

**THE RELATIONSHIP BETWEEN FINANCIAL LITERACY AND SAVING  
HABITS: AN ANALYSIS OF BLACK SOUTH AFRICANS WITH A  
COMMERCIAL TERTIARY EDUCATION**

Mini-dissertation by

**MATWALE REON MATEMANE**

Submitted in partial fulfilment of the requirements for the degree

**Magister Commercii in Financial Management**

in the

Faculty of Economic and Management Sciences

at the

University of Pretoria

**Supervisor:**

Ms M Dowelani

## DECLARATION

1. I understand what plagiarism entails and am aware of the University's policy in this regard.
2. I declare that this assignment is my own original work, and that all sources used/quoted have been indicated and acknowledged by means of a complete reference system.
3. I did not copy and paste any information directly from an electronic source (e.g. a web page, electronic journal article or CD-ROM) into this document.
4. I did not make use of another student's previous work and submitted it as my own.
5. This mini-dissertation was not previously submitted for a degree at another university.

MR Matemane

Signature

26 October 2015

Date

## ACKNOWLEDGEMENTS

I would first like to thank the Lord God Almighty for His provision of wisdom, knowledge, understanding and strength in completing this work. I also am deeply indebted to the following individuals, without whose contribution this work would not have been possible:

- My study leader, Ms Musi Dowelani, who started the journey with me right from choosing this interesting topic and guiding me throughout the process until the end. Thank you very much for your patience and willingness to impart skills and knowledge.
- The statistician, Dr Marthi Pohl, for her assistance in data analysis.
- Head of the Department of Financial Management at UP, Prof. Henco van Schalkwyk, for giving me support and time needed to complete this work.
- My colleagues in the Faculty of Economic and Management Sciences at large, for completing the survey and disseminating it to their family and friends.
- My family, friends and ex-colleagues from other organisations who participated in the survey and distributing the survey to others.
- Nthabiseng, Ditebogo and Mofenyi for their moral support and motivation throughout the journey.
- Khomotso Bopape of Let's Edit (Pty) Ltd, for assisting with the editing of this mini-dissertation.

## ABSTRACT

Financial literacy has been identified in previous studies as an area that has not been researched extensively in South Africa. This is particularly true for Black South Africans who have been previously disadvantaged and excluded from the mainstream economy and financial services in the apartheid regime. Lower savings and over-indebtedness amongst this group can be attributable to the lower financial literacy levels emanating from the inequalities of the past. This study aims to assess the financial literacy of Black South Africans with a commercial tertiary qualification working in Pretoria and Johannesburg based on descriptive research and structured questionnaires. The study first establishes that although people with a commercial tertiary qualification are more financially literate than those with non-commercial tertiary qualification, Black South Africans are nevertheless less financially literate than their Coloured, Indian and White contemporaries. Secondly, those who have savings have higher financial literacy than those who do not have savings.

**Keywords:** *financial literacy, savings, commercial tertiary education, Black South Africans, Gauteng, Pretoria and Johannesburg*

## TABLE OF CONTENTS

DECLARATION .....	II
ACKNOWLEDGEMENTS .....	III
ABSTRACT.....	IV
LIST OF FIGURES .....	IV
LIST OF TABLES .....	V
LIST OF ABBREVIATIONS AND ACRONYMS .....	VI
LIST OF DEFINITIONS.....	VII
CHAPTER 1: INTRODUCTION .....	1
1.1 BACKGROUND.....	1
1.2 PROBLEM STATEMENT .....	3
1.3 PURPOSE STATEMENT .....	3
1.4 RESEARCH OBJECTIVES/RESEARCH QUESTIONS .....	3
1.5 IMPORTANCE AND BENEFITS OF THE PROPOSED STUDY .....	3
1.6 DELIMITATIONS AND ASSUMPTIONS .....	4
CHAPTER 2: LITERATURE REVIEW .....	5
2.1 INTRODUCTION.....	5
2.2 FINANCIAL LITERACY DEFINED.....	5
2.3 HISTORICAL PERSPECTIVE OF FINANCIAL LITERACY AND THE EVOLUTION IN A GLOBAL CONTEXT.....	7
2.4 CONSEQUENCES OF LACK OF FINANCIAL LITERACY.....	10
2.4.1 Overall inability to act in one’s financial best interest .....	10
2.4.2 Lack of planning, saving and investing for the future.....	11
2.4.3 High debt levels.....	12
2.4.4 South African perspective.....	12

2.5	MEASUREMENT OF FINANCIAL LITERACY.....	13
2.6	THE ROLE OF EDUCATION IN FINANCIAL LITERACY .....	16
2.7	FINANCIAL LITERACY AND SAVING HABITS .....	18
2.8	ETHNICITY AND FINANCIAL LITERACY .....	21
2.9	FINANCIAL LITERACY AND SAVINGS IN SOUTH AFRICA.....	24
2.10	CONCLUSION.....	26
CHAPTER 3: RESEARCH DESIGN AND METHODS.....		27
3.1	INTRODUCTION .....	27
3.2	DESCRIPTION OF INQUIRY STRATEGY AND BROAD RESEARCH DESIGN.....	27
3.3	SAMPLING .....	28
3.3.1	Sample size .....	29
3.4	DATA COLLECTION .....	29
3.4.1	Data collection tool .....	29
3.4.2	Pilot study.....	31
3.4.3	Data collection process .....	32
3.5	DATA ANALYSIS .....	32
3.5.1	Overview of data analysis.....	32
3.5.1.1	Descriptive statistics .....	33
3.5.1.2	T-test .....	34
3.6	HYPOTHESES TESTING.....	36
3.6.1	All the respondents who have savings and those who do not have savings .....	36
3.6.2	Black South Africans who have savings and those who do not have savings .....	36
3.7	ASSESSING AND DEMONSTRATING THE QUALITY AND RIGOUR OF THE PROPOSED RESEARCH DESIGN.....	37
3.8	RESEARCH ETHICS .....	37

3.9	CONCLUSION.....	38
CHAPTER 4: RESULTS AND DISCUSSION .....		39
4.1	INTRODUCTION .....	39
4.2	DESCRIPTIVE STATISTICS – FINANCIAL LITERACY SCORES.....	39
4.2.1	Overall financial literacy of the respondents .....	39
4.2.2	All respondents – financial literacy scores according to the field of study and population groups .....	40
4.2.3	Black South Africans – financial literacy scores according to the field of study, gender and place of origin .....	41
4.3	DESCRIPTIVE STATISTICS – SAVING HABITS.....	43
4.3.1	Overall savings of the respondents .....	44
4.3.2	Saving habits in relation to the population groups .....	47
4.3.3	Saving habits of Black South Africans in relation to gender .....	48
4.3.4	Saving habits of Black South Africans in relation to the field of study .....	49
4.4	FINANCIAL LITERACY AND SAVING HABITS .....	50
4.5	CONCLUSION.....	52
CHAPTER 5: CONCLUSION AND RECOMMENDATIONS .....		53
5.1	INTRODUCTION .....	53
5.2	SUMMARY OF FINDINGS .....	53
5.2.1	Financial literacy of Black South Africans in relation to CIW .....	53
5.2.2	Commercial versus non-commercial field of studies .....	54
5.2.3	Financial literacy and saving habits.....	54
5.3	PRIMARY CONCLUSION .....	55
5.4	KEY CONTRIBUTIONS OF THE STUDY.....	55
5.5	RECOMMENDATIONS FOR FUTURE STUDIES.....	56
LIST OF REFERENCES.....		57
APPENDICES.....		64

## LIST OF FIGURES

Figure 1: Concept of financial literacy .....	7
Figure 2: Financial literacy scores – demographic groups and field of study .....	40
Figure 3: Black South Africans – financial literacy scores according to field of study, gender and place of origin.....	42
Figure 4: Savings of the respondents in percentages .....	44
Figure 5: Emergency/rainy day funds in percentage.....	45
Figure 6: Saving/spending patterns in the past 12 months .....	46

## LIST OF TABLES

Table 1: Population group * savings cross-tabulation .....	47
Table 2: Black South Africans gender * savings cross-tabulation .....	48
Table 3: Black South Africans saving habits * field of study cross-tabulation .....	49
Table 4: Group statistics – financial literacy levels and savings of all the respondents .....	51
Table 5: Independent sample test – financial literacy and savings of all the respondents .....	51
Table 6: Group statistics – Black South Africans’ financial literacy score and savings .....	52
Table 7: Independent sample test – Black South Africans’ financial literacy and savings .....	52

## LIST OF ABBREVIATIONS AND ACRONYMS

BRIC	Brazil, Russia, India and China
CIW	Coloureds, Indians and Whites
FLS	Financial Literacy Score or Financial Literacy Scores (as possible)
FSA	Financial Service Authority
FSB	Financial Service Board
GEAR	Growth, Employment and Reconstruction Strategy
H <sub>A</sub>	Alternative hypothesis
H <sub>0</sub>	Null hypothesis
HRS	Health and Retirement
LT	Levene's test
NDP	National Development Plan
P&J	Pretoria and Johannesburg
SA	South Africa or South African (as possible)
SARB	South African Reserve Bank
SPSS	Statistical Package for the Social Sciences
UP	University of Pretoria
US	United States
USA	United States of America

## LIST OF DEFINITIONS

### ***Black South Africans***

Black Africans with indigenous habitants, excluding Coloureds and Indians.

### ***Commerce***

Field of study in economic and management sciences.

### ***Financial literacy***

Ability to comprehend and make use of the financial concepts.

### ***Qualtrics***

Online survey platform that enables researchers to build, distribute and analyse surveys electronically.

## CHAPTER 1: INTRODUCTION

### 1.1 BACKGROUND

Over the past decade, there has been a rising interest in financial literacy, especially in developed economies. Of late, a similar expression of interest in studying financial literacy has also emerged in developing economies. In English-speaking countries, there has been much intervention and many programmes aimed at addressing the deficiencies in financial literacy. Literature suggests that such programmes and interventions have not been as effective as anticipated. Examples of such programmes include Greater Easterhouse Money Advice Project in Scotland, Youth Financial Literacy Trial Program in Australia and Financial Service Authority's (FSA) Make the Most of Your Money Workplace Strategy course in the UK (Atkinson, 2008:9).

Noctor, Stoney and Stradling (1992:4) define financial literacy as “the ability to make informed judgements and decisions regarding the use and management of money”. It can be said that the definition means that the acquisition of financial knowledge and skills should translate into a change in financial behaviour (Hilgert, Hogarth & Beverly, 2003; Mandell, 2004).

Manyama (2010:4) found that South African households are consuming more and saving less. One of the reasons for a lower savings culture in South Africa (SA) as observed by Manyama is lack of financial education. Lower saving rates resulting from lack of financial literacy and other reasons could have negative consequences on the entire economy. Struwig, Roberts and Gordon (2013:90) also found that 44% of South African households have difficulty in keeping up with their financial needs based on their respective earnings. In other words, these individuals are living beyond their means. As a coping mechanism, this group of households are found to be saving less because they tend to sell their assets and withdraw their savings prematurely. The group was reported to be less financially literate as they grapple with basic concepts such as the effects of inflation and compound interest on their financial well-being.

Racial groups in South Africa were found to have different levels of financial literacy and saving habits. For example, Whites (77%) and Indians (68%) are more in favour of financial planning and having household budgets than their Coloured (55%) and Black South African (48%) counterparts (Struwig *et al.*, 2013:32). Based on these numbers, it is necessary therefore to get a better understanding of Black South Africans' financial literacy levels. This is important, as Black South Africans constitute 80.2% of SA's population (StatsSA, 2014). In view of the majority status enjoyed by the Black South African population, understanding their level of financial literacy and saving habits would go a long way in directing policymaking, since a big chunk of the South African population is made up by this group. The term "Black South Africans" refers to non-White habitants; however, for the purpose of the study, it specifically refers to Black Africans with indigenous habitants, excluding Coloureds and Indians (Rushton & Skuy, 2001:251).

It is clear from the findings of Struwig *et al.* (2013) that financial literacy is very critical, especially in a South African context where the level of savings is lower compared to other emerging economies such as China and India (Cronjé & Roux, 2010:3). The country's saving rates have been declining substantially since the 1980s (Odhiambo, 2007:38). The gross domestic savings as a percentage of gross domestic product decreased from about 31.5% in 1979 to only 13.2% in June 2014 (SARB, 2014:15). These levels of saving rates do not compare favourably with counterparts in the BRIC (Brazil, India and China) countries. These countries for example achieved 19.1%, 36.3%, 32.9% and 49.2% respectively in 2008 compared to SA's 15.6% in the same period (Yang, Zhang & Zhou, 2011:4).

In 2011, the South African government introduced a policy document called the National Development Plan (NDP) which effectively replaced the old Growth, Employment and Redistribution (GEAR) strategy. The key objective of the NDP is poverty alleviation through inclusive economic growth. The NDP targets a real gross domestic product growth of 5.4% in the next 20 years up to 2030 (NDP, 2011:103). It is therefore important that consumers are financially literate and can apply the principles of savings learned from financial literacy programmes.

## **1.2 PROBLEM STATEMENT**

There has been no financial literacy research done in a South African context that focuses on Black South Africans with a commercial tertiary qualification. The problem that this study considers is that South Africans spend more and save less. It is not known whether the possession of a commercial tertiary qualification influences an individual's level of financial literacy. Moreover, if it does, does it lead to an increase in individual savings, especially amongst Black South Africans, since such a study was never conducted.

## **1.3 PURPOSE STATEMENT**

The purpose of this study is to establish whether Black South Africans are financially literate, and if they are, what their saving habits are.

## **1.4 RESEARCH OBJECTIVES/RESEARCH QUESTIONS**

The study is underpinned by the following research objectives:

- To measure and describe the financial literacy levels of Black South Africans with a tertiary qualification in commerce and working in Pretoria and Johannesburg (P&J).
- To evaluate the saving habits of South Africans with a tertiary qualification in commerce and working in P&J.
- To establish whether there is a statistically significant difference between the respondents who have savings and those who do not have savings with regard to their financial literacy scores (FLS).

## **1.5 IMPORTANCE AND BENEFITS OF THE PROPOSED STUDY**

In order for a government to formulate policies that raise household saving rates necessary for the desired economic growth, it is essential for such government to understand the personal saving behaviour of its nationals (Aron & Muellbauer, 2000:509).

Cultural differences have a bearing on government policies intended to influence saving culture (Al-Awad & Elhiraika, 2003:1). Given the diverse culture in SA, particularly amongst

Black South Africans, it is important to understand whether access to education, especially tertiary education, has led to improved levels of financial literacy and concomitant saving habits. Amongst other things, education also influences saving rates in a country (Butelmann & Gallego, 2001:12). Since culture and education affects savings, this study will help academic institutions and policymakers in assessing the effectiveness of tertiary commercial education on financial literacy and the propensity to save amongst the previously disadvantaged groups, particularly Black South Africans.

## **1.6 DELIMITATIONS AND ASSUMPTIONS**

The study only focuses on South Africans who are residing and/or working in P&J, thus will not be generalised to the whole of SA in terms of geography. Although all the targeted respondents reside/work in P&J, which is generally Gauteng province in South Africa, it is assumed that they might have been born and bred in other provinces outside of Gauteng. This means the respondents are likely to have different upbringing and background, which should contribute to the diversity and representation of the population.

Other assumptions underlying the study are as follows:

- The units of analysis, namely, South Africans residing/working in P&J, originate from different parts of the country and therefore represent different cultural backgrounds and diversity.
- Cultural background and diversity differ according to the home language of the respondents, namely, Ndebele, Northern Sotho, Sotho, Swazi, Tsonga, Tswana, Venda, Xhosa, Zulu and CIW.
- P&J constitute Gauteng province.

## **CHAPTER 2: LITERATURE REVIEW**

### **2.1 INTRODUCTION**

The preceding chapter provided an introduction and background to the study. This chapter discusses the literature underpinning the study. Although it is important that literature be relevant and recent, some of the studies looked at and discussed in the chapter were conducted as far back as 1903. Such early studies are being discussed deliberately with a view to providing a proper context of the proposed study.

The study discusses the appropriate literature in order to synthesise, contrast and summarise the studies done before in the area of financial literacy. The historical perspective of financial literacy is first looked at, followed by an assessment of the current financial literacy as defined in the literature, given their significance. The consequences of not being financially literate are also reviewed.

It is prudent to deduce that measurement of financial literacy is necessary for one to assess the level thereof; thus, the literature review also looks at the measurement instruments employed in financial literacy. The state of financial literacy in SA is also reviewed based on the existing literature. The study lastly summarises the literature review on the proposed topic.

### **2.2 FINANCIAL LITERACY DEFINED**

Literacy has been defined as the achievement of one's goals including the development of knowledge and potential, thereby contributing positively to the society through the use of written information (Kirsch & Kolstad, 2001). Literacy can therefore be broken up into two parts, namely, understanding and the use of written words, materials, symbols, arithmetic and numeric information.

In line with the foregoing definition of literacy, knowledge and application have been identified as the key concepts underpinning the financial literacy definition (Huston, 2010:306) and it has been generally accepted that possession of financial knowledge is

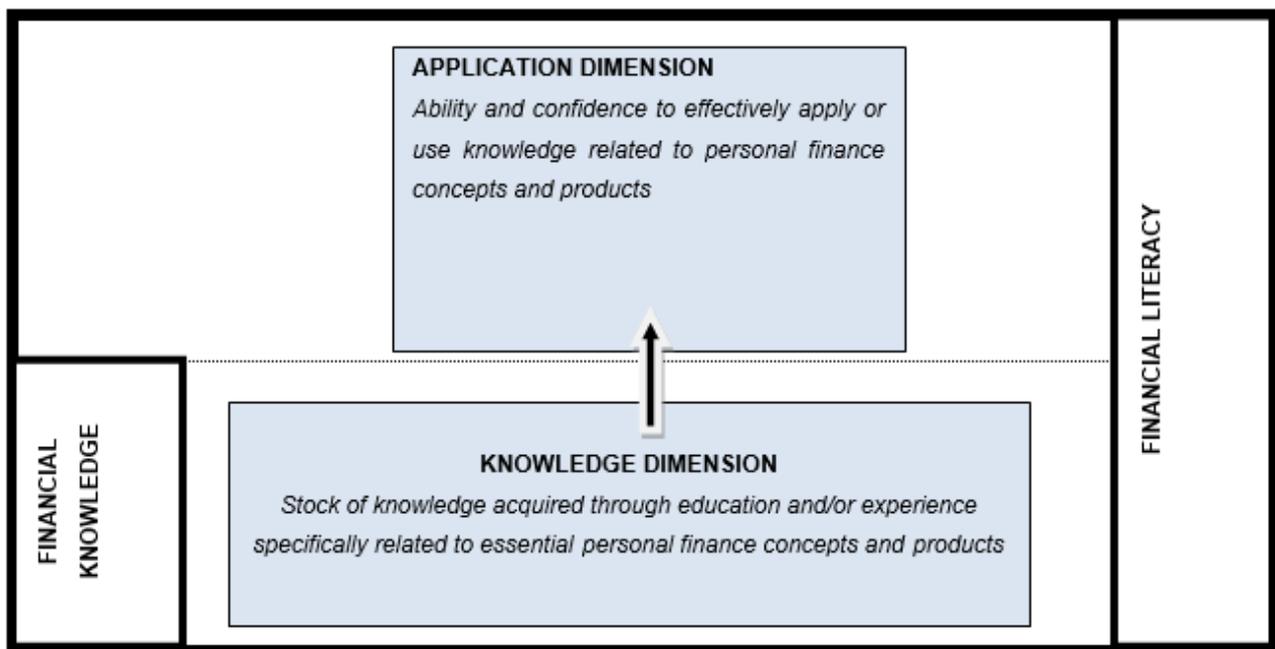
positively correlated with the behaviours that can yield financial rewards to the beholder of such information (Hilgert *et al.*, 2003:311). The fact that knowledge and behaviour are related in financial literacy simply means that whatever one learns and the knowledge they have must be accompanied by behaviour or application thereof.

