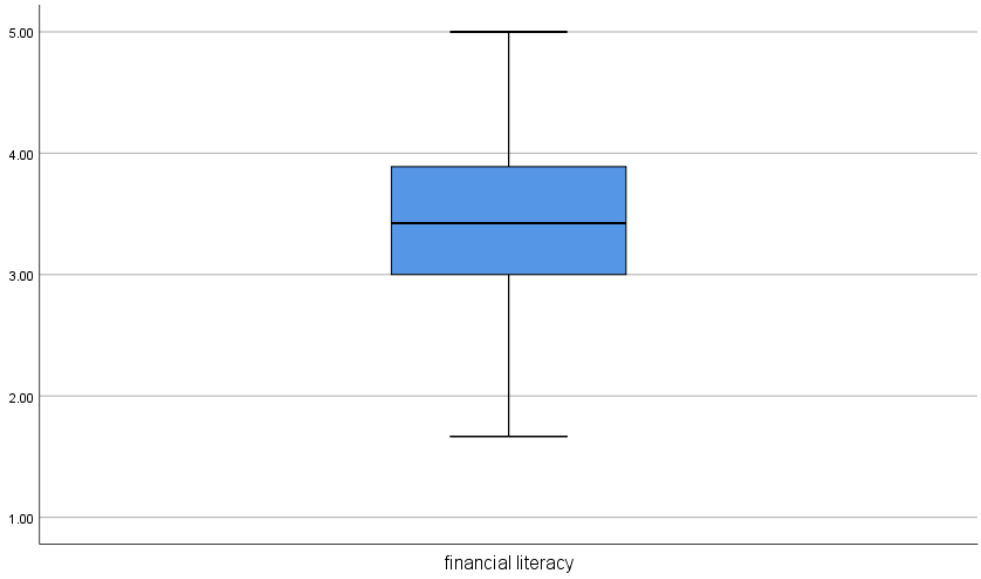

Figure 3.8: Box plot for financial literacy of individual investors

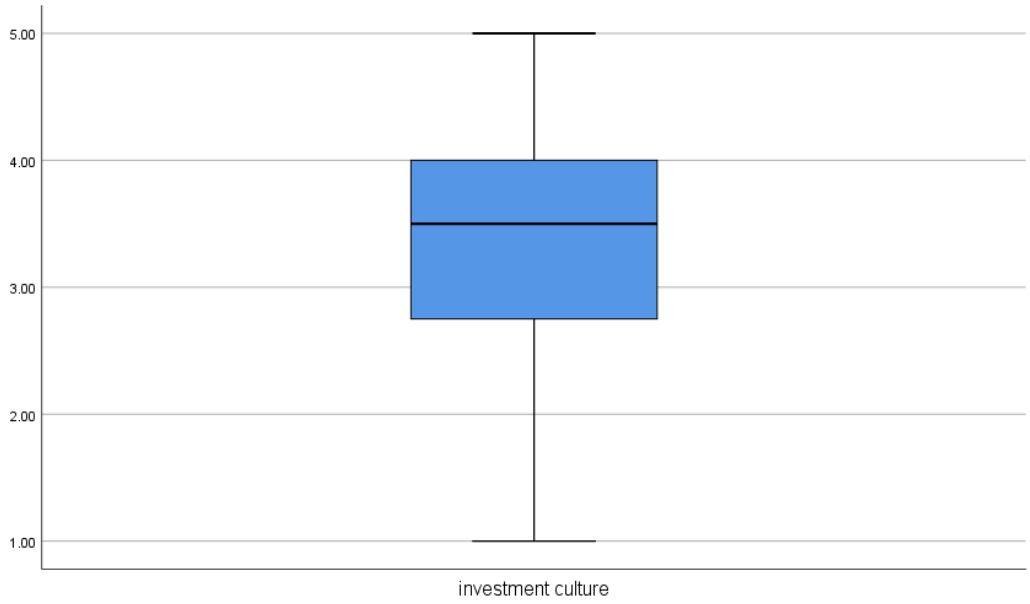

Figure 3.9: Box plot for investment culture

Further, levene statistic was used to test the hypothesis for the homogeneity of variance that is, the error variances are all equal or homoscedastic. Table 3.6 shows Levene Statistic of 5.752 with an associated p-value of 0.000. Since the probability associated

with the Levene Statistic is 0.000 which is less than 0.05 level of significance, we fail to reject the hypothesis and conclude that the variance of the dependent variable were homogeneous.

Table 3.6

Test of Homogeneity of Variances

Leven statistic	Sig
5.752	0.000

Source: Research Data, 2019

3.8.1.4 Independence of residuals

The presence of serial correlation in the residuals was tested through the use of the Durbin-Watson statistic in the regression analysis. This was important since high levels of correlation may result in inefficient findings. Yupitun (2008) notes that Durbin and Watson test statistic is used to check for autocorrelation among residuals in an OLS regression. The Durbin-Watson statistic should be between 1.5 and 2.5 (Verbeek, 2012). Table 3.7 shows that the Durbin- Watson value was 1.929 which indicates that autocorrelation in the sample did not exist in the regression model and therefore the residuals had independent errors.

Table 3.7

Independence of Residual Results

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	0.673[a]	0.514	0.424	0.58497	1.929

Source: Research Data, 2019

3.9 Ethical Considerations

The study used human beings as respondents therefore ethics relating to their participation and confidentiality was observed. According to (Trochim 2006) ethics in research work and confidentiality of the respondents should be ensured throughout the study (Trochim 2006). Accordingly, the purpose of the study and the way in which information obtained was to be used was discussed with the respondents. Informed consent was sought. Authority to carry out the study was also obtained from University of Kabianga and from the Ministry of Education. A research permit was also acquired from the National Commission for Science, Technology and Innovation (NACOSTI).

CHAPTER FOUR

RESULTS AND DISCUSION

4.1 Introduction

In this chapter, the research findings are presented in light of the research objectives. The findings are presented on basis of descriptive and inferential statistical analysis. The results from the analysis formed the basis for discussions.

4.2 General and Demographic Information

This section presents and discusses the general and demographic characteristics of the respondents. The characteristic of the sample as shown by demographic distribution is important because it can have a bearing on the findings of the study.

4.2.1 Response rate

Primary data was collected from the respondents using a self-administered questionnaire. Out of 320 questionnaires that were distributed to the respondents, 231 were returned fully filled. This represented a response rate of 72%. Johnson and Owen (1962) assert that a response rate of 60% is adequate to use to draw inference about a population from a sample. Babbie (1990) supports this view further and notes that a response rate of 60% is good while 70% is very good for analysis and reporting from manual surveys. Further as Field (2005) notes, for regression analysis, a minimum of 30 cases is sufficient for analysis. Therefore the response rate of 72% was sufficient to continue with further analysis of the research data. Table 4.1 presents the response rate that was achieved for the study.

Table 4.1

Response rate

Response Rate	Frequency	Percent
Returned	231	72%
Unreturned	89	28%
Total	**320**	**100**

Source: Research data, 2019

4.2.2. Demographic data

This first section of the questionnaire sought to obtain information on the demographic characteristics on age, gender and education level of respondents. This section presents the demographics of the study.

4.2.2.1 Respondents' age

The study requested respondents to indicate their age brackets. Respondents' ages may have a bearing on the investment decision. The findings for the distribution of respondents by age are presented in Table 4.2.

Table 4.2

Distribution of respondents by age

Age Category	Frequency	Percent	Cumulative Percent
20-30	39	16.9	16.9
31-40	44	19.0	35.9
41-50	71	30.7	66.7
51-60	77	33.3	100.0
Total	**231**	**100.0**	

Source: Research data, 2019

The results on Table 4.2 on age of the respondents, shows that majority 77(33.3%) of the respondents were aged 51-60 years, 71(30.7%) of respondents were aged 41-50 years,

44(19.0%) of the respondents were aged 31-40 years while 39(16.9%) were aged 20-30 years. This implies that the respondents were well spread in age among the respondents and therefore all the categories of age participated in the study. The findings of the study were therefore representative of a wide range of age groups. It can also be implied that the teachers were employed at different times and hence earn different levels of income.

4.2.2.2 Respondents' gender

The study sought to establish gender of the respondents. The findings for the distribution of respondents by gender are presented in Table 4.3.

Table 4.3

Distribution of respondents by gender

Gender	Frequency	Percent	Cumulative Percent
Male	124	53.7	53.7
Female	107	46.3	100
Total	**231**	**100**	

Source: Research data, 2019

From the results on Table 4.3, a fair majority 124 (53.7%) of respondents were male while 107(46.3%) were female. Therefore the responses were balanced with regards to gender and therefore the findings are representative of either gender.

4.2.2.2 Respondents' education level

Data was also collected about the level of education of the respondents. In Kenya, the minimum qualification for secondary school teachers is diploma. This was therefore set as the base in the education brackets. If the sample was to be skewed in terms of

education levels, it may have serious effect on ability of the study to be generalized. The results obtained are presented in Table 4.4.

Table 4.4

Distribution of respondents by education level

Education	Frequency	Percent	Cumulative Percent
Diploma	70	30.3	30.3
Bachelor	116	50.2	80.5
Masters	45	19.5	100
Total	**231**	**100**	

Source: Research data, 2019

The results indicate that majority of the respondents 116 (50.2%) had a bachelor degree, 7(30.3%) of the respondents had diploma qualification, while 45 (19.5%) had a master's degree. This means that the respondents were balanced across education categories. This is important because it assures that the data collected captured a wide spectrum of education levels. Further, this confirmed that the respondents were in a position to comprehend and respond to the questions asked in the questionnaire.

4.3 Descriptive Statistics and Discussions for Variables

This section presents the descriptive statistics analysis for study variables and their discussions.

4.3.1 Financial wealth of individual investors

Respondents were asked to indicate the extent to which they agreed with financial wealth of individual investor statements. The responses were analyzed using frequencies, percentages and chi-square. The chi-square values which are statistically significant

indicate that there is association between financial wealth statements and stock market participation decision.

Table 4.5

Descriptive results for financial wealth of individual investors

Financial wealth statements N=231	Strongly agree %	Agree %	Neutral %	Disagree %	Strongly disagree %	Chi-Square (χ^2)	P value
Financial wealth plays a role in the investment decision by determining how much I invest	112(48.5%)	77(33.3%)	23(10.0%)	8(3.5%)	11(4.8%)	171.988	0.034
I consider financial wealth in the investment decision by rendering the effects of investment costs insignificant	67(29.0%)	98(42.4%)	33(14.3%)	19(8.2%)	14(6.1%)	178.293	0.016
I consider financial wealth while making the investment decision since I have more to invest	91(39.4%)	83(35.9%)	46(19.9%)	4(1.7%)	7(3.0%)	182.246	0.009
Financial wealth plays into the decision by enabling me to absorb losses that result from stock volatility	61(26.4%)	65(28.1%)	66(28.6%)	25(10.8%)	14(6.1%)	165.058	0.073
Net wealth will make me invest more efficiently and aggressively	58(25.1%)	74(32.0%)	47(20.3%)	33(14.3%)	19(8.2%)	126.352	0.789
Net wealth guides my decision to participate in an investment	82(35.5%)	62(26.8%)	47(20.3%)	24(10.4%)	16(69%)	156.015	0.142
I consider investment costs while making the investment decision	50(21.6%)	75(32.5%)	60(26.0%)	25(10.8%)	21(91%)	176.961	0.019

Source: Research data, 2019

In Table 4.5, the results indicate that majority of the respondents 189(81.8%) were in agreement that their financial wealth plays into their investment decision by determining how much they invest (χ^2=171.988, p<0.05). Majority of the respondents 165(71.4%) agreed that they consider financial wealth in the investment decision by rendering the

effects of investment costs insignificant (χ^2=178.293, p<0.05). There was agreement among majority 174(75.3%) of the respondents that they consider financial wealth while making the investment decision since they have more to invest (χ^2=182.246, p<0.05).

According to a fair majority of the respondents 126(54.5%), financial wealth plays into the decision by enabling the respondents to absorb losses that result from stock volatility while 66(28.6%) of the respondents held neutral opinion on whether really financial wealth plays into the decision in enabling the absorption of losses that result from stock volatility (χ^2=165.058, p>0.05). A majority 132(57.1%) of the respondents agreed that net wealth will make them invest more efficiently and aggressively with 47(20.3%) holding neutral opinion and 52(22.3%) being in disagreement (χ^2=126.352, p>0.05). Respondents 144 (62.3%) were in agreement that net wealth guides their decision to participate in an investment while 47(20.3%) of the respondents held neutral opinion and 40(17.3%) disagreed with the statement (χ^2=156.015, p>0.05). Further, majority of the respondents 125(54.1%) held the opinion that they consider investment costs while making the investment decision with only 19.9% being in disagreement and 60(26.0%) holding neutral opinion (χ^2=176.961, p<0.05).

The study results agreed with those of Briggs, *et al*. (2015) who examined the effects of wealth on stock market participation using a large sample of Swedish lottery players. The study found a positive relationship between stock market participation and wealth and that the effect on participation is not only immediate but also permanent as the increase in participation is observed years after the lottery. The study further revealed that the fixed cost of participation was more relevant to the non-participating households with

participating costs of 2800USD being able to explain non-participation for 75% of the non-participants. The study findings also agreed with those of Callado, *et al.* (2014) who conducted an investigation on the factors influencing portfolio choice for households in Spain. The study findings revealed that net wealth was an important factor that guided the investment decision.

The findings also concur with those of another study by Briggs, *et al*. (2015) which evaluated the effects of windfall gains on the participation in the stock market. The results reported that these windfall gains resulted in an increase in stock market participation by 12%. However, this increase in investment in the stock market was experienced by the non-participants in the lottery and did not reflect in the individuals already taking part in the lottery. The study findings were also consistent with the observations of Brunnermeier and Nagel (2008) in their investigation on changes in affluence of individuals and its effect on portfolio distributions for individual investors. The study found that the likelihood of participation in the stock market was positively and significantly correlated to changes in liquid wealth.

Further, the study findings concur with the reported observations of Calvet, *et al*. (2007) who evaluated the efficiency of household investment decisions from Swedish data. The study regression findings revealed that financial wealth had the greatest effect on stock market participation and increased participation by 20%. The study found that wealthy households not only invested more efficiently but also more actively. Similar findings were also observed in a study by Andersen and Neilsen (2012) who examined the bearing of restrictions of participation on retail investor's decisions to participate in the market

for stock. Their findings revealed that windfall wealth that results from unexpected inheritance due to sudden death had a positive effect on stock market participation. However, their findings on investment costs were inconsistent with those of the study findings since they reported that retail investor's participation in the stock market was not affected by the costs of participation. This could be explained from the source of wealth since the wealth was acquired unexpectedly as a result of sudden death of a family member.

Similarly, the findings of the study agreed with the findings of Grinblatt, *et al.* (2011) who examined how investor cognitive abilities could influence participation in the stock market. The study suggested that moderate transaction costs inhibit less wealthy individuals from participating therefore the effects of participation costs will be seen only for the less affluent investors. The study findings also concur with those of Vissing-Jorgenson (2003) which sought to evaluate whether wealth would have an impact on the irrational behavior of investors by examining the departure of actual actions from the expected reactions. The study found that transaction cost could provide an explanation for investor participation since even small amounts of annual cost could explain nearly the participation of half of the investors who did not participate in the market for stocks.

The study findings also concur with those of Vissing-Jorgenson (2002) who conducted a study that sought to provide reasons for limited participation in the stock market. The study revealed that wealthier households had more to invest however and that stock market participation costs were adequate to explain choices for nonparticipants in the stock market when they have low financial wealth. The study findings also concur with

Guiso, *et al.* (2003) who conducted a study to investigate stock ownership for households in major European countries of Netherlands, France, Italy, Sweden, Germany and UK. The study revealed that stock market participation increased rapidly with increase in the resources of investors indicated by income and wealth. The study found that at the individual household level, there was a strong positive link between participation in the financial market and wealth. The study also revealed that for individual households, lower participation costs explained higher stock market participation.

4.3.2 Social interaction of individual investors

Respondents were asked to indicate the extent to which they agreed with social interaction of individual investors statements. The responses were analyzed using frequencies, percentages and chi-square. The chi-square values which are statistically significant indicate that there is association between social interaction statements and stock market participation decision.

Table 4.6

Descriptive results for social interaction of individual investors

Social interaction statements **N=231**	**Strongly agree** **%**	**Agree** **%**	**Neutral** **%**	**Disagree** **%**	**Strongly disagree** **%**	**Chi-Square (χ^2)**	***P value***
I consider family members positive financial outcomes in making my investment decision making	16(6.9%)	5(2.2%)	55(23.8%)	69(29.9%)	86(37.2%)	160.131	0.117
I consider co-workers positive financial outcomes in making my investment decision making	14(6.1%)	10(4.3%)	62(26.8%)	71(30.7%)	74(32.0%)	152.111	0.229
I consider friends positive financial outcomes in making my investment decision making	51(22.1%)	71(30.7%)	66(28.6%)	27(11.7%)	16(6.9%)	169.031	0.048
I consider welfare groups membership in making my investment decision making	42(18.2%)	66(28.6%)	79(34.2%)	24(10.4%)	20(8.7%)	173.535	0.029
I consider investment advisors when making my investment decision making	57(24.7%)	79(34.2%)	64(27.7%)	18(78%)	13(5.6%)	151.264	0.243
I consider foreign investors positive financial outcomes in making my investment decision making	3(1.3%)	26(11.3%)	62(26.8%)	80(34.6%)	60(26.0%)	153.644	0.203
I consider social interaction as a result of religion in making my investment decision making	41(17.7%)	13(5.6%)	33(14.3%)	64(27.7%)	80(34.6%)	169.474	0.045

Source: Research data, 2019

In Table 4.6 the results indicate that majority of the respondents 155 (67.1%), were in disagreement that they consider family members positive financial outcomes while making the investment decision with 55 (23.8%) holding neutral opinion while 21 (9.1%) were in agreement with the statement (χ^2=160.131, p>0.05). 145 (62.7%) disagreed that they consider co-workers positive financial outcomes while making the investment

decision (χ^2=152.111, p>0.05). There was agreement among a fair majority of the respondents 122 (52.8%) that they consider friends positive financial outcomes while making their investment decision making while 66 (28.6%) held neutral opinion and 43 (18.6%) disagreed (χ^2=169.031, p<0.05). Most of the respondents 108 (46.8%) agreed that they consider welfare group membership while making the investment decision, 79 (34.2%) held neutral opinion while 44 (19.1%) disagreed (χ^2=173.535, p<0.05).

The results also indicate that majority of the respondents (136(58.9%) consider investment advisors while making the investment decision (χ^2=151.264, p>0.05). The results also indicate that 140 (60.6%) of the respondents do not consider foreign investors positive financial outcomes in the investment decision making (χ^2=153.644, p>0.05). Further, most respondents 144 (62.8%) were in disagreement that social interaction as a result of religion is considered when making the investment decision (χ^2=169.474, p<0.05).

The findings agree with those of Wendo (2015) in the investigation on the factors that influence participation of advocates in the Nairobi Security exchange which sought to evaluate participation by examining the preferred investment avenue of the investors. The study found that majority of the advocates relied on professional and investment advisors in making the investment decision. The study similarly found that the opinions of colleagues did not affect their stock market participation decision. The study findings also concur with Aduda, *et al*. (2012) who conducted a study on the behavior and the performance of retail investors for companies listed at the Nairobi Security Exchange in Kenya. The study established that most investors relied on advice from friends in making

their decision to invest in the market for stocks. This implies that the factor is consistent across different sectors.

The results were also consistent with those of Kaustia and Knüpfer (2012) who conducted a study that sought to investigate the effects of peer performance on investment in the stock market in Finland. The study observed that the neighborhood effect was positive and significant predictor of entry into the stock market. The study revealed that the social influence provides explanation for the reason why stock market participation tends to increase sharply in situations of high market returns. The study findings further agreed with those of Shanmugham and Ramya (2012) who assessed the impact of social factors on the trading behavior of individual investors for individual investors who actively traded in the Indian stock market. The study found a positive relationship between social interaction and the intention to trade. The study findings also supported the observations of Laasko (2010) who investigated stock market participation rates and household characteristics in Europe. The study sought to shed more light on the stock market participation puzzle by investigating a comprehensive list of participation drivers in order to analyze their explanatory power. The study observed that sociability provided the most explanation in the stock market participation puzzle.

The study findings also disagreed with those of Li (2014) who investigated whether sharing of information among extended members of the family could have an effect on individual participation in the financial market in the future. The study revealed that sharing of information among the members of the families was significant in influencing stock market participation decision of individuals. The study found that investors who

had members of their families previously participating were 30% more likely to participate in the market for stocks within a period of 5 years. This difference could be attributable to the methodology employed. Panel data was used for a seven year period for the 2500 families that were studied. This allowed the researcher to observe the participation of the family members who initially were non participants in the stock market.

The results contrast with that those of Hellström, *et al*. (2013) which found that individuals were more likely to increase their participation rates after the close family members had experienced positive returns from their trading in the stock market. Similarly, negative returns of family members would negatively influence participation rates for individuals. The study further revealed that the results would be more pronounced on individuals who were less knowledgeable. The difference could be explained by the reason that the study examined interactions within family members and how these interactions influence stock market participation. In the current study, the population under study did not focus on the interactions within families.

However, the findings are consistent with that of Brown and Taylor (2010) which found a positive relationship between social interaction and stock market participation for individual investors. Social interaction was measured by establishing whether the individuals attended church and the frequency of attending church, whether the individual believes that people can be trusted, whether the individuals belonged to any club, whether the individual was a member of a sports club and whether this individual had friends that they had visited twice or thrice prior to the time of conducting the study.

The study results were also consistent with those of Hong, Kubik and Stein (2004) which surveyed how social interaction influences participation in the stock market. The study found that it was more probable that individuals who interacted with their neighbors participated more in the market for stock compared to non-social individuals and this effect found to be even stronger in states where the participation was higher. It can therefore be concluded that regardless the sector, individual stock market participation decision is influenced by social interaction.

4.3.3 Risk aversion of individual investors

Respondents were asked to indicate the extent to which they agreed with risk aversion of individual investors' statements. The responses were analyzed using frequencies, percentages and chi-square. The chi-square values which are statistically significant indicate that there is association between risk aversion statements and stock market participation decision.

Table 4.7

Descriptive results for risk aversion of individual investors

Risk aversion statements N=231	Strongly agree %	Agree %	Neutral %	Disagree %	Strongly disagree %	Chi-Square (χ^2)	P value
I prefer lower chances of losses when considering investment	43(18.6%)	64(27.7%)	76(32.9%)	30(13.0%)	18(7.8%)	190.036	0.003
Uncertain asset market discourages me from investing	50(21.6%)	78(33.8%)	65(28.1%)	23(10.0%)	15(6.5%)	182.830	0.009
Having more wealth will reduce the fear of uncertainties while investing	27(11.7%)	74(32.0%)	69(29.9%)	44(19.0%)	17(7.4%)	194.940	0.001
I consider the level of uncertainty in an investment before making the investment decision	34(14.7%)	61(26.4%)	71(30.7%)	40(17.3%)	25(10.8%)	200.430	0.001
I consider expected returns in making the investment decision	52(22.5%)	70(30.3%)	71(30.7%)	33(14.3%)	5(2.2%)	193.350	0.002
I consider expected stock price movements in making the investment decision	50(21.6%)	65(28.1%)	72(31.2%)	32(13.9%)	12(5.2%)	178.726	0.028
Avoidance of uncertainty is relevant in determining my portfolio allocation decision	35(15.2%)	67(29.0%)	88(38.1%)	22(9.5%)	19(8.2%)	198.757	0.001
Some investments have high returns so I invest in assets with higher returns regardless of the level of risk	32(13.9%)	16(6.9%)	42(18.2%)	77(33.3%)	64(27.7%)	183.532	0.008

Source: Research data, 2019

On risk aversion of individual investors, the results in Table 4.7 indicate that most respondents 107 (42.8%) agreed that they prefer lower chances of losses when considering investment while 76 (32.9%) held neutral opinion with 48 (20.8%) being in disagreement (χ^2=190.036, p<0.05). Majority of the respondents agreed that uncertain

asset market discourages them from investing 128(55.4%) (χ^2=182.830, p<0.05) while having more wealth reduces the fear of uncertainties while investing 101(43.7%) (χ^2=194.940, p<0.05). According to 95 (41.1%) of the respondents, they consider the level of uncertainty in an investment before making the investment decision while 65(28.1%) disagreed and 71 (30.7%) were neutral in opinion (χ^2=200.430, p<0.05).

Most respondents 122 (52.8%) agreed that they consider the expected return while making the investment decision (χ^2=193.350, p<0.05). A fair majority of the respondents 115(49.7%) also agreed that they consider their expectations of stock price movements while making the investment decision (χ^2=178.726, p<0.05). The results indicate that most respondents 102 (44.2%) were in agreement that avoidance of uncertainty is relevant in determining their portfolio allocation decision (χ^2=198.757, p<0.05). Further, majority of the respondents 141 (61%) disagreed that some investments have higher returns and that the high returns influences the respondents to invest in assets with higher returns regardless of the level of risk (χ^2=183.532, p<0.05).

The results concur with the findings of Laakso (2010) who conducted a study that sought to shed more light on the stock market participation puzzle by investigating a comprehensive list of participation drivers in order to analyze their explanatory power. The study identified risk aversion as the single most economically important explanation for stock market participation. The study findings concur with Lee *et al.,* (2013) who studied the relationship between stock market return expectations and risk aversion of individuals. The objective was to investigate the interaction between the expected returns of individual investors and their risk aversion levels and to establish how these two

factors singly and jointly affect participation in the market for stock. The study revealed that the avoidance of uncertainty is relevant in determining the investment decision.

The findings also concur with the findings of Wendo (2015) who investigated the factors that influence participation of advocates in the Nairobi Security exchange. The study evaluated participation by examining the preferred investment avenue of the investors. The study found that investors preferred the investments that had lower chances of losses. Further, the study found that the respondents considered the level of uncertainty while determining the investment decision.

These findings did not agree with those of Grinblatt and Keloharju (2001) who investigated the reasons why both individual and institutional investors traded in the market in their buy, sale or holding of securities. The results revealed that uncertainties of the return of investors did not impact the decision to trade in securities. This difference could be as a result of the use of investors who had already invested in the market for stocks. This means that the investors were not entirely new to investment scene in the stock market therefore they may have been familiar with the uncertainties facing them in their investment in the stock market.

4.3.4 Financial literacy of individual investors

Respondents were asked to indicate the extent to which they agreed with financial literacy of individual investors statements. The responses were analyzed using frequencies, percentages and chi-square. The chi-square values which are statistically

significant indicate that there is association between financial literacy statements and stock market participation decision.

Table 4.8

Descriptive results for financial literacy of individual investors

Financial literacy statements N=231	Strongly agree %	Agree %	Neutral %	Disagree %	Strongly disagree %	Chi-Square (χ^2)	P value
I have a reliable financial advisor	14(6.1%)	22(9.5%)	59(25.5%)	85(36.8%)	51(22.1%	174.019	0.027
I have access to financial Market information	14(6.1%)	21(9.1%)	69(29.9%)	50(21.6%)	77(33.3%)	174.634	0.025
I am aware of the investment opportunities available	68(29.4%)	54(23.4%)	55(23.8%)	33(14.3%)	21(9.1%)	179.854	0.013
I consider my ability to understand financial markets information in making the investment decision	28(12.1%)	36(15.6%)	71(30.7%)	40(17.3%)	56(24.2%)	175.464	0.023
I consider my ability to access financial markets information from print media resources while making the investment decision	48(20.8%)	56(24.2%)	91(39.4%)	22(9.5%)	14(6.1%)	189.823	0.003
I consider the ability to access financial markets information from electronic media resources in making the investment decision	26(11.3%)	55(28.3%)	62(268%)	51(22.1%)	37(16.0%)	173.669	0.028
I consider my ability to access financial markets information from electronic social media resources in making the decision to invest	21(9.1%)	25(10.8%)	47(20.3%)	70(30.3%)	68(29.4%)	145.291	0.362
I consider the knowledge acquired from investment workshops attended while making the investment decision	42(18.2%)	54(23.4%)	74(32.0%)	42(18.2%)	19(8.2%)	141.396	0.451
I consider my ability to understand market processes and fundamental stock analysis while making the investment decision	27(11.7%)	16(6.9%)	41(17.7%)	75(32.5%)	72(31.2%)	151.258	0.243

Source: Research data, 2019

On financial literacy of individual investors, the results indicate that most respondents 136 (58.9%) disagreed that they have a reliable financial advisor (χ^2=174.019, p<0.05) while there was disagreement among most respondents 127(54.9%) that they access financial market information (χ^2=174.634, p<0.05). According to majority of the respondents 122 (52.8%), they agreed that they were aware of the investment opportunities available (χ^2=179.854, p<0.05). A fair majority of respondents 96 (41.5%) disagreed that they considered their ability to understand financial market information while making the decision to invest with 71 (30.7%) of the respondents holding neutral opinion while 64 (27.7%) were in agreement (χ^2=175.464, p<0.05).

Further, most respondents 104 (45%) agreed that they consider their ability to access financial markets information from print media resources while making the investment decision while 91(39.4%) showed neutrality in opinion (χ^2=189.823, p<0.05). 138 (59.7%) of the respondents disagreed that they consider their ability to access financial markets information from electronic media resources while making the investment decision (χ^2=173.669, p<0.05). Most of the respondents 138 (59.7%) agreed that they did not consider their ability to access financial markets information from electronic social media resources while making the decision to invest (χ^2=145.291, p>0.05).

Further, 96 (41.6%) of the respondents agreed that they considered the knowledge acquired from investment workshops they had attended while making the investment decision, 74 (32.0%) held neutral opinion while 61 (26.4%) disagreed with this statement (χ^2=141.396, p>0.05). Further, majority of the respondents 147 (63.7%) were in

disagreement that they consider their ability to understand market processes and fundamental stock analysis while making the investment decision (χ^2=151.258, p>0.05).

The study findings concur with Brown and Graf (2013) who conducted a survey that sought to evaluate how investment and borrowing is influenced by financial literacy among Swiss households. The study found that the Swiss population was relatively financially knowledgeable as they understood knowledge in basic financial concepts. The findings are consistent with those of Ivkovic, *et al*., (2008) who investigated the role of information on the selection of securities that make a portfolio for individual investors. The households were divided into two groups of concentrated and diversified households. The study reported that the holdings of concentrated households performed better that the households that held too many stocks in their portfolios. The study revealed that households that held one or two assets in their portfolio performed better than diversified portfolios. The study suggests that the wealthy households are able to earn higher returns because they have better ability to identify and select the stocks of superior performance because they have more information about the securities.

The results also agreed with Lusardi, *et al.* (2007) in another study which found that knowledge in the field of finance increases the efficiency of processing financial information and in this way result in a more individuals participating in the stock market. The study also revealed that many individuals had adequate knowledge of basic financial concepts but they lacked knowledge in complex financial matters.

The study findings also disagreed with those of Yoong (2011) who investigated the effects of financial literacy on stock market participation. The study found that lack of financial knowledge affects the decision to participate in the stock market. The findings reported knowledge in advance concepts of finance has a direct relationship with the investment decision. The study further reported that that lack of knowledge in finance impedes investors from participating in the stock market. This difference could be attributed to the age of the population studied. The study population respondents were all above 40 years of age. This finding could differ when considering other age groups within the population.

The study findings were inconsistent with those of Hastings and Mitchell (2011) who sought to explain whether financial literacy has a role to play in the savings for retirement and the investment behavior using data obtained from 14,000 respondents drawn from the Chilean EPS over a ten year period. The results from the study reported that financial literacy is actually related with retirement saving but less associated with the investment decision making. This difference in results could be because the investment behavior in question is related to retirement and therefore was longer term in nature.

4.3.5 Investment culture of individual investors

Respondents were asked to indicate the extent to which they agreed with investment culture of individual investors' statements. The responses were analyzed using frequencies and percentages.

Table 4.9

Descriptive results for risk aversion of individual investors

Investment culture statements N=231	Strongly agree %	Agree %	Neutral %	Disagree %	Strongly disagree %	Chi-Square (χ^2)	P value
I consider the observed decisions of others in the market rather than following own beliefs while making the investment decision	19(8.2%)	26(11.3%)	47(20.3%)	72(31.2%)	67(29.0%)	156.747	0.158
Culture of prestige and wealth creation plays into my investment decision	70(30.3%)	57(24.7%)	69(29.9%)	14(6.1%)	21(9.1%)	150.227	0.261
I consider previous investment culture in the family in making the investment decision	28(12.1%)	11(4.8%)	40(17.3%)	82(35.5%)	70(30.3%)	155.593	0.174
I consider the culture of lower returns generated while making the investment decision	17(7.4%)	5(2.2%)	69(29.9%)	45(19.5%)	95(41.1%)	117.786	0.914

Source: Research data, 2019

On investment culture, the results indicate that most respondents 139 (60.2%) disagreed that they consider the observed decisions of others in the market rather than following their own beliefs and information in making the investment decision (χ^2=156.747, p>0.05). According to majority of the respondents 127 (55%) the culture of prestige and wealth creation is considered in their investment decision making (χ^2=150.277, p>0.05) while 152 (65.8%) were in disagreement that previous investment culture in the family has influenced their investment decisions (χ^2=155.593, p>0.05). The results also indicate that most respondents were in disagreement 140 (60.6%) that they consider the culture of lower returns generated while making the investment decision (χ^2=117.786, p>0.05).

The study findings are consistent with the findings of Macours and Vakis (2014) who conducted an experiment that sought to establish the causal effects of social interactions of leaders on the investment behavior of households in Nicaragua. The study found that social interaction with leaders positively impacted investment behavior of individual households and that continuous motivation and communication of leaders was important in facilitating the positive change in the investment patterns of households. The study findings disagree with those of Hellström, *et al*. (2013) who examined the influence of family members on the stock market participation decision of individuals. The study sought to establish the effects of both the community interactions and interactions within the family setting. The study found that individuals were more likely to increase their participation rates after the close family members had experienced positive returns from their trading in the stock market. Similarly, the study reported that negative returns of family members would negatively influence participation rates for individuals.

The findings disagreed with Li (2014) who investigated whether sharing of information among extended members of the family could have an effect on individual participation in the financial market in the future. The study revealed that sharing of information among the members of the families was significant in influencing stock market participation decision of individuals. The study found that investors who had members of their families previously participating were 30% more likely to participate in the market for stocks within a period of 5 years. This difference could be explained by the reason that the studies focused on close interactions within families unlike in the current study.

4.3.6 Stock market participation

Respondents were asked to indicate the extent to which they agreed with stock market participation statements. The responses were analyzed using frequencies and percentages.

Table 4.10

Descriptive results for stock market participation

Stock market participation statements N=231	Strongly agree %	Agree %	Neutral %	Disagree %	Strongly disagree %	Chi-Square (χ^2)	P value
I have invested in stocks/ shares	50(21.6%)	61(26.4%)	77(33.3%)	29(12.6%)	14(6.1%)	267.290	0.000
The stocks/shares I have invested in are traded in the security's exchange	10(4.3%)	13(5.6%)	38(16.5%)	71(30.7%)	99(42.9%)	323.000	0.000
I invest in order to make a return in form of dividends and capital gains	106(45.8%)	92(39.8%)	19(8.2%)	5(2.2%)	9(3.9%)	290.230	0.000
I invest to increase savings and to borrow funds	94(40.7%)	69(29.9%)	26(11.3%)	24(10.3%)	18(7.8%)	312.562	0.000
I actively buy and sell in the stocks I have invested in	10(4.3%)	11(4.8%)	51(22.1%)	88(38.1%)	71(30.7%)	269.178	0.000

Source: Research data, 2019

On stock market participation, the results indicate that majority of the respondents 111 (48%) agreed that they have invested in stocks/ shares, 77 (33.3%) held neutral opinion while 43 (18.7%) were in disagreement (χ^2=267.290, p<0.05). According to 170 (73.6%) of the respondents, the stocks/shares they have invested in are not traded in the security's exchange while 23 (6.5%) indicated that the shares they have invested in are traded in the security's exchange (χ^2=323.000, p<0.05). Majority 198 (85.6%) of the respondents were in agreement that they invest in order to make a return in form of dividends and capital gains (χ^2=290.230, p<0.05). According to 163(70.6%) of the respondents, they invest to

increase savings and to borrow funds (χ^2=312.562, p<0.05) while there was disagreement among most respondents159 (68.8%) on whether the respondents actively buy and sell in the stocks they have invested in (χ^2=269.178, p<0.05).

The study findings agree with the results of Wendo (2015) who investigated the factors that influence participation of advocates in the Nairobi Security exchange. The study evaluated participation by examining the preferred investment avenue of the investors. The study found that investors invested for the purpose of income and capital gains. The study further found that some individuals invest in order to increase their savings. The study findings concur with those of Vissing-Jorgensen (2002) who conducted a study that sought to provide reasons for limited participation in the stock market. The study revealed that many households had low levels of activity. They rarely traded in the assets already invested in.

The findings also agree with those of Ameriks and Zeldes (2000) who evaluated the influence that age of investors had on equity allocations. The study observed that almost half of the participants did not make changes to their retirement plan over the period of the study. This showed that there was limited trading activity for the stocks that were held within retirement plans that were employer sponsored. The results concur with those of Agnew, *et al.* (2000) who conducted a study that sought to examine the portfolio choices, trading behavior and returns earned. The study revealed that the investors had very little trading activity and specifically in altering their portfolios already held.

4.4 Inferential Statistics

Apart from descriptive statistics data was also analyzed by use of inferential statistics. Babbie, (1990) emphasizes that use of both descriptive and inferential statistics complements each other.

Inferential statistical techniques which included Pearson correlation coefficient, regression analysis and ANOVA were used to test the relationship between explanatory variables and the dependent variable. Moderated regression analysis was also used to establish the moderating effect of investment culture on the relationship between the variables.

4.4.1 Correlation Analysis

This section presents the findings of the correlation analysis between the independent variables and the dependent variable to test the nature of non-causal relationship (correlation) before testing the formulated research hypotheses of the study. Table 4.11 presents the correlation between financial wealth, social interaction, risk aversion, financial literacy, stock market participation and stock market participation.

Table 4.11

Correlation results

			1	2	3	4	5
1.	Financial Wealth	Pearson Correlation					
		Sig. (2-tailed)					
		N	231				
2.	Social Interaction	Pearson Correlation	0.288**				
		Sig. (2-tailed)	0.000				
		N	231	231			
3.	Risk Aversion	Pearson Correlation	0.263**	0.463**			
		Sig. (2-tailed)	0.000	0.000			
		N	231	231	231		
4.	Financial Literacy	Pearson Correlation	0.223**	0.339**	0.245**		
		Sig. (2-tailed)	0.001	0.000	0.000		
		N	231	231	231	231	
5.	Stock Market Participation	Pearson Correlation	0.419**	0.331**	0.325**	0.313**	
		Sig. (2-tailed)	0.001	0.000	0.001	0.000	
		N	231	231	231	231	231

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

Source: Research data, 2019

As presented on Table 4.11, there exists positive significant correlation between financial wealth of individual investors and stock market participation ($r = 0.419$, $p < 0.05$). The results also show that there exists positive significant non- causal relationship between social interaction of individual investors and stock market participation ($r = 0.331$, $p < 0.05$). The study established that the correlation between risk aversion of individual investors and stock market participation was positive and statistically significant ($r =$

0.325, $p < 0.05$). Further, the results indicate that the there exists a positive significant non- causal relationship between financial literacy of individual investors and stock market participation ($r = 0.313$, $p < 0.05$).

These findings support the view of the majority of the respondents (81.8%) who agreed that they consider financial wealth while making the decision to invest and that net wealth guides their decision to participate in an investment according to (62.3%) of the respondents. Also most of the respondents (52.8%) were in agreement that they consider the positive financial outcomes of friends, their membership in welfare groups (46.8%) and the input of investment advisors (58.9%) while making the investment decision. Further, the findings support the responses of the respondents where the majority (42.8%) agreed that they prefer lower chances of losses while considering an investment and that most (41.1%) of them considered the level of uncertainty in an investment before making the investment decision. Also, majority of the respondents (45%) agreed that they consider their ability to access financial market information and the knowledge acquired through investment workshops while making the investment decision.

The study findings concur with those of Briggs, *et al.* (2015) who examined the effects of wealth on stock market participation using a large sample of Swedish lottery players. The study found a positive relationship between stock market participation and wealth. The study provided statistically exact estimates and reported that 1M SEK increased the participation rate by 12% for non-participants. Andersen and Neilsen (2012) used a natural experiment to examine the bearing of restrictions of participation on individual investor's decisions to participate in the market for stock. Their findings revealed that

windfall wealth that results from unexpected inheritance due to sudden death had a positive effect on stock market participation.

The results were further supported by those of Calvet, *et al.* (2007) who evaluated the efficiency of household investment decisions from Swedish data. The study findings revealed that financial wealth had the greatest effect on stock market participation and increased stock market participation by 20%. The results agree with those of Guiso, *et al.* (2003) who conducted a study to investigate stock ownership for households in major European countries of Netherlands, France, Italy, Sweden, Germany and UK. The study found that at the individual household level, there was a strong positive link between participation in the financial market and wealth.

The results are also in agreement with those of Heimer (2016) who sought to investigate whether social interaction could result in the negative trading by retail investors. The study observed that social interaction contributes to the disposition effect in as much as it also leads to more trading of investors in the financial market. The findings were further supported by Tauni, *et al.* (2016) who conducted a survey that sought to assess the influence of the sources of information on the trading behavior of individual investors. The study reported that the sources of information significantly impacted the frequency of trading of investors and specifically information acquired through word of mouth communication resulted in more trading in outgoing investors.

The findings are consistent with those of Macours and Vakis (2014) who conducted an experiment that sought to establish the causal effects of social interactions of leaders on

the investment behavior of households in Nicaragua. The study found that social interaction with leaders positively impacted investment behavior of individual households. The findings also agreed with those of Lui, *et al.* (2014) who conducted a survey on social interaction and participation in the financial market. They reported that social interaction, both traditional and modern interaction has a positive influence on stock market participation. Similarly, Li (2014) in a study revealed that sharing of information among the members of the families was significant in influencing stock market participation decision of individuals. The study found that investors who had members of their families previously participating were 30% more likely to participate in the market for stocks within a period of 5 years.

Similar findings were observed by Brown and Taylor (2010) who investigated the relationship between social interaction and stock market participation for individual investors. Their findings showed that there exists a positive relationship between social interaction and stock market participation. The results were similar to those of Andersen, *et al.* (2018) who conducted a study that sought to examine risk taking preferences and the past experiences of investors which reported that stock market participation rates dropped significantly in banks that had defaulted after the crisis.

Similar results were also observed by Rooij, *et al.* (2011) who evaluated the association between stock market participation and risk aversion. They observed that risk is associated to ownership of stock with those individuals not willing to take risks less expected to participate in the financial market. The findings concur with those of Laakso (2010) who conducted a study that sought to shed more light on the stock market

participation puzzle by investigating a comprehensive list of participation drivers in order to analyze their explanatory power. The study identified risk aversion as the single most economically important explanation for stock market participation.

The findings concur with those of Mbabazi and Daniel (2014) who found a positive significant association between financial literacy and stock market participation. The findings are inconsistent to those of Marobe (2013) who examined factors that influence stock market participation in Tanzania. The study specifically investigated the effects of economic, social and financial literacy factors on stock market participation. The study reported that financial literacy was insignificant to the stock market participation decision. A theoretical explanation that could account for this is the differences in the questions that measured financial literacy. Marobe (2013) used one question on the level of education to evaluate the financial literacy of the individuals under study. This could explain the difference in the results

The results agree with those of Brown and Graf (2013) who conducted a survey that sought to evaluate how investment and borrowing is influenced by financial literacy among Swiss households. The study's results reported that financial literacy positively influenced investment behavior and that more financially knowledgeable individuals were more likely to participate in the stock market. The findings agree with those of Yoong (2011) who investigated the effects of financial literacy on stock market participation. The findings reported that lack of knowledge in finance impedes investors from participating in the stock market and impact is worse for risk averse individuals as the lack of awareness in financial concepts affects their ability to amass wealth.

The results are further supported by Hassan Al-Tamimi and Anood Bin Kalii (2009) who conducted a study that assessed the relationship between financial literacy and the effects of dynamics that influence the investment decision among United Arab Emirates individual investors. The study concluded that financial literacy influences the investment decisions of retail investors significantly. The study concur with those of Lusardi, *et al.* (2007) in another study done in Dutch concluded that knowledge in the field of finance increases the efficiency of processing financial information and in this way result in a more individuals participating in the stock market. The study reported that financial literacy was positively and statistically significant in explaining stock market participation.

4.4.2 Test of research hypotheses

Regression analyses were run to test research hypotheses. Individual regression analyses were run to determine the effect of each of the predictor variables on the dependent variable while multiple regression analysis was conducted to establish the combined effect of the predictor variables on the dependent variable.

4.4.2.1 Relationship between financial wealth of individual investors and stock market participation decision

The first objective of the study was to determine the relationship between financial wealth of individual investors and stock market participation decision. To determine the relationship the following hypothesis was tested.

H_{o1}: *There is no significant relationship between financial wealth of individual investors and stock market participation decision.*

As shown on Table 4.12, the R square was 0.108 which implies that 10.8% variation in stock market participation performance can be explained by financial wealth of individual investors. This means that 89.2% can be explained by other factors other than financial wealth.

Table 4.12

Model summary of financial wealth and stock market participation decision

				Std. Error		Change Statistics			
Model	R	R Square	Adjusted R Square	of the Estimate	R Square Change	F Change	df1	df2	Sig. F Change
1	.419[a]	.108	.094	.83798	.108	11.490	1	229	.001

Source: Research Data, 2019

The results on Table 4.13 indicate that the model was statistically significant since it had F-statistics of the regression ($F_{(1,\ 229)} = 11.490$) which was statistically significant ($p<0.05$). This implies that the coefficients of the model are not equal to zero, suggesting that the model significantly fits the data.

Table 4.13

ANOVA results for financial wealth and stock market participation decision

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	8.069	1	8.069	11.490	.001[b]
	Residual	160.807	229	.702		
	Total	168.876	230			

Source: Research Data, 2019

The results on Table 4.14 indicate that there exist a statistically significant positive relationship between financial wealth of individual investors and stock market participation among secondary school teachers from selected sub counties in Nakuru county (β =0.284, $p<0.05$). This implies that when financial wealth of individual investors increases by an additional shilling, stock market participation increases by 0.284. The null hypothesis **(Ho_1)** was rejected that *There is no significant relationship between financial wealth of individual investors and stock market participation decision* and therefore the alternate hypothesis that financial wealth of individual investors has significant relationship with stock market participation decision was accepted. This means that financial wealth of individual investors affects investor decision to participate in the stock market.

The following regression equation was obtained

$Y = 2.260 + 0.284\ X_1$

Where;

Y – Stock market participation decision

X_1 – Financial wealth of individual investors

Table 4.14

Coefficients results for financial wealth and stock market participation decision

		Unstandardized Coefficients		Standardized Coefficients		
Model		**B**	**Std. Error**	**Beta**	**t**	**Sig.**
1	(Constant)	2.260	.314		7.196	.000
	Financial Wealth	.284	.084	.219	3.390	.001

Source: Research Data, 2019

These findings are supported by the view of the majority of the respondents (81.8%) who agreed that financial wealth plays into their investment decision by determining how much they invest. Also, majority of the respondents (75.3%) agreed that they consider financial wealth while making the investment decision they have more to invest. Further most of the respondents (62.3%) agreed that net wealth guides their decision to participate in an investment.

The study findings agree with those of Briggs, *et al.* (2015) who examined the effects of wealth on stock market participation using a large sample of Sweddish lottery players. The study found a significant positive relationship between stock market participation and wealth. The findings also confirm the findings of Calvet, *et al.* (2007) who evaluated the efficiency of household investment decisions from Swedish data. The study regression findings revealed that financial wealth had the greatest effect on stock market participation and increased stock market participation by 20%. The results corroborate those of Guiso, *et al.* (2003) who conducted a study to investigate stock ownership for households in major European countries of Netherlands, France, Italy, Sweden, Germany and UK and found that at the individual household level, there was a strong positive link between participation in the financial market and wealth.

4.4.2.2 Relationship between social interaction of individual investors and stock market participation decision

The second objective of the study was to establish the relationship between social interaction of individual investors and stock market participation decision. To establish the relationship, the following hypothesis was tested.

H_{o2}: There is no significant relationship between social interaction of individual investors and stock market participation decision.

As shown on Table 4.15, the R square is 0.126 which implies that 12.6% variation in stock market participation can be explained by social interaction of individual investors. This means that 87.4% variation in stock market could be explained by other factors other than social interaction.

Table 4.15

Model summary for social interaction and stock market participation decision

				Std. Error	Change Statistics				
Model	R	R Square	Adjusted R Square	of the Estimate	R Square Change	F Change	df1	df2	Sig. F Change
1	.431[a]	.126	.111	.83558	.126	12.878	1	229	.000

Source: Research Data, 2019

The results on Table 4.16 indicate that the model was statistically significant. The model had F-statistics of the regression ($F_{(1, 229)} = 12.878$) which was statistically significant ($p<0.05$). This indicates that the model applied significantly predicted the change of the dependent variable as result of the predictor variable included in the model suggesting that the model significantly fits the data.

Table 4.16

ANOVA results for social interaction and stock market participation decision

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	8.991	1	8.991	12.878	.000[b]
	Residual	159.885	229	.698		
	Total	168.876	230			

Source: Research Data, 2019

As presented on Table 4.17 show that there exist a statistically significant positive relationship between social interaction of individual investors and stock market participation decision among secondary school teachers from selected sub counties in Nakuru County (β =0.288, $p<0.05$). This implies that when social interaction of individual investors increases by an additional unit, stock market participation increases by 0.288. The null hypothesis (**Ho_2)** was rejected that *There is no significant relationship between social interaction of individual investors and stock market participation decision* and therefore the alternate hypothesis that social interaction of individual investors has significant relationship with stock market participation decision was accepted. This means that social interaction of individual investors affects investor decision to participate in the stock market. The following regression equation was obtained.

$Y = 2.263 + 0.288\ X_2$

Where;

Y – Stock market participation decision

X_2 – Social Interaction of individual investors

Table 4.17

Coefficients for social interaction and stock market participation decision

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	**Std. Error**	**Beta**	**T**	**Sig.**
1	(Constant)	2.263	.296		7.643	.000
	Social Interaction	.288	.080	.231	3.589	.000

Source: Research Data, 2019

The results support the observed responses of the respondents where majority of the respondents (52.8%) agreed that they consider friends positive financial outcomes while making their investment decision making. Also most of the respondents (46.8%) agreed that they consider welfare group membership while making the investment decision. Further, most of the respondents (58.9%) indicated that they consider investment advisors while making the investment decision. This suggests that social interaction influences stock market participation decision of the secondary school teachers from Nakuru County.

The findings agree with those of Rantala (2017) who conducted a study on how social interaction influences the spread of investment ideas. The study reported that results revealed that social interaction structures significantly facilitated the spread of investment ideas resulting individuals participating. The findings also concur with those of Lui, *et al.* (2014) who conducted a survey on social interaction and participation in the financial market. They reported that social interaction, both traditional and modern interaction has a positive influence on stock market participation. The findings also support the results of Li (2014) who revealed that sharing of information among the members of the families was significant in influencing stock market participation decision of individuals. Further, the findings confirm those of Brown and Taylor (2010) who investigated the relationship between social interaction and stock market participation for individual investors. Their findings showed that there exists a positive significant relationship between social interaction and stock market participation.

4.4.2.3 Relationship between risk aversion of individual investors and stock market participation decision

The third objective of the study was to examine the relationship between of risk aversion of the individual investors and stock market participation. To examine the relationship, the following hypothesis was tested.

H_{o3}: *There is no significant relationship between risk aversion of individual investors and stock market participation decision.*

As shown on Table 4.18, the R square is 0.051 which implies that 5.1% variation in stock market participation decision can be explained by risk aversion of individual investors. This means that 94.9% variation in stock market participation decision can be explained by other factors other than risk aversion.

Table 4.18

Model summary for risk aversion and stock market participation decision

						Change Statistics			
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	F Change	df1	df2	Sig. F Change
1	.225[a]	.051	.046	.83673	.051	12.211	1	229	.001

Source: Research Data, 2019

Further, the results on Table 4.19 indicate that the model was statistically significant. The model had F-statistics of the regression ($F_{(1, 229)} = 12.211$) which was statistically significant ($p<0.05$). This indicates that the model applied significantly predicted the

change of the dependent variable as result of the predictor variable included in the model suggesting that the model significantly fits the data.

Table 4.19

ANOVA results for risk aversion and stock market participation decision

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	8.549	1	8.549	12.211	.001[b]
	Residual	160.326	229	.700		
	Total	168.876	230			

Source: Research Data, 2019

The results on Table 4.20 indicates that there exist a statistically significant positive relationship between risk aversion of individual investors and stock market participation decision among secondary school teachers from selected sub counties in Nakuru County (β =0.237, $p<0.05$). A beta coefficient of 0.237 implies that when risk aversion of individual investors increases by an additional unit, stock market participation increases by 0.237. The null hypothesis (**Ho_3)** was rejected that *There is no significant relationship between risk aversion of individual investors and stock market participation decision* and therefore the alternate hypothesis that risk aversion of individual investors has significant relationship with stock market participation decision was accepted. This means that risk aversion of individual investors affects investor decision to participate in the stock market.

The following regression equation was obtained

$Y = 2.508 + 0.237\ X_3$

Where;

Y – Stock market participation decision

X_3 – Risk Aversion of individual investors

Table 4.20

Coefficients for risk aversion of individual investors and stock market participation decision

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	**Std. Error**	**Beta**	**t**	**Sig.**
1	(Constant)	2.508	.235		10.661	.000
	Risk Aversion	.237	.068	.225	3.494	.001

Source: Research Data, 2019

The findings support the responses of the respondents where the majority (42.8%) agreed that they prefer lower chances of losses while considering an investment. Majority of the respondents (55.4%) also agreed that uncertain asset markets discourage them from investing. Further, most of the respondents (41.1%) indicated that they consider the level of uncertainty in an investment before making the investment decision. Also, most of the respondents (49.7%) agreed that they consider their expectations of stock price movements while making the investment decision. This suggests that the risk associated with an investment influences the stock market participation decision of the secondary school teachers from Nakuru County.

The findings concur with those of Laakso (2010) conducted a study that sought to shed more light on the stock market participation puzzle by investigating a comprehensive list of participation drivers in order to analyze their explanatory power. The study identified

risk aversion as the single most economically important explanation for stock market participation. The study findings corroborate those of Andersen, *et al.* (2018) who conducted a study that sought to examine risk taking preferences and the past experiences of investors which reported that stock market participation rates dropped significantly in banks that had defaulted after the crisis. The findings also confirm those of Lakshmi, *et al*. (2013) who investigated how behavioral characteristics differ in short term and long term investors and the effects on the investment behavior. The results reveal that risk aversion had a positive and significant influence on the investment decision making. The results agree with those of Rooij, *et al.* (2011) who evaluated the association between stock market participation and risk aversion. They observed that risk is associated to ownership of stock with those individuals not willing to take risks less expected to participate in the financial market.

4.4.2.4 Relationship between financial literacy of individual investors and stock market participation decision

The fourth objective of the study was to assess the relationship between financial literacy of individual investors and stock market participation decision. To assess the relationship, the following hypothesis was tested.

H_{o4}: *There is no significant relationship between financial literacy and stock market participation decision.*

As shown on Table 4.21, the R square is 0.098 which implies that 9.8% variation in stock market participation can be explained by financial literacy of individual investors. This

means that 90.2% variation in stock market participation decision can be explained by other factors other than financial literacy.

Table 4.21

Model summary for financial literacy and stock market participation decision

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.313[a]	.098	.094	.81566	.098	24.835	1	229	.000

Source: Research Data, 2019

The results on Table 4.22 indicate that the model was statistically significant. The model had F-statistics of the regression ($F_{(1, 229)} = 24.835$) which was statistically significant ($p<0.05$). This indicates that the model applied significantly predicted the change of the dependent variable as result of the predictor variable included in the model suggesting that the model significantly fits the data.

Table 4.22

ANOVA results for financial literacy and stock market participation decision

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	16.523	1	16.523	24.835	.000[b]
	Residual	152.353	229	.665		
	Total	168.876	230			

Source: Research Data, 2019

As presented on Table 4.23 show that there exists a statistically significant positive relationship between financial literacy of individual investors and stock market participation decision among secondary school teachers from selected sub counties in Nakuru County

($\beta = 0.378$, $p<0.05$). A beta coefficient of 0.378 implies that when financial literacy of individual investors increases by an additional unit, stock market participation increases by 0.378. This means that the null hypothesis (**Ho_4**) was that *There is no significant relationship between financial literacy of individual investors and stock market participation decision* and therefore the alternate hypothesis that financial literacy of individual investors has significant relationship with stock market participation decision was accepted. This means that financial literacy of individual investors affects investor decision to participate in the stock market.

The following regression equation was obtained

$Y = 2.009 + 0.378\ X_4$

Where;

Y – Stock market participation decision

X_4 – Financial Literacy of individual investors

Table 4.23

Coefficients for financial literacy and stock market participation decision

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	**Std. Error**	**Beta**	**t**	**Sig.**
1	(Constant)	2.009	.266		7.555	.000
	Financial Literacy	.378	.076	.313	4.984	.000

Source: Research Data, 2019

The results support the observed responses of the respondents where majority of the respondents (45%) agreed that they consider the ability to access financial market information from print media sources while making the investment decision. Further,

most of the respondents (41.6%) agreed that they consider the knowledge acquired from investment workshops attended while making the investment decision.

The findings concur with those of Mbabazi and Daniel (2014) who found a positive significant association between financial literacy and stock market participation. The study concur with those of Lusardi, *et al.* (2007) in another study done in Dutch concluded that knowledge in the field of finance increases the efficiency of processing financial information and in this way result in a more individuals participating in the stock market. The study reported that financial literacy was positively and statistically significant in explaining stock market participation. The results concur with those of Hassan Al-Tamimi and Anood Bin Kalii (2009) who conducted a study that assessed the relationship between financial literacy and the effects of dynamics that influence the investment decision among United Arab Emirates individual investors. The study concluded that financial literacy influences the investment decisions of retail investors significantly.

The findings are inconsistent to those of Marobe (2013) who examined factors that influence stock market participation in Tanzania. The study reported that financial literacy was insignificant to the stock market participation decision. A theoretical explanation that could account for this is the differences in the questions that measured financial literacy. The results also support those of Brown and Graf (2013) who conducted a survey that sought to evaluate how investment and borrowing is influenced by financial literacy among Swiss households. The study's results reported that financial

literacy positively influenced investment behavior and that more financially knowledgeable individuals were more likely to participate in the stock market.

4.4.2.5 Moderating effect of investment culture on the relationship between individual investor dynamics and stock market participation decision

The study established that there exists positive significant relationship between the individual investor dynamics that were studied and stock market participation decision and therefore the study proceeded further to establish the moderating effect of investment culture on the relationship between individual investor dynamics and stock market participation decision. To establish this moderating effect, the following hypotheses were tested.

$H_{o5a:}$ *Investment culture of individual investors has no significant moderating effect on the relationship between financial wealth of individual investors and stock market participation decision*

$H_{o5b:}$ *Investment culture of individual investors has no significant moderating effect on the relationship between social interaction of individual investors and stock market participation decision*

$H_{o5c:}$ *Investment culture of individual investors has no significant moderating effect on the relationship between risk aversion of individual investors and stock market participation decision*

H_{o5d}: *Investment culture of individual investors has no significant moderating effect on the relationship between financial literacy of individual investors and stock market participation decision.*

As shown in Table 4.24 on financial wealth the R^2 changed from 0.108 to 0.128 indicating a 0.02 increase in variation on financial wealth as a result of the interaction effect of the moderating variable (investment culture). The results also indicate that this increase was statistically insignificant since the *p* value of 0.115 is greater than 0.05 ($p > 0.05$). On social interaction the R^2 changed from 0.126 to 0.166 indicating a 0.04 increase in variation of social interaction as a result of the interaction effect of the moderating variable (investment culture). The results also indicate that this increase was statistically significant since the *p* value of 0.014 is less than the conventional probability value of 0.05($p<0.05$). On risk aversion the R^2 changed from 0.051 to 0.067 indicating a 0.016 increase in variation on risk aversion as a result of the interaction effect of the moderating variable (investment culture). The results also indicate that this increase was statistically insignificant since the *p* value of 0.058 is greater than 0.05 ($p > 0.05$). On financial literacy the R^2 changed from 0.098 to 0.106 indicating a 0.008 increase in variation of financial literacy as a result of the interaction effect of the moderating variable (investment culture). The results also indicate that this increase was statistically insignificant since the *p* value of 0.142 is greater than 0.05 ($p > 0.05$).

Table 4.24

Model summary moderating effect of investment culture on the relationship between individual investor dynamics and stock market participation decision

					Std.		Change Statistics			
				Adjusted	Error of	R				
			R	R	the	Square	F			Sig. F
	Model	R	Square	Square	Estimate	Change	Change	df1	df2	Change
Financial Wealth	1	.419[a]	.108	.094	.83798	.108	11.490	1	229	.001
	2	.421[b]	.128	.100	.83524	.002	2.507	1	228	.115
Social Interaction	1	.431[a]	.126	.111	.83558	.126	12.878	1	229	.000
	2	.456[b]	.166	.114	.83192	.004	3.017	1	228	.014
Risk Aversion	1	.225a	.051	.046	.83673	.051	12.211	1	229	.001
	2	.258b	.067	.059	.83138	.016	3.956	1	228	.058
Financial Literacy	1	.313a	.098	.094	.81566	.098	24.835	1	229	.000
	2	.326b	.106	.098	.81359	.008	2.166	1	228	.142

Source: Research Data, 2019

The results on Table 4.25 indicate that the models were statistically significant. This implies that the coefficients of the models were not equal to zero, suggesting that the models significantly fit the data.

Table 4.25

ANOVA results on the moderating effect of investment culture on the relationship between individual investor dynamics and stock market participation decision

	Model		Sum of Squares	Df	Mean Square	F	Sig.
Financial Wealth	1	Regression	8.069	1	8.069	11.490	.001[b]
		Residual	160.807	229	.702		
		Total	168.876	230			
	2	Regression	9.818	2	4.909	7.037	.001[c]
		Residual	159.058	228	.698		
		Total	168.876	230			
Social Interaction	1	Regression	8.991	1	8.991	12.878	.000[b]
		Residual	159.885	229	.698		
		Total	168.876	230			
	2	Regression	11.079	2	5.539	8.004	.000[c]
		Residual	157.797	228	.692		
		Total	168.876	230			
Risk Aversion	1	Regression	8.549	1	8.549	12.211	.001[b]
		Residual	160.326	229	.700		
		Total	168.876	230			
	2	Regression	11.284	2	5.642	8.163	.000[c]
		Residual	157.592	228	.691		
		Total	168.876	230			
Financial Literacy	1	Regression	16.523	1	16.523	24.835	.000[b]
		Residual	152.353	229	.665		
		Total	168.876	230			
	2	Regression	17.957	2	8.978	13.564	.000[c]
		Residual	150.919	228	.662		
		Total	168.876	230			

Source: Research Data, 2019

Table 4.26 shows that the moderating effect of investment culture of individual investors on the relationship between financial wealth of individual investors and stock market participation decision among secondary school teachers was positive and significant (β

=0.287, p<0.05). This implies that when financial wealth of individual investors increases by an additional shilling, stock market participation is predicted to increase by 0.287 given that investment culture of individual investors in held constant. The beta coefficient of the moderating variable (investment culture) was 0.102 with a p-value>0.05, implying that investment culture has an insignificant moderating effect on the effect of financial wealth of individual Investors and stock market participation among secondary school teachers from selected Sub Counties in Nakuru County, Kenya. Thus the null hypothesis (**Ho_{5a}**) was accepted indicating that investment culture of individual investors has no significant moderating effect on the relationship between financial wealth of individual investors and stock market participation decision.

Table 4.26 shows that the moderating effect of investment culture of individual investors on the relationship between social interaction of individual investors and stock market participation decision among secondary school teachers was positive and significant (β =0.292, p<0.05). This implies that when social interaction of individual investors increases by an additional unit, stock market participation is predicted to increase by 0.292 given that investment culture of individual investors in held constant. The beta coefficient of the moderating variable was 0.108 with a p-value<0.05, implying that investment culture has a significant moderating effect on the effect of social interaction of individual Investors and stock market participation decision among secondary school teachers from selected Sub Counties in Nakuru County, Kenya. Thus the null hypothesis (**Ho_{5b}**) was rejected indicating that investment culture of individual investors has a significant moderating effect on the relationship between social interaction of individual investors and stock market participation. This implies that the contribution of social

interaction to the stock market participation decision variable can be enhanced by investment culture.

Table 4.26 shows that the moderating effect of investment culture of individual investors on the relationship between risk aversion of individual investors and stock market participation decision among secondary school teachers was positive and significant (β =0.204, $p<0.05$). This implies that when risk aversion of individual investors increase by an additional unit, stock market participation is predicted to increase by 0.204 given that investment culture of individual investors in held constant. Further, the beta coefficient of the moderating variable was 0.121 with a p-value>0.05, implying that investment culture has an insignificant moderating effect on the effect of risk aversion of individual Investors and stock market participation decision among secondary school teachers from selected Sub Counties in Nakuru County, Kenya. Thus the null hypothesis (**Ho_{5c}**) was accepted indicating that investment culture of individual investors has an insignificant moderating effect on the relationship between risk aversion of individual investors and stock market participation decision.

Table 4.26 shows that the moderating effect of investment culture of individual investors on the relationship between financial literacy of individual investors and stock market participation decision among secondary school teachers was positive and significant (β =0.345, $p<0.05$). This implies that when financial literacy of individual investors increases by an additional unit, stock market participation is predicted to increases by 0.345 given that investment culture of individual investors in held constant. The beta coefficient of the moderating variable was 0.089 with a p-value>0.05, implying that investment culture has an insignificant moderating effect on the relationship between financial literacy of

individual Investors and stock market participation decision among secondary school teachers from selected Sub Counties in Nakuru County, Kenya. Thus the null hypothesis (**Ho_{5d}**) was accepted indicating that investment culture of individual investors has an insignificant moderating effect on the relationship between financial literacy of individual investors and stock market participation decision.

Table 4.26

Coefficients on moderating effect of investment culture on the relationship between individual investor dynamics on stock market participation

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	**Std. Error**	**Beta**	**t**	**Sig.**
1	(Constant)	2.260	.314		7.196	.000
	Financial Wealth	.284	.084	.219	3.390	.001
2	(Constant)	2.108	.327		6.442	.000
	Financial Wealth	.287	.090	.177	3.1889	.011
	Investment Culture	.102	.064	.110	1.583	.115
1	(Constant)	2.263	.296		7.643	.000
	Social Interaction	.288	.080	.231	3.589	.000
2	(Constant)	2.054	.319		6.445	.000
	Social Interaction	.292	.084	.195	3.4762	.004
	Investment Culture	.108	.062	.117	1.737	.014
1	(Constant)	2.508	.235		10.661	.000
	Risk Aversion	.237	.068	.225	3.494	.001
2	(Constant)	2.201	.280		7.853	.000
	Risk Aversion	.204	.069	.194	2.951	.003
	Investment Culture	.121	.061	.131	1.989	.058
1	(Constant)	2.009	.266		7.555	.000
	Financial Literacy	.378	.076	.313	4.984	.000
2	(Constant)	1.816	.296		6.135	.000
	Financial Literacy	.345	.079	.286	4.379	.000
	Investment Culture	.089	.060	.096	1.472	.142

Source: Research Data, 2019

4.4.2.6 Joint relationship between individual investor dynamics and stock market participation decision

The study sought to examine the combined relationship between predictor variables and the dependent variable. As presented on Table 4.27, the overall R^2= 0.514 which indicates 51.4 percent of the variation in the dependent variable is explained by the independent variables that are included in the model. This means that 48.6% of variation in stock market participation decision of secondary school teachers can be explained by other factors other than those included in the model.

Table 4.27

Model summary for the joint relationship between individual investor dynamics and stock market participation decision

				Std. Error	Change Statistics				
Model	R	R Square	Adjusted R Square	of the Estimate	R Square Change	F Change	df1	df2	Sig. F Change
1	.673[a]	.514	.424	.58497	.514	32.558	4	226	.000

Source: Research Data, 2019

As presented on Table 4.28 the mean square of the residuals is very small compared to mean square of the regression. Further, the F-statistics of the regression ($F_{(4, 226)}$ = 32.558) which is statistically significant ($p<0.05$) indicates that the model applied significantly predict the change of the dependent variable as result of the predictor variables included in the model. This implies that the coefficients of the model are not equal to zero, suggesting that the model fits the data significantly.

Table 4.28

ANOVA results for the joint relationship between individual investor dynamics and stock market participation decision

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	44.540	4	11.135	32.558	.000[b]
	Residual	77.336	226	.342		
	Total	**121.876**	**230**			

Source: Research Data, 2019

The beta coefficient for financial wealth of individual investors was 0.234 with p-value<0.05. This indicates a significant combined relationship between financial wealth of individual investors and stock market participation decision. This supported rejection of $H0_1$. The beta coefficient for social interaction of individual investors was 0.237 with a p-value<0.05 which indicates a significant combined relationship between social interaction of individual investors and stock market participation decision. This supported rejection of $H0_2$. The beta coefficient for risk aversion of individual investors was 0.216 with a p-value< 0.05. This implies that risk aversion of individual investors has a significant combined relationship with stock market participation decision. This supported the rejection of $H0_3$. Further, the beta coefficient for financial literacy of individual investors was 0.388 with a p-value<0.05 implying a significant combined relationship between financial literacy of individual investors and stock market participation decision among secondary school teachers from selected sub counties in Nakuru County, Kenya. This supported rejection of $H0_4$.

Table 4.29

Coefficients for the joint relationship between individual investor dynamics and stock market participation decision

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	T	Sig.
1	(Constant)	1.075	.393		2.735	.007
	Financial Wealth	.234	.085	.119	2.752	.033
	Social Interaction	.237	.091	.168	2.604	.000
	Risk Aversion	.216	.074	.104	2.918	.041
	Financial Literacy	.388	.080	.238	3.577	.000

Source: Research Data, 2019

4.4.2.7 Joint moderating effect of investment culture on the effects of individual investor dynamics on stock market participation

Moderated multiple regression analysis was conducted to empirically determine whether investment culture of individual investors moderates the combined effect of financial wealth, social interaction, risk aversion and financial literacy of individual investors and stock market participation.

As presented on Table 4.30, R^2 in the moderated model changed from 0.514 to 0.536 indicating a 0.022 increase in variation as a result of the interaction effect of moderating variable. Further, the increase was statistically insignificant since the probability value of 0.221 was greater than 0.05 (P>0.05).

Table 4.30

Model summary moderating effect of investment culture on the effects of individual investor dynamics on stock market participation decision

				Std. Error	Change Statistics				
Model	R	R Square	Adjusted R Square	of the Estimate	R Square Change	F Change	df1	df2	Sig. F Change
1	.673[a]	.514	.424	.58497	.514	32.558	4	226	.000
2	.679[b]	.536	.461	.58161	.022	.128	1	225	.221

Source: Research Data, 2019

The results on Table 4.31 indicate that the two models were statistically significant. Model 1 had $F_{(4, 226)} = 32.558$, $p<0.05$ while model 2 had $F_{(5, 225)} = 26.417$, $p<0.05$. Further, the mean square of the residuals reduced from 0.342 in model 1 to 0.338 in model 2. Thus the ANOVA results in the moderated model indicate that the model was significant suggesting that it significantly fits the data.

Table 4.31

ANOVA results on the moderating effect of investment culture on the effects of individual investor dynamics on stock market participation decision

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	44.540	4	11.135	32.558	.000[b]
	Residual	77.336	226	.342		
	Total	121.876	230			
2	Regression	44.649	5	8.929	26.417	.000[c]
	Residual	76.112	225	.338		
	Total	120.761	230			

Source: Research Data, 2019

After moderation the beta coefficient for financial wealth of individual investors was 0.241with p-value<0.05 while beta coefficient for social interaction of individual investors was 0.257 with a p-value<0.05.Further, the beta coefficient for risk aversion of

individual investors was 0.223 with a p-value< 0.05 while the beta coefficient for financial literacy of individual investors was 0.393 with a p-value<0.05. The results on Table 4.32 indicate that the beta coefficient of the moderating variable (investment culture) was 0.123 with a p-value>0.05, implying that investment culture has insignificant moderating effect on the effects of the individual investor dynamics and stock market participation among secondary school teachers from selected Sub Counties in Nakuru County, Kenya.

Further, the multiple regression equations for were as follows;

OLS model: Stock market participation = 1.075 + 0.234 financial wealth of individual investors + 0.237 social interaction of individual investors + 0.216 risk aversion of individual investors+ 0.388 financial literacy of individual investors

MMR model: Stock market participation == 1.098 + 0.241 financial wealth of individual investors + 0.257 social interaction of individual investors + 0.223 risk aversion of individual investors+ 0.393 financial literacy of individual investors + 0.123investment culture of individual investors

Table 4.32

Coefficients on moderating effect of investment culture on the effects of individual investor dynamics on stock market participation decision

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	1.075	.393		2.735	.007
	Financial Wealth	.234	.085	.119	2.752	.033
	Social Interaction	.237	.091	.168	2.604	.000
	Risk Aversion	.216	.074	.104	2.918	.041
	Financial Literacy	.388	.080	.238	3.577	.000
2	(Constant)	1.098	.395		2.779	.037
	Financial Wealth	.241	.089	.111	2.707	.006
	Social Interaction	.257	.092	.164	2.793	.000
	Risk Aversion	.223	.075	.103	2.973	.014
	Financial Literacy	.393	.082	.234	4.792	.001
	Investment Culture	.123	.064	.025	1.921	.221

a. Dependent Variable: Stock Market Participation

Source: Research Data, 2019

The findings were inconsistent with those of Guiso, *et al*. (2009) who reported that cultural dissimilarities could be used to explain participation in market for stocks and other facades of investment. The findings disagree with those of Hens and Wang (2007) who showed that cultural differences are important in guiding financial decisions. The study observed that cultural dissimilarities lead to regular deviations from rationality in decision making and specifically affects aspects of risk taking as well as in returns of stocks. This difference could be explained by the reason that the study measured the moderating influence investment culture had on the individual dynamics effects on stock market participation and not the direct effect that investment culture has on the stock market participation decision.

4.5 Summary of Results of Tests of Hypotheses

The summary of tests of hypotheses is presented on table 4.33

Table 4.33

Summary of the Results of the Test of Hypotheses

Hypothesis	Results	Conclusion
H_{01}: There is no significant relationship between financial wealth and stock market participation decision	Positive statistically significant relationship between financial wealth of individual investors and stock market participation decision among secondary school teachers from selected sub counties in Nakuru county (β =0.284, $p<0.05$)	H_{01} Rejected
H_{02}: There is no significant relationship between social interaction and stock market participation decision	Positive statistically significant relationship between social interaction of individual investors and stock market participation decision among secondary school teachers from selected sub counties in Nakuru County (β =0.288, $p<0.05$)	H_{02} Rejected
H_{03}: There is no significant relationship between risk aversion and stock market participation decision	Positive statistically significant relationship between risk aversion of the individual investors and stock market participation among secondary school teachers from selected sub counties in Nakuru County (β =0.237, $p<0.05$).	H_{03} Rejected
H_{04}: There is no significant relationship between financial literacy and stock market participation decision	Positive statistically significant relationship between financial literacy of the individual investors and stock market participation decision among secondary school teachers from selected sub counties in Nakuru County (β = 0.378, $p<0.05$).	H_{04} Rejected
$H_{o5a:}$ Investment culture has no significant moderating effect on the relationship between financial wealth of individual investors and stock market participation decision	Positive statistically insignificant moderating effect of investment culture of individual investors on the relationship between financial wealth of individual investors and stock market participation decision among secondary school teachers from selected sub counties in Nakuru County (β=0.102, $p>0.05$).	H_{05a} Accepted

H_{o5b}: Investment culture has no significant moderating effect on the relationship between social interaction of individual investors and stock market participation decision	Positive statistically significant moderating effect of investment culture of individual investors on the relationship between social interaction of individual investors and stock market participation decision among secondary school teachers from selected sub counties in Nakuru County (β=0.108, $p<0.05$).	H_{05b} Rejected
H_{o5c}: Investment culture has no significant moderating effect on the relationship between risk aversion of individual investors and stock market participation decision	Positive statistically insignificant moderating effect of investment culture of individual investors on the relationship between risk aversion of individual investors and stock market participation decision among secondary school teachers from selected sub counties in Nakuru County (β=0.121, $p>0.05$).	H_{05c} Accepted
H_{o5d}: Investment culture has no significant moderating effect on the relationship between financial literacy of individual investors and stock market participation decision	Positive statistically insignificant moderating effect of investment culture of individual investors on the relationship between financial literacy of individual investors and stock market participation decision among secondary school teachers from selected sub counties in Nakuru County (β=0.089, $p>0.05$).	H_{05d} Accepted

Source: Research Data, 2019

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter presents the summary, conclusions and recommendations of the study. The study sought to investigate individual investor dynamics of financial wealth, social interaction, risk aversion and financial literacy and its relationship with stock market participation decision. The study further sought to establish whether the effect of the individual investor dynamics on the stock market participation decision could be influenced by investment culture of the individual investors. This chapter further gives implication of the findings to policy and theory and gives the suggestions for further research.

5.2 Summary

This study sought to investigate individual investor dynamics and stock market participation decision among Secondary School Teachers from Selected Sub Counties in Nakuru County, Kenya. This section summarizes the research findings of the study on the basis of formulated research objectives.

5.2.1 Financial wealth and stock market participation decision

The first objective of the study was to determine the relationship between financial wealth of individual investors and the stock market participation decision. The study found that financial wealth influences stock market participation decision. The study found that there exist positive significant relationship (R^2=0.108, p<0.05) between financial wealth of individual investors and stock market participation among secondary

school teachers from selected sub counties in Nakuru County. Previous studies had focused on advocates and entrepreneurs and therefore the study sheds light on the relationship between financial wealth and the stock market participation decision of teachers in Nakuru County which was previously not known.

5.2.2 Social interaction and stock market participation decision

The second objective of the study was to establish the relationship between social interaction of individual investors and stock market participation decision. The results show that there exists positive significant relationship between social interaction of individual investors and stock market participation decision (R^2=0.126, p<0.05) among secondary school teachers from selected sub counties in Nakuru County. The study has helped to show the existence of social interaction towards the stock market participation decision of individual investors and specifically for teachers which was previously not known. Previous studies on individual investor dynamics had concentrated on other groups within the population like advocates while many other studies were conducted in developed countries which have better developed financial markets and therefore their findings could not be extrapolated to apply in developing countries like Kenya.

5.2.3 Risk aversion and stock market participation decision

The third objective of the study sought to examine the relationship between risk aversion of the individual investors and stock market participation decision. The results also indicate that there exist a statistically significant positive relationship between risk aversion and stock market participation decision (R^2=0.051, p<0.05) among secondary school teachers from selected sub counties in Nakuru County. The study revealed the

relationship between risk aversion of individual investor and stock market participation decision which had not been previously reported.

5.2.4 Financial literacy and stock market participation decision

The fourth objective of the study sought to assess the relationship between financial literacy of the individual investors and stock market participation decision. The study found that financial literacy has a positive significant relationship with individual investor stock market participation decision (R^2=0.098, p<0.05) among secondary school teachers in Nakuru County. Previous studies had not shown the extent to which financial literacy influences stock market participation decision for teachers in Nakuru County.

5.2.5 Moderating effect of investment culture on the relationship between individual investor dynamics and stock market participation Decision

The fifth objective of the study was to establish the moderating effect of investment culture on the relationship between individual investor dynamics and stock market participation decision. The study established that investment culture has positive insignificant moderating effect on the relationship between individual investor dynamics of financial wealth, risk aversion and financial literacy and stock market participation decision among secondary school teachers from selected Sub Counties in Nakuru County, Kenya. The study also concludes that investment culture has a positive significant moderating effect on the relationship between social interaction and stock market participation decision (R^2 changed from 0.126 to 0.166, p<0.05) among secondary school teachers in Nakuru County. This implies that investment culture interacts with social

interaction thereby enhancing its relationship with stock market participation decision of secondary school teachers in Nakuru County.

5.3 Conclusions

Following the research findings of the study, the following conclusions were made as per the objectives of the study.

5.3.1 Financial wealth and stock market participation decision

It was concluded that financial wealth of individual investors has a significant relationship with stock market participation decision among secondary school teachers from selected Sub Counties in Nakuru County, Kenya. There exists a positive significant correlation between financial wealth of individual investors and stock market participation decision. Further, the findings of the objective lead to the conclusion that financial wealth influences how much is available for the investor to invest in the stock market and that it renders the costs of participation insignificant. Further, it can be concluded that financial wealth give the teachers cushion against losses that may result from trading in the financial markets and also makes them trade more efficiently and aggressively. The findings also lead to the conclusion that net wealth guides individual investors decision to participate in an investment.

5.3.2 Social interaction and stock market participation decision

It can be concluded that social interaction of individual investors has a significant relationship with stock market participation decision among secondary school teachers from selected Sub Counties in Nakuru County, Kenya. There exists a positive significant relationship between social interaction of individual investors and stock market

participation decision. The findings of this objective further report that friends' positive financial outcomes and investment advice is considered when making the investment decision. It can also be concluded that foreign investors' positive financial outcomes and social interaction as a result of religion does not influence investment decision making secondary school teachers from selected sub counties in Nakuru County.

5.3.3 Risk aversion and stock market participation decision

It can be concluded that risk aversion of individual investors has a significant relationship with stock market participation decision among secondary school teachers from selected Sub Counties in Nakuru County, Kenya. The results reveal that there exists a positive statistically significant relationship between risk aversion of individual investors and stock market participation. This means that risk aversion is important for explaining stock market participation decision of secondary school teachers in Nakuru County. It can be concluded that uncertain asset market discourages investors from investing, although there is consideration of the level of uncertainty in an investment before making the investment decision. Conclusions can be made that individual investors consider their expectations of stock price movements and expectations on the returns while making the investment decision. Further, the secondary school teachers revealed that they prefer lower chances of losses when considering an investment.

5.3.4 Financial literacy and stock market participation decision

It can be concluded that financial literacy of individual investors has positive significant relationship with stock market participation decision among secondary school teachers from selected Sub Counties in Nakuru County, Kenya.

Secondary school teachers focusing on stocks investment have limited access to financial market information. Although they are aware of the investment opportunities available they lack the ability to understand financial markets information. It can be concluded that secondary school teachers consider their ability to access financial markets information from print media resources when making the investment decision. Further, it can be concluded that there is low understanding of market processes and fundamental stock analysis among secondary school teachers who participate in investment in the stock market.

5.3.5 Moderating effect of investment culture on the relationship between individual investor dynamics and stock market participation decision

It can be concluded that investment culture has an insignificant moderating effect on the relationship between individual investor dynamics of financial wealth, risk aversion, and financial literacy and stock market participation decision among secondary school teachers from selected Sub Counties in Nakuru County, Kenya. Further, the study conclude that investment culture has a significant positive moderating effect on the relationship between social interaction and stock market participation decision of secondary school teachers in Nakuru County. The study concludes that investment culture interacts with social interaction and enhances the relationship between social interaction and stock market participation decision of secondary school teachers from Nakuru County.

5.4 Recommendations

Based on the conclusions of the study that established that financial wealth of individual investors has a positive significant relationship with stock market participation decision, the study recommends that the investor should be encouraged to engage themselves in income generating activities and that they should be enlightened on savings and investing in different ventures in order for them to be able to participate in the stock market. This is because the study established that financial wealth influences the stock market participation decision. The study recommends that the government should avail funds to the youths, women and all its citizens at large that will boost entrepreneurial activities and other income generating activities of citizens to encourage investing to enhance financial wealth. The government should also provide an enabling environment that encourages investing and opening of business ventures in a bid to enhance the wealth of its citizens in order to encourage investment in the stock market. This will encourage individuals to participate in the stock markets since financial wealth renders the effects of the costs of participation insignificant and makes the investors invest more aggressively. Further, the study recommends that the government through the Nairobi securities Exchange should sensitize the Kenyans on the benefits of investing in the stock market in a bid to enhance wealth creation of local individual investors excluded from the investment scene.

Based on the conclusions of the study that established that social interaction of individual investors has a positive significant relationship with stock market participation decision, the study also recommended that secondary school teachers focusing on investment in stocks should affiliate themselves with investment groups with an orientation to stocks

investments where they can have access to investment advice. This is because the study found that social interaction influences stock market participation decision of teachers from Nakuru County.

Further, the study recommends that investment advisory firms, financial institutions and other intermediaries offering investment advice should initiate efforts to enhance their services to the secondary school teachers focusing on investment in stocks since the study found that investment advisors and welfare groups' membership influence investment decision making.

Based on the conclusions of the study that established that risk aversion of individual investors has a positive significant relationship with stock market participation decision, the study recommends that the citizens should be enlightened on the benefits of diversification and on risk analysis so that they can avoid making investment mistakes that can result in losses. Through efficient diversification of stocks the investors will also be able to reduce the fear of uncertainties while investing. Further, through diversification, the investors will also be able to assume risks with certainty while determining their portfolio allocation decision thus enhancing investment in financial assets with higher returns regardless of the level of risk.

Based on the conclusions of the study that established that financial literacy of individual investors has a positive significant relationship with stock market participation decision, the study recommended that the Capital Markets Authority, which is tasked with supervision, licensing and monitoring the activities of financial market intermediaries, should implement comprehensive awareness and public education programs that targets

the wider non-stock market participating public. This will increase participation which is an indicator of well-functioning financial market in any country.

5.5 Suggestions for Further Research

The study adopted a case study approach of secondary school teachers from selected Sub Counties in Nakuru County, Kenya. The findings of the study may not be extrapolated to other groups within the population and therefore the study recommended that a similar study should be conducted on a broader scale in Kenya. This is because individual dynamics which influence stock market participation decision among secondary school teachers in Nakuru County may not be the same for other groups within the population. Yin (2003) reveals that case study findings cannot be generalized.

In determination of measurable indicators under each variable of the study qualitative research was used. The study therefore recommends that further research should use a quantitative approach in order to test and validate the research findings. The study further recommends that other individual investor dynamics should be investigated since the variables under study could only explain 51.4% of variation in the stock market participation variable meaning that the remaining 48.6% can be explained by other factors other than those included in the model.

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APPENDICES

APPENDIX I

QUESTIONNAIRE

Introduction

The following aspects intend to examine the effect of individual investor dynamics and participation in the stock market among secondary school teachers in Nakuru County Kenya. Your participation in filling this Questionnaire will be highly appreciated. Confidentiality for information will be observed.

SECTION A: BIO-DATA OF THE RESPONDENT

1. Age of the respondent (Years)……
    - 20-30 [ ]
    - 31-40 [ ]
    - 41-50 [ ]
    - 51-60 [ ]

2. Gender

    Male [ ] Female [ ]

3. Education Level

    Secondary [ ] Diploma [ ] Bachelor [ ] Masters [ ] Other [ ]

SECTION B: Financial Wealth and Stock Market Participation

The following statements relate to labor income and financial wealth characteristics of investors. On a scale of 1-5 where (Strongly Disagree (SD) =5, Disagree (D) =4, Neutral =3, Agree (A) =2, strongly Agree (SA) =1). Please tick appropriately on the extent to which you are in agreement with the statements.

A. **Financial Wealth**						
	Measurable indicators	SA	A	N	D	SD
No		5	4	3	2	1
a.	Financial wealth plays into the investment decision by determining how much I invest `					
b.	I consider financial wealth in the investment decision since it renders the effects of investment costs insignificant					
c.	I consider financial wealth while making the investment decision since I have more to invest					
d.	Financial wealth plays into the investment decision by enabling me to absorb losses that result from stock volatility					
e.	Net wealth will make me invest more efficiently and aggressively					
f.	Net wealth guides my decision to participate in an investment					
g.	Investment costs influences my investment decision making					

SECTION C: Social Interaction and Stock Market Participation

The following statements relate to social interaction characteristics of investors. On a scale of 1-5 where (Strongly Disagree (SD) =5, Disagree (D) =4, Neutral =3, Agree (A) =2, strongly Agree (SA) =1). Please tick appropriately on the extent to which you are in agreement with the statements.

	Measurable indicators	SA	A	N	D	SD
No		5	4	3	2	1
a.	I consider Family members positive financial outcomes in making my investment decision making					
b.	I consider Co-workers positive financial outcomes in making my investment decision making					
c.	I consider friends positive financial outcomes in making my investment decision making					
d.	I consider welfare groups membership in making my investment decision making					
e.	I consider investment advisors in making my investment decision making					
f.	I consider foreign investors positive financial outcomes in making my investment decision making					
g.	I consider social interaction as a result of religion in making my investment decision making					

SECTION D: Risk Aversion and Stock Market Participation

The following statements relate to risk aversion characteristics of investors. On a scale of 1-5 where (Strongly Disagree (SD) =5, Disagree (D) =4, Neutral=3, Agree (A) =2, strongly Agree (SA) =1). Please tick appropriately on the extent to which you are in agreement with the statements.

	Measurable indicators	SA	A	N	D	SD
No		5	4	3	2	1
a.	I prefer lower chances of losses when considering investment					
b.	Uncertain asset market discourages me from investing					
c.	Having more wealth will reduce the fear of uncertainties while investing					
d.	I consider the level of uncertainty in an investment before making the investment decision					
e.	I consider expected returns in making my investment decision					
f.	I consider expected stock price movements in making my investment decision					
g.	Avoidance of uncertainty is relevant in determining my portfolio allocation decision					
h.	Some investments have high returns so I invest in assets with higher returns regardless of the level of risk					

SECTION E: Financial Literacy and Stock Market Participation

The following statements relate to financial literacy characteristics of investors. On a scale of 1-5 where (Strongly Disagree (SD) =5, Disagree (D) =4, Neutral=3, Agree (A) =2, strongly Agree (SA) =1), Please tick appropriately on the extent to which you are in agreement with the statements.

	Measurable indicators	SA	A	N	D	SD
No		5	4	3	2	1
a.	I have a reliable financial advisor					
b.	I have access to financial market information					
c.	I am aware of the investment opportunities available					
d.	I consider my ability to understand financial markets information in making the investment decision					
e.	I consider my ability to access financial markets information from print media resources in making the investment decision					
f.	I consider the ability to access financial markets information from electronic media resources in making the investment decision					
g.	I consider my ability to access financial markets information from electronic social media resources in making the decision to invest					
h.	I consider the knowledge acquired from investment workshops I have attended while making the investment decision					
i.	I consider my ability to understand market processes and fundamental stock analysis while making the investment decision					

SECTION F: Investment Culture

The following statements relate to investment culture characteristics of investors. On a scale of 1-5 where (Strongly Disagree (SD) =5, Disagree (D) =4, Neutral=3, Agree (A) =2, strongly Agree (SA) =1). Please tick appropriately on the extent to which you are in agreement with the statements.

	Measurable indicators	SA	A	N	D	SD
No		5	4	3	2	1
a.	I consider the observed decisions of others in the market rather than following own beliefs and information while making the investment decision					
b.	Culture of prestige and wealth creation plays into my investment decision					
c.	I consider previous investment culture in the family in making the investment decision					
d.	I consider the culture of lower returns generated while making the investment decision					

SECTION G: Stock Market Participation

The following statements relate to stock market participation decision indicators. On a scale of 1-5 where (Strongly Disagree (SD) =5, Disagree (D) =4, Neutral =3, Agree (A) =2, strongly Agree (SA) =1). Please tick appropriately on the extent to which you are in agreement with the statements.

	Measurable indicators	SA	A	N	D	SD
No		5	4	3	2	1
a.	I have invested in stocks/ shares					
b.	The stocks/shares I have invested in are traded in the security's exchange					
c.	I invest in order to make a return in form of dividends and capital gains					
d.	I invest to increase savings and to borrow funds					
e.	I actively buy and sell in the stocks I have invested in					

APPENDIX II

ROTATED COMPONENT MATRIX FOR INDIVIDUAL INVESTOR DYNAMICS AND STOCK MARKET PARTICIPATION USING PCA

N=231	Component 1
Financial Wealth of individual investors	
Financial wealth plays into the investment decision by determining how much I invest `	0.563
I consider financial wealth in the investment decision since it renders the effects of investment costs insignificant	0.643
I consider financial wealth while making the investment decision since I have more to invest	0.588
Financial wealth plays into the investment decision by enabling me to absorb losses that result from stock volatility	0.553
Net wealth will make me invest more efficiently and aggressively	0.652
Net wealth guides my decision to participate in the stock market	0.644
Investment costs influences my investment decision making	0.681
Percentage Variance Explained	36.821
Social Interaction	
I consider family members positive financial outcomes in making my investment decision making	0.704
I consider co-workers positive financial outcomes in making my investment decision making	0.637
I consider friends positive financial outcomes in making my investment decision making	0.652
I consider welfare groups membership in making my investment decision making	0.645
I consider investment advisors in making my investment decision making	0.704
I consider foreign investors positive financial outcomes in making my investment decision making	0.590
I consider social interaction as a result of religion in making my investment decision making	0.593
Percentage Variance Explained	41.982
Risk Aversion	
I prefer lower chances of losses when considering investing in the stock market	0.803
Uncertain asset market discourages me from investing in the stock market	0.741
Having more wealth will reduce the fear of uncertainties while investing	0.798
I consider the level of uncertainty in an investment before making the investment decision	0.763
I consider expected returns while making the investment decision	0.537
I consider expected stock price movements in making my investment decision	0.687
Avoidance of uncertainty is relevant in determining my portfolio allocation decision	0.744
Some investments have high returns so I invest in assets with higher returns regardless of the level of risk	0.689
Percentage Variance Explained	52.513
Financial Literacy	
I have a reliable financial advisor	0.767
I have access to financial market information	0.732
I am aware of the investment opportunities available at the stock market	0.772

I consider my ability to understand financial markets information in making the investment decision	0.534
I consider my ability to access financial markets information from print media resources in making the investment decision	0.785
I consider the ability to access financial markets information from electronic media resources in making the investment decision	0.667
I consider my ability to access financial markets information from electronic social media resources in making the decision to invest	0.583
I consider the knowledge acquired from investment workshops I have attended while making the investment decision	0.579
I consider my ability to understand market processes and fundamental stock analysis while making the investment decision	0.580
Percentage Variance Explained	45.317
Investment Culture	
I consider the observed decisions of others in the market rather than following own beliefs and information while making the investment decision	0.827
Culture of prestige and wealth creation plays into my investment decision	0.830
I consider previous investment culture in the family in making the investment decision	0.821
I consider the culture of lower returns generated while making the investment decision	0.738
Percentage Variance Explained	64.831
Stock Market Participation	
I have invested in stocks/ shares	0.758
The stocks/shares I have invested in are traded in the security's exchange	0.836
I invest in order to make a return in form of dividends and capital gains	0.823
I invest to increase savings and to borrow funds	0.821
I actively buy and sell in the stocks I have invested in	0.727
Percentage Variance Explained	63.114

APPENDIX III

LETTER OF PERMISSION FROM UNIVERSITY OF KABIANGA

UNIVERSITY OF KABIANGA

ISO 9001:2008 CERTIFIED

OFFICE OF THE DIRECTOR, BOARD OF GRADUATE STUDIES

REF: PHD/BSA/002/15 **18TH MARCH, 2019**

Penina Chepkorir Langat,
Department of Accounting & Finance,
University of Kabianga,
P.O Box 2030- 20200,
KERICHO.

Dear Ms. Langat,

RE: CORRECTED PROPOSAL

This is to acknowledge receipt of two copies of your corrected Proposal entitled **"Individual Investor Dynamics and Decision on Stock Market Participation among Secondary School Teachers from Selected Sub Counties in Nakuru County, Kenya".**

You are now free to commence your field work on condition that you obtain a research permit from NACOSTI.

Please note that, you are expected to publish at least one paper in a peer reviewed journal before final examination (oral defence) of your Doctoral thesis.

Thank you.

Yours Sincerely,

18 MAR 2019

for Prof. J. K. Kibett
DIRECTOR, BOARD OF GRADUATE STUDIES.

cc 1. Dean, SBE
2. HOD, A & F
3. Supervisors

APPENDIX IV

LETTER FROM NACOSTI

NATIONAL COMMISSION FOR SCIENCE, TECHNOLOGY AND INNOVATION

Telephone:+254-20-2213471,
2241349,3310571,2219420
Fax:+254-20-318245,318249
Email: dg@nacosti.go.ke
Website : www.nacosti.go.ke
When replying please quote

NACOSTI, Upper Kabete
Off Waiyaki Way
P.O. Box 30623-00100
NAIROBI-KENYA

Ref: No. **NACOSTI/P/19/31457/29028**

Date: **11th April 2019**

Penina Chepkorir Langat
University of Kabianga
P.O. Box 2030 - 20200
KERICHO.

RE: RESEARCH AUTHORIZATION

Following your application for authority to carry out research on ***"Individual investor dynamics and decision on stock market participation among Secondary School teachers from selected Sub Counties in Nakuru County, Kenya."*** I am pleased to inform you that you have been authorized to undertake research in **Nakuru County** for the period ending **10th April, 2020.**

You are advised to report to **the County Commissioner and the County Director of Education, Nakuru County** before embarking on the research project.

Kindly note that, as an applicant who has been licensed under the Science, Technology and Innovation Act, 2013 to conduct research in Kenya, you shall deposit **a copy** of the final research report to the Commission within **one year** of completion. The soft copy of the same should be submitted through the Online Research Information System.

BONIFACE WANYAMA
FOR: DIRECTOR-GENERAL/CEO

Copy to:

The County Commissioner
Nakuru County.

The County Director of Education
Nakuru County.

APPENDIX V

RESEARCH LICENCE

THIS IS TO CERTIFY THAT:
MS. PENINA CHEPKORIR LANGAT
of UNIVERSITY OF KABIANGA, 0-20100
NAKURU,has been permitted to conduct
research in *Nakuru County*

Permit No : NACOSTI/P/19/31457/29028
Date Of Issue : 11th April,2019
Fee Recieved :Ksh 2000

on the topic: *INDIVIDUAL INVESTOR DYNAMICS AND DECISION ON STOCK MARKET PARTICIPATION AMONG SECONDARY SCHOOL TEACHERS FROM SELECTED SUB COUNTIES IN NAKURU COUNTY, KENYA*

for the period ending:
10th April,2020

Applicant's Signature

Director General
National Commission for Science, Technology & Innovation

ORIGINAL

AC 25002

OFFICIAL RECEIPT

Station Nairob Date 1/4/19

Received from Penina Chepkorir Langat

Shillings Two thousand only .....cents.....

on account of Research permit fee

Vote Head 1203

USD	
Kshs	2000/-
AC No.	

Item A+A

Cash Cheque No. Direct Deposit

Signature of Officer receiving remittance

APPENDIX VI

LETTER FROM THE MINISTRY OF EDUCATION

MINISTRY OF EDUCATION

STATE DEPARTMENT OF EARLY LEARNING OF BASIC EDUCATION

Telegrams: "EDUCATION",
Telephone: 051-2216917
When replying please quote
Email:cdenakurucounty@gmail.com
Ref.CDE/NKU/GEN/4/1/21 VOL.VIX/100

COUNTY DIRECTOR OF EDUCATION
NAKURU COUNTY
P. O. BOX 259,
NAKURU.

18th June,,2019

TO WHOM IT MAY CONCERN

RE: RESEARCH AUTHORIZATION – PENINA CHEPKORIR LANGAT
PERMIT NO. NACOSTI/P/19/31457/29020

Reference is made to letter NACOSTI/19/31457/29020
Dated 11th April, 2019

Authority is hereby granted to the above named to carry out research on ***"Individual investor dynamics and decision on stock market participation among Secondary School teachers from selected Sub-Counties in Nakuru County, Kenya"*** for a period **10th April, *2020.***

Kindly accord her the necessary assistance.

For: COUNTY DIRECTOR OF EDUCATION
NAKURU COUNTY

G.N.KIMANI
FOR: COUNTY DIRECTOR OF EDUCATION
NAKURU

Copy to:

- University of Kabianga
  P.O Box 2030-20200
  KERICHO

APPENDIX VII

MAP OF THE STUDY AREA

APPENDIX VIII

LETTER OF PERMISSION TO CARRY OUT RESEARCH

University of Kabianga,

P.O Box 2030-20200,

KERICHO.

Dear Sir/Madam,

RE: PERMISSION TO CARRY OUT ACADEMIC RESEARCH

I am a PhD in Business Administration student at University of Kabianga conducting a research study entitled "**INDIVIDUAL INVESTOR DYNAMICS AND DECISION ON STOCK MARKET PARTICIPATION AMONG SECONDARY SCHOOL TEACHERS FROM SELECTED SUB COUNTIES IN NAKURU COUNTY, KENYA"**

The purpose of this letter is to request for your permission to interview teachers of your school using the questionnaire copies attached. The questionnaire is supposed to assist in answering specific objectives of the research which is being undertaken as part of the University requirement. Any information given herein will be treated with utmost confidentiality and used only for the purpose of conducting this research.

Thank you.

Yours faithfully,

Penina C. Langat