



**RISK TOLERANCE AND INVESTMENT CHOICES AMONG THE YOUTH IN
GHANA**

This is an undergraduate thesis submitted to the Business Administration Department,
Ashesi University in partial fulfillment of the requirements for
the award of the Bachelor of Science Degree in Business Administration

B. Sc. Business Administration

Perpetual Yaa Mawuse Likudie

Undergraduate Thesis

May 2020

Declaration

I declare that this project is my original work, and no section of it has been presented for a degree in Ashesi University or elsewhere.

Candidate's Signature:

Candidate's Name: Perpetual Yaa Mawuse Likudie

Date: 5/11/2020

I declare that this thesis was supervised throughout the preparation and presented in accordance with the outlined guidelines on the supervision of dissertations laid down by Ashesi University.

Supervisor's Signature:

Supervisor's Name: Anthony Essel Anderson

Date: 5/11/2020

Acknowledgment

My foremost appreciation goes to God for His protection and grace throughout my journey at Ashesi.

I would extend further gratitude to my supervisor, Mr. Essel-Anderson Anthony, for his unwavering, patience, and constructive feedback. God bless you abundantly

To my parents and siblings, I extend unwavering appreciation. Your immeasurable support and love cannot go unrecognized. God richly bless you for being my support system.

My final thanks go to my friends, especially Kwame Takyi, Richeal Dovia, Josephine Wordie, Ruth Danso, Keziah Acquah, Bismark Armah, and Prince A. K. Kwarase for their support towards the completion of this project.

Abstract

To make the most out of investment choices, investment advisors need to understand the risk propensity that an investor can tolerate. However, measuring this risk propensity is very difficult, as it must be quantified. Among the many factors that influence risk tolerance is the demographic profile of the investor. A review of the literature proved that extensive research exists in the area or has been explored. However, the findings are inconclusive. This scenario displays an unclear picture of the demographic factors that affect risk. This study explored the influence of selected demographic factors, the variations within the demographic factors, and determine whether there was a significant association between risk tolerance and investment choices of the investors. A quantitative method was employed with a sample size of 231. The study used a binary logistics regression model and contingency analysis. The results showed that gender had a significant influence on risk tolerance. Education, employment status, religion, and one's Christian denomination were not significant predictors. Findings from the research also suggested that females, high school students, younger investors, and Christians are risk-averse. However, among the Christian denominations, Catholics and Pentecostals are risk-averse. Finally, the study concluded that there was a significant association between risk tolerance and investment choices.

Keywords: Risk Tolerance, Risk-Averse, Prospect Theory, Demographic Factors, Ghana

List of Abbreviations

BLRM: Binary Logistic Regression Model

EU: Expected Utility

FTR: Financial Risk Tolerance

SFTR: Subjective Financial Risk Tolerance

OFRT: Objective Financial Risk Tolerance

GSS: Ghana Statistical Service

GLSS: Ghana Living Standard Survey

RA: Risk Averse

RT: Risk Tolerant

Contents

Declaration	ii
Acknowledgment	iii
Abstract	iv
List of Abbreviations	v
List of Tables	ix
CHAPTER 1: INTRODUCTION	1
Background	1
Problem Statement	4
Objectives	5
Research Questions	5
Significance of the Study	5
Organization of the Study	6
CHAPTER TWO: LITERATURE REVIEW	7
Introduction	7
Theoretical Framework	7
<i>Prospect Theory</i>	7
Demographic Characteristics and Risk Tolerance	8
<i>Gender</i>	9
<i>Age</i>	10
<i>Level of Education</i>	11
<i>Employment Status</i>	13
<i>Religion</i>	13
Risk Tolerance and Investment Choices	14
Research Gap	15
Hypotheses of the Study	16
<i>The Influence of Gender</i>	16
<i>The Influence of Education</i>	16
<i>The Influence of Employment Status</i>	17
<i>The Influence of Religion</i>	17
<i>The Influence of Christian Denomination</i>	17
<i>Risk Tolerance and Investment Choices</i>	18

CHAPTER 3: METHODOLOGY	19
Introduction.....	19
Research Design.....	19
Research Scope	20
<i>Population</i>	20
Sampling Technique	20
Data Collection Tool.....	21
Data Analysis Methods	22
<i>Dependent variable</i>	22
<i>Independent variables</i>	22
<i>Binary Logistic Regression Model</i>	22
Statistical Tests	23
<i>Correlation Tests</i>	23
<i>The Hosmer and Lemeshow</i>	23
Validity and Reliability	24
Ethical Considerations	24
Study Limitations.....	25
CHAPTER 4: RESULTS	26
Introduction.....	26
Collection and Preparation of Data.....	26
The Descriptive Statistics	26
Statistical Analysis Results	29
<i>Median Test Results</i>	29
<i>Test for Multicollinearity</i>	31
<i>Model Fit Test Result</i>	32
Binary Logistic Regression Model Results.....	32
Test of Hypotheses.....	33
<i>Gender</i>	33
<i>Education</i>	34
<i>Employment Status</i>	34
<i>Religion</i>	34
<i>Christian Denomination</i>	35

<i>Risk Tolerance</i>	35
CHAPTER 5: CONCLUSION	37
Overview	37
Research findings.....	38
Recommendations.....	40
Conclusion	40
REFERENCES	42
APPENDIX.....	47
Questionnaire	47

List of Tables

Table 1 <i>Cronbach's Alpha</i>	24
Table 2 <i>Dependent Variable Codes</i>	26
Table 3 <i>Sample Statistics of FRT</i>	26
Table 4 <i>Categorization of FRT</i>	27
Table 5 <i>Demographics of Respondents</i>	27
Table 6 <i>Median Analysis</i>	30
Table 7 <i>Results of Correlations</i>	31
Table 8 <i>Hosmer and Lemeshow Test</i>	32
Table 9 <i>Regression Result</i>	33
Table 10 <i>Contingency Analysis</i>	35

CHAPTER 1: INTRODUCTION

Background

The future is never certain. Therefore, it is prudent to make plans to avoid the inherent uncertainties involved in raising funds for unexpected expenditures. The process and art of making such plans are known as investment. More formally, investment involves the acquisition of goods often used to create future wealth (Iyer & Bhaskar, 2012). The main reason for investment is to make a profit in the future. To be able to make the most out of investment choices, investors need to analyze the market to understand the trends and technicalities of the market. Murphy and Soutar (2013), argued that market conditions and information availability influence the investment choices of investors. Also, Iyer and Bhaskar (2012) suggested that psychological principles of decision making determine an investor's choice of financial assets. They also reported that investors, sometimes with the fear of making losses in the future, act irrationally. However, in the research on the disposition effect and individual investor decision, Fogel and Berry (2006) explained that risk tolerance levels and loss aversion usually influence human behaviour in their investment decisions. Anbar and Eker (2010), also argued that the investment horizon, expected return, and the investor's risk preference are crucial in financial decision making. Thus, investment advisors should not overlook the risk profile of an investor.

Risk tolerance is the attitude of an investor regarding uncertainty or the volatility in investment return that the investor can tolerate in an investment decision (Grable, 2000; Hallahan, Faff & McKenzie, 2003). It is relevant to know that financial risk affects many investment decisions and that it is required to know the risk propensity of the investor (Snelbecker, Roszkowski & Cutler, 1990). For this reason, Deo and Sudar (2015) explained that the FRT level is an essential determinant of investment decisions and helps investors

Running head: RISK TOLERANCE AND INVESTMENT CHOICES

to make financial choices that suit their level of risk. According to Nadya (2009), risk tolerance has a significant positive influence on any investment decision making. Thus, it is essential to study it thoroughly, considering that it is a complicated undertaking (Virlics, 2003).