Certain terms and concepts have been and are still being used to refer to financial literacy. In fact, such terms are sometimes used interchangeably with financial literacy. For example, Williams (2007:2) used the term “responsibilization” in reference to financial literacy. Financial capability has also been used by authors such as Johnson and Sherraden (2007) and Stone, Wier and Bryant (2008) to refer to financial literacy. Credit literacy and economic literacy, which actually deal with only certain aspects of financial literacy, have also been used in reference to financial literacy by authors such as Vitt, Anderson, Kent, Lyter, Siegenthaler and Ward (2000) and Lyons, Rachlis and Scherpf (2007). It is therefore clear that there is no one common and generally accepted definition of financial literacy.

Lack of a common definition of financial literacy emanates from a number of definitions of in the literature reviewed. The following are some of the definitions in the literature:

- Noctor *et al.* (1992:4) define financial literacy as “the ability to make informed judgements and decisions regarding the use and management of money”. (Beal and Delpachitra (2003) uses the same definition.)
- Servon and Kaestner (2008:273) define financial literacy as the ability to comprehend and make use of financial concepts.
- Vitt *et al.* (2000) define financial literacy as being in a position to control and effectively manage one’s finances in a manner that benefits one’s material well-being. It involves the ability to plan for the unforeseen and to adjust to the economic circumstances beyond one’s control. Cude, Lawrence, Lyons, Metzger, LeJeune, Marks and Machtmes (2006) also use the same definition.
- Financial literacy is also define as “a combination of awareness, knowledge, skill, attitude and behaviour necessary to make sound financial decisions and ultimately achieve individual financial wellbeing” (INFE, 2011:659).
- Kim (2001) defines it as the necessary basic knowledge that is needed in a modern economy in order for people to cope and survive.

For the purpose of this study, the definition of Servon and Kaestner (2008) is adopted. From the aforementioned definitions, it can be concluded that financial literacy and the ability to plan for the future are highly interrelated. Included in the ability to plan for the future is savings for the future. Thus, financial literacy should lead to change in the attitude towards savings. This is also emphasised by Huston (2010) when he posits that knowledge should translate into application or change in behaviour. Figure 1 illustrates the concept better.



**Figure 1: Concept of financial literacy**

Adapted: Huston (2010)

Therefore, if financial literacy could lead to certain positive behaviours or attitudes, lack of financial literacy should also have some negative ramifications. The ensuing passage looks at the historical perspective of financial literacy, which, in turn, paves a way for literature pertaining to the consequences of financial illiteracy.

### **2.3 HISTORICAL PERSPECTIVE OF FINANCIAL LITERACY AND THE EVOLUTION IN A GLOBAL CONTEXT**

The concept of financial literacy dates back to the 1780s and has been evolving ever since. During that period, financial literacy was also taken seriously even by the government in the

developed world. One of the signs of how financial literacy was taken so serious in those ancient days is a letter written by Thomas Jefferson to John Adams in which he stated that much of the calamities, stress and confusion amongst the American emanates from lack of knowledge and understanding of credit, money and the circulation thereof (Jefferson & Johnston, 1903). Thus, financial literacy and the application thereof is an important contributor to society's well-being. Because of the significance attributed to understanding how money and credit work, America has since been interested in making sure that its citizens are financially literate. There have been initiatives undertaken which include surveys at national level such as the one conducted by Markow and Bagnaschi (2005). The aforementioned survey was conducted amongst high school pupils and the working class in America and found that there is a general lack of financial literacy and knowledge of economic concepts. Many other studies on the topic were since conducted in America and lack of financial literacy still remains a concern, as demonstrated in a recent study by Van Rooij, Lusardi and Alessie (2011a:523) in which an investigation of financial literacy in the United States of America (USA) was undertaken through a National Financial Capability Study.

Looking at other developed economies such as the United Kingdom (UK), governments are also serious about programmes and initiatives to assess and improve the financial literacy of their citizens. The UK government, through AdFLAG (2000:10), conducted a study to determine "how to promote better access to financial education to young people and adults". They found that there will be a continued need for financial literacy in the UK, since it is expected of the youth and adults to remain self-sufficient on a sustainable basis as a result of reduced government involvement, increasing change in work patterns and an aging population. The study recommended that financial literacy education should be emphasised especially amongst vulnerable individuals such as elderly people, single parents, disabled people, those who have housing subsidies and ethnic minorities (AdFLAG, 2000). In the UK, the fact that special attention should be given to certain demographics such as ethnic minorities means that such factors are very important in financial literacy, which supports the proposed study that is envisaged to focus on the people that fall under ethnic minority in the UK, namely, Black Africans.

A survey was conducted at a national level in Australia by RMR (2003). The study found socio-economic factors to play a major role on whether an individual is financially literate or not. In line with the survey conducted in the UK, the RMR study concluded that people with a lower level of education, those who are not working at all, those who work as unskilled labourers, those with lower levels of savings, single parents, the youth and elderly people are the most financially illiterate groups. This again demonstrates how socio-economic dynamics are so paramount in the issue of financial literacy. Beal (2003) also conducted a financial literacy study in Australia but only amongst university students and found the levels of financial literacy amongst the students to be low.

Lusardi and Mitchell (2011a) undertook a financial literacy study around the world. Although the title of their study suggested that the study would cover the whole world, closer review revealed that the focus was on eight countries, namely, Germany, Netherlands, Sweden, Japan, Italy, New Zealand, USA and Russia. Only one BRICS member country, namely, Russia, was included in the study, whereas none of the African countries were included. The authors found that the socio-economics factors of the population plays a role with respect to the level of financial literacy. Elderly people, women and less educated people were found to be more financially illiterate. Race also played a role, as African Americans and Hispanics were found to be less financially literate than their White counterparts. Those who live in the cities in Russia were far more literate financially than their rural contemporaries. The findings are in line with those mentioned in the preceding passages in that the socio-economic factors play a role in the financial literacy of a nation.

The literature commented on thus far focused primarily on developed economies whose financial systems are more advanced than in developing economies. Although the financial systems are more advanced in developed economies, evidence from the considered studies reveals that financial literacy levels are still low in general. This means one can even expect a worse scenario in developing economies, since such countries are characterised by lower education levels, higher poverty and low access to finance (Xu & Zia, 2013:14).

In their study of financial literacy amongst the working youth in urban India, Agarwalla, Barua, Jacob and Varma (2013) found that the socio-economic factors that played a role in financial studies conducted elsewhere in the world also played a significant role in financial

literacy levels of their respondents. The only anomaly was with regard to the education level in that, although the population was highly educated with undergraduate degrees and postgraduate degrees, their level of financial literacy was found not to be commensurate with their level of education. This phenomenon was attributable to the design of the educational programmes that lack financial literacy content. Joint and consultative financial decision-making was also found to be a unique feature in urban Indian society.

From the review of literature performed, it is clear that financial literacy remains a challenge for both developing economies and developed ones. This situation calls for more studies to be conducted in order to get to the bottom of this challenge and to understand it better. Before proceeding to literature on other aspects of the topic, it is necessary to review the consequences of financial literacy.

## **2.4 CONSEQUENCES OF LACK OF FINANCIAL LITERACY**

One of the overarching ramifications for not being financially literate is the financial behaviour that is not in congruence with one's overall welfare (Agarwalla, Barua, Jacob & Varma, 2012). Several studies conducted both in SA and offshore confirmed the aforesaid statement to be factually accurate, as many who exhibit lower levels of financial literacy take decisions that are not always recommended and are detrimental to their financial well-being. An example of such studies include Van Rooij, Lusardi and Alessie (2011b) and Oseifuah (2010). Inability to act in one's best financial interest, lack of planning, saving and investing for the future and burgeoning debt levels are some of the consequences highlighted in previous studies offshore and domestically as discussed in the next subsections.

### **2.4.1 Overall inability to act in one's financial best interest**

Hilgert *et al.* (2003) conducted research in USA investigating the connection between financial knowledge and behaviour. Their study found that consumers who are less financially literate tend to ignore the recommended financial practices such as paying bills on time, reconciling chequebooks every month and having an emergency fund. Inability to follow these recommended practices would clearly have a detrimental financial effect on the affairs of the person in question (INFE, 2011).

Kempson, Collard and Moore (2006), in their study whose main objective was to identify components of financial capability using input from both consumers and experts, found that people with lower financial literacy levels struggle to choose appropriate and relevant financial products suitable for them. The study further found that these people have difficulties in making financial decisions including the sourcing and evaluation of independent financial advice. Such attributes can lead to vulnerability to and victimisation by unscrupulous and abusive financial service providers.

#### **2.4.2 Lack of planning, saving and investing for the future**

Although it is in the financial best interest of any individual to plan ahead, save and invest for the future, a number of studies in both developed and developing economies have shown that many lack financial literacy and are failing to save and invest sufficient funds for their retirement. Financially literate people often engage in comprehensive financial saving plans, including planning for retirement, which in most cases helps them in maximising their wealth. The opposite is true for financially illiterate individuals (Lusardi & Mitchell, 2011a; Lusardi & Mitchell, 2011c). Saving is an example of how a person is able to plan for the future, since money saved can rescue such person from difficult rainy days in the future. A positive attitude towards saving can mostly be instilled through financial literacy, as suggested by Lusardi (2008) who established that lack of financial literacy and information can jeopardise the ability to save and secure adequate funds for retirement.

Unlike those who have lower levels of financial literacy, studies in both developed and developing economies have shown that people who are more financially savvy tend to participate in financial markets, including investments in shares and similar instruments. For example, Yoong (2011) studied the connection between financial illiteracy and behaviour. The author specifically focused on stock market participation and how it correlates with financial literacy amongst Americans. A negative causal relationship between stock market participation and financial illiteracy was observed, which means people who are less financially literate tend not to participate in stock markets.

Other studies conducted in the United States (US) and elsewhere in the world also found that financially literate and highly numeric people are more likely to take part in investments

and stock markets (Almenberg & Dreber, 2011; Christelis, Jappelli & Padula, 2010; Kimball & Shumway, 2006; Van Rooij *et al.*, 2011a). Thus, financial literacy enhances the likelihood of a household to participate in stock markets and thereby increasing the chances of increasing their wealth.

### **2.4.3 High debt levels**

Financial literacy is highly positively correlated with financial market participation and wealth accumulation, whilst it is negatively related to the utilisation of informal debts. It means people who are less financially literate tend not to have more assets but more liabilities, and they tend to borrow more and invest less (Klapper, Lusardi & Panos, 2013).

The above-mentioned argument is supported by the study of Agarwal, Amromin, Ben-David, Chomsisengphet and Evanoff (2011) in the USA, which focused on financial counselling, financial literacy and household decision-making. They found that people who lack financial literacy tend to acquire loans with exorbitant interest rates. On the other hand, Gartner and Schiltz (2005) in their study of financial education of credit cardholders in the USA found that financially illiterate individuals have unnecessary large credit card balances. The likelihood of taking on payday loans, making only the required minimum payment on credit card balances, taking on high-cost mortgages, having higher debt levels, and being delinquent with debt have also been identified as other consequences of lack of financial literacy (Gerardi, Goette & Meier, 2010; Lusardi & Mitchell, 2009a; Moore, 2003).

Using survey data from a sample of UK households, Disney and Gathergood (2013) analysed the connection between financial literacy and the credit portfolio of such household. They found that households with low financial literacy not only tend to take on consumer credit but they also take on consumer credit that is costly, in most cases, because they lack an understanding of credit terms and concepts.

### **2.4.4 South African perspective**

Shambare and Rugimbana (2012), in a South African study on financial literacy amongst the educated, found that those that are not financially literate are mostly those who were excluded from banking and financial services by the apartheid regime. The authors found

that this group of people suffer consequences of lack of financial literacy such as acquiring excessive debts that they are not willing to service. Failure to service such debts ultimately results in foreclosure of houses and cars, impaired credit records, being “blacklisted”, filing for bankruptcy and undergoing debt counselling.

The above studies are in line with the findings of Kotzé and Smit (2008) about lack of financial literacy. The authors conducted a study in SA focusing on a university’s business management students. They found that financially illiterate students felt that they are unable to control their funds and are less comfortable with managing and investing their funds.

Consequences of not being financially literate are dire as they affect one’s overall well-being. They also have a ripple effect on the entire economy, since people who are financially illiterate tend to save less, and as illustrated earlier, countries with lower saving rates tend to have lower growth trajectory. It is therefore necessary to consider the levels of financial literacy in SA and the saving landscape associated with them.

## **2.5 MEASUREMENT OF FINANCIAL LITERACY**

Financial literacy is not only limited to the knowledge and understanding of financial concepts but incorporates skills, expertise, behaviour and attitude towards finance. When looking at the measurement of financial literacy, one needs to consider the input and the output or outcome of such an input. Input would actually be the knowledge, skills and expertise, and the output would be the attitudes and behaviours (Holzmann, 2010:4).

Measuring financial literacy is important, since it helps one to understand the impact of the input, financial education on people’s behaviour (output). Huston (2010) conducted a study in which he looked at the broad range of financial literacy measures used in previous studies. The author considered 71 studies in total, and he found that in terms of content, four areas have been covered in measuring financial literacy, namely, (1) basic money terms (time value of money, inflation and basic personal finance concepts), (2) debt (use of credit cards, loans and mortgages), (3) investments (savings account, shares, bonds and mutual funds), and (4) resources protection (use of insurance and other risk management techniques). Although the author posits that the financial literacy measurement tool that incorporates all

the four content areas is likely to be more accurate, it was found from the study that only 25% of the previous financial literacy studies actually included all the four areas. Most studies emphasised more on investment measures, including savings. The bias of the previous studies towards savings and investment in measuring financial literacy could be a demonstration of how important the previous financial literacy authors view such content measure as a key outcome of financial education. In other words, the financial literacy of an individual should be demonstrated by their behaviour towards savings and investments.

In assessing the body of economic research on financial literacy, Lusardi and Mitchell (2013) suggest that fundamental concepts underpinning measurement of financial literacy, namely, ability to perform calculations relating to interest rates, understanding how inflation works, and the concept of diversification. Few other studies (Lusardi & Mitchell, 2008; Lusardi & Mitchell, 2011a; Lusardi & Mitchell, 2011b) also used measurement tools or questionnaires based on the aforesaid fundamental principles of interest, inflation and risk diversification.

On the emerging economies front, Agarwalla *et al.* (2013) investigated the impact of socio-demographic factors on financial literacy amongst young working Indians in urban areas. The study found that joint and consultative decision-making process, a phenomenon specific to India, does affect the financial literacy of the respondents. Financial literacy of the respondents was measured using a questionnaire developed by INFE (2011). The questionnaire comprised eight questions that mostly covers time value of money, inflation, risk and return, and diversification. Thus, the content of the questionnaire is similar to those that were developed and used in the studies of Lusardi and Mitchell mentioned in this section. Atkinson and Messy (2012) also used the same set of questions for the measurement of financial literacy.

Struwig *et al.* (2013) examined the generation of information, knowledge and understanding of financial literacy at a national level in SA. The main objective of the study was to provide the Financial Service Board (FSB) with information about financial knowledge, attitudes, skills and behaviours of consumers. The authors used the principles underpinning the measurement tools used in INFE (2011) to develop a questionnaire, and it was found that a considerable number of South Africans are not financially literate.

The measurement tool used in the above-mentioned studies is based on the questions initially developed by INFE (2011:659). Such questions are rooted in the following definition of financial literacy: “a combination of awareness, knowledge, skill, attitude and behaviour necessary to make sound financial decisions and ultimately achieve individual financial well-being”. The questions were designed in such a way that they incorporate a blend of attitudes, knowledge and behaviour on money management, financial planning, awareness and choice of products. These questions only serve as a base to measure financial literacy, but they can be adjusted and tailored to different environments and audiences.

Another measurement tool that is being used is the one developed in the US, namely, Jump\$tart Coalition. The tool was used in the US for personal survey of high school learners, and it consists of five categories of questions, namely, income, money management, savings, spending and debt (Symanowitz, 2006:17). This measurement tool was used only for high school learners, both for the survey conducted in the US and the one conducted by Symanowitz (2006) in SA. Therefore, to measure financial literacy for a group other than school learners, the Jump\$tart instrument has to be substantially adjusted. Botha (2014), in his study of financial literacy levels of final-year diploma students, also used the Jump\$tart Coalition instrument 2008 version that was adapted and tailored for the South African environment. The questionnaire first covered background and demographic questions followed by hard-core financial literacy questions based on the five content areas, namely, basic financial concepts, savings and borrowings, insurance, markets and instruments, and financial planning.

From the above literature review on financial literacy measurement, it can be said that measurement relates to how one assesses or measures the level of financial literacy amongst the respondents in a particular study. It is also important to note that knowledge and application are important in measuring financial literacy, since a respondent should not only know but also be in a position to apply the knowledge. For example, the questions were designed for interview-type scenarios, but they can, of course, be tweaked and tailored for a mailed questionnaires set-up.

Jump\$tart Coalition and INFE appears to be the two most important bases used to develop the financial literacy measurement tools.

## 2.6 THE ROLE OF EDUCATION IN FINANCIAL LITERACY

Financial markets have evolved over time and have become more sophisticated than ever before. There is a wide range of financial products and services that consumers need to navigate through and choose from than in the past. This scenario definitely differs from what happened in the past era where it was sufficient to own and maintain only a savings account at a commercial bank. Thus, an education system needs to be up to keep up with these developments in order to accommodate learners' needs to understand the more comprehensive financial products and how they operate. These include, for example, interest rate compounding and the impact thereof on outstanding debt balances, the effect of poor debt management, as well as the technological advancement inherent in these evolutions (Greenspan, 2005).

According to Schiirz (2006:140), financial education is the process of supporting consumers with financial information necessary to develop requisite skills and expertise as well as the confidence to make informed financial decisions. It creates awareness of financial opportunities, choices and consequences thereof. Therefore, as also illustrated in the financial literacy definitions, literacy is to be in custody and control of basic knowledge or competence, whilst education can also be referred to as a means to build that capacity.

Financial education is critical, especially in this era where financial markets have become increasingly complex and sophisticated. Such education is necessary to assist people not only in improving decision-making but also to protect and increase their welfare (Willis, 2008:4). This is in line with Bernheim, Garrett and Maki (2001) who suggest that financial education appears to be the most effective tool to enhance and inculcate a saving culture and financial literacy.

Chang and Lyons (2007), Borden, Lee, Serido and Collins (2008), and Lusardi (2008) were amongst the first authors to review financial education programmes, and they found that there is a connection between socio-economic factors (such as gender, employment status, ethnicity, family background and educational level) and financial literacy. Most other studies have since reviewed financial literacy programmes, especially in the US, and came up with

some insightful recommendations and findings on how to effectively embark on such programmes that are aimed at enhancing and nurturing consumers' financial literacy.

Kozup and Hogarth (2008) examined several issues that attempt to establish how consumers can be educated in a most effective way in order to help them to achieve their financial goals in the US. The study found that the most effective financial education programme should always start with an end in mind, which simply means that the goal of such an educational programme should be clear upfront. Such goals, for example, could be for the consumer in question to own a house, reduce debt levels or might have certain investment goals in mind. The goals should form part of the design of the programme, since the programme cannot be designed to be a one size fit all.

In designing a financial educational programme, Hathaway and Khatiwada (2008) recommend that for the programme to be effective, it should be targeted at specific audiences and also focus on a specific financial concept area, for example, credit, savings or investments. The authors also found that there is no conclusive evidence to suggest that the financial educational programmes lead to improved financial literacy, knowledge or behaviour. Their argument for a focus programme is in line with Lucey (2007) who posits that in order for a financial education programme to be effective, it must be customised in line with the participant's needs. He contends that a non-customised programme might not be cognisant of developmental diversity caused by various socio-economic circumstances.

The educational programmes should be in line with the current era of sophisticated and technologically advanced financial markets in order to be relevant and effective (Grody, Grody, Kromann & Sutliff, 2008). There should also be a motivation for why financial literacy is important, since motivation has also been identified as a factor that can impact the effectiveness of financial educational programmes (Mandell & Klein, 2007).

