THE RELATIONSHIP BETWEEN RETIREMENT PLANNING AND FINANCIAL ADVICE IN SOUTH AFRICA

Mini-dissertation by

Kedibone Hlabati

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 Katlego Kekana

November 2020

ACKNOWLEDGEMENTS

"I can do all things through Christ who strengthens me." – Philippians 4:13

I would like to express my gratitude and appreciation from the bottom of my heart to everyone who made achieving this milestone in my life possible.

Specifically, I would like to thank:

- The almighty God for always holding my hand throughout this journey.
- Prof Elda du Toit for all her guidance and input throughout the completion of this degree.
- My supervisor Katlego Kekana who helped me achieve this milestone through her guidance and advice.
- The love of my life, my great husband Obakeng Motsepe, for the love and support he gave to help me complete this study.
- My son Kgosientle Motsepe, who is the source of my strength and the reason I was inspired to complete this study.
- My other family members (the Hlabati and Motsepe families) and friends who supported me with their assistance whenever I needed it to ensure I was able to complete this study.

"For nothing is impossible with GOD" – Luke 1:37

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. 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.

Kedibone Hlabati	30 November 2020
Signature	Date

ABSTRACT

Purpose: Retirement planning has been declining rapidly all over the world due to the shift of self-funding mechanisms, such as moving from a Defined Benefit (DB) plan to the Defined Contribution (DC) plan, where individuals are required to manage their own financial wealth. Due to this rapid shift, there has been an increase in demand for financial advisors to assist individuals with decision-making and explain complex financial concepts with the perception of guiding households to build their retirement wealth.

The aim of the study is to examine the relationship between retirement planning and financial advice as a predictor for retirement adequacy to determine if the latter will have any influence in helping South Africans be financially independent when they retire.

This study was compelled by the fact that no or limited prior studies have been conducted in the South African context on the relationship between financial advice and retirement planning.

Design/methodology/approach: In order to investigate the relationship and influence of financial advice on retirement planning, a South African Social Attitudes Survey that was conducted in 2011 by the Human Sciences Research Council was used.

The chi-square and the logistic regression statistical techniques were applied to test the study hypotheses using the data from the survey. The following hypotheses were included:

H0: There is no relationship between retirement planning and financial advice.

H1: There is a relationship between retirement planning and financial advice.

H0: There is no relationship between socio-demographics and retirement planning.

H2: There is a relationship between socio-demographics and retirement planning.

H0: There is no relationship between socio-demographics and financial advice.

H3: There is a relationship between socio-demographics and financial advice.

Findings: The results indicate that there is a positive relationship between retirement planning and financial advice. The more individuals seek financial advice the more they tend to adequately plan for retirement.

Practical implications: In view of the strong relationship between the two variables, employers, government and institutions should prioritise making financial advice an essential part of retirement planning for employees.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

LIST OF ABBREVIATIONS

Abbreviation	Meaning
CFA	Chartered Financial Analyst
CPF	Certified Financial Planner
DB plans	Defined benefits