Risk tolerance assessment also helps clients to understand better how to diversify their investment portfolio or know the types of securities to choose for investment. Risk tolerance comes with a risk premium, which involves an anticipated extra return as compensation for investing in a risky financial asset. Investors who cannot tolerate high levels of risk are risk-averse, and those that can tolerate much risk are risk-tolerant. Hence, risk-averse investors get lower returns on their investment, considering their risk-averse nature.

According to Ramudzuli and Muzindutsi (2015), either subjective measures or objective measures could be used to identify a client's level of risk. The subjective measure focuses on subjective financial risk tolerance (SFRT) as the objective measure focuses on objective financial risk tolerance (OFRT). According to Chang, DeVaney, and Chiremba (2004), SFRT is an investor's own-perceived risk tolerance and is primarily influenced by the investors' view and attitude towards risk. OFRT also focuses on the actual (past) investment behaviour through their asset allocations (Chang *et al.*, 2004). The use of questionnaires and surveys are prominent instruments for measuring subjective risk (Hanna & Lindamood, 2004). Using a questionnaire as a method of measuring risk tolerance is thus highly recommended. It is the most preferred means to determine risk levels (Grable & Lytton, 1999a). The questionnaire method also allows for a fair comparison between all participants despite the different demographic factors. This is because it also allows for a

Running head: RISK TOLERANCE AND INVESTMENT CHOICES

larger sample to participate in the research and prevent response biases. Usually, questionnaires include a range of investment and financial decisions questions to determine risk levels (Grable & Lytton, 1999a). The answers to each question on the questionnaire are assigned different points and summed up to attain the risk tolerance score. When an investor obtains a high score, it is said that the person is risk-tolerant and vice versa.

According to the literature, many factors contribute to Financial Risk Tolerance (FTR). Anbar and Eker (2019) argued that financial advisors argue that there is an association between the FRT and demographic and environmental characteristics. The factors usually include age, marital status, and gender (Anbar & Eker, 2019). Considering gender as a demographic factor, scholars found that females are more conservative investors (Anbar & Eker, 2010; Grable & Joo, 2000). Anbar and Eker (2010) argued that an investor's gender influences FRT. However, other researchers also concluded that gender does not influence FRT (Strydom & Metherell, 2012). Also, the literature indicated that younger people, compared to older people, are risk-takers (Finke & Houston, 2003; Jiankopolos & Bernasek, 2006). Higher educational level is another factor that influences risk tolerance (Ramudzuli & Muzindutsi, 2015; Grable, 2000; Sung & Hanna, 1996).

Anbar and Eker (2010) opined that demographic factors influence risk tolerance and that a consensus among investment advisors is that demographic characteristics help to determine various risk profiles. However, the research findings on the influence of these demographic factors are inconclusive. As some research concluded that certain demographic variables affect risk tolerance, others argue against those findings.

Problem Statement

Many Ponzi schemes have plagued the financial sector in Ghana in recent times. The mention of Ponzi scheme companies such as Unique Shepherd, Safeway Investment Group, brings up dreadful memories due to the significant and painful losses of those who invested in such companies (Amoah, 2018). These companies usually operate as investment companies trading in securities such as bonds, foreign currency, and stocks. These companies usually promise unrealistically high returns far above the average market returns. Although millions of people have lost many investments through these fraudulent schemes, many people keep investing in these risky companies. Report from the Bank of Ghana disclosed that about 119,300 people including the youth in the year 2018 lost their investment to only four Ponzi schemes.

Also, the emergence of gambling services such as loom and sports betting are capturing the attention of the youth. Factors influencing such risky activities and all other forms of investment decisions in Ghana are unknown. Despite the extensive research on factors that influence FRT (Grabble, 2000; Finke & Huston, 2003), research in Ghana remains mostly in the dark as there is no research on the topic. According to Webner (2014), results for risk tolerance in specific countries and locations cannot be generalized to people in different places. Thus, it is relevant to research datasets from various countries and locations as the capacity for risk tolerance. The factors may differ across countries and even across different places within the same country (Webner, 2014). This research topic will help financial managers and other stakeholders to determine factors (demographic) that impact the risk tolerance of the youth in Ghana and to take the necessary cause of action. The sudden rise in various investment options warrants such a study to find these influential factors on these investment decisions.

Running head: RISK TOLERANCE AND INVESTMENT CHOICES

The youth in Ghana are the future of the country. Thus, it relevant to study their investment decisions and the factors that influence to encourage investment companies to create securities that suite their risk levels. Doing that would encourage savings and investment among the youth, which would also help to improve the economy of the country.

Objectives

The goal of the study was to determine the demographic characteristics that predict the FRT that financial institutions can leverage to create securities specifically tailored to their risk levels. The study focused on using a quantitative approach to research. The study aimed to

1. to find out what demographic profiles (education level, age, occupation, gender, and religious affiliation) affect risk tolerance.
2. determine whether there is a significant association between risk tolerance level and investment choices

Research Questions

The study objectives included

1. Which demographic profiles (education, age, employment status, gender, and Christian religious denomination) affect risk tolerance?
2. Is there a significant association between risk tolerance level and investment choices?

Significance of the Study

The results from the study will help financial advisors, investment companies, and the industry regulators to know the demographic characteristics that significantly affect the

Running head: RISK TOLERANCE AND INVESTMENT CHOICES

risk tolerance levels of the youth in Ghana. Also, the results from the research will help to educate financial and investment companies on the financial securities that suit the risk tolerance levels of the youth in Ghana. The study also contributed to the existing knowledge on the topic.

Organization of the Study

Chapter one explained the research questions, objectives, and significance of the study to financial companies and the contribution to the existing literature. The second chapter focused on the literature review. The review covered a detailed analysis of the current literature and developed the hypotheses of the study. Chapter three presented the approach used for the collection of data. It included the design of the research, sampling strategy, ethical considerations, and study limitations. The fourth chapter focused on the analysis of the results. The final chapter provided recommendations for future research and financial services, investment companies, and professional bodies based on the findings of the study.

CHAPTER TWO: LITERATURE REVIEW

Introduction

This chapter outlined a detailed review of the previous work of researchers. The section also focused on the underlying theory, review of relevant literature, and finally developed hypotheses of the current study.

Theoretical Framework

Prospect Theory

The Expected Utility (EU) theory describes how investors make decisions when there are uncertainties(risk). The EU theory explains that in choosing between uncertain and risky situations, investors or decision-makers only choose by comparing their EU values. The theory was, however, revised by Von Neumann and Morgenstern (1947) to emphasize expected outcomes in which investors accept choices that have high expected utility. The theory explained that investors, in general, are rational and that in making a decision, they will choose values with the highest expected outcome (Von Neumann & Morgenstern, 1947).