Another important factor to consider in designing a financial education programme is timing. Suiter and Meszaros (2005) suggest that financial literacy lessons should be implemented throughout the schooling system on a piecemeal basis rather than postponing such lessons until later years of schooling. The authors state that the skills should be developed gradually as students learn better through stages or levels. Another reason given for the earlier

introduction is that if such lessons are not given earlier in the schooling system, the learners might pick them up in a non-schooling environment, resulting in wrong teachings and more work for teachers later in the years when they have to correct such misinformation. Furthermore, some learners drop out before proceeding to high levels and might therefore miss out on valuable lessons that would have been deferred for later years.

It is clear that financial education is important and should be implemented at the early stages of schooling. This will help to deter the unscrupulous and greedy financial service providers who target less knowledgeable consumers through exploitation with aggressive marketing campaigns, solicited credit cards and other debt offers.

In SA, the Department of Education has only recently attempted to include financial literacy in the school curriculum and syllabus. The elements of financial literacy included in the curriculum includes the analysis and interpretation of financial scenarios including personal and business finance, the impact of taxation, inflation and changing interest rates on personal credit, and investment and growth options. Financial indicators and the effects of currency fluctuations are also some of the aspects included (Symanowitz, 2006:24).

## **2.7 FINANCIAL LITERACY AND SAVING HABITS**

Policies that lead to higher saving rates which should, in turn, enhance economic growth have long been advocated by policymakers around the globe (Anoruo & Ahmad, 2001:1). Policymakers encourage savings because they have a positive impact both on micro- and macro-economic dynamics. As mentioned earlier, on the macro-economic front, higher savings result in increased economic growth, whilst on a micro-economic level, increased savings result in wealth accumulation (GAO, 2001:58).

When an unexpected future event beyond one's control occurs, individuals who do not save become more exposed to the risk of financial insecurity, since in most cases, they might not be able to meet such expenses from their own resources. They would either have to borrow from banks, friends or family to meet such unexpected expenses. Individuals who do not save sometimes also find themselves retiring without sufficient funds to survive during their retirement days.

Bucher-Koenen and Lusardi (2011) used survey data from a representative sample of German households to analyse the socio-demographic factors relating to financial knowledge. The focus of the study was on the relationship between financial knowledge and old age provision. Change in pension system regime was seen as a reason why individuals should take more interest in their financial decision-making. Overall, the study found that the majority of German people are financially literate, especially in the area of interest and inflation, as 85% of the respondents answered the related questions correctly. A positive relationship between financial knowledge and saving for old age was found to exist.

In line with the aforementioned study, Lusardi and Mitchell (2013) also found that changes in pension and retirement saving regime from defined benefit plans to defined contribution plans also culminated in a greater need for saving in America. The latter requires people to make decisions for themselves on how much to save and for how long to save in order to have sufficient income to sustain them once they are on retirement. Such decisions, of course, cannot be made without an adequate understanding of financial literacy concepts such as interest compounding, the effect of inflation and risk diversification. Hence, financial knowledge becomes relevant for such a saving decision.

Retirement saving, as discussed above, is rooted in the so-called “life cycle saving theory” pioneered by Modigliani and Brumberg (1979). According to this theory, people tend to smooth their income and expenditure over their life cycle; they amass wealth and accumulate capital at their young ages in order to make up for lower income during their older years of life. This means individuals have to assess their financial status based on the prevailing circumstances and available information; predict what their future earnings are likely to be; and what is their likely life expectancy, expected interest and inflation rates in order to develop investments, expenditure and saving plans for the future (Lusardi, 2008). In order to perform all the predictions suggested in the ensuing passage, it is necessary that a person in question should be financially literate.

In his study of investment in financial literacy and saving decisions, Jappelli and Padula (2013) also addressed the endogeneity of financial literacy and examined the joint determination of financial literacy and wealth accumulation, both empirically and

theoretically. In addition to the finding that financial literacy and wealth accumulation are positively correlated, the study found that financial literacy is also positively correlated with saving. More importantly, countries that exhibit higher levels of financial literacy were also found to have higher saving rates.

In the study of an American household's ability to come up with \$2000 in 30 days to fund emergency or shock events, Lusardi, Schneider and Tufano (2011) found that only 25% of the respondents were confident that they could come up with such funds, whilst 19% would only be able to do so if they dispose of their assets or take out loans. Although the study was structured in such a way that the source of the funding could be beyond savings, there is an indication that the respondents did not have sufficient savings also. The study showed that the majority of the households who could not come up with such money also scored lower in financial literacy questions, which suggests that there is a correlation between financial literacy and ability to have emergency funds, which are used synonymously with savings (Browning & Lusardi, 1996).

Using data from the Health and Retirement study, Lusardi (2004) examined the financial situations of older citizens of America and found that the majority reach retirement with little or no savings at all. The situation was found to be worse for those who are less literate and who save less, thus demonstrating the existence of a relationship between literacy and saving habits.

Gale, Harris and Levine (2012) evaluated previous literature in America that examines the impact of improved financial literacy on household savings. In line with other previous studies on financial literacy conducted in America, the authors found a lower level of financial literacy amongst Americans. Their evaluation of previous studies on the impact of financial literacy on household savings revealed mixed results, depending on the type of financial literacy programme. For financial literacy programmes aimed at a group of employees, the authors found that the programmes indeed enhanced household savings although mostly concerning retirement savings. Concerning high school financial literacy programmes, the study found the impact thereof on savings to be ambiguous. However, the authors' evaluation of the more advanced and complex econometric studies revealed such programmes to have an insignificant impact on savings. For community-based financial

literacy programmes focusing on credit and mortgages, the authors posit that a more substantive and credible examination is still lacking on how such programmes impact savings.

In Portugal, Garcia, Barros and Silvestre (2011) analysed the factors affecting household saving behaviour, using a structural equation with latent variables. Two factors, namely, saving attitude and income levels, were identified as the most important ones affecting savings. As elaborated in the definition of financial literacy, financial literacy should lead to a change in attitude. Thus, saving attitude cited as the factor impacting savings in Portugal could be emanating from the acquisition of financial literacy, which, in turn, suggests a correlation between financial literacy (as indicated by change in attitude) and savings. Another factor highlighted in the study is income levels. This is backed by Van Rooij, Lusardi and Alessie (2012), as they found that financial literacy leads to increased wealth or high income levels.

Struwig *et al.* (2013) reported that South Africans have lower levels of financial literacy, particularly amongst the Black and Coloured racial groups. The results were based on a survey conducted in 2012, and the same results were reported in 2011. Given the fact that Black South Africans make up the majority in the country, their low level of financial literacy, as suggested in the aforesaid study, also caused lower saving rates at a national level. The survey further reported that 47% of the entire population has no saving strategy, 20% keep their money at home or in their wallets instead of saving it formally in a bank, whereas only 4% invest their money formally in bank savings accounts, unit trusts, stock markets and properties. All this is attributable to the lower levels of financial literacy nationwide.

## **2.8 ETHNICITY AND FINANCIAL LITERACY**

The people who are ordinarily classified as previously disadvantaged in a South African context, namely, Black South Africans, or the so-called African Americans and women have been found to be less financially literate by many studies in America. Examples of such studies include Beshears, Choi, Laibson and Madrian (2009), Lusardi and Mitchell (2009a) and Lusardi (2011). This means that there is a correlation between financial literacy and ethnicity.

Studies such as Lusardi and Mitchell (2013), Hung, Meijer, Mihaly and Yoong (2009) and Courchane, Gailey and Zorn (2008) have used race and ethnicity interchangeably as if race refers to ethnicity and vice versa. The main cause of concern on the aforementioned studies and others as established through an extensive literature review is that there is no attempt to define what ethnicity refers to in the context of financial literacy. However, in their health study which identifies four fundamental problems with ethnicity, Senior and Bhopal (1994) attempted to define ethnicity and state that ethnicity was originally used to refer to people of a particular tribe and is derived from Greek. The authors further postulate that ethnicity can be used to refer to shared origin, social background, shared culture and traditions that are different and are sustained from generation to generation, leading to a sense of identity and groupings.

In their study that measured financial knowledge across eight countries in the world, Lusardi and Mitchell (2011b) found that Russian city dwellers are more financially literate than their rural counterparts. The authors also found in America that African Americans and Hispanics are less financially literate than other ethnic groups. The findings show that ethnicity from the perspective of race and social background has a bearing on the level of financial literacy.

As already mentioned, background plays a role on the level of financial literacy. Background can be based on several factors such as the geographic area where one dwells, household from which one grew up, parental education, parental wealth levels, nationality, religion and political opinions. Lusardi and Mitchell (2013) suggested that the groups that are more likely to be less financially literate include the young and old population groups, women, African Americans, Hispanics, the least educated and those living in rural areas. All such factors have much to do with one's background and ethnicity.

Family background is another important ethnic factor that is correlated with financial literacy. In their study that measured the degree and the determinants of financial literacy amongst educated women in America, Mahdavi and Horton (2014) found that the respondents whose parents had a tertiary education responded more correctly on financial literacy questions than those whose parents are less educated. This finding is in line with Lusardi, Mitchell and Curto (2010), who submit that the nature and the characteristics of the household from which

one is brought up have a bearing on the level of financial literacy. It then follows that children sometimes mimic what they have seen parents doing with regard to behaviour in financial affairs; thus, children receive financial education based on parents' saving and investing attitudes (Li, 2014).

Political affiliation can also determine one's level of financial literacy, as suggested by Arrondel, Debbich and Savignac (2013) in their study of financial literacy and savings in France. Their finding is in line with that of Kaustia and Torstila (2011) who found that politicians and voters who are leftist in Finland are unlikely to invest in shares, embark on financial planning and/or place value on financial knowledge.

Brown and Graf (2013) examined the level of financial literacy and how it relates to retirement planning in Switzerland. A representative survey covering 1500 households was used, and the study revealed low levels of financial literacy amongst foreign nationals as compared to the Swiss citizens that are native born. As one of the aspects of ethnicity that was discussed in the ensuing passages is language, the study closely looked at it in relation to these Swiss and non-Swiss citizens, and it was found that those who are German speaking have a higher level of financial literacy than their non-German speaking contemporaries.

Using logit models and 2003 ANZ Survey of Adult Financial Literacy in Australia, Worthington (2006) found a lower level of financial literacy amongst respondents with a non-English speaking background with a low level of education. This finding highlights the significance of social background on financial literacy.

Lusardi *et al.* (2010) examined financial literacy among young people in America using the 2007-2008 National Longitudinal Survey of Youth. A strong correlation was found between financial literacy and background characteristics, namely, financial sophistication of the family and socio-demographic factors. In particular, the authors found that a male with a college education and whose parents have investments in shares and retirement savings was more likely to understand the risk and diversification aspects of financial literacy than their female counterpart who only possess high school education and whose parents are poor.

In SA, De Clercq and Venter (2009) analysed some of the factors that impact on the level of financial literacy of undergraduate students studying towards a chartered accountancy qualification at the University of South Africa. The authors used an exploratory method in their study and found that gender, age, language, race and income levels have an impact on level of financial literacy. Race and language were used as a proxy for ethnicity. On race, it was found that the previously disadvantaged Black South Africans were the least financially literate of all the other students, namely, White, Coloured and Indian. On ethnicity as measured by language, Zulu-speaking students were the second least category after other languages (other than English, Afrikaans and Shona). The current study should therefore help to obtain more insight on previously disadvantaged Black South Africans, as it is envisaged to widen the net by first focusing on this group and secondly by not only looking at those who have studied towards a chartered accountancy qualification but rather at all who possess a tertiary qualification in commerce.

For the purpose of this South African context-based study, ethnicity will also be used interchangeably with race and/or language in line with the previous aforementioned studies. Therefore, four ethnic groups have been identified: Black Africans (further subdivided into Zulus, Sothos, Xhosas, Tsongas and others), Coloureds, Indians and Whites (CIW). One can argue that these groups have different origins, social backgrounds, cultures and traditions.

## **2.9 FINANCIAL LITERACY AND SAVINGS IN SOUTH AFRICA**

Most of the financial literacy studies in SA were conducted on tertiary institution students and high school learners, whilst very few were actually surveys done on a national scale. The focus of the proposed study is not only on financial literacy but also on saving habits. Lusardi and Mitchell (2008:1) examined the factors contributing to women's retirement planning and established that financial literacy and planning are correlated because women who are financially literate in USA were found to be planning more for the future and saving adequately for their retirement. Their finding is backed by Jappelli and Padula (2013:2) who assert that countries with higher levels of savings also exhibit higher financial literacy levels. In view of the foregoing, it is necessary to review literature on both financial literacy and

savings to establish whether a connection also exists between the two concepts in a South African context.

There is general consensus that South Africans have a culture of high consumption and lower savings. In his study that focuses on the causes of this state of affairs, Manyama (2010:81) concluded that income does not drive savings in SA, since despite the general increases in income experienced in the country, the saving rates keep on deteriorating. The lower saving culture in SA has also been observed by FinScope (2014:13), which found that only 24% of the country's population has access to money left for saving once they have paid all their monthly bills. From these studies, it is clear that South African saving rates are concerning, and something ought to be done about them. In fact, Manyama (2010:ii) suggests that financial education on savings is needed to change the situation.

As mentioned earlier, lower saving rates can be attributable to lower levels of financial literacy. Several studies have been conducted in SA and have confirmed that financial literacy is actually lower compared to in other countries. Such studies include Symanowitz (2006), who investigated the relationship between financial literacy, economic measures and delayed gratification of high school learners. The study reported a lower level of financial literacy in South African matriculants as compared to their US counterparts.

In his study that analysed the financial literacy levels of University of Johannesburg diploma students in different fields, Botha (2014) found that on average, FLS are lower amongst the students, and this was worse especially in the area of savings and borrowings. The author, however, found that those whose studies are more related to finance did much better. A year earlier, Louw, Fouche and Oberholzer (2013) carried out a study to evaluate the financial literacy needs of South African university students. They found that in general, students have a limited knowledge of financial planning and investments, although average financial literacy was found to be adequate. Their finding corresponds with that of Botha (2014), in that students are grappling with the concepts related to future financial planning, namely, savings, borrowings and investments. Shambare and Rugimbana (2012) also studied the levels of financial literacy amongst university students and found that students are struggling with investment concepts, as only 15% of the respondents correctly answered the question relating to interest and investments.

Although the South African studies mentioned relating to financial literacy are very recent, they all suffer from one limitation: they focused only on students and high school learners who do not have practical experience. Lack of practical experience can be the reason for poor scores on financial literacy. One South African study that attempt to address this challenge is that of Kotzé and Smit (2008). The study examined financial literacy and a need for financial education perceptions of Business Management graduates with a minimum of three years working experience. Although the respondents in this study showed adequate financial knowledge and control over money and investments, they were not happy and confident in their level of financial knowledge. Kotzé and Smit (2008) only focused on graduates from one South African university, namely, University of the Free State. On that account, those results cannot necessarily be generalised to the wider population.

## **2.10 CONCLUSION**

A review of South African literature shows that no single study has focused on Black South Africans who are residing in P&J, the economic hub of the country. Furthermore, all the studies, except for the one by Kotzé and Smit (2008), focused on high school learners and university students. These shortcomings make this study to be more value-adding to the existing body of knowledge in terms of better understanding financial literacy and saving habits of a specific focus group, namely, Black South Africans residing in P&J. The chapter that follows will focus on the research methodology employed in this study.

## CHAPTER 3: RESEARCH DESIGN AND METHODS

### 3.1 INTRODUCTION

The foregoing chapter discussed literature relevant to this study. This chapter will consider the research philosophy adopted in this study. Research philosophy refers to the establishment of knowledge and how such knowledge has been made up. It consists of the important assumptions that inform the research strategy and the supporting methods thereof (Saunders, Lewis & Thornhill, 2009:107). There are several ways in which paradigms can be used to guide the research effort and such paradigms can be classified in many ways (Ponterotto, 2005). In fact, Lincoln, Lynham and Guba (2011:98) suggest four categories of paradigms, namely, positivism, post-positivism, constructivism and critical theory. This study takes the form of a positivism paradigm that is based on the premise that the reality, which can be understood, exists. Thus, it actually refers to the true state of affairs. The hypotheses are stated and then tested empirically.

Positivism paradigm has been adopted first because it provides a high level of independence between the researcher and the research objects, which means the influence of the researcher on the objects is eliminated. Findings in this paradigm are in fact true, and there is a high level of objectivity as opposed to the other paradigms (Guba & Lincoln, 1994). The paradigm is largely quantitative. The approach was previously used in other studies. For example, Gustafsson and Omark (2015) followed the approach in their study that investigated whether financial risk tolerance differs between the students at Umea University in Sweden based on their levels of financial literacy.

### 3.2 DESCRIPTION OF INQUIRY STRATEGY AND BROAD RESEARCH DESIGN

A research method should be able to solve the identified research problems and meet the stipulated research objectives (Saunders *et al.*, 2009). The study is empirical, descriptive, cross-sectional and quantitative in nature based on primary data obtained through structured questionnaires. Other financial literacy studies (Beckmann, 2013; Potts, 2013) followed the same approach. In this study, the questionnaires developed by Lusardi and Mitchell (2006) for Health and Retirement (HRS) in America in 2004 will specifically be adapted and used.

A descriptive study attempts to portray a correct picture or a profile of persons, events or situations (Ormrod & Leedy, 2014). In this study, financial literacy and saving habits of the Black South African is being analysed; hence, the correct picture of this particular population group is being presented based on the questionnaire. The study will therefore take a descriptive form. Another way of looking at the nature of the study is in terms of cross-sectional and longitudinal. A cross-sectional study involves an analysis of a particular matter at a particular point in time; it is conducted once at a certain point, whilst in longitudinal research, a certain matter is followed through for a period of time, and the data thereof is not collected once (Ormrod & Leedy, 2014). Since the data is collected and analysed once in this study, it can be said that the study is therefore cross-sectional in nature.

Studies can be of a quantitative or qualitative nature. A quantitative study normally involves procedures that generate or use numeric data, whilst a qualitative study uses or generates non-numeric data. In qualitative data, researchers collect data from different forms and examine it lengthily to get a more comprehensive understanding of the phenomenon; that being the case, there is no skimming through the surface (Ormrod & Leedy, 2014). Because the questions in this study are being coded into numbers and the statistical analysis is performed based on the coded questions, the study therefore takes on a quantitative approach. Descriptive, cross-sectional and quantitative approach is justifiable for this study, since similar studies conducted in a South African context are also based on the same (Botha, 2014; Shambare & Rugimbana, 2012; Tustin, 2010).

### **3.3 SAMPLING**

Convenience sampling is a non-random sampling technique that selects haphazardly the cases that are easily attainable (Saunders *et al.*, 2009). Convenience sampling technique is used in this study in that family and friends who have a tertiary education and who are working and residing in P&J were asked to identify similar people to participate in the study.

The respondents are therefore people who are working in different sectors of the economy of the country. The unit of analysis is Black South Africans and CIWs who work and reside in two major towns of Gauteng province, P&J. These people should possess a post-matric

qualification, which can be a degree, diploma or a certificate. Given the diverse nature of South African citizens residing and working in Gauteng province, the respondents are expected to be from different backgrounds and institutions of higher learning; that being so, they should be representative of the South African population.

### **3.3.1 Sample size**

Originally, 209 people responded to the web-based survey platform, Qualtrics. However, because some did not fall within the criteria because they were neither South African citizens, did not have a post-matric/grade 12 qualification nor worked in Gauteng, P&J, they were eliminated as part of the data clean-up process. A Qualtrics questionnaire was also set up in such a way that if the answer to any of the three options, namely, being a South African citizen, having a post-matric qualification or working in Gauteng was negative, the respondents would not be able to answer the rest of the questions. Accordingly, their specific results were deemed not useful for the purpose of the study.

As a result of the responses that were deemed not to be useful, the final useful number of respondents was 171 spread across different gender groups, types of qualifications, places of origin, age groups, employment types, income groups, marital status, level of parental education, and home language. All the respondents were selected based on convenient, purposive and snowballing sampling strategy. The sample consists of 117 (68.4%) Black South Africans, 13 (7.6%) Coloureds, 15 (8.8%) Indians and 26 (15.2%) Whites. In addition, 52.6% of the respondents possess a commercial tertiary qualification, whilst the balance have a non-commercial tertiary qualification.

## **3.4 DATA COLLECTION**

### **3.4.1 Data collection tool**

A survey-based structured questionnaire was used in this study. The first part of the questionnaire requires the respondents to provide their socio-demographic information such as their age, gender, marital status, place of origin (rural or urban), highest qualification, monthly earnings, marital status, parental education level and ethnic groups, namely, Zulu, Xhosa, Tsonga, Northern Sotho, Tswana, Venda, Ndebele, Sotho or Swazi .

The second part of the questionnaire assesses the basic financial literacy levels of the respondents, whereas the third part will be based on sophisticated financial literacy questions. The basic financial literacy questions are aimed at measuring very basic financial skills that are necessary for day-to-day finance-related transactions. They explore the numeracy skills as well as the comprehension of basic concepts such as inflation, interest rates, compound interest and time value of money.

Sophisticated financial literacy questions which constitute the third part of the questionnaire are aimed at further refining the financial literacy evaluation. They explore knowledge related to more complex financial instruments, such as shares, bonds, unit trusts diversification and trade-off between risk and return. Both basic and sophisticated financial literacy questions in the second and third parts of the questionnaire are adopted from Lusardi and Mitchell (2006).

The fourth part of the questionnaire assesses the respondents' saving habits, and the questions thereof are adopted from Beckmann (2013). These questions have however been tailored specifically to achieve the stated research objectives.

The study used email and internet facilities to distribute the structured questionnaires to the respondents. According to Stewart (2003), the benefits of such an inquiry strategy include the following:

- The method is faster and cost-effective, especially when compared to phone or mail survey, since there will be no postage cost or telephone bills involved.
- A great deal of data can be gathered from a web survey within a shorter space of time.
- There is no handwriting involved; thus, no clue of respondents' identity will be revealed by their handwriting.
- As the data is captured automatically, it can therefore be analysed instantly, with minimal human errors.
- Only questions relevant to the respondents can be included.

The following shortcomings should be borne in mind when using web surveys:

- In developing countries such as SA, the method could be relatively new, thus resulting in a lower response rate, as the respondents might not be familiar with the method.
- It could be difficult to reach target respondents who do not have access to computers.
- There could be a security risk in terms of hacking, for example.
- There might be loss of data due to technical errors or failures.

In describing the respondents' saving habits, questions used by Beckmann (2013) will be adopted (see Appendix A, which includes the draft questionnaire).

### **3.4.2 Pilot study**

To ensure that any potential problems such as ambiguity in the questions are eliminated before the resumption of the official study, a pilot study was conducted. An initial questionnaire was sent out to 15 people on 22 April 2015. Of the 15 people, 26.7% of the pilot study respondents responded the same day, 33.3% responded on 23 April 2015, and the balance responded later. It was noted from the pilot study that the 25 to 30 minutes that was initially estimated to be the duration needed to complete the questionnaire was unnecessarily longer. This was in view of the fact that almost all the questions are in the form of multiple choice and that there are no open-ended questions, which would have required more time. Based on this feedback, the estimated time was revised from 25 to 30 minutes to between 15 and 20 minutes. Because the study only focuses on people who reside and/or work in Gauteng province, P&J, it was recommended that such a question relating to place of residence or workplace be added so that those who reside or work outside P&J could be eliminated. This recommendation was implemented. A "skip logic" functionality was included in Qualtrics to ensure that the respondents who have matric or below matric qualification, are not South African citizens, and/or do not live or work in Gauteng province were not able to proceed with the survey, since they are outside the parameters of the study. This saved the respondents' time because they could not view or answer the rest of the questions. It has also made the analysis easier because all such respondents had missing values and were eliminated as part of the data clean-up process.

### **3.4.3 Data collection process**

Family and friends residing and working in Gauteng province, particularly in P&J, have been solicited to persuade their colleagues and other potential respondents who possess any post-matric qualification to participate in the survey and provide their email addresses, which were used to send the electronic questionnaires. The first email with a link to the Qualtrics questionnaire was sent out on 24 April 2015 after the recommendations from the pilot study were incorporated into the questionnaire. Very few people responded on the first day that the questionnaire was sent out. A reminder to the respondents was sent out on 04 May 2015, and many responded as a result of this reminder. Further reminders were sent out on 06, 12, 13 and 15 May 2015, resulting in an increased response rate. The last reminder was sent out on 20 May 2015, and the actual analysis of the data started on 20 May 2015. Original total responses were 209, but due to the data clean-up process, only 171 responses could be used (see sample size in Section 3.3.1).

## **3.5 DATA ANALYSIS**

### **3.5.1 Overview of data analysis**

Statistical Package for the Social Sciences (SPSS) has been used to store and analyse the data obtained from the respondents electronically. The system was also utilised to perform the statistical analysis of the data which is discussed next.

### 3.5.1.1 *Descriptive statistics*

Descriptive statistics are used to describe the levels of financial literacy and saving habits amongst different socio-demographics groups. According to Wagner, Kawulich and Garner (2012:177), descriptive statistics provide a summary and a description of information gathered through the research process. That summary and description can be done through the use of graphs and/or numbers. The following are normally the measures included in descriptive statistics:

- central tendency;
- variability; and
- graphical representation of data.

Measures of central tendency include mean, median and the mode. They describe the entire set of scores obtained from the research process with only a single number.

The mean gives an overall picture of the entire set of scores in a single number, and it is mathematically calculated using the following formula:

$$\bar{X} = \frac{\Sigma X}{N}$$

(Equation 3.1)

- $\bar{X}$  = Represents the mean of the sample  
 $\Sigma X$  = Represents the sum of scores  
 $XX$  = Represents each individual score  
 $NN$  = Represents the number of scores in the sample

Median is the middle of the distribution, meaning half of the scores lie on the left of the median and the other half lie on the right of the median. Mode, on the other hand, is the score that occurs more often (Wagner *et al.*, 2012).

Pallant (2011) added that the standard deviation, range of scores, skewness and kurtosis should also form part of the descriptive statistics that can be computed. According to Pallant (2011), descriptive statistics are helpful in that

- the characteristics of the sample are described;
- variables are checked for any possible violation of assumptions underlying the statistical data analysis method; and
- research questions are addressed.

Standard deviation is defined as a measure of variability similar to variance. It is simply the square root of variance. The greater the standard deviation, the greater the difference between scores and vice versa.

Wagner *et al.* (2012) specify the formula for standard deviation as follows:

$$s = \sqrt{\frac{\sum (x - \bar{x})^2}{n - 1}}$$

(Equation 3.2)

n = Represents the number of values in the sample

x = Represents each value in the sample

$\bar{x}$  = Represents the mean average value of the sample

Percentage contribution of the respondents in the entire sample is the most important descriptive statistic that is being considered in the study to compare the relationships between the socio-demographic variables and financial literacy/saving habits.

### **3.5.1.2 T-test**

T-test can be used for several purposes, but it is often used to test whether two groups' means are different (Field, 2009:326). There are two different t-tests, and the use thereof depends on whether the independent variable was manipulated using the same or different participants. Independent means t-test is used when there are two experimental conditions and different participants were assigned for each condition, whereas dependent means t-

test is used when there are two experimental conditions and the same participants participated in both conditions. T-test requires the following to be in place:

- The sample must be normally distributed.
- Data must be measured at the interval level, and in addition to these conditions, if the t-test is independent, the variances in the populations must be equal and the scores must be independent because it would be used in different groups.

If the means are collected from different samples and the independent t-test need to be determined, the following equation is used:

$$t = \frac{\begin{array}{l} \text{Observed difference} \\ \text{between sample means} \end{array} - \begin{array}{l} \text{expected difference} \\ \text{between population means} \\ \text{(if null hypothesis is true)} \end{array}}{\begin{array}{l} \text{estimate of standard error of the difference between two sample} \\ \text{means} \end{array}}$$

(Equation 3.3)

If the means are collected from one sample and the dependent *t*-test or paired-sample *t*-test needs to be determined, the numeric version of equation 3.3 is used, and it is expressed as follows:

$$t = \frac{\bar{D} - \mu_D}{s_D / \sqrt{N}}$$

(Equation 3.4)

Where:

$\bar{D}$  = Sample mean

$\mu_D$  = Population mean

$s_D / \sqrt{N}$  = Standard error of differences

Thus, equation 3.4 compares the difference between the mean of the sample ( $\bar{D}$ ) to the means expected to be found between populations ( $\mu_D$ ). Standard error of differences is also accounted for by the denominator. If  $H_0$  is true, there is no difference between the population means, and thus  $\mu_D = 0$ .

Since the samples are different, for example, Black South Africans versus CIW, equation 3.1 will be applicable. The statistical tests are employed to test the hypotheses that follow.

### **3.6 HYPOTHESES TESTING**

#### **3.6.1 All the respondents who have savings and those who do not have savings**

$H_0$ : There exists no statistically significant difference between the respondents who have savings and those who do not have savings with regard to their FLS.

$H_A$ : There exists a statistically significant difference between the respondents who have savings and those who do not have savings with respect to their FLS.

The t-test for independent groups, LT for equality of variances, is being used to test this hypothesis.

#### **3.6.2 Black South Africans who have savings and those who do not have savings**

$H_0$ : There exists no statistically significant difference between Black South Africans who have savings and those who do not have savings with regard to their FLS.

$H_A$ : There exists a statistically significant difference between Black South Africans who have savings and those who do not have savings with respect to their FLS.

The t-test for independent groups, LT for equality of variances, is being used to test this hypothesis.

In addition to the statistical test stated above, namely, the t-test for independent groups, descriptive analysis is being performed to present the financial literacy and saving habits of the sample.

### **3.7 ASSESSING AND DEMONSTRATING THE QUALITY AND RIGOUR OF THE PROPOSED RESEARCH DESIGN**

Rigour and quality are terms often used interchangeably, especially in the assessment of research work. Rigour is the framework that ensures credibility and integrity of the research process. It is necessary for heightening and strengthening the quality, consistency and reliability of the research work (McBrien, 2008). The proposed research design, namely, structured questionnaires, is reliable and consistent, with financial literacy studies conducted offshore and in SA. In fact, most studies around the world use the financial literacy question first initiated by Lusardi and Mitchell (2006). The entire questionnaire which includes the questions adopted from the aforementioned authors is adapted and tailored to the South African environment in order to address the research questions and to meet the stated objectives. The researcher, the supervisor, the statistician, the subject matter experts within the department and the members of the targeted groups have been involved in the crafting of the questionnaire to ensure that the questions are (1) valid, (2) the respondents understand the questions and (3) the questions actually mean the same things to all the targeted members of the population. As already discussed, a pilot study was conducted to uncover any potential issues with the questionnaire that could have rendered it problematic when the full study was eventually conducted.

The study takes an empirical, descriptive approach, which is appropriate, given the research questions and the study objectives. The data collected is analysed statistically in line with the other studies conducted before.

### **3.8 RESEARCH ETHICS**

According to Kelley, Clark, Brown and Sitzia (2003), two key issues are of paramount significance when coming to ethics in the context of research, namely, confidentiality and consent from the participant. More specifically, obtaining consent from the participants and ensuring that they are protected from any potential harm emanating from their participation

in the study is very important. The participants should also enjoy privacy whilst participating, and the researcher should be honest and trustworthy in dealing with all the stakeholders involved in the study, including colleagues (Ormrod & Leedy, 2014).

All the aforementioned ethical considerations have been taken into account in planning the study (see Appendix B for a consent form sent to the targeted respondents). Ethical clearance was obtained from the Department of Financial Management, Faculty of Economic and Management Sciences' Ethics Committee.

### **3.9 CONCLUSION**

This chapter has been instrumental in providing the research methodology of this study as well as various dimensions of the research methodology used. The next chapter will provide results of the study as well as a discussion of those results.

## CHAPTER 4: RESULTS AND DISCUSSION

### 4.1 INTRODUCTION

The main purpose of this study is to establish whether Black South Africans, defined as Black Africans with indigenous habitants, excluding Coloureds and Indians with a qualification in commerce, are financially literate, and if they are, what their saving habits are. The previous chapter provided a discussion of the research methods and design of this study. In line with the aforementioned study objective, this chapter analyses the results of the data collected through a questionnaire that was structured to capture all the information necessary to meet the research objectives. The analysis of the results is initiated by describing how the data was analysed. Interpretation of the results then follows, and before concluding on the findings, the researcher explains the limitations of the results.

### 4.2 DESCRIPTIVE STATISTICS – FINANCIAL LITERACY SCORES

In order to meet the first research objective of the study, namely, to measure and describe the financial literacy levels of Black South Africans with a tertiary qualification in commerce working in P&J, the descriptive statistics that follow are will be discussed.

#### 4.2.1 Overall financial literacy of the respondents

The overall FLS achieved by the sample of 171 respondents is 60.8% or 61% rounded off. Average FLS for each respondent was calculated, and the sum of all the respondents' scores was divided by the total number of respondents to get to this average. Ironically, Jump\$tart Coalition also used 60% as a benchmark; thus, the FLS above can be used as a benchmark for each respondent being analysed. Those who achieved a score less than this average can be deemed to be less financially literate than the average, and those who achieved more can be deemed to be more financially literate.

The total number of financial literacy questions asked was 16; therefore, on average, the respondents got approximately nine questions correct. Five out of the sixteen questions were classified as basic, and the rest are sophisticated questions.

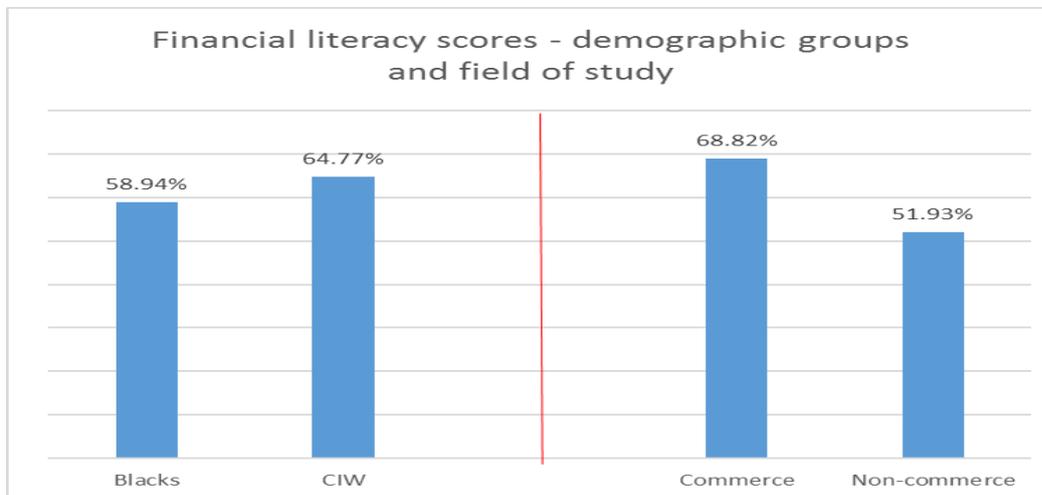
Only 1.8% of the entire sample got all the financial literacy questions correct. The bulk of the sample, 12.3% or 21 respondents, only got 11 questions correct. It is also worth noting that 3.5% of the sample got all the questions wrong.

The ensuing passage provides a descriptive analysis of financial literacy scores of the sample according to the different socio-demographic groupings, namely:

- all the respondents according to their population groups
- all the respondents according to the field of study
- Black South Africans according to the field of study
- Black South Africans according to gender
- Black South Africans according to the place of origin

#### 4.2.2 All respondents – financial literacy scores according to the field of study and population groups

The first two aforementioned categories are dealt with in Figure 2.



**Figure 2: Financial literacy scores – demographic groups and field of study**

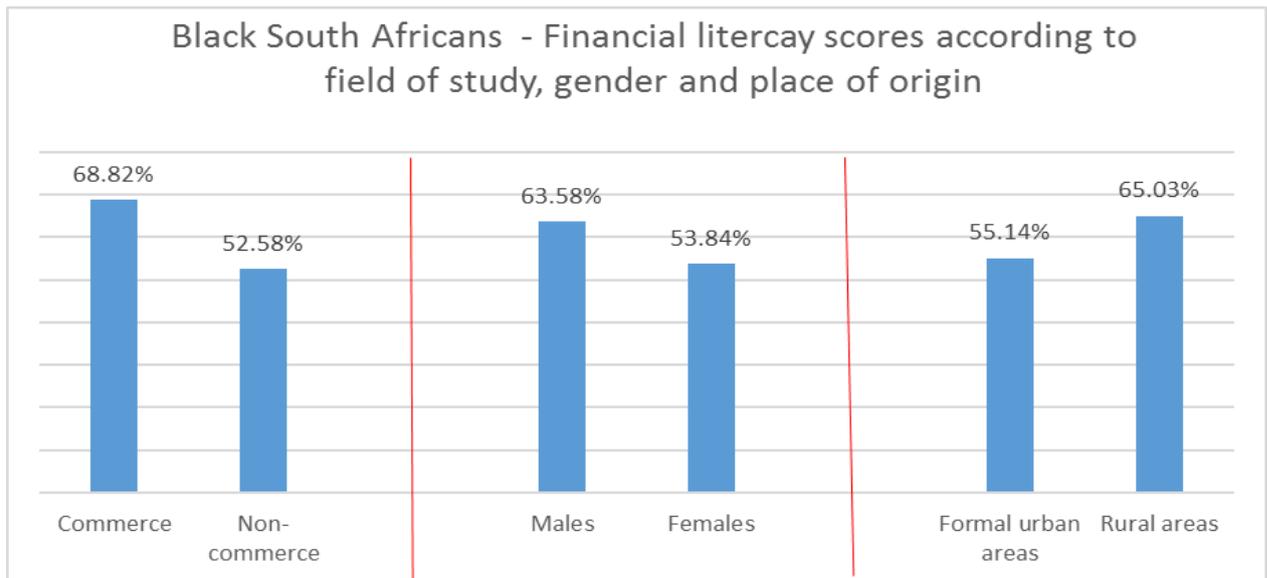
Black South Africans on average scored 58.94%. On the other hand, other population groups (CIW combined) scored 64.77%. This finding is in line with Struwig *et al.* (2013) who found Black South Africans to be less financially literate compared to other population groups in a South African context. Lusardi and Mitchell (2009a) also found similar trends in

America. It is worth noting that the financial literacy score of Black South Africans is also below the 60% benchmark discussed. This simply means that the Black South Africans surveyed are not financially literate when measured according to the Jump\$tart Coalition criterion.

Those who have a commercial tertiary qualification are more financially literate than those with a non-commercial tertiary qualification. The former scored 68.82% on average in relation to 51.93% scored by the later. When the scores are compared to the 60% benchmark used in the Jump\$tart Coalition, it is evident that those who have a commercial tertiary qualification are financially literate, and those with a non-commercial tertiary qualification are not financially literate. This finding supports that of Botha (2014) who found that the students who were studying finance-related subjects are more financially literate than those who studied non-finance-related subjects.

#### **4.2.3 Black South Africans – financial literacy scores according to the field of study, gender and place of origin**

To obtain a better understanding of Black South Africans' financial literacy levels, it is necessary to consider what their scores are based on field of study, gender and place of origin.



**Figure 3: Black South Africans – financial literacy scores according to field of study, gender and place of origin**

To obtain a better understanding of Black South Africans’ financial literacy levels, it is essential to consider what their scores are based on the field of study, gender and place of origin.

The total number of Black South Africans who completed the question pertaining to their field of study is 170, and not 171 due to the missing values. Those who come from a commerce field of study are 90 in total compared to 80 of those who are from a non-commerce field of study. Those who have a commerce qualification had an FLS of 68.82% compared to 52.58% achieved by those who have a non-commerce post-matric tertiary qualification. This indicates that those who have a commercial post-matric tertiary qualification are more financially literate than those who have a non-commercial post-matric tertiary qualification. In fact, those who have a non-commercial post-matric tertiary qualification scored less than the total average of 61 achieved on average by the entire sample (see Section 4.1.1). Also, when compared to the Jump\$tart Coalition benchmark of 60% FLS, Black South Africans with a non-commercial tertiary qualification are not financially literate.

Looking at the gender distribution of Black South Africans’ FLS, the males have a mean score of 63.58%, which compares favourably with the average financial literacy score of

53.84% achieved by the females. Thus, the males are more financially literate than the females, which is in line with literature. For example, Chen and Volpe (2002) found that women are less interested and less willing to learn about personal finance concepts than men.

Place of origin is another factor that the study looks at in analysing the Black South Africans' financial literacy levels. Black South Africans originating from the urban area have a mean score of 55.14%. This group scored less than those originating from rural areas who have an average FLS of 65.03%. Black South Africans who come from rural areas are more financially literate than those who come from formal urban areas.

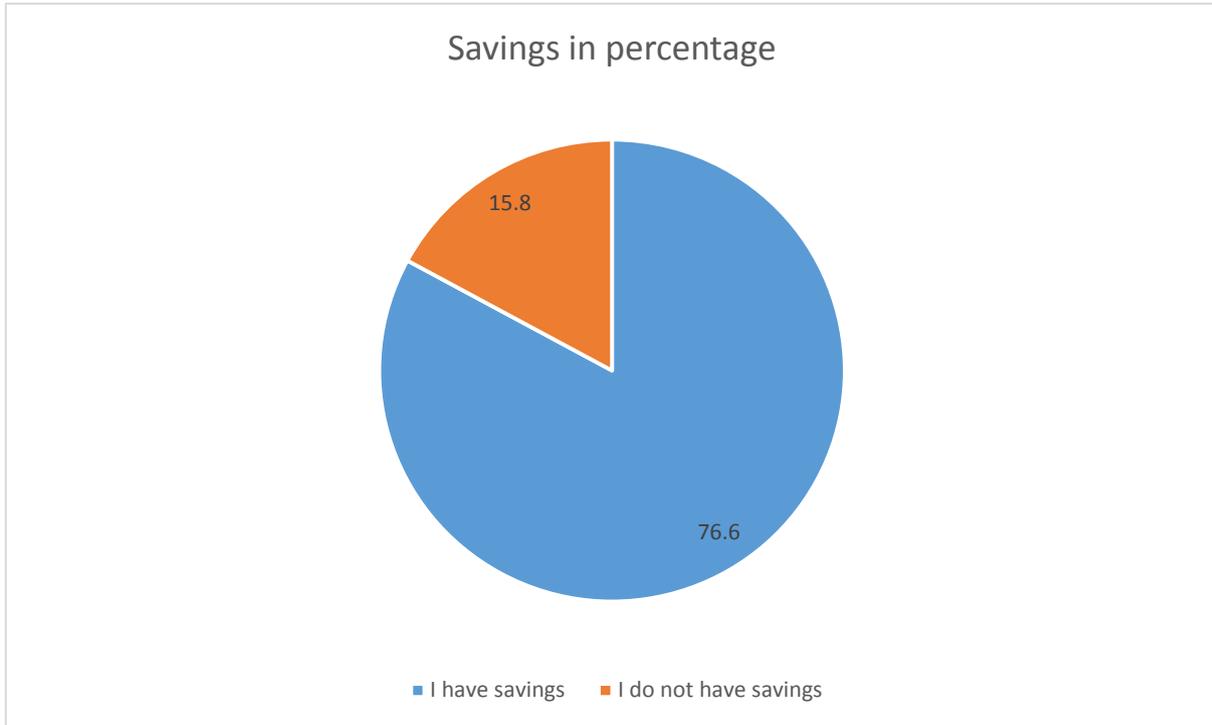
Lusardi and Mitchell (2011b) found that Russian city dwellers are more financially literate than their rural counterparts. In a South African context, the difference can be attributable to many factors. For example, in this particular study, when financial literacy is being assessed according to the place of origin, other factors were not controlled such as the respondent's level of education, and parental educational background. It therefore follows that those who originate from rural areas acquired more financial literacy when migrating to the urban areas, P&J. In fact, their migration to P&J could have been solely to further their studies, which could have contributed to their heightened levels of financial literacy. Furthermore, Lusardi and Mitchell compared city dwellers and those who live in rural Russia, whereas the this study compares the respondents' financial literacy levels in terms of their originality and not where they currently live.

### **4.3 DESCRIPTIVE STATISTICS – SAVING HABITS**

The second research objective is to evaluate the saving habits of South Africans with a tertiary qualification in commerce and working in P&J. The descriptive statistics below address this objective.

### 4.3.1 Overall savings of the respondents

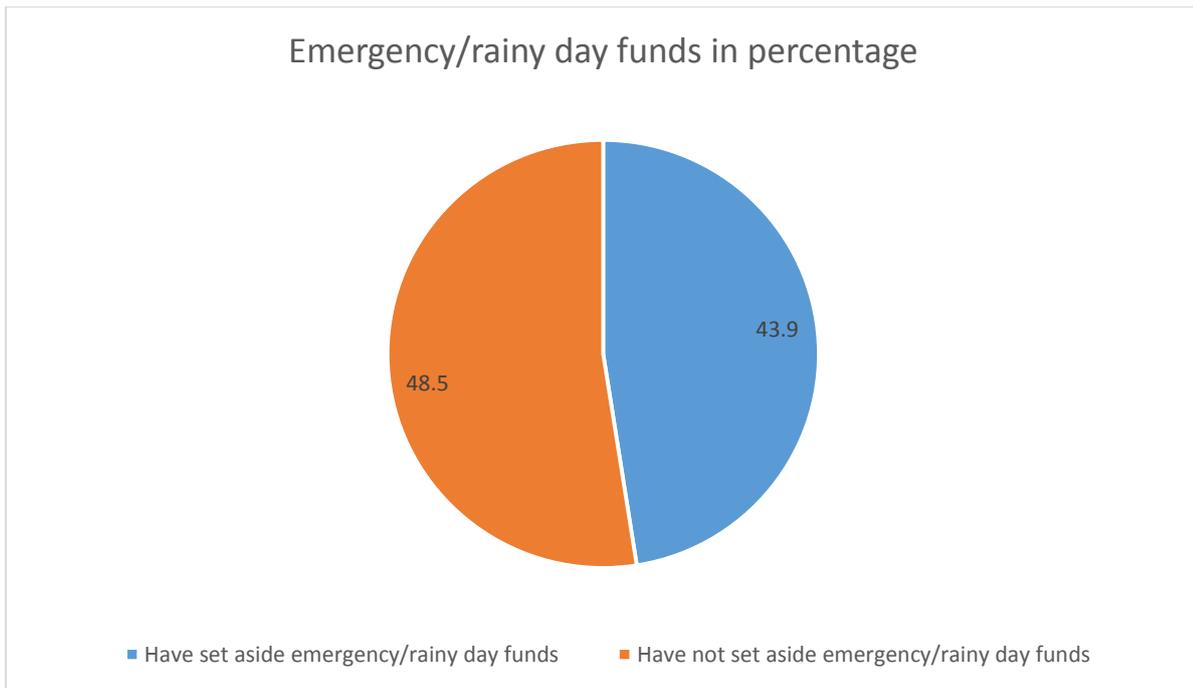
To assess the saving habits of the respondents, four questions (see question 31-35 in Appendix A) relating to savings form part of the survey. The first question asked the respondents whether or not they have savings.



**Figure 4: Savings of the respondents in percentages**

Figure 4 indicates that a significant percentage (76.6%) of the respondents have savings in one form or another. Only 15.8% do not have savings, whilst the balance of 7.6% represents the missing values or those who did not respond to this question.

In question 32, the respondents were asked whether or not they have set aside emergency or rainy days funds. They could only answer yes or no to this question, and the distribution is represented in Figure 5.

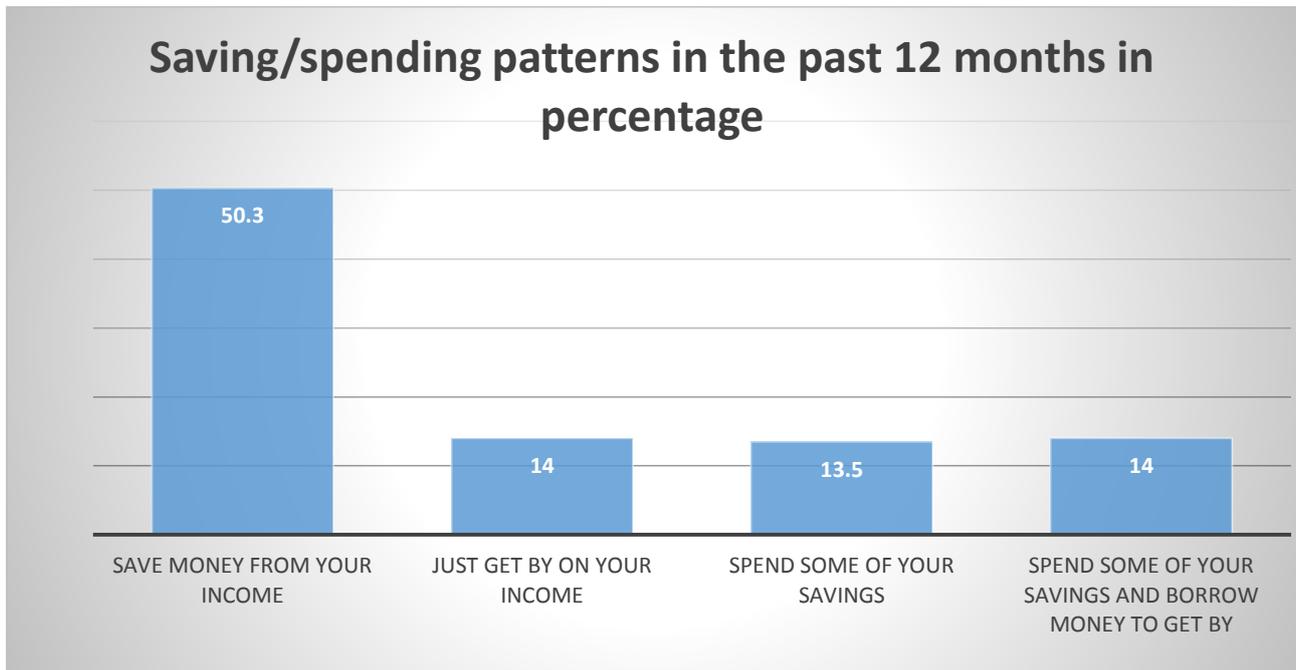


**Figure 5: Emergency/rainy day funds in percentage**

It is illustrated in Figure 5 that those who have emergency funds (48.5%) are almost the same percentage as those who do not have such funds (43.9%). The former are likely to be some of those who responded positively to saving question 31. This is confirmed in the absolute numbers extracted from SPSS (see Appendix B), since the total number of respondents who answered positively to question 31 is 131, which is more than those who have set aside emergency or rainy days funds, which accounted for only 75 respondents.

Another question related to saving habits that is worth commenting on in terms of how the people responded is question 35, which asks the respondents what they did in the past 12 months in as far as spending and saving is concerned.

Figure 6 presents the percentages of different responses from the sample.



**Figure 6: Saving/spending patterns in the past 12 months**

As revealed in Figure 6, more than half of the respondents saved some of their monies in the past 12 months. In absolute terms, this represented 86 out of 171 people surveyed (see Appendix B). Although 131 people stated that they have savings when responding to question 31, only 81 have saved in the past 12 months, which could mean that from the people that answered positively to question 31, many have just started building up their savings, as they have not been saving in the past 12 months. Total respondents for this question added up to 91.8%, with the balance of 8.2% being the missing values or those who did not answer this question.

The analysis that follows focuses on saving habits (as measured by question 31) of the respondents in relation to their demographic data, namely, population group.

### 4.3.2 Saving habits in relation to the population groups

To assess the saving habits according to the population group, a cross-tabulation has been run, and the results are indicated in Table 1.

**Table 1: Population group \* savings cross-tabulation**

			Savings (Q31)		Total
			Yes	No	
Q7	Black	Count	88	18	106
		% within population group (Q7)	83.0%	17.0%	100.0%
		% within do they have savings? (Q31)	67.2%	66.7%	67.1%
CIW	CIW	Count	43	8	51
		% within population group (Q7)	84.3%	15.7%	100.0%
		% within do they have savings? (Q31)	32.8%	29.6%	32.3%
Total	Total	Count	131	27	158
		% within population group (Q7)	82.9%	17.1%	100.0%
		% within do they have savings? (Q31)	100.0%	100.0%	100.0%

Source: SPSS output

Overall, Table 1 shows that people who do not have savings constitute 17.1% of the entire sample, whilst 82.9% have savings (it is noteworthy that N=158 due to the missing values). In the sample, 106 respondents are Black South Africans, and the balance of 52 represents are CIW. Black South Africans save less (only 83% have savings) compared to their CIW counterparts, with 84.3% of them having savings.

### 4.3.3 Saving habits of Black South Africans in relation to gender

To assess the saving habits according to the gender of Black South Africans, a cross-tabulation was run, and the results are indicated in Table 2.

**Table 2: Black South Africans gender \* savings cross-tabulation**

			Have savings or not Q31		Total
			Yes	No	
Q5	Male	Count	42	11	53
		% within gender (Q5)	79.2%	20.8%	100.0%
		% within have savings or not? (Q31)	48.8%	61.1%	51.0%
	Female	Count	44	7	51
		% within gender (Q5)	86.3%	13.7%	100.0%
		% within have savings or not? (Q31)	51.2%	38.9%	49.0%
Total		Count	86	18	104
		% within gender (Q5)	82.7%	17.3%	100.0%
		% within have savings or not? (Q31)	100.0%	100.0%	100.0%

Source: SPSS output

In total, only 104 Black South Africans responded to the question of whether they have savings. Therefore, 13 did not respond, resulting in missing values. Moreover, 82.7% of those who responded have savings compared to only 17.3% who do not have savings. Furthermore, 53% of the respondents were males, and 49% were females. Only 79.2% of the males have savings compared to 82.7% of the females who have savings. This indicates that the female Black South Africans save more than their male counterparts. In contrast, female Black South Africans are less financially literate than their male counterparts. Contrary to the literature, this finding implies that a higher level of financial literacy does not necessarily result in higher savings amongst Black South Africans residing/working in P&J.

#### 4.3.4 Saving habits of Black South Africans in relation to the field of study

Cross-tabulation has been used to determine whether field of study (commerce or non-commerce) has any influence on saving habits. The results are presented in Table 3.

**Table 3: Black South Africans saving habits \* field of study cross-tabulation**

			Have savings or not (Q31)		Total
			Yes	No	
Field of study	Commerce	Count	71	9	80
		% within field of study	88.8%	11.3%	100.0%
		% within have savings or not	54.2%	33.3%	50.6%
	Non-commerce	Count	60	18	78
		% within field of study	76.9%	23.1%	100.0%
		% within have savings or not	45.8%	66.7%	49.4%
Total	Count	131	27	158	
	% within field of study	82.9%	17.1%	100.0%	
	% within have savings or not	100.0%	100.0%	100.0%	

Source: SPSS output

From the cross-tabulation in Table 3, it is evident that 82.9% of Black South Africans have savings, whilst only 17.1% of them do not have savings. Those whose highest level of qualification is in commerce save more than those who have a non-commerce highest qualification. Additionally, 88.8% of the former group has savings, whereas only 76.9% of the latter group have savings. The same phenomenon was also established in the financial literacy score in paragraph 4.2.2 above, with those having a commerce highest qualification scoring higher in financial literacy questions than their non-commerce counterparts.

#### 4.4 FINANCIAL LITERACY AND SAVING HABITS

In order to achieve the third research objective, namely, to establish whether there is a statistically significant difference between the respondents who have savings and those who do not have savings respecting their FLS, the following two hypotheses have been stated:

##### **Hypothesis 1**

H<sub>0</sub>: There exists no statistically significant difference between the respondents who have savings and those who do not have savings with regard to their FLS.

H<sub>A</sub>: There exists a statistically significant difference between the respondents who have savings and those who do not have savings with respect to their FLS.

##### **Hypothesis 2**

H<sub>0</sub>: There exists no statistically significant difference between Black South Africans who have savings and those who do not have savings with regard to their FLS.

H<sub>A</sub>: There exists a statistically significant difference between Black South Africans who have savings and those who do not have savings with respect to their FLS.

These hypotheses are tested through the T-test for independent groups and LT for equality of variances.

In order to establish whether statistically significant differences exist between the respondents who have savings and those who do not savings as regards their FLS, hypotheses 1 is tested through a t-test for independent groups, and the results are tabled in Table 4. A 5% level of significance is used.

The mean FLS per group is shown in Table 4.

**Table 4: Group statistics – financial literacy levels and savings of all the respondents**

		N	Mean	Std. Deviation	Std. Error Mean
FLS	Have savings	131	66.2214	20.13743	1.75942
	Do not have savings	27	53.7037	20.81997	4.00681

Source: SPSS output

As indicated in Table 4, respondents who have savings scored more in financial literacy than those who do not have savings. They scored 66.22% compared to 53.70% obtained by those who do not have savings. Moreover, 66.22% scored by those who have savings is also higher than the benchmark of 60% used in Jump\$tart Coalition.

**Table 5: Independent sample test – financial literacy and savings of all the respondents**

		LT's Test for Equality of Variances				
		F	Sig	t	df	Sig (2-tailed)
Fin_Lit score	Equal variances assumed	0.29	.864	2.924	156	.004
	Equal variances not assumed			2.860	36.720	.007

Source: SPSS output

An independent sample t-test in Table 5 reveals that there is a significant difference in financial literacy scores of the respondents who have savings ( $M=66.22$ ,  $SD=20.14$ ) and those who do not have savings ( $M=53.70$ ,  $SD=20.82$ ;  $t(156)=2.92$ ,  $p=.004$ , two-tailed).

To establish whether statistically significant differences exist between Black South Africans who have savings and those who do not savings with reference to their FLS, hypotheses 2

is tested using the t-test for independent groups. The results are tabled in Table 6. A 5% level of significance is used.

**Table 6: Group statistics – Black South Africans’ financial literacy score and savings**

Have savings or not (Q31)		N	Mean	Std. Deviation	Std. Error Mean
FinLit_score	Yes	87	64.5833	19.80250	2.12305
	No	18	53.8194	17.69571	4.17092

Source: SPSS output

**Table 7: Independent sample test – Black South Africans’ financial literacy and savings**

		Levene’s Test for Equality of Variances				
		F	Sig.	t	Df	Sig. (2-tailed)
FLS	Equal variances assumed	.110	.741	2.135	103	.035
	Equal variances not assumed			2.300	26.597	.030

Source: SPSS output

Based on Table 7, there was a significant difference in financial literacy scores of Black South Africans who have savings ( $Y=64.58$ ,  $SD=19.08$ ) and those who do not have savings ( $N=53.82$ ,  $SD=17.70$ ) = 2.14,  $p=.035$ , (two-tailed). Thus,  $H_0$  is rejected.

## 4.5 CONCLUSION

The results of this study were discussed in this chapter. In the next chapter, a conclusion is drawn on the financial literacy levels of Black South Africans with a commercial tertiary qualification in relation to the other population groups. The chapter is also concluded by considering whether the level of financial literacy has a bearing on saving habits.

## **CHAPTER 5: CONCLUSION AND RECOMMENDATIONS**

### **5.1 INTRODUCTION**

In the penultimate chapter, the results of the study were analysed with a focus on the descriptive and statistical analysis of the sample in terms of (1) FLS of Black South Africans and those of the CIW, (2) FLS of the respondents with a commercial tertiary qualification and those with a non-commercial tertiary qualification, (3) FLS of Black South Africans with a commercial tertiary qualification and those with a non-commercial tertiary qualification, (4) FLS of all the respondents who have savings and those who do not have savings and (5) FLS of Black South Africans who have savings and those who do not have savings. All these analyses are aimed at establishing whether Black South Africans with a commercial tertiary qualification are financially literate and whether financial literacy has any bearing on saving habits. In this final chapter, the summary of findings is provided. The primary conclusion of the study, in view of the research objectives and hypotheses stipulated in the previous chapters, is also presented. Recommendations for future studies are provided in addition to the key contributions that the study is making to the body of knowledge.

### **5.2 SUMMARY OF FINDINGS**

#### **5.2.1 Financial literacy of Black South Africans in relation to CIW**

In line with the literature discussed in Chapter 2, this study finds Black South Africans to be less financially literate compared to the other population groups (CIW). Black South Africans with a commercial tertiary qualification working and residing in P&J scored 58.94% compared to 64.77% that the other population groups achieved. The score is even lower than the average mean score of circa 61% and 60% used as a benchmark in the Jump\$tart Coalition. When measured based on 60% used in the Jump\$tart Coalition, Black South Africans are thus not financially literate. This phenomenon could be attributable to many factors in a South African context. Since the theory suggests a high positive correlation between the level of education and financial literacy, low levels of financial literacy in Black South Africans could be due to the poor quality education received during the apartheid era. This is supported by the descriptive analysis of the sample in terms of age. The bulk of the respondents are between the age of 30 and 39. This group makes up about 42% of the

entire sample. The youngest in this age group must have been born in 1984, and using the average school-going age of 7 years, these people would have started school in 1991 – before democracy – and thus, their primary schooling might have been based on the apartheid era, which could have impacted on the quality of their education. Rugimbana (2012) also cited the exclusion tactics of the apartheid regime on banking and financial services as a key contributor to the lower financial literacy levels amongst Black South Africans.

### **5.2.2 Commercial versus non-commercial field of studies**

This study finds the respondents who have commercial tertiary qualifications to be more financially literate than those who have a non-commercial tertiary qualification. In particular, those who poses a commercial tertiary qualification achieved an overall mean score of 68.82% ahead of 51.93% achieved by those who have a non-commercial tertiary qualification. Based on the descriptive statistics discussed in Chapter 3, those who have a commercial tertiary qualification constitute 52.6% of the entire sample. Although this might have distorted the overall results, since the sample was more skewed towards this group, the literature also suggests that those who are in finance-related fields of study are more financially literate that those who are in other fields. For example, Hanna, Hill and Perdue (2010) found that students in finance-related fields are more financially literate than others. Chen and Volpe (2002) also found that the students who major in business-related subjects have higher financial literacy levels because they have many opportunities to learn about personal finance.

Based on the descriptive statistics narrated in Chapter 4 (also see Appendix C), the majority of the respondents are Black South Africans; thus, the majority of those who are in the category of commerce (who also form the biggest chunk of the sample) by deduction should also be Black. Therefore, although Black South Africans have lower financial literacy compared to the other population groups, those who possess a commercial tertiary qualification fared better in terms of FLS compared to those who are in other fields.

### **5.2.3 Financial literacy and saving habits**

Previous studies have shown that there is a strong correlation between the level of financial literacy and propensity to save. Lusardi and Mitchell (2009b), for example, found that those

who exhibit high levels of financial literacy tend to save more for retirement than their contemporaries with lower levels of financial literacy. This study supports existing literature in that it finds that those who have savings scored more on financial literacy than those who do not have savings. In fact, those who do not have savings are classified as not being financially literate in terms of the 60% Jump\$tart Coalition benchmark and also in terms of the overall average of 61% achieved by all the respondents in the entire sample, since they have scored only 53.71%. This is in comparison with the 66.22% score achieved by those who have savings. That being the case, there is indeed a direct link between financial literacy and saving habits.

### **5.3 PRIMARY CONCLUSION**

Black South Africans are not financially literate when compared to the other population groups. However, those who possess a commercial tertiary qualification are more financially literate than those with a non-commercial tertiary qualification. The level of financial literacy has an influence on the saving habits of the respondents.

### **5.4 KEY CONTRIBUTIONS OF THE STUDY**

Financial literacy studies in SA is almost an uncharted area in that few studies have been conducted. According to Shambare and Rugimbana (2012), the challenge that few financial literacy studies have been conducted in the country is further exacerbated by the fact that even the educated cannot be given the benefit of the doubt regarding their financial literacy levels. This is because the comprehension of very basic financial concepts is still very low even amongst university students.

This study contributes to the existing body of knowledge in that it focuses on Black South Africans, who according to Shambare and Rugimbana (2012), were previously excluded from banking and financial services. The consequence of this previous exclusion is that this group tends to be less financially literate than others. Shambare and Rugimbana (2012) further posit that this group is the most blacklisted in financial institutions.

The focus on Black South Africans that this study has will help policymakers, employers and financial institutions in understanding the challenges faced by this group. Better

understanding of this population group that was previously disadvantaged will hopefully help policymakers, employers and financial institutions to develop the new financial literacy programmes, strengthening those that already exist and tailor-making them for this population group to ensure that their financial literacy gaps are being breached so as to avoid more future blacklisting and redressing the inequalities and the exclusions of the past. Given the connection between financial literacy and saving habits, the efforts to improve financial literacy levels in Black South Africans, who are the largest population group, should increase the savings levels and consequently boost the economic growth of the country.

## **5.5 RECOMMENDATIONS FOR FUTURE STUDIES**

Future research could expand on this study by increasing the sample to include more CIW to enable parametric tests to be conducted amongst all these groups individually and amongst Black South Africans. This is because in this study, the other population groups individually were less than 30, which forced them to be combined for the parametric tests to be carried out. Another area that future research could explore in building upon this study is to include other major towns and provinces outside Gauteng to confirm whether the results of this study will still hold true under such expanded coverage. The background of Black South Africans could be analysed more deeply in future studies to establish whether other factors have any bearing on their lower financial literacy levels other than those already identified in the current, existing studies.

## LIST OF REFERENCES

- AdFLAG. 2000. *Adult Financial Literacy Advisory Group. Report to the Secretary of State for Education and Employment*. [Online] Available from: <http://www.dfes.gov.uk/adflag> [Accessed: 2014-11-13].
- Agarwal, S., Amromin, G., Ben-David, I., Chomsisengphet, S. & Evanoff, D. 2011. Financial counseling, financial literacy, and household decision-making. *Financial Literacy: Implications for Retirement Security and the Financial Marketplace*, 181-205.
- Agarwalla, S., Barua, S., Jacob, J. & Varma, J. 2012. A survey of financial literacy among students, young employees and the retired in India.
- Agarwalla, S.K., Barua, S.K., Jacob, J. & Varma, J.R. 2013. *Financial literacy among working young in Urban India*.
- Al-Awad, M. & Elhiraika, A. 2003. Cultural effects and savings: Evidence from immigrants to the United Arab Emirates. *The Journal of Development Studies*, 39(5):139-151.
- Almenberg, J. & Dreber, A. 2011. Gender, stock market participation and financial literacy. *Stockholm School of Economics Economic Research Institute Working Paper*, 737.
- Anoruo, E. & Ahmad, Y. 2001. Causal relationship between domestic savings and economic growth: Evidence from seven African countries. *African Development Review*, 13(2):238-249.
- Aron, J. & Muellbauer, J. 2000. Personal and corporate saving in South Africa. *The World Bank Economic Review*, 14(3):509-544.
- Arrondel, L., Debbich, M. & Savignac, F. 2013. Financial literacy and financial planning in France. *Numeracy*, 6(2):8.
- Atkinson, A. 2008. Evidence of impact: An overview of financial education evaluations. *Consumer Research*, 68.
- Atkinson, A. & Messy, F.-A. 2012. *Measuring financial literacy: Results of the OECD/International Network on Financial Education (INFE) pilot study*.
- Beal, D.J. & Delpachitra, S.B. 2003. Financial literacy among Australian university students. *Economic Papers: A journal of applied economics and policy*, 22(1):65-78.
- Beckmann, E. 2013. Financial literacy and household savings in Romania. *Numeracy*, 6(2):9.
- Bernheim, B.D., Garrett, D.M. & Maki, D.M. 2001. Education and saving: The long-term effects of high school financial curriculum mandates. *Journal of Public Economics*, 80(3):435-465.

- Beshears, J., Choi, J.J., Laibson, D. & Madrian, B.C. 2009. The importance of default options for retirement saving outcomes: Evidence from the United States. *Social security policy in a changing environment*. University of Chicago Press.
- Borden, L.M., Lee, S.-A., Serido, J. & Collins, D. 2008. Changing college students' financial knowledge, attitudes, and behavior through seminar participation. *Journal of Family and Economic Issues*, 29(1):23-40.
- Botha, M. 2014. *A comparative analysis of the financial literacy of final year diploma students in different fields of study at the University of Johannesburg*.
- Brown, M. & Graf, R. 2013. Financial literacy and retirement planning in Switzerland. *Numeracy*, 6(2):6.
- Browning, M. & Lusardi, A. 1996. Household saving: Micro theories and micro facts. *Journal of Economic literature*:1797-1855.
- Bucher-Koenen, T. & Lusardi, A. 2011. Financial literacy and retirement planning in Germany. *Journal of Pension Economics and Finance*, 10(04):565-584.
- Butelmann, A. & Gallego, F. 2001. Household saving in Chile (1988 and 1997): Testing the life cycle hypothesis. *Cuadernos de economía*, 38(113):3-48.
- Chang, Y. & Lyons, A.C. 2007. Are financial education programmes meeting the needs of financially disadvantaged consumers? *Networks Financial Institute Working Paper, Indiana State University*.
- Chen, H. & Volpe, R.P. 2002. Gender differences in personal financial literacy among college students. *Financial Services Review*, 11(3):289-307.
- Christelis, D., Jappelli, T. & Padula, M. 2010. Cognitive abilities and portfolio choice. *European Economic Review*, 54(1):18-38.
- Clark, R.L., Morrill, M.S. & Allen, S.G. 2012. The role of financial literacy in determining retirement plans. *Economic Inquiry*, 50(4):851-866.
- Cohen, J. 1988. *Statistical power analysis for the behavioural sciences*. 2nd ed. Hillsdale, New Jersey: Lawrence Erlbaum Associates Publishers.
- Courchane, M., Gailey, A. & Zorn, P. 2008. Consumer credit literacy: What price perception? *Journal of Economics and Business*, 60(1):125-138.
- Cronjé, M. & Roux, A. 2010. Savings culture for the black middle class in South Africa. *USL Leaders' Lab*, 4(2):22-27.
- Cude, B., Lawrence, F., Lyons, A., Metzger, K., LeJeune, E., Marks, L. & Machtmes, K. 2006. College students and financial literacy: What they know and what we need to learn. *Proceedings of the Eastern Family Economics and Resource Management Association*:102-109.

- De Clercq, B. & Venter, J. 2009. Factors influencing a prospective chartered accountant's level of financial literacy: An exploratory study. *Meditari Accountancy Research*, 17(2):47-60.
- Disney, R. & Gathergood, J. 2013. Financial literacy and consumer credit portfolios. *Journal of Banking & Finance*, 37(7):2246-2254.
- FinScope. 2014. *FinScope South Africa Consumer Survey*. [Online] Available from: [http://www.finmark.org.za/wp-content/uploads/pubs/Pres\\_Finscope2014\\_FNL.pdf](http://www.finmark.org.za/wp-content/uploads/pubs/Pres_Finscope2014_FNL.pdf) [Downloaded: 2015-01-07].
- Gale, W.G., Harris, B.H. & Levine, R. 2012. Raising household saving: does financial education work? *Social Security Bulletin*, 72(2):39-48.
- GAO 2001. United States General Accounting Office (GAO). National saving: Answer to key questions.
- Garcia, M.T.M., Barros, C. & Silvestre, A. 2011. Saving behaviour: Evidence from Portugal. *International Review of Applied Economics*, 25(2):225-238.
- Gartner, K.M. & Schiltz, E.R. 2005. What's your score: Educating college students about credit card debt. *St. Louis U. Pub. L. Rev.*, 24:401.
- Gerardi, K., Goette, L. & Meier, S. 2010. Financial literacy and subprime mortgage delinquency: Evidence from a survey matched to administrative data. *Federal Reserve Bank of Atlanta Working Paper Series*, (2010-10).
- Gravetter. 2012. *Essentials of statistics for behavioral sciences*. New York: Cengage Learning.
- Greenspan, A. 2005. The importance of financial education today. *Social Education*, 69(2):64.
- Grody, A.D., Grody, D., Kromann, E. & Sutliff, J. 2008. A financial literacy and financial services program for elementary school grades – Results of a pilot study. *Erin and Sutliff, Jim, A Financial Literacy and Financial Services Program for Elementary School Grades-Results of a Pilot Study (May 12, 2008)*.
- Guba, E.G. & Lincoln, Y.S. 1994. Competing paradigms in qualitative research. *Handbook of qualitative research*, 2(163-194).
- Gustafsson, C. & Omark, L. 2015. Financial literacy's effect on financial risk tolerance: A quantitative study on whether financial literacy has an increasing or decreasing impact on financial risk tolerance.
- Hanna, M.E., Hill, R.R. & Perdue, G. 2010. School of study and financial literacy. *Journal of economics and economic education research*, 11(3):29.
- Hathaway, I. & Khatiwada, S. 2008. Do Financial Education Programmes Work? *Working Paper 08-03, Federal Reserve Bank of Cleveland*.

- Hilgert, M.A., Hogarth, J.M. & Beverly, S.G. 2003. Household financial management: The connection between knowledge and behavior. *Fed. Res. Bull.*, 89:309.
- Holzmann, R. 2010. *Bringing financial literacy and education to low and middle income countries: The need to review, adjust, and extend current wisdom.*
- Hung, A.A., Meijer, E., Mihaly, K. & Yoong, J. 2009. Building up, spending down: Financial literacy, retirement savings management, and decumulation. *Rand Labor and Population Working Paper WR-712*. Santa Monica, CA: Rand Corporation.
- Huston, S.J. 2010. Measuring financial literacy. *Journal of Consumer Affairs*, 44(2):296-316.
- INFE. 2011. *Measuring Financial Literacy: Core Questionnaire in Measuring Financial Literacy: Questionnaire and Guidance Notes for conducting an Internationally Comparable Survey of Financial literacy*. [Online] Available from: <http://www.oecd.org/finance/financial-education/49319977.pdf> [Downloaded: 2014-10-18].
- Jappelli, T. & Padula, M. 2013. Investment in financial literacy and saving decisions. *Journal of Banking & Finance*, 37(8):2779-2792.
- Jefferson, T. & Johnston, R.H. 1903. *The writings of Thomas Jefferson*. Issued under the auspices of the Thomas Jefferson Memorial Association of the United States.
- Johnson, E. & Sherraden, M.S. 2007. From financial literacy to financial capability among youth. *J. Soc. & Soc. Welfare*, 34:119.
- Kaustia, M. & Torstila, S. 2011. Stock market aversion? Political preferences and stock market participation. *Journal of Financial Economics*, 100(1):98-112.
- Kelley, K., Clark, B., Brown, V. & Sitzia, J. 2003. Good practice in the conduct and reporting of survey research. *International Journal for Quality in Health Care*, 15(3):261-266.
- Kempson, E., Collard, S. & Moore, N. 2006. Measuring financial capability: An exploratory study for the Financial Services Authority. *Consumer Financial Capability: Empowering European Consumers*, 39.
- Kim, J. 2001. Financial knowledge and subjective and objective financial well-being. *Consumer Interests Annual*, 47:1-3.
- Kimball, M. & Shumway, T. 2006. Investor sophistication, and the participation, home bias, diversification, and employer stock puzzles. *Unpublished Manuscript, University of Michigan*.
- Kirsch, I.S. & Kolstad, A.J. 2001. *Technical report and data file user's manual for the 1992 National Adult Literacy Survey*. US Department of Education, Office of Educational Research and Improvement, National Center for Education Statistics.
- Klapper, L., Lusardi, A. & Panos, G.A. 2013. Financial literacy and its consequences: Evidence from Russia during the financial crisis. *Journal of Banking & Finance*, 37(10):3904-3923.

- Kotzé, L. & Smit, A. 2008. Personal finances: What is the possible impact on entrepreneurial activity in South Africa? *Southern African Business Review*, 12(3):156-172.
- Kozup, J. & Hogarth, J.M. 2008. Financial literacy, public policy, and consumers' self-protection—More questions, fewer answers. *Journal of Consumer Affairs*, 42(2):127-136.
- Li, G. 2014. Information sharing and stock market participation: evidence from extended families. *Review of Economics and Statistics*, 96(1):151-160.
- Lincoln, Y.S., Lynham, S.A. & Guba, E.G. 2011. Paradigmatic controversies, contradictions, and emerging confluences revisited. *The Sage handbook of qualitative research*, 4:97-128.
- Louw, J., Fouche, J. & Oberholzer, M. 2013. Financial Literacy Needs Of South African Third-Year University Students. *International Business & Economics Research Journal (IBER)*, 12(4):439-450.
- Lucey, T.A. 2007. The art of relating moral education to financial education: An equity imperative. *Social Studies Research and Practice*, 2(3):484-498.
- Lusardi, A. 2004. Saving and the effectiveness of financial education. *Pension design and structure: New lessons from behavioral finance*:157-184.
- Lusardi, A. 2008. *Household saving behavior: The role of financial literacy, information, and financial education programs*.
- Lusardi, A. 2011. *Americans' financial capability*.
- Lusardi, A. & Mitchell, O.S. 2006. *Financial literacy and planning: Implications for retirement wellbeing*.
- Lusardi, A. & Mitchell, O.S. 2008. *Planning and financial literacy: How do women fare?*
- Lusardi, A. & Mitchell, O.S. 2009a. *Financial literacy, retirement planning, and retirement wellbeing: Lessons and research gaps*.
- Lusardi, A. & Mitchell, O.S. 2009b. *How ordinary consumers make complex economic decisions: Financial literacy and retirement readiness*.
- Lusardi, A. & Mitchell, O.S. 2011a. Financial literacy around the world: an overview. *Journal of Pension Economics and Finance*, 10(04):497-508.
- Lusardi, A. & Mitchell, O.S. 2011b. *Financial literacy and planning: Implications for retirement wellbeing*.
- Lusardi, A. & Mitchell, O.S. 2011c. *The outlook for financial literacy*.
- Lusardi, A. & Mitchell, O.S. 2013. *The economic importance of financial literacy: Theory and evidence*.
- Lusardi, A., Mitchell, O.S. & Curto, V. 2010. Financial literacy among the young. *Journal of Consumer Affairs*, 44(2):358-380.

- Lusardi, A., Schneider, D.J. & Tufano, P. 2011. *Financially fragile households: Evidence and implications*.
- Lyons, A.C., Rachlis, M. & Scherpf, E. 2007. What's in a score? Differences in consumers' credit knowledge using OLS and quantile regressions. *Journal of Consumer Affairs*, 41(2):223-249.
- Mahdavi, M. & Horton, N.J. 2014. Financial knowledge among educated women: Room for improvement. *Journal of Consumer Affairs*.
- Mandell, L. 2004. Financial literacy: Are we improving? Results of the 2004 national Jump\$tart Coalition survey.
- Mandell, L. & Klein, L.S. 2007. Motivation and financial literacy. *Financial Services Review*, 16(2):105.
- Manyama, M.M. 2010. Instilling a culture of saving in South Africa.
- Markow, D. & Bagnaschi, K. 2005. What American teens & adults know about economics. *National Council on Economic Education*.
- McBrien, B. 2008. Evidence-based care: Enhancing the rigour of a qualitative study. *British Journal of Nursing*, 17(20):1286-1289.
- Modigliani, F. & Brumberg, R. 1979. Utility analysis and aggregate consumption functions: An attempt at integration. *i A. Abel (red.), The collected papers of Franco Modigliani*, 2.
- Moore, D.L. 2003. *Survey of financial literacy in Washington State: Knowledge, behavior, attitudes, and experiences*. Washington State Department of Financial Institutions.
- NDP. 2011. *National Planning Commission: National Development Plan*. [Online] Available from:[http://uscdn.creamermedia.co.za/assets/articles/attachments/36224\\_npc\\_national\\_development\\_plan\\_vision\\_2030\\_-lo-res.pdf](http://uscdn.creamermedia.co.za/assets/articles/attachments/36224_npc_national_development_plan_vision_2030_-lo-res.pdf) [Downloaded: 2011-11-13].
- Noctor, M., Stoney, S. & Stradling, R. 1992. Financial literacy: a discussion of concepts and competences of financial literacy and opportunities for its introduction into young people's learning. *National Foundation for Educational Research*.
- Odhiambo, N.M. 2007. The determinants of savings in South Africa: An empirical investigation. *African Finance Journal*, 9(2):37-52.
- Ormrod, J.E. & Leedy, P. 2014. *Practical Research: Planning and Design*. Harlow, Essex.
- Oseifuah, E.K. 2010. Financial literacy and youth entrepreneurship in South Africa. *African Journal of Economic and Management Studies*, 1(2):164-182.
- Pallant, J. 2011. *SPSS survival manual: a step by step guide to data analysis using SPSS*. Australia: Allen & Unwin.
- Ponterotto, J.G. 2005. Qualitative research in counseling psychology: A primer on research paradigms and philosophy of science. *Journal of Counseling Psychology*, 52(2):126.

Potts, J. 2013. *Financial literacy in retirement planning*.

RMR. 2003. *Ray Morgan Research. AZN Survey of Adult Financial Literacy in Australia: Final Report*. Research, R.M. [Online] Available from: <http://www.financialliteracy.gov.au/media/465156/anz-survey-of-adult-financial-literacy-2003.pdf> [Downloaded: 2014-11-12].

Rushton, J.P. & Skuy, M. 2001. Performance on Raven's Matrices by African and White university students in South Africa. *Intelligence*, 28(4):251-265.

SARB. 2014. *Quarterly Bulletin – September 2014*. [Online] Available from: <https://www.resbank.co.za/Publications/DetailItemView/Pages/Publications.aspx?sarbweb=3b6aa07d92ab441fb7bfb7dfb1bedb4&sarblast=21b5222e71254e55bb6556fd3333371e&sarbitem=6403> [Accessed: 22/10/2014].

Saunders, M., Lewis, P. & Thornhill, A. 2009. *Research Methods for business student*. 5th ed. Harlow Essex: Pearson Education.

Schiirz, M. 2006. 6. Financial education for the poor in the United States. *The Political Economy of Financial Market Regulation*:140.

Senior, P.A. & Bhopal, R. 1994. Ethnicity as a variable in epidemiological research. *BMJ: British Medical Journal*, 309(6950):327.

Servon, L.J. & Kaestner, R. 2008. Consumer Financial literacy and the impact of online banking on the financial behavior of lower-income bank customers. *Journal of Consumer Affairs*, 42(2):271-305.

Shambare, R. & Rugimbana, R. 2012. Financial literacy among the educated: An exploratory study of selected university students in South Africa. *Thunderbird International Business Review*, 54(4):581-590.

StatsSA. 2014. *Statistics South Africa: Mid-year population estimates*. [Online] Available from: <http://beta2.statssa.gov.za/publications/P0302/P03022014.pdf> [Downloaded: 2015-01-26].

Stewart, S. 2003. Casting the net: Using the internet for survey research. *British Journal of Midwifery*, 11(9):543-546.

Stone, D.N., Wier, B. & Bryant, S.M. 2008. Reducing materialism through financial literacy. *The CPA Journal*, 78(2):12-14.

Struwig, J., Roberts, B. & Gordon, S. 2013. *Financial literacy in South Africa*.

Suiter, M. & Meszaros, B. 2005. Teaching about saving and investing in the elementary and middle school grades. *Social Education*, 69(2):92-95.

Symanowitz, C.D. 2006. *The relationship between financial literacy, economic measures and delayed gratification in South African high school learners*. Institute of Business Science, University of Pretoria.

- Tustin, D.H. 2010. An impact assessment of a prototype financial literacy flagship programme in a rural South African setting. *African Journal of Business Management*, 4(9):1894-1902.
- Van Rooij, M.C., Lusardi, A. & Alessie, R.J. 2011a. Financial literacy and retirement planning in the Netherlands. *Journal of Economic Psychology*, 32(4):593-608.
- Van Rooij, M., Lusardi, A. & Alessie, R.J. 2011b. Financial literacy and stock market participation. *Journal of Financial Economics*, 101(2):449-472.
- Van Rooij, M.C., Lusardi, A. & Alessie, R.J. 2012. Financial literacy, retirement planning and household wealth. *The Economic Journal*, 122(560):449-478.
- Vitt, L.A., Anderson, C., Kent, J., Lyter, D.M., Siegenthaler, J.K. & Ward, J. 2000. Personal finance and the rush to competence: Personal financial literacy in the US. *The Fannie Mae Foundation*.
- Wagner, C., Kawulich, B.B. & Garner, M. 2012. *Doing Social Research: A Global Context*. McGraw-Hill Higher Education.
- Williams, T. 2007. Empowerment of whom and for what? Financial literacy education and the new regulation of consumer financial services. *Law & Policy*, 29(2):226-256.
- Willis, L.E. 2008. Against financial-literacy education. *Iowa L. Rev.*, 94:197.
- Worthington, A.C. 2006. *Predicting financial literacy in Australia*.
- Xu, L. & Zia, B. 2013. Financial literacy in the developing world.
- Yang, D.T., Zhang, J. & Zhou, S. 2011. *Why are saving rates so high in China?*
- Yoong, J. 2011. Financial illiteracy and stock market participation: Evidence from the Rand American Life Panel. *Financial literacy: Implications for retirement security and the financial marketplace*:76-97.

## **APPENDICES**

### **APPENDIX A**

See the questionnaire attached from Qualtrics.

## Q0\_1 Dear Respondent

You are invited to participate in an academic research study conducted by Matwale Reon Matemane, a Master's student from the Department of Financial Management at the University of Pretoria. The purpose of the study is to assess the level of financial literacy amongst South Africans with a post-matric qualification. The study will further examine the saving habits of South African citizens with a view to determining whether there is a connection between the levels of financial literacy and saving habits. Please note the following: This study involves an anonymous survey. Your name will not appear on the questionnaire, and the answers you give will be treated as strictly confidential. You cannot be identified in person based on the answers you give. Your participation in this study is very important to us. You may, however, choose not to participate, and you may also stop participating at any time without any negative consequences. Please answer the questions in the attached questionnaire as completely and honestly as possible. This should take you between 10 and 15 minutes. The results of the study will be used for academic purposes only and may be published in an academic journal. We will provide you with a summary of our findings on request. Please select yes or no to indicate whether you want to proceed with the survey. By selecting yes, you confirm that you have understood the above terms and conditions and give your consent to participate in the study.

- Yes
- No

If No Is Selected, Then Skip To End of Survey

## Q1 What is your highest qualification?

- Matric or below matric
- Post-matric certificate
- National diploma
- Postgraduate diploma
- Undergraduate degree
- Honours degree
- Master's degree
- Doctorate/PhD

If Matric Is Selected, Then Skip To End of Survey

Q2 Are you a South African citizen?

- Yes
- No

If Non-South African Is Selected, Then Skip To End of Survey

Q3 Do you work and/or live in Gauteng province?

- Yes
- No

If No Is Selected, Then Skip To End of Survey

Q4 What is the field of study for your highest qualification stated above?

- Economic and Management Sciences (Commerce)
- Education
- Engineering (including Built Environment and IT)
- Health Sciences
- Law
- Natural and Agricultural Sciences
- Theology
- Veterinary Science
- Other – please specify: \_\_\_\_\_

Q5 Please indicate your gender

- Male
- Female

Q6 What is your place of origin?

- Formal urban area
- Informal urban area (informal urban area is also known as “skwatta camps” or informal settlements)
- Rural area

Q7 What is your population group?

- Black
- Coloured
- Indian
- White
- Other – please specify: \_\_\_\_\_

Q8 What is your age (in years, e.g. 25)?

Q9 What is your current employment status (select the options that are applicable to you)?

- Full-time employee
- Part-time employee
- Unemployed
- Retired
- Self-employed full time
- Self-employed part time
- Other – please specify: \_\_\_\_\_

Q10 The following question will help us greatly in understanding your saving habits in relation to your earnings. What is your current monthly take-home earnings (“take home” after deductions) from your salary and/or other sources?

- Less than R10 000
- R10 000-R29 999
- R30 000-R49 999
- R50 000 or more

Q11 What is your marital status?

- Single
- Married/Civil partnership
- In a long-term relationship
- Widowed
- Separated
- Divorced

Q12 What is your mother’s highest educational qualification level?

- No formal education
- Some primary school
- Primary school completed
- Some secondary school
- Grade 12/matric
- Post-matric certificate
- National diploma
- Postgraduate diploma
- Undergraduate degree
- Honours degree
- Master’s degree
- Doctorate/PhD
- Do not know

Q13 What is your father's highest educational qualification level?

- No formal education
- Some primary school
- Primary school completed
- Some high school
- Grade 12/matric
- Post-matric certificate
- National diploma
- Postgraduate diploma
- Undergraduate degree
- Honours degree
- Master's degree
- Doctorate/PhD
- Do not know

Q14 What is your home language?

- Afrikaans
- English
- Ndebele
- Northern Sotho
- Sotho
- Swazi
- Tsonga
- Tswana
- Venda
- Xhosa
- Zulu
- Other – please specify: \_\_\_\_\_

Q15 Please do not use a calculator for all the questions on this page. If you do not know the answer to a particular question on this page, please do not guess and rather select “Do not know” option. Suppose you had R100 in a savings account and interest rate was 2 per cent per year. After 5 years, how much do you think you would have in the account if you left the money to grow?

- More than R102**
- Exactly R102
- Less than R102
- Do not know

Q16 Suppose you had R100 in a savings account and the interest rate was 20 per cent per year and you never withdraw money or interest payments. After 5 years, how much would you have on this account in total?

- More than R200**
- Exactly R200
- Less than R200
- Do not know

Q17 Imagine that the interest rate on your savings account was 1 percent per year and inflation was 2 per cent per year. After 1 year, how much would you be able to buy with the money in this account?

- More than today
- Exactly the same
- Less than today**
- Do not know

Q18 Assume a friend inherits R10 000 today, and his sibling inherits R10 000 three years from now. Who is richer because of the inheritance?

- My friend**
- His sibling
- They are equally rich
- Do not know

Q19 Suppose that in the year 2016 your income has doubled and prices of all goods have doubled too. In 2016, how much will you be able to buy with your income?

- More than today
- The same**
- Less than today
- Do not know

Q20 Which of the following statements describes the main function of the equity market?

- The equity market helps to predict shares' earnings
- The equity market results in an increase in the price of shares
- The equity market brings people who want to buy shares together with those who want to sell shares**
- None of the above
- Do not know

Q21 Which of the following statements is correct? If somebody buys the shares of firm B in the equity market:

- He owns part of firm B**
- He has lent money to firm B
- He is liable for firm B's debts
- None of the above
- Do not know

Q22 Which of the following statement is correct?

- Once one invests in a unit trust, one cannot withdraw the money in the first year
- Unit trusts can invest in several assets, for example, invest in both shares and bonds**
- Unit trusts pay a guaranteed rate of return which depends on their past performance
- None of the above
- Do not know

Q23 Which of the following statements is correct? If somebody buys a bond of firm B:

- He owns part of firm B
- He has lent money to firm B**
- He is liable for firm B's debts
- None of the above
- Do not know

Q24 Considering a long-term period (for example, 10 or 20 years), which asset normally gives the highest return?

- Savings account
- Bonds
- Shares**
- Do not know

Q25 Normally, which asset displays the highest fluctuations over time?

- Savings accounts
- Bonds
- Shares**
- Do not know

Q26 When an investor spreads his money among different assets, the risk of losing money:

- Increase
- Decrease**
- Stay the same
- Do not know

Q27 If you buy a 10-year bond, it means you cannot sell it after 5 years without incurring a major penalty. True or false?

- True**
- False
- Do not know

Q28 Shares are normally riskier than bonds. True or false?

- True**
- False
- Do not know

Q29 Buying a company's shares usually provides a safer return than a unit trust. True or false?

- True
- False**
- Do not know

Q30 If the interest rate falls, what should happen to bond prices?

- Rise
- Fall
- Stay the same
- None of the above
- Do not know

Q31 There are several ways in which you can hold savings. For example, one can hold cash, use bank accounts, have life insurance, hold unit trust, etc. Please indicate if you have savings or not.

- I have savings
- I do not have savings

Q32 Have you set aside emergency or rainy day funds that would cover your expenses for 3 months, in case of sickness, job loss, economic downturn, or other emergencies?

- Yes
- No

Q33 There are several ways in which you can hold savings. For example, one can hold cash, use bank accounts, have life insurance, hold unit trusts, etc. Please take a look at the following saving instruments and select the ones you are using (you may choose more than one)

- Cash
- Savings account
- Shares (unit trust, online share trading, empowerment shares, etc.)
- Bonds (e.g. RSA retail savings bonds)
- Stokvel
- Life insurance
- Pension funds
- Other – please specify: \_\_\_\_\_

Q34 Please indicate your level of agreement with each of the following statements:

	Completely agree	Agree	Neither Nor	Disagree	Completely disagree	Do not know
I find it more satisfying to spend money than to save it for the long term.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I tend to live for today and let tomorrow take care of itself.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am prepared to risk some of my own money when saving or making an investment.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Money is there to be spent.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q35 During the past 12 months, did you...?

- ...save money from your income
- ...just get by on your income
- ...spend some of your savings
- ...spend some of your savings and borrow money to get by

## APPENDIX B



UNIVERSITEIT VAN PRETORIA  
UNIVERSITY OF PRETORIA  
YUNIBESITHI YA PRETORIA

Faculty of Economic and  
Management Sciences

### Informed consent for participation in an academic research study

#### Dept. of Financial Management

#### THE RELATIONSHIP BETWEEN FINANCIAL LITERACY AND SAVING HABITS: AN ANALYSIS OF BLACK SOUTH AFRICANS WITH COMMERCIAL TERTIARY EDUCATION

Research conducted by:

Mr M.R. Matemane (20297166)  
Cell: 071 169 9485

Dear Respondent

You are invited to participate in an academic research study conducted by Matwale Reon Matemane, a Master's student from the Department of Financial Management at the University of Pretoria.

The purpose of the study is to assess the level of financial literacy amongst Black South Africans with a commercial tertiary qualification. The study will further examine the saving habits of this group of South African citizens with a view of determining whether there is a connection between the levels of financial literacy and the saving habits.

Please note the following:

- This study involves an anonymous survey. Your name will not appear on the questionnaire, and the answers you give will be treated as strictly confidential. You cannot be identified in person based on the answers you give.
- Your participation in this study is very important to us. You may, however, choose not to participate, and you may also stop participating at any time without any negative consequences.
- Please answer the questions in the attached questionnaire as completely and honestly as possible. This should not take more than 15 minutes of your time.
- The results of the study will be used for academic purposes only and may be published in an academic journal. We will provide you with a summary of our findings on request.
- Please contact my supervisor, Ms M Dowelani, Tel: (012) 420 3345, email: musid.dowelani@up.ac.za if you have any questions or comments regarding the study.

Please sign the form to indicate that

- you have read and understood the information provided above; and
- you give your consent to participate in the study on a voluntary basis.

---

Respondent's signature

---

Date

## APPENDIX C

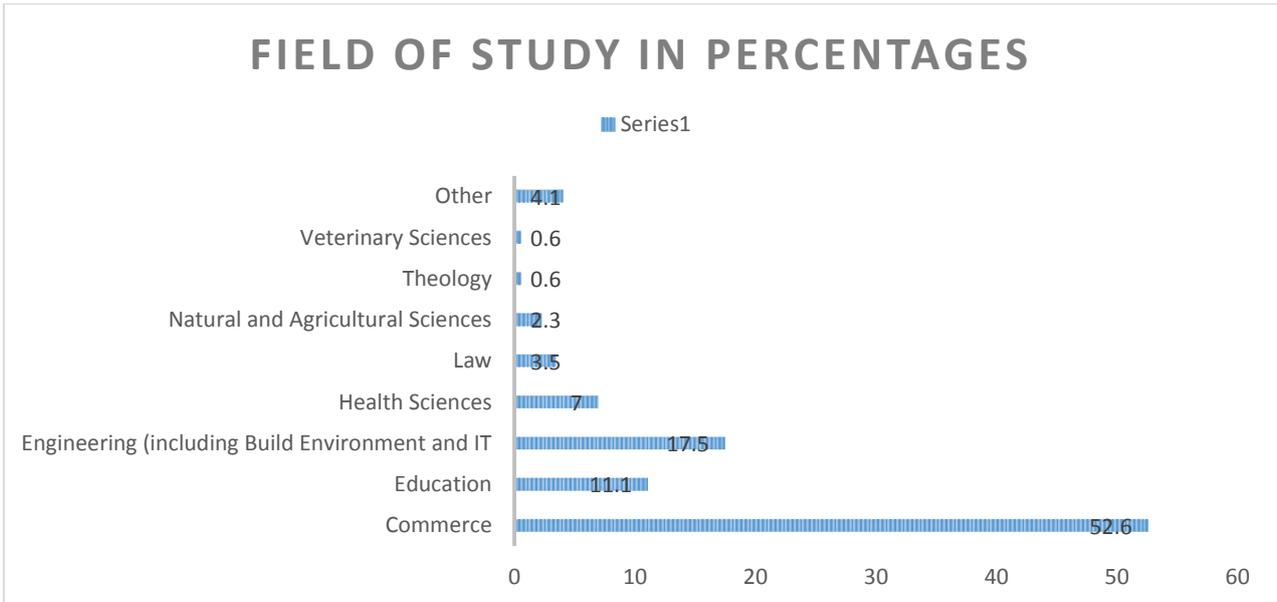
### **Descriptive analysis of the sample in terms of how the respondents answered the questions**

The key aspects of socio-demographic information that was obtained from the respondents include field of study, gender, place of origin, population group, age, employment status, monthly earnings, marital status, parental educational level and home language. Saving patterns of the sample are also discussed in terms of whether or not the respondents have savings.

#### ***Field of study***

Out of 171 respondents, most, 90 or 52.6% were those whose field of study is commerce, followed by those who are in health sciences, which comprised 30 respondents or 17.5% of the total sample. In each of the nine fields of study specified, there was at least a respondent, which indicates that the sample was at least representative of all the possible fields of study. The field that had the least respondents is that of theology, with one respondent or 0.06% of the sample. The same number and percentage of respondents was obtained from veterinary science.

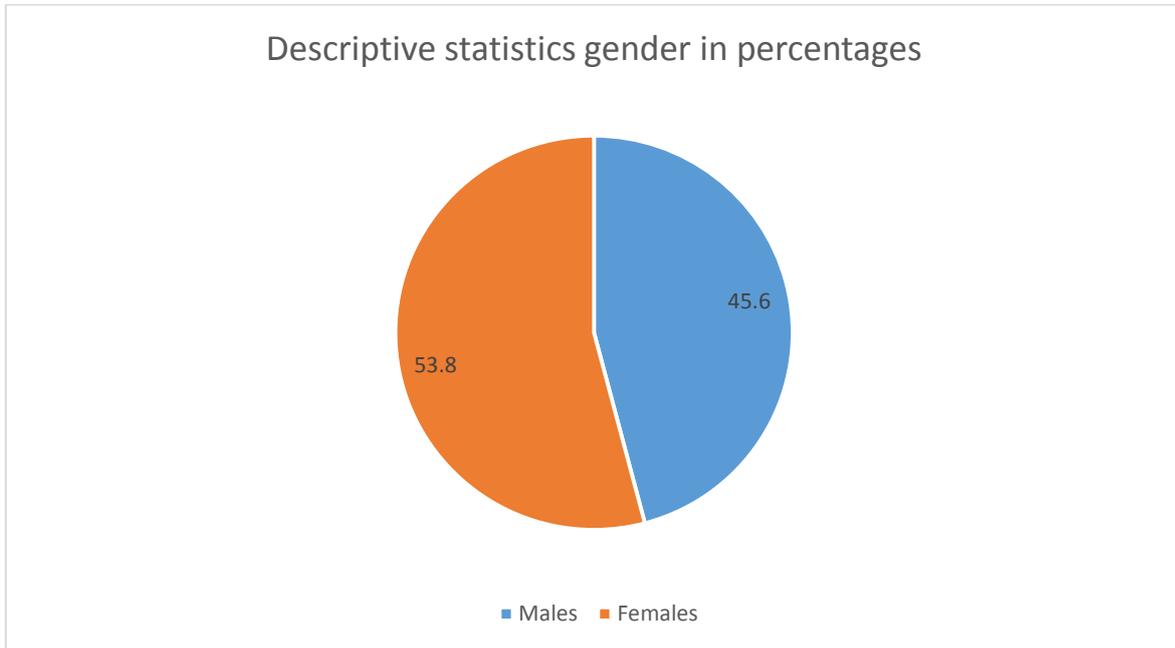
The figure that follows summarises the distribution of the sample in terms of field of study.



#### Descriptive analysis field of study in percentage

From the figure above, it shows that at least all the fields of studies have been covered in the sample, although some are not adequately represented such as theology and veterinary science, which contribute 0.6% each. This is attributable to the limitations of purposive sampling in that the survey could have only been sent to only those that were within reach. The total percentages added up to 99.4% due to the missing values.

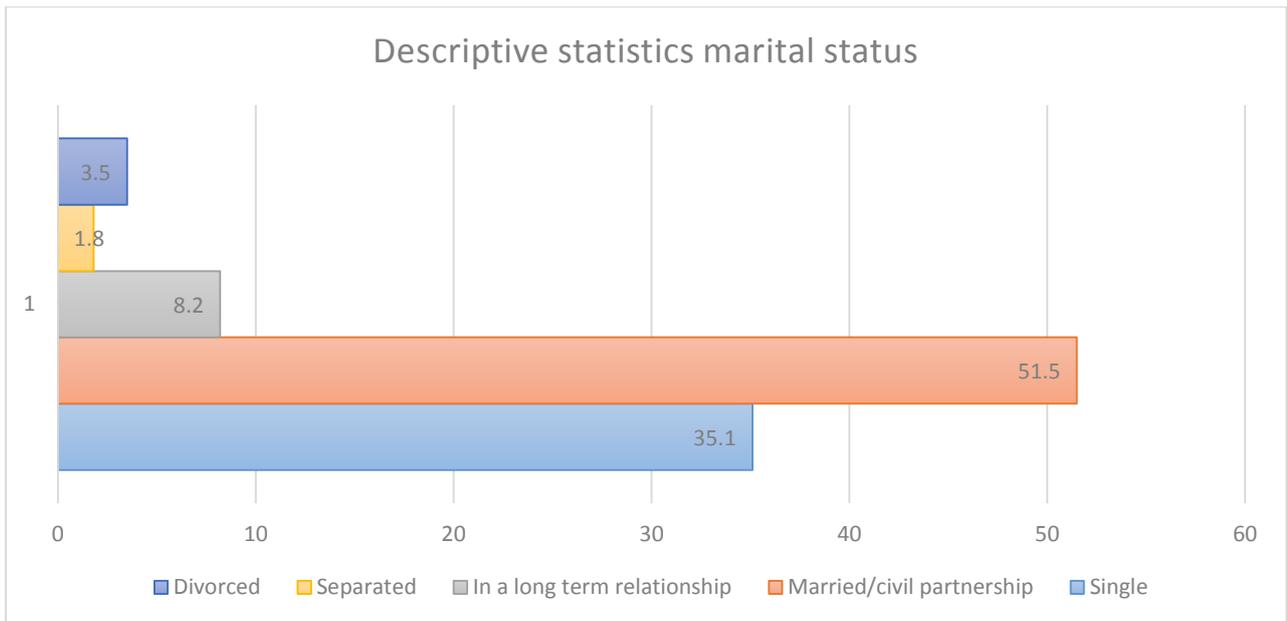
## Gender, marital status and age



### Descriptive statistics: gender in percentage

The figure above reveals that 53.8% of the respondents were males, 45.6% represent females, and 0.6% represent the missing values or the respondents who did not fill out their gender. The comparison between the gender groups will help to confirm or refute some of the previous studies that suggested a correlation between financial literacy and gender.

Question 11 asked the respondents about marital status. The distribution of different marital statuses is illustrated in the figure that follows.

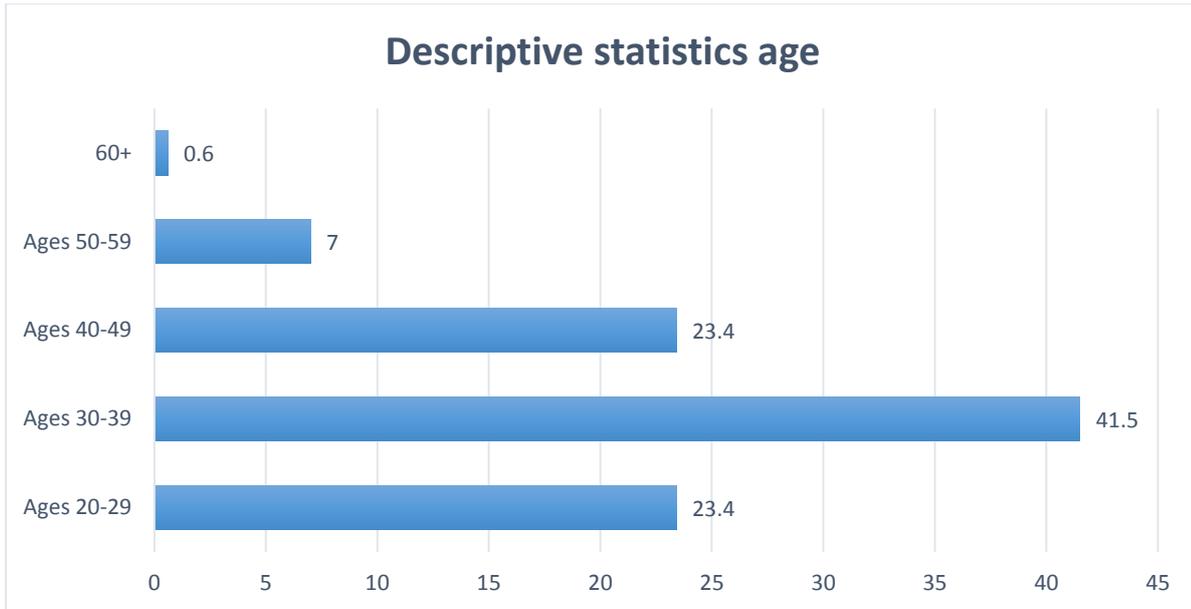


**Descriptive statistics: marital status in percentage**

As illustrated in the figure above, the majority, 51.5% of the respondents, are either married or in a civil relationship.

There are no respondents who are widowed, which can be attributable to the fact that the ages of the respondents range from 20 to 62, with a higher concentration in the ages between 30 and 39, which can be deemed to be a younger generation.

The age distribution of the sample is shown in the next figure.



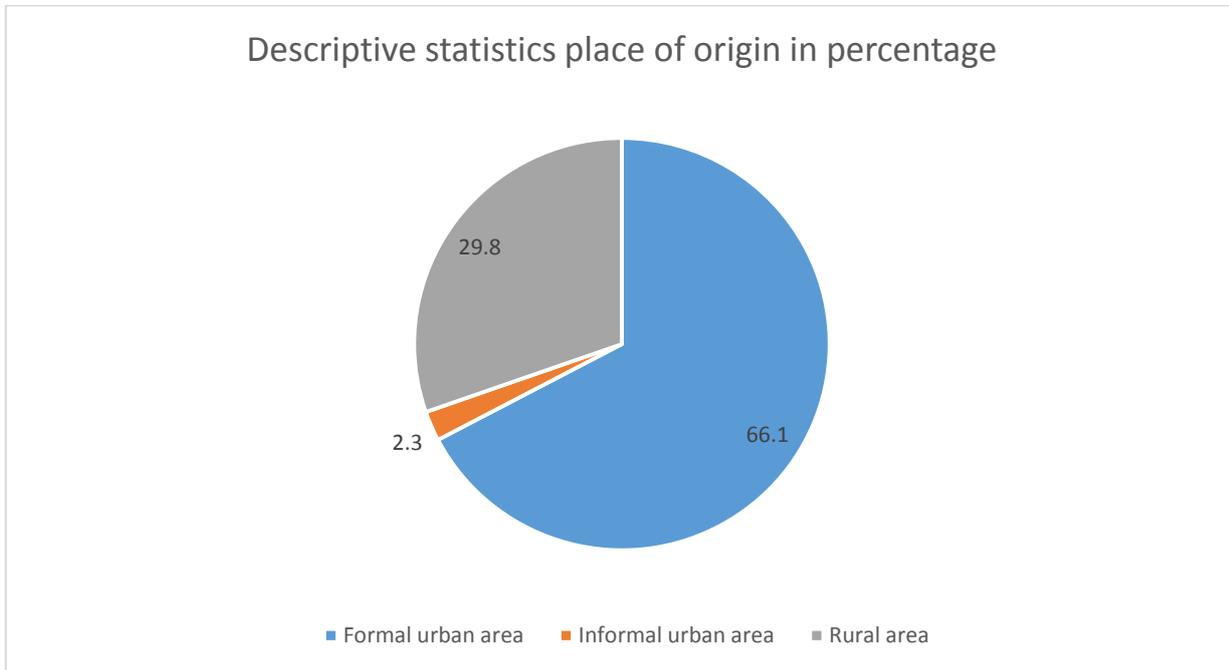
**Descriptive statistics age in percentage**

The majority of the respondents are in the age categories between 30 and 39. Thus, the majority of the respondents are the young generation.

***Place of origin, parents’ highest level of qualification and home language***

Place of origin, parental educational level and home language are important factors that can influence one’s level of financial literacy. This is the background information discussed in literature review passages and has been proved to have an effect on how one fares in financial literacy as defined. The sample distribution based on the above factors is highlighted in the figure that follows.

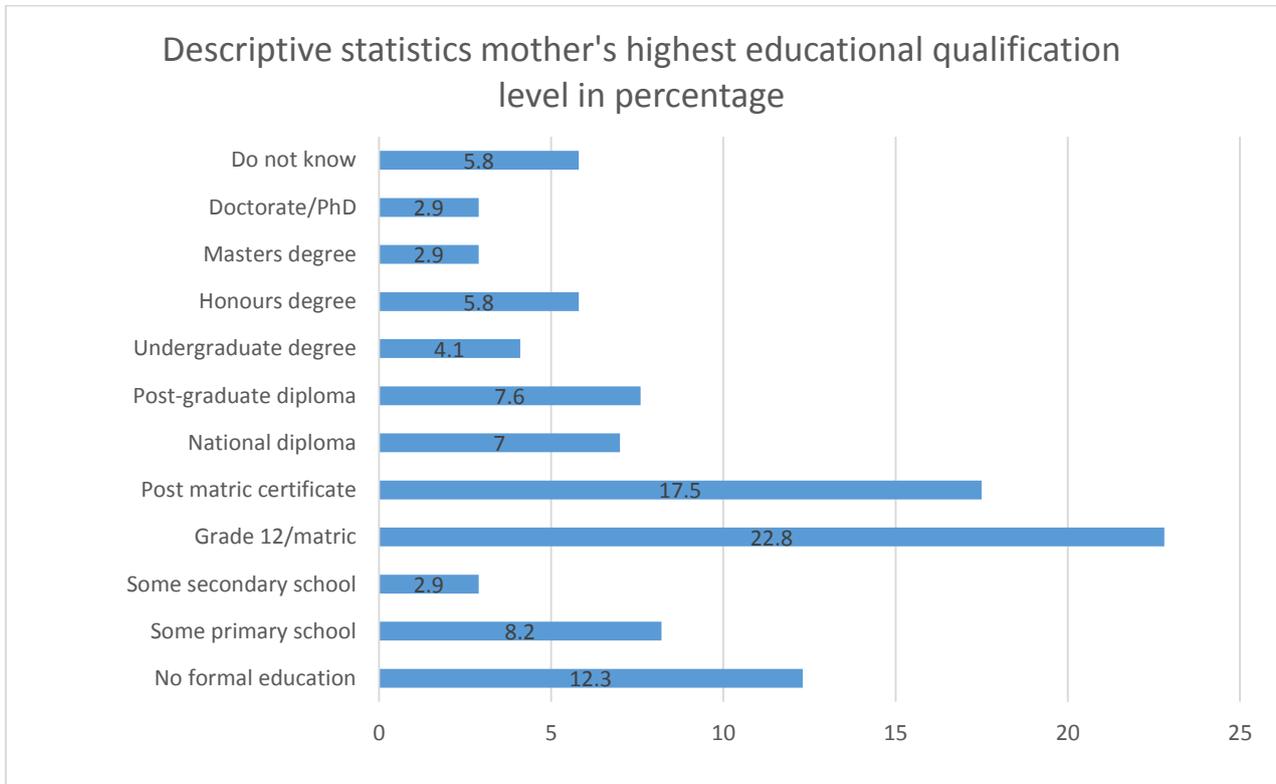
Place of origin is shown below in terms of the percentage of the respondents making up the sample.



#### **Descriptive statistics: place of origin in percentage**

Based on the above figure, a significant percentage of the sample was those who have their place of origin in a formal urban area. This is likely attributable to the fact that the study is focused on people working and/or living in P&J, and thus, the majority originated from these metros. Based on the literature, one would expect this group of people to possess a high level of financial literacy. A very small percentage, 2.3% of the sample, comes from informal urban area, whilst 29.8% are from rural areas, probably outside Gauteng, which demonstrates a high level of urbanisation because most rural areas are in other provinces such as Limpopo, KwaZulu-Natal, Eastern Cape and similar provinces far from P&J, where the study is mainly focusing at.

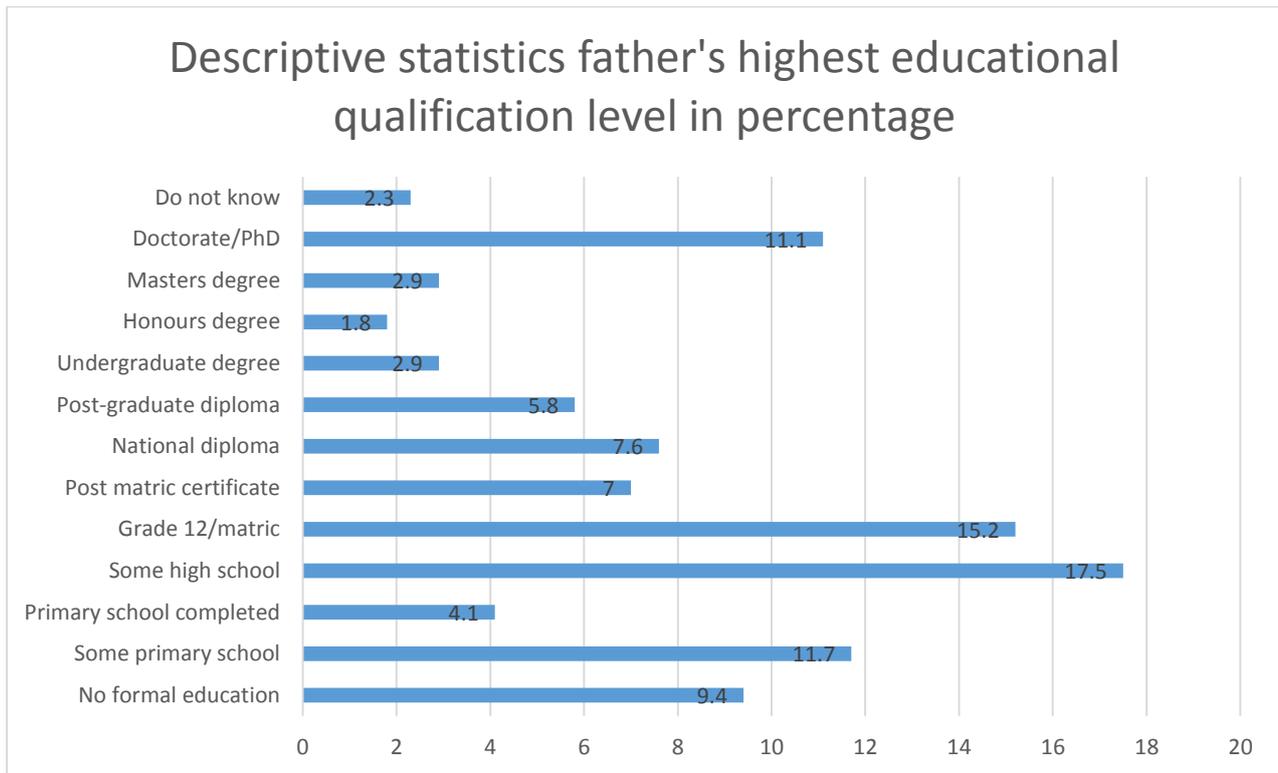
The bar chart below shows the mother's highest educational level of the respondents in percentages.



**Descriptive statistics: mother's highest level of education**

As per the figure above, many of the respondents' parents have grade 12/matric as their highest qualification.

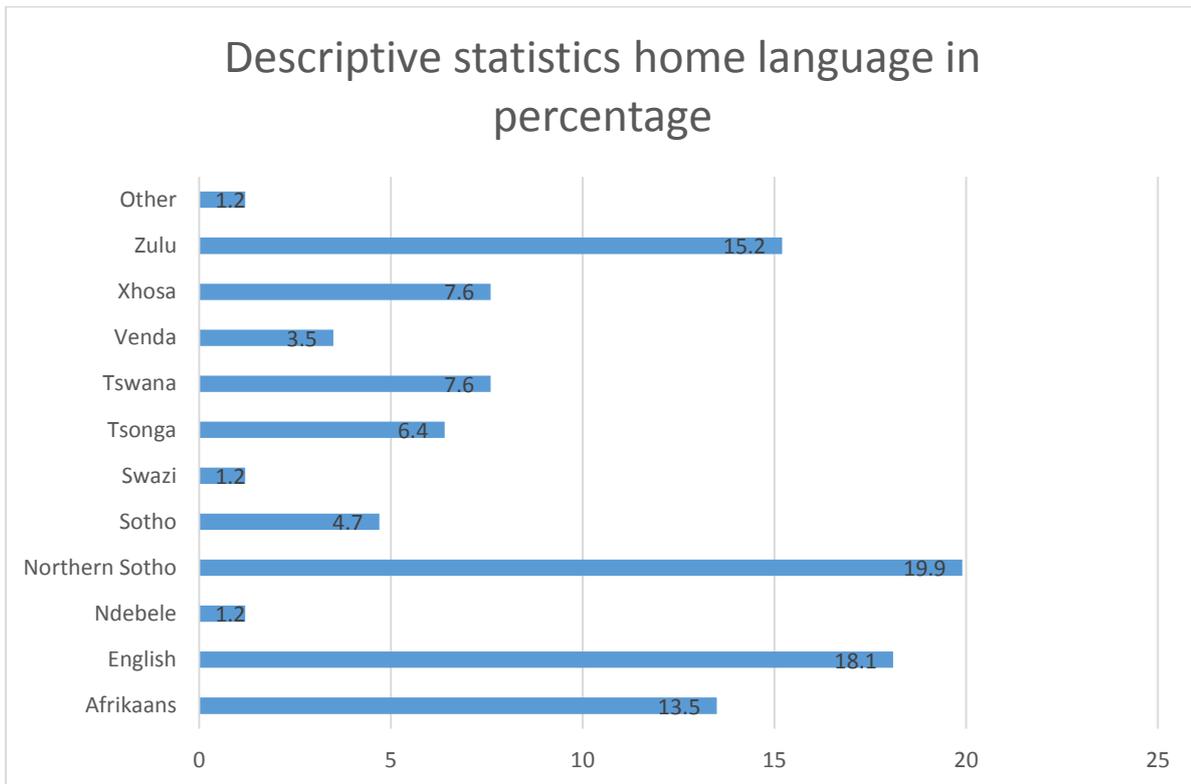
## Father's highest educational level



### Descriptive statistics: father's educational level in percentage

Based on the figure, fathers appear to be more educated in general than the mothers of the respondents. The respondents' fathers who have a doctorate/PhD are 11.1% compared to only 2.9% of the mothers. This is further confirmed by the higher percentage, 12.3%, of respondents' mothers who have no formal education compared to only 9.4% of the respondents' fathers. This is in line with literature where women have been found to be less educated and less financially literate than men.

## Home language



### Descriptive statistics: home language in percentage

The figure above shows that most of the respondents' home language is Northern Sotho, making up 19.9% of the total sample, followed by English and Zulu, with 18.1% and 15.2% respectively. Afrikaans also forms a significant percentage of the sample at 13.5%. All the languages have representation in the sample. This should assist in confirming or refuting literature where home language was used as a proxy for ethnicity, and some relationship has been proved to exist between language and a level of financial literacy.