However, this theory of risk-taking is usually violated (Tversky & Fox, 1995). According to Mittra (1990), taking risks typically involves investors' emotions and financial strength to overcomes losses. Hence, investors do not always act rationally (Tversky & Kahneman, 1992). Several researchers have established the use of various economic models for the use of risk tolerance. However, the prospect theory is ideal is a better option to evaluate an individual's SFRT. The prospect theory is a suitable model in this sense as it is modeled on the psychology of individuals (Kahneman & Tversky, 1979). According to Chaulk, Hohnson, and Bulcroft (2003), decisions that involve attitudes, and one's perspectives are mostly not subject to the use of economic models. Thus, the expected utility cannot be used as a model in this research. The use of demographic profiles to

Running head: RISK TOLERANCE AND INVESTMENT CHOICES

measure risk is a widely researched topic. Grable (2000) argued that there exists a strong relationship between risk tolerance and socio-demographic characteristics of investors.

Anbar and Eker (2019) also emphasized that there is a consensus among investment advisors that there is a relationship between demographic factors and risk. Using this theory as the basis for their research, Finke & Huston (2003) supported the argument of the theory as wealthy investors were more risk-tolerant in their study. Other studies have taken the views of the theory on how wealth influences risk further by investigating how other demographic factors could affect FRT. According to Anbar and Eker (2010), gender, age, and education can cause investors to tolerate more risk. The study employed the prospect theory to determine whether any significant relationship exists between risk tolerance and investment choices.

Demographic Characteristics and Risk Tolerance

There are various research worldwide conducted to determine factors that influence the FRT of individuals or households (Anbar & Eker, 2010; Hanna & Lindamood, 2004; Ramudzuli & Muzindutsi, 2015). The prominent factors among them are age, education, marital status, gender income, and occupation. Although there is an extensive study on different demographic variables and FRT, research has, however, not provided a consensus as to the factors that significantly influence the FRT investors (Moreschi, 2005). The inconclusiveness regarding this topic may be due mainly to the sample employed for the research. The inconclusiveness of the existing literature gives room for future research to understand further how demographics influence the FRT profiles of individuals. The sections below presented a literature review on some of the demographic factors and their influence on FRT.

Gender

Some researchers argue that financial advisers believe that the role of gender cannot be overlooked in determining risk tolerance (Anbar & Eker, 2010). With a random sample of 1075 staff and faculty, Grable (2000) argued that FRT was associated with males. Males tend to be more tolerant of risk, whilst females are risk-averse. Researchers believe that males are financially knowledgeable, possess substantial income hence having the capability to invest in risky investment choices (Barber & Odean, 2001). Previous research on that studied the association between gender and FRT arrived on the same result that males are risk-tolerant than females (Anbar & Eker, 2010; Faff, Hallahan & McKenzie, 2011; Grable & Joo, 2000). In a study to find the factors that influence an investor Anbar and Eker(2010) risk found that significant factor that affects risk tolerance was gender. Additionally, Hanna and Lindamood (2004) also found the same results.

In contrast, in a study in South Africa, Strydom and Metherell (2012) extended the research on FRT. They researched the effect of demographics on risk tolerance levels using logistic regression. The researchers used stratified sampling to obtain a sample of 320 participants. The results concluded that gender was only 10% statistically significant and, as such, did not have a vital role in determining the FTR of individuals. Males were the risk-tolerant whilst females were in the same line of thought as most previous studies.

The conclusion from most of the research is that males compared to women are risk-tolerant even after controlling the education, income, and age variables (Outreville, 2014). Although most studies in this field suggest that women are generally risk-averse, opportunities for both genders are becoming equal with time. As a result of this, women are becoming more exposed to education and higher income and gaining an edge to assume

Running head: RISK TOLERANCE AND INVESTMENT CHOICES

more financial risk. Based on these opportunities and changes in times, it is crucial to conduct this research to find out if gender has any significant influence on the FRT levels of investors. Additionally, the study determined if males were more tolerant to risk than females.

Age

Per Anbar and Eker (2010), the age of an investor is a commonly used demographic profile when determining the effect of demographic profiles on risk tolerance. It is, however, intuitive to expect an inverse relationship between risk tolerance and age. Meaning, the risk level of an investor will decrease as they age since older investors have a shorter time to make recoveries from investment losses (Finke & Houston, 2003; Jiankopolos & Bernasek, 2006). Conversely, younger individuals tend to have a longer time for investment recoveries from losses to make up for any portfolio losses (Al-Ajmi, 2008). Other views hold that as people get old, they tend to have short investment prospects to make any positive returns on their assets. Hence, they change their investments from stocks into fixed income securities (Strong & Taylor, 2001).

However, other researchers have a contrary view of the association between the age of an investor and risk tolerance. Research conducted by Wang and Hanna (1998) reported a positive relationship between age and FRT. Their research findings revealed that as investors age, they buy more risky securities. The result suggested that younger investors have minimal investment resources that can only bear a short-term loss (Wang & Hanna, 1998). Researchers such as Summers et al., (2006) supported that the allocation of an asset varies as investors age and that individuals become risk tolerant as they age. Also, Grable (2000) found out that FRT was associated with old age.

Vijay and Govind (2016) studied the relationship between selected variables and FRT. They discovered that the age of an investor was a significant variable in determining risk levels of investors. However, Anbar and Eker (2010) noticed that age had an insignificant influence on risk. The insignificance of education was due to the sample for their research, as it only comprised university students with most of them between 20 and 30 years. The sample size of that research was not representative enough to show age's effect on FRT. Factors such as the sample, the instrument used for data collection, or the age differentials could result in the different findings.

The inconsistencies in the research findings between the age of an investor and risk tolerance, thus warrant that more studies are needed. However, since there is no variation between the age variables since the research focused on Ghanaian youth, the age variable was dropped.

Level of Education

Traditionally, education is another prominent variable known to affect an investor's FRT positively (Grable & Joo, 2004). An investor with higher education is considered one in a good position to access the risk and benefits associated with various investment choices (Chaulk et al., 2003; Gilliam, Chatterjee, & Grable, 2010; Larkin, Lucey, & Mulhol, 2013). Hence, education improves an investor's knowledge of risk associated with investment choices, thereby increasing their risk levels

Chang et al. (2004) studied the characteristics that impact the risk of investors. They reported a positive relationship between the education of households and their FRT levels (Chang et al., 2004). Chang et al. (2004) in finding the possible association between risk and demographic characteristics, the authors conducted an Ordinary Least Square

Running head: RISK TOLERANCE AND INVESTMENT CHOICES

regression. They concluded that education was a factor that significantly predicted the risk tolerance levels of households. Grable (2000) also supported this finding as he hypothesized that a higher educational level increased the level of financial risk. A discriminant analysis of his research proved the hypothesis right.

Other researchers have established that higher education increases FRT (Grable & Lytton, 1998; Riley & Chow, 1992). Thus, the more educated people become, the more risk-prone they become (Shaw, 1996). However, there have been some researchers who think otherwise. Other researchers have also found that the level of the education level of an investor had insignificant influence in explaining their risk tolerance level (Ramudzuli & Muzindutsi, 2015). In studying the impact of educational level on FRT.

Ramudzuli and Muzindutsi (2015) collected data from 330 participants in South Africa. They argued that the education level had a positive relationship with FRT. The findings suggested that as education level increases, FRT also increases. However, in finding the influence of education level on risk tolerance, a 0.5362 p-value indicated an insignificant impact of education level on FRT (Ramudzuli & Muzindutsi, 2015). The lack of significance of the education variable could be dependent on the fact that their sample only comprised of a homogenous group of final year undergraduate and postgraduate students and was not representative enough to show the significant influence of education level on FRT. Despite the existence of extensive literature suggesting a positive correlation between education and financial risk, it is possible that education is only a proxy for higher income. Thus, income levels could influence risk tolerance instead of education levels. Thus, the implication of education and FRT is inconclusive and therefore warrants further study.

Employment Status

One variable that, if often less researched, is employment status. Other factors like gender, age, and marital status have instead gained much attention in the research space compared to employment status. It is an intuitive observation that employed individuals have higher levels of income and thus can choose to invest in assets with high risk (Anbar and Eker, 2010).

With a sample of 2626 respondents in the United States, Grable and Lytton (1998) performed a discriminate analysis; the researchers argued that professionally employed investors are likely to be risk-tolerant. They further argued that the characteristics of employment status were a significant factor that affects and differentiates risk levels (Grable & Lytton, 1998). Some empirical studies have also argued that professional workers tolerate more risk than individuals engaged in non-professional work (Grable & Lytton, 1998). Despite these findings, Sung and Hanna (1996) also found contradictory evidence as to their study; there is no significant association between employment status and FRT. Including students in the characteristic variable, this study will determine if employment status affects risk tolerance in any way.

Religion

Previous research distinguishes religion and religious affiliation. The religious affiliation of an investor talks about the different religions. Religiosity, on the other hand, differentiates between non-religious and religious investors focusing on the strong religious feeling or belief of people. It may also involve dimensions such as one's commitment to their religion and participation in religious activities. Rajeshkumar and Kasilingam (2017), argued that Hindus, who formed a more significant portion of their data, were the most risk-tolerant. They studied the influence of demographic profiles of

Running head: RISK TOLERANCE AND INVESTMENT CHOICES

Indian investors on their risk tolerance. Rajeshkumar and Kasilingnam (2017) concluded that Christians and Muslims were less risk tolerance. Religion was also a significant, influential factor of FRT. Ramudzuli and Muzindutsi (2015) studied a sample of 330 South African University students in a university in South Africa. The research used logistic regression and concluded that Christians compared to non-Christians were risk-tolerant, and religion also had a significant effect on FRT.

Past research focusing on religiosity presented religious investors as risk-averse, and less religious investors are risk-tolerant. A research conducted by Dohmen et al. (2011), opined religious investors often take less risk whilst investors who are non-religious take more risk. When considering the effect of religion on risk tolerance, religion had a minor influence on risk tolerance compared to the other variables in the study.

Risk Tolerance and Investment Choices

According to Nguyen, Gallery, and Newton (2017), the risk assessment of an investor is usually done during an investment advisory process to assist clients in making effective decisions. The current literature has established a positive relationship between risk and an investor's investment decision (Nguyen, Gallery & Newton, 2017). With a sample of 538, Nguyen, Gallery, and Newton (2017) researched how risk tolerance affects investment; their study revealed that investor's risk affects their investment decision.

Hariharan et al. (2000) also argued that the risk of an investor had a significant effect on the decision making that involves risk. Per Hariharan et al. (2000), a risk-tolerant investor is likely to invest less of their investment in risk-free assets. Also, risk-averse investors invest less in risky investments.

Research Gap

Although there are numerous studies on the impact of different attitudes or towards risk tolerance regarding demographic variables, there has not been any research on these issues in the Ghanaian context. Also, the risk capacity and the factors that influence risk tolerance may differ from place to place, even within a particular country Webner (2014). The above then motivate using the data presented in the next chapter to conduct similar research in Ghana. The research also focused on finding the variations among the various Christian religious denominations.

The review of the literature showed that past research had limited information on how the financial risk tolerance levels of the various Ghanaian (Christian) religious denominations. According to the 2016 GLSS report, 73% of heads of households in Ghana are Christians, meaning the largest religion in Ghana is Christianity GSS. (2016). Ghana is embracing the Christian faith with enthusiasm, which is gradually shaping the countries national identity with many churches springing up every time. According to Lehrer (2004), religious affiliation influences the various decisions that people take in their lifetime. This research investigated whether these Christian religious denominations and the other factors have varying levels of risk tolerance levels. The research categorized the leading denominations in the Christian religion as a catholic, protestant, Pentecostal/charismatic churches, and others.

Furthermore, the literature review showed that the results concerning how these demographic profiles affect FRT was inconsistent about the effects of several variables. The current research identified to investors and other relevant stakeholders the

Running head: RISK TOLERANCE AND INVESTMENT CHOICES

demographic profiles that influence the FRT of the youth in Ghana and determined whether if an association exists between FRT and investment choices

Hypotheses of the Study

Due to the varying findings regarding how various demographic variables significantly affect risk tolerance, the research uses the various hypothesis to find out if demographic characteristics have any influence on the FRT of investors in Ghana

The Influence of Gender

From the literature review on gender and risk tolerance, males are the most risk-tolerant (Anbar & Eker, 2010; Grable & Joo, 2000). However, contradictory findings from Schooley and Worden (1996) warrants a future study. It then becomes relevant to probe the future into this finding as women are gaining grounds and are becoming economically vibrant after their exposure to equal opportunities. Also, gender's influence on risk tolerance was conflicting owing to concerns around statistical methods of data analysis and sampling techniques. The study hypothesis suggested;

H01: Gender does not significantly influence FRT

The Influence of Education

Education is generally known to affect financial risk positively (Grable & Joo, 2004). According to Chaulk *et al.* (2003), FTR for investors with higher educational levels rises as they find themselves in a better position as they improved education backgrounds. The higher level of education could suggest higher incomes and an improved understanding of finances. To find if the education has any influence on the FRT the study hypothesized;

H02: Education level does not significantly influence FRT

The Influence of Employment Status

It is expected that employed investors are risk-tolerant as against investors who are unemployed since they have higher disposable income and can afford to invest in risky options (Anbar and Eker, 2010). However, among the employed individuals, Haliassos & Bertaut (1995) argued that investors who are self-employed are likely to be risk-tolerant investors. Following the views of part studies on the employment variable, the study hypothesized;

H03: Employment status does not significantly influence FTR

The Influence of Religion

As highlighted in the literature review, a limited study on religion and FRT exists. Research by Rajeshkumar and Kasilingam (2017) concluded that Christians and Muslims were less risk tolerance compared to Hindus, and religion significantly influenced the FRT of investors. However, a contrary view by Ramudzuli and Muzindutsi (2015) suggested that Christians were likely to tolerate more risk-tolerant compared to non-Christian, and the effect of religion on FRT was. Therefore, the null hypothesis for the study was;

H04: Religion does not significantly influence FRT

The Influence of Christian Denomination

Although not a researched variable, the denomination (Christian) similar to religion may influence the risk level of the investor. This is because these denominations are not so much different from the religion a person belongs. Also, the teachings of these denominations could have some impact on the risk perceptions of the investor. The hypothesis suggested;

H05: Christian denomination does not significantly influence FRT

Risk Tolerance and Investment Choices

A study by Hariharan et al. (2000) argued that the investor's risk tolerance is significantly related to risky decision making. Additionally, past studies have concluded that investors who are risk-tolerant mostly invest less of their investment in risk-free securities (Hariharan et al. 2000). Cardak and Wilkins (2009) also concluded that households that are risk-averse mostly invest less of their investments with high risks.

Relying on these findings, the study hypothesis was

H06: There is no significant association between risk tolerance level and investment choices.

CHAPTER 3: METHODOLOGY

Introduction

The previous chapters provided a general view of the research. Chapter two reviewed the literature on the topic and developed the hypotheses of the study. The reviewed literature provided much evidence that there exist many conflicting results due to several factors, including variations in samples, and the methodologies employed. The challenges then necessitated the need for further research in Ghana. It was crucial to conduct research to aid investors and financial companies in understanding the deterministic factors of risk tolerance and how they could leverage that to serve the needs of customers. The current chapter provided detailed information on the methodology of the study, which includes the process of data collection, analysis, and study limitations.

Research Design

The research adopted a quantitative research approach adopted a quantitative approach. The study focused on knowing the demographic characteristics that influence the FRT of investors in Ghana. Similarities between this study and that of Anbar and Eker (2010) necessitated a quantitative approach. The study sought to identify if there are any differences between their risk-tolerance levels between the various demographic groups. Finally, it determined the association between risk and investment choices.

The study adopted but revised the Grable and Lytton (1999a) questionnaire. In previous research, the problem of understanding the items on the questionnaire was a significant challenge as it was difficult for investors without financial-based education to understand the items on the questionnaire. The questionnaire in this study was simplified to allow room for understandability. The questionnaire had only multiple-choice questions.

Research Scope

Population

The population consisted of the youth in Ghana with some financial knowledge and are investing with a financial firm. The age range of the participants was between the ages of 18 and 35 years. According to the Ministry of Youth and Sports (2010) in Ghana, the National Youth Policy report youth are people between 15 - 35 years. The age range of 18 to 35 years was ideal for this research mainly because, in Ghana, an individual can only hold any security with autonomy at the age of 18 years. Also, to ensure that participants do not need the supervision of an older person in filling the form, this age range was chosen.

Sampling Technique

The study employed an online convenience sampling technique through social media platforms. The online convenience sampling technique was deemed ideal for this research because of some of its advantages. One benefit of this sampling technique is that participants can be accessed easily. The employed sampling technique is also easy to conduct and saves much time. Finally, convenience sampling was deemed ideal for this research because it helps the researcher to get access to a wide range of respondents.

Other forms of probability sampling are difficult to conduct since most financial companies do make readily available the lists of customers to the public. However, such a form of sampling technique provides more accurate results. Despite the advantages, convenience sampling also has some disadvantages. One such drawback is that the result cannot be generalized since the sample was obtained through a non-random technique. Also, there could be a high level of bias as participants and research can only gather based

on convenience. Also, with the online survey, not every member of the population can access the questionnaire as they might not have the means.

Data Collection Tool

The study employed a survey method to collect data. The questionnaire used for the research had three parts. Part one captured data on the demographic information of the respondents, such as gender, age, occupation, education level, religion, and religious denomination if the participant was Christians. The second part asked participants to identify their investment choices (equities, treasury bills, forex). The third and final part of the questionnaire then captured the SFRT levels of the respondents, where they responded with their reaction in a hypothetical financial situation. The third part had hypothetical questions with multiple-choice answers. Participants had to choose which of the answers applied to them.

The scores for the hypothetical risk tolerance question were scored between one and six. The less risky option had a low rating of 1 allotted, and the riskiest option had six. Grable and Lytton (1999b) developed a method of assigning lower and higher values to less risky and risky choices, respectively. The scoring method helps to determine the risk tolerance profile and asset allocation model that corresponds with the investors' risk profile. Finally, the researcher summed the total score for each sub-section for the respondent's risk tolerance to obtain the risk score. The Grable risk tolerance scoring method was employed to classify the individual respondents accordingly. The scoring method ranks respondents with a score below the mean as risk-averse and respondents with an average rating higher than the total average mark as risk-tolerant investors.

Data Analysis Methods

The study employed descriptive statistics, median analysis, and non-parametric tests, logistic regression, and a contingency analysis for data analysis. The binary logistic regression model (BLRM) helped to identify the effects of the demographic characteristics on the financial risk of the respondents. The study also used a contingency analysis to find out if there was any association between financial risk and investment choices.

Dependent variable

The dependent variable in the model was dichotomous ordinal with two possibilities, risk-tolerant, and risk-averse. The number zero represented risk-averse, and one represented risk-tolerance.

Independent variables

The independent variables for the analysis were categorical. There were five independent variables. The variables were gender, education, employment status, religion, and Christian denomination.

Binary Logistic Regression Model

The BLRM is a method of analyzing data statistically when there are more than one independent variable and a dichotomous dependent variable. The dichotomous variable highlights that the dependent variable can only take two outcomes (Sung & Hanna, 1996). The BLRM helps in explaining the relationship between the two variables. The BLRM was ideal for the data analysis as the model does not assume the normality of data. The model is often in an equation as

$$Y = \sum \beta X + \epsilon,$$

Running head: RISK TOLERANCE AND INVESTMENT CHOICES

In the equation, Y represents the dependent variable and X represents the independent variables. β shows the coefficients of the equation and ϵ represents the error term.

Since the output value of the research is an unobserved variable, we represent it with a dummy variable to categorize the risk-tolerant investors and the risk-averse investors. An investor with a below-average risk-tolerant score is denoted by $Y = 1$ if the risk tolerance score is above the average rating and $Y = 0$ if otherwise.

Statistical Tests

The study employed a BLRM as the means of analyzing the data, and other forms of statistical analysis to understand the differences in FRT levels of the various groups. For this purpose, the study employed a median analysis. The test helped to identify the differences between the risk tolerance scores of the various groups. Also, the additional statistical analysis helped to justify the method of regression used in the study.

Correlation Tests

Before running the regression, the study checked from the existence of any multicollinearity in the data. The multicollinearity occurs as a result of a high correlation among the variables. According to Pallant (2007), BLRM has a high sensitivity to high correlations among the independent variables.

The Hosmer and Lemeshow

The Hosmer and Lemeshow test helped to know if the model used in the result fits the data collected. The results from the test provided support for the BLRM (Bewick, Cheek & Ball, 2005. According to Pallant (2007), when using the Hosmer and Lemeshow Tests, a model with a value higher than 0.05 represents a good fit.

Validity and Reliability

The validity test helped to ensure that the questionnaire was consistent with examining the hypotheses of the research (Vanderstoep & Johnston, 2009). With twelve participants, a pilot study assisted to test validity, to ensure that the questionnaire was void of complex and doubled barred questions. Relying on the feedback from the pilot, the questionnaire was enhanced to omit any leading questions and improved the wording of some sentence structures to improve clarity.

For reliability, a sample of forty-three respondents filled the questionnaire. After testing for reliability, the data generated a Cronbach alpha of 0.762. The reliability test helps to identify the degree of relations between the items on the questionnaire measure the objective of the study (Vanderstoep & Johnston, 2009). According to Vanderstoep and Johnston (2009), the questionnaire is validated when the alpha is of 0.70 or above.

Table 1
Cronbach's Alpha

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.762	.751	8

Ethical Considerations

According to Lavrakas (2008), ethical procedures in research are the standard practices that ensure the privacy and protection of human subjects in research. The research followed all the ethical issues of privacy and confidentiality of data. Before the data collection began, a proposal consisting of the research questionnaire was sent to the Ashesi University Institutional Review Board (IRB) for approval. The board ensured that the study

Running head: RISK TOLERANCE AND INVESTMENT CHOICES

met the ethical standards of the committee regarding research. The IRB of Ashesi University approved this research to be carried on after reviewing the questionnaire and other documents regarding this research work. After the approval from the committee, field research began. The questionnaire did not require participants' names and personal details. Data was also kept in an encrypted folder to safeguard confidential data of the participants. Respondents were free to drawback from the study if they wanted. The survey briefed participants on the relevance of the study and requested the participant's permission. Data collected from the participants was used solely for academic work.

Study Limitations

It would be difficult to generalize the findings as the sample size was not representative of all investors in Ghana between 18 and 35 years. The survey used a convenience sampling (online) technique. The process of data collection also limited the number of people who could see and answer the questions. Also, due constraints such as time and resource, the questionnaire could not reach a lot of the people in the target population.

CHAPTER 4: RESULTS

Introduction

The chapter included information on data collection and preparing methods. The discussion of the results focused on the descriptive statistics, non-parametric tests, and regression results.

Collection and Preparation of Data

Data was collected with a google form and transferred to Microsoft excel after data collection for the organization and later into SPSS for data analysis. Time and resource constraints inhibited access to more participants, as some people in the target population were unable to participate in the research. The study used a sample size of 231.

Table 2

Dependent Variable Codes

Original Value	Internal Value
Risk-Averse	0
Risk-Tolerant	1

The Descriptive Statistics

The descriptive statistics of the research entailed the composition of the frequency and the percentages of the various samples. The descriptive statistics provided below were mainly aided by tables to help in understanding the structure of the sample.

Table 3

Sample Statistics of FRT

N	Valid	231
	Missing	0
Mean		19.61
Std. Deviation		3.464
Minimum		9

Maximum	27
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From the table above, there were a total of 231 respondents. The lowest score obtained was nine, and the highest was twenty-seven. The mean value was 19.61, and the standard deviation was 3.464. The risk-averse were participants who scored below the mean, and those who scored above the mean were the risk-tolerant. This system of categorizing participants as risk-averse and risk-tolerant was the same as the research conducted by Grable and Lytton (1999b).

Table 4
Categorization of FRT

	Frequency	Percentage
Risk Averse	117	50.6
Risk Tolerant	114	49.4
Total	231	100.0

Out of a total of 231 participants, a total of 117 respondents (50.6%) scored a risk tolerance score below the average score. The participants with a lower average rating are classified as risk-averse. The second group of 114 participants (49.4%) who attained a risk tolerance score above the mean represented the risk-tolerant category. This group represented a percentage of 49.4% of the total participants. From the above, it is evident that the dependent variable for the study consisted of only two categories, thus making the BLRM an appropriate statistical model for the test of hypotheses.

Table 5
Demographics of Respondents

Variable	Category	Frequency	Percentage
Gender	Male	114	49.4
	Female	117	50.6
Level of Education	High School		

Employment Status	Diploma/Certificate	33	14.3
	Bachelor's Degree	21	9.1
	Postgraduate	163	70.6
	Student	14	6.1
Religion	Self-employed	162	70.1
	Employed	8	3.5
	Unemployed	52	22.5
		9	3.9
Christian Denomination	Christian		
	Non-Christian	218	94.4
		13	5.6
	Catholic		
	Protestant	49	22.5
	Pentecostal/Charismatic	49	22.5
	Other	113	51.8
		7	3.2

The gender of the participants, by default, was a categorical variable where participants were either males or females. With a total number of 231 respondents, 117 were females, and 114 were males. The statistics show that there was almost an even distribution of the data with 50.6% females and 49.4% males.

The participant's highest education level was in four different categories. A total of 33 participants selected high school as their highest education level, representing 14.3% of the total respondents. Participants with a Diploma/Certificate were 21 in number, making up 9.1% of the population. Participants who have a bachelor's degree were 163 in number representing a percentage of 70.6%. The final category was the postgraduate group, with a total of 14 participants and a percentage of 6.1 %.

The employment status of the respondents had four categories, with students as the first category. The students were a total of 162, representing 70.1% of the total respondents, making up the largest of the four groups. The second was self-employed with a total of 8 participants and a percentage of 3.5%. Employed participants were a total

Running head: RISK TOLERANCE AND INVESTMENT CHOICES

of 52, making up a percentage of 22.5%. The final group was the unemployed participants. The total number of these participants was 9 out of 231, making up the least percentage of 3.9%.

The religion of the respondents had two categories, Christian and non-Christians. However, out of the 231 respondents, 218 of the participants were Christians with a corresponding percentage of 94.4%, and the participants who were non-Christians were 13 in number, making up 5.6%. Participants who were Christians had to determine further their Christian denomination. Out of the 218 respondents who were Christians, 49 out of them were Catholics and protestants, representing 21.2%. Pentecostal/Charismatics were 113, representing 48.9%, and other Christian denominations other than the three categories had a total of 7 participants with a percentage of 3%.

Statistical Analysis Results

The analysis compared the medians of gender and religion. For gender, it compared the median of males and females, for religion, Christian and non-Christian. The Mann-Whitney test compared variables with only two categories.

Median Test Results

As highlighted earlier in chapter 3, the study employed median only to compare the medians of the various groups and not to test statistical differences. As such, the table 6 below only discussed the median scores of the various tests.

Evident from table 6, males have the highest median score of twenty-one compared with a median value of 18 for the females. The median analysis suggested that males are the risk-tolerant, and the females are risk-averse. The findings corresponded with the results of Anbar and Eker (2010 as they stated that females are risk-averse.

Running head: RISK TOLERANCE AND INVESTMENT CHOICES

For education, bachelor's degree, diploma/certificate and postgraduate categories recorded the same median of 20, making them more risk-tolerant. The high school category, on the other hand, recorded the least median score of 19. By comparing the medians, the category likely to be the most risk-averse is self-employed. The group that followed self-employed were students with an N= 162 and a median of 19. The risk-tolerant categories were employed and unemployed, with a median score of 20. However, it was surprising to find participants who are self-employed as part of the risk-averse group. It is intuitive to find individuals who are working to have higher incomes and can thus afford to take on more risk.

Christians had a median score of 19 while non-Christians had a median score of 22, making the non-Christian risk-tolerant. This finding was, however, contrary to that of Ramudzuli and Muzindutsi (2015), who concluded that Christians were more risk-tolerant, compared to non-Christians. The most risk-tolerant was the other Christian category, which had a median of 22, followed by Protestants with a median score of 20. The risk-averse category was the Pentecostal/Charismatic and Catholic groups, with a median score of 19.

Table 6
Median Analysis

Variables	Number (N)	Median Score
Gender		
Males	114	21
Females	117	18
Education		
High school	33	19
Diploma/Certificate	21	20
Bachelor's degree	163	20
Postgraduate	14	20

Running head: RISK TOLERANCE AND INVESTMENT CHOICES

Employment Status		
Student	162	19
Self-employed	8	18
Employed	52	20
Unemployed	9	20
Religion		
Christian	218	19
Non-Christians	13	22
Christian Denomination		
Catholic	49	19
Protestant	49	20
Pentecostal/Charismatic	113	19
Other	7	22

Test for Multicollinearity

Pallant (2007), suggested that correlation values should not be greater than 0.05.

The correlation test result evident from table 7 indicated that the highest correlation was between religion and Christian denomination ($r=0.430$). The results showed that there was no presence of a high correlation between any of the variables. The highest ($r= 0.430$) was below 0.5.

Table 7

Results of Correlations

Spearman's rho		Gender	Level of Education	Employment Status	Religion	Christian Denomination
Gender	Correlation Coefficient	1.000	.006	-.173**	.016	.151*
	Sig. (2-tailed)	.	.930	.008	.813	.021
Education	Correlation Coefficient	.006	1.000	.114	.183**	.026
	Sig. (2-tailed)	.930	.	.084	.005	.691

Running head: RISK TOLERANCE AND INVESTMENT CHOICES

Employment status	Correlation Coefficient	.173 [*]	.114	1.000	.125	-.011
	Sig. (2-tailed)	.008	.084	.	.057	.873
Religion	Correlation Coefficient	.016	.183 ^{**}	.125	1.000	.430 ^{**}
	Sig. (2-tailed)	.813	.005	.057	.	.000
Christian Denomination	Correlation Coefficient	.151 [*]	.026	-.011	.430 ^{**}	1.000
	Sig. (2-tailed)	.021	.691	.873	.000	.

^{**}. Correlation is significant at the 0.01 level (2-tailed).

^{*}. Correlation is significant at the 0.05 level (2-tailed).

Model Fit Test Result

The test produced results for the goodness of fit to validate the use of the BLRM.

The Hosmer and Lemeshow Test from table 8 produced a chi-square of 5.750 and degrees of freedom of 7. The result also generated a significance level of $p = 0.569$, which was higher than 0.05. The result then provided more room and further support for the BLRM.

Table 8

Hosmer and Lemeshow Test

Step	Chi-square	Df	Sig.
1	5.750	7	.569

Binary Logistic Regression Model Results

This section discussed the hypotheses of the study with the aid of the regression output shown in Table 9 below. The table outlined the influence of the various independent variables have on the investors SFRT. The null hypothesis was either accepted or rejected by checking whether the p values of the output are significant or not significant, indicating the variables that influence SFRT.

Table 9

Regression Result

Variables		B	SE.	Wald	Df	Sig.	Exp(B)
Step 1 ^a	Gender	-.779	.280	7.733	1	.005	.459
	LOE	.164	.176	.869	1	.351	1.849
	Employment	.096	.146	.437	1	.509	1.101
	Status						
	Religion	1.766	.912	3.752	1	.053	5.847
	Christian						
	Denomination	.074	.164	.206	1	.650	1.077
	Constant	-.599	.986	.369	1	.543	.549

Test of Hypotheses

Gender

The null hypothesis for this study was that gender does not significantly influence FRT. From the regression table above, the gender variable produced a Wald statistic of 7.733, which was significant at $p=.005$. With this, it is evident that gender had a significant influence on FRT. Thus, we reject the null hypothesis. This finding was also supported by Hanna and Lindamood (2004) as they recorded the presence of a significant association between gender and FRT.

With the negative coefficient ($B=-.779$) and an odds value of .459, which was below one, the model provided enough evidence to conclude that females have a small to be risk-tolerant. The result suggested similar findings of scholars that males are risk-tolerant while females are otherwise (Al-Ajmi, 2008; Hallahan et al., 2004). However, contrary to these findings, Ramudzuli and Muzindutsi (2015) had realized a gender did not have a significant effect on FRT.

Education

Generally, most researchers, an investor's education level is related positively to their risk levels. From table 9, the coefficient of the variable education is .164, an odds ratio .849, and a p-value of ($p=.351$). The p-value produced indicated that education was not statistically significant; hence education does not significantly influence FRT. This finding was, however, similar to Gumede (2009), who concluded that there was no statistical significance between education level and SFRT.

Also, the positive relationship between the two variables suggested that as education level increases, risk tolerance also increases. Other studies in similar fashion also argued that an investor's education has a positive relationship on financial risk (Ramudzuli & Muzindutsi, 2015). Their results provided evidence that higher educational attainment corresponds to the higher financial of risk.

Employment Status

The hypothesis tested was that employment status was not a significant predictor of an investor's SFRT. The BLRM for the hypotheses testing produced a Wald statistic of .437 and a p-value of ($p=.509$). The results gave enough evidence to conclude that employment status has no significant effect on FRT. Thus, the acceptance of the null hypothesis. The positive coefficient of .096 indicated the presence of a positive association between employment and FRT. Results from this study were similar to Sung and Hanna (1996).

Religion

From the above BLRM, the religion variable produced a Wald statistic of 3.752 and a level of significance ($p=0.053$). The results provided evidence that religion does not influence the SRFT of an investor, thus accepting the null hypothesis. With an odds ratio

Running head: RISK TOLERANCE AND INVESTMENT CHOICES

of 5.847, the study concluded that Non-Christians likely to be risk-tolerant. The result contradicted that of Ramudzuli and Muzindutsi (2015), who found that Christians tolerate more risk than Non-Christians.

Christian Denomination

The BLRM produced a Wald statistic of .211 and a p-value of ($p=.650$). The p-value suggested an acceptance of the null hypothesis. Thus, the Christian religion does not influence SFRT. A positive coefficient of .074 indicated a positive relationship between Christian religion and SFRT.

Risk Tolerance

This section provided information on the association between FRT and investment choices. The analysis was to find out if there was the presence of a significant association between FRT and investment choices.

Table 10
Contingency Analysis

	Value	Df	Asymp. Sig. (2-sided)
Pearson Chi-Square	41.728 ^a	37	.036
Likelihood Ratio	53.890	37	.031
N of Valid Cases	231		

The contingency analysis using crosstabs was used, and from table 14 above, the Pearson Chi-Square of 0.036 provided evidence of a significant association between FRT and investment choices. The results concluded that there is a significant association between risk tolerance and investment choices. Meaning, an individual who is less risk-tolerant will buy securities with a low-level risk like treasury bills, bond, and fixed income

Running head: RISK TOLERANCE AND INVESTMENT CHOICES

securities. Risk-tolerant investors, on the other hand, would prefer to invest in equities, commodities, and forex as they are securities with more risk.

CHAPTER 5: CONCLUSION

Overview

Chapter five provided an overview of the research taking into consideration the key objectives, research questions, methodology, and results. Chapter five summarized the entire research and provided the study and advice financial advisors. It also highlighted some recommendations.

The research provided significant findings regarding the determinants of investors' risk tolerance. Financial managers must measure the risk levels of investors as they embark on any investment decisions. As such, financial advisors cannot overlook the adequate measurement of their client's risk as its consequences can be harmful to the investor's goals. According to Anbar and Eker (2010), financial advisors consider the investment horizon expected return and the investor's risk profile as it is essential in making any investment decision. It is evident from research that there have been many inconsistencies in the research findings and the measurement process, as it is complicated to measure. However, both subjective and objective means of measuring financial risk have been the most predominant.

The current study through a questionnaire used the subjective approach of measuring risk tolerance through. The current research presented evidence concerning the influence of an investor's demographic information on risk tolerance is inconclusive with mixed findings. Researchers have either found results to either support or refute the past research based on their findings. There appeared to be mixed results on how demographic information affected risk levels.

Despite the extensive research on the topic of financial risk e, there is no information on this topic regarding Ghana. This then warrants the need for a study in Ghana. The study identified the demographic factors that influenced risk tolerance and identified the differences in the risk tolerance scores of the groups. The study also identified the association between FRT and choice of investment.

The population involved all the youth in Ghana from 18 to 35 years who are currently investing. The sample size for the research was 231. The study obtained the sample from an online survey through the convenience sampling technique. Despite the challenges that come with this technique, time and resource constraints proved this technique and ideal technique.

Research findings

From the median analysis, the study found that females were risk-averse compare to their male counterparts. The finding was, however, not surprising, given that many studies have found the same results. This was consistent with research conduct Grable and Joo (2000). They supported the view that males were the most risk-tolerant between the two genders. High school students were also more unlikely to be risk-tolerant. It reported that individuals with higher education are in better positions that could potentially lead to higher incomes and tolerant more financial risk (Chaulk *et al.*, 2003).

On employment, self employed investors were the risk tolerant. This was contrary to the popular believe. The lower risk score can be associated to the fact that employed this group of people were not a lot. Christians compared to Non-Christians were risk-averse. This finding was similar to that of Rajeshkumar and Kasilingnam (2017), who concluded that Christians were risk-averse. However, the research contrasts the findings of

Running head: RISK TOLERANCE AND INVESTMENT CHOICES

Ramudzuli and Muzindutsi (2015). They argued that Christians were risk tolerant whilst non-Christians were not. For the Christian denomination, Catholics and Pentecostals were the risk-averse whilst investors from other denominations other than catholic, Pentecostal or charismatic were the risk-tolerant.

As Grabble (2000) argued, the results from BLRM suggested that there existed relationships between the various demographic characteristics and FRT. However, employment status, education, and an investor's Christian denomination did not influence risk tolerance. The only factor that significantly predicted the risk tolerance of an investor was gender. This finding somewhat contradicts most research. Education, employment, religion, and one's Christian denomination were not significant factors that influence risk.

With the prospect theory as the theoretical framework for the study, there was evidence of a relationship between the demographic characteristics and risk. However, the research did not find a significant relationship between some demographic characteristics and FRT. However, researchers should also consider a larger sample size with more variations among the different independent variables may generate a significant influence on risk tolerance.

The contingency table provided evidence of a significant association between risk tolerance and choice of investment. This meant that investors with little preference for risk would mostly buy securities with low risks such as bank deposits and fixed income securities and treasury bills (Cardak & Wilkins, 2009). Risk tolerant investors would also prefer investments with high risks such as equities, commodities, and forex (Hariharan et al. 2000).

Recommendations

Although the researcher highlighted that the sample was not nationally representative, it is evident that certain extrapolations can be made from the research findings. The study provided evidence that certain demographic factors influenced an investor's risk tolerance. This research finding was, however, important considering that research of this nature has not been conducted in the Ghanaian context yet.

For every research, there are limitations, and this research was no exception. Future studies should consider including more participants as this current research is not a nationally representative of the Ghanaian youth who was investing in a company. It might not be accurate to generalize the results considering the sample size employed in the research. Future research should focus on a larger sample to generalize the results. Researchers should also consider a more accurate sampling technique, preferable probability sampling, and an increase in the number of participants. Finally, researchers should consider focusing on variations in their responses regarding the various demographic factors as it could reveal possible significant influence with risk tolerance.

Also, researchers could consider elaborating on the risk tolerance categories instead of limiting it to risk tolerance and risk-averse. Researchers may group participants into categories such as risk-averse, risk conservative, risk moderate, and risk-tolerant.

Conclusion

The research provided evidence that is consistent with past studies concerning the influence of demographic factors on FRT. The results depicted the presence of a relationship (not necessarily significant) between all the factors and FRT. The results suggested that FRT of an investor cannot be dependent solely on demographics using statistical analysis. Financial, advisors should also resort to other measures such as

Running head: RISK TOLERANCE AND INVESTMENT CHOICES

knowing their customers and understand their risk preferences. The current research then recommended that financial advisors do not rely strictly on statistical analysis; such findings may have some errors.

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Running head: RISK TOLERANCE AND INVESTMENT CHOICES

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APPENDIX

Questionnaire

This survey was designed to help in my research on risk tolerance and investment choices among the youth in Ghana. The study would be a bachelor's degree at Ashesi University. The results will be anonymous. Respondents are encouraged to select the options that describe their risk preferences. There are no correct or wrong responses. The significance of this research is to help the various financial institutions and investment companies provide/ create investment securities that suite the risk preference of the respondents and the larger population. All information gathered from the survey will be treated as highly confidential. For any questions, please contact the researcher on perpetual.likudie@ashesi.edu.gh or 0543637191

Demographics

1. What is your gender?
 - a. Male
 - b. Female
2. What is your age?
 - a. 18 - 24 years old
 - b. 25 - 30 years old
 - c. 31 - 35 years old
3. What is the highest degree or level of education you have attained?
 - a. High school
 - b. Bachelor's degree
 - c. Master's degree
 - d. Ph.D. or higher
4. What is your marital status?
 - a. Single
 - b. Married
 - c. Divorced
5. What is your current employment status?
 - a. Student
 - b. Professional worker
 - c. Non-professional worker
 - d. Unemployed
6. What is your religion?
 - a. Christian
 - b. Non-Christian
7. What is your religious denomination?
 - a. Catholic
 - b. Protestant
 - c. Pentecostal/Charismatic
 - d. Other

Risk Tolerance Questions

8. What comes to mind when you think of the word "risk" in investment?
 - a. A sure loss of money

Running head: RISK TOLERANCE AND INVESTMENT CHOICES

- b. A possibility to lose money
 - c. An opportunity to make money
 - d. Thrill/Adventure
9. Which of the following best describes you as a risk-taker when investing or saving?
- a. Avoid any losses
 - b. Cautious
 - c. Willing to take up some level risk
 - d. Ready to take up a higher risk to get the expected returns
10. How comfortable are you investing in the equities (stocks/shares) or mutual funds?
- a. Not comfortable.
 - b. Somewhat comfortable.
 - c. Very comfortable.
11. If you had GHS 50,000 to invest, which of these options would you invest in?
- a. Deposit the money in a bank account,
 - b. Invest it in bonds
 - c. Prefer to invest all in mutual funds
 - c. Invest all in the stocks market
 - d. Purchase Commodities
 - e. Foreign currency
12. Supposing you had an initial investment worth GHS 100,000. However, your investment fell by GHS 60,000 within a month due to market conditions. What will you do?
- a. Sell off the investments.
 - b. Sell a portion of the portfolio to cut down on losses and later invest it into more secured investment sectors.
 - c. Keep the investment with the hope of a better market conditions
 - d. Invest additional funds to lower the average investment price.
13. Provided you received GHS 20 000 from a relative as a gift. Which of the following investments would you find appealing?
- a. A 60% low-risk investment, 30% in medium-risk investment, and 10% high-risk investment
 - b. A 30% low-risk investment, 40% in medium-risk investment, and 30% high-risk investment
 - c. A 10% low-risk investment, 40% in medium-risk investment and 50% high-risk investment
14. Supposing you were employed in a job today with a stable salary, what percentage of your salary would you like to save/invest after all your expenses
- a. Less than 10%
 - b. 10%-20%
 - c. 25%-40%
 - d. More than 40%
15. For how long can you tolerate a financial market where your investment keeps losing its value?
- a. Less than one year
 - b. one to three years
 - c. Three to five years

Investment Choices Questions

19. Do you have any investment account?

- a. Yes
- b. No

20. Which of the following do you invest in?

- a. Bank deposits
- b. Treasury bills
- c. Bonds
- d. Mutual Funds
- e. stocks
- f. Commodities like gold, silver, and oil.
- g. Foreign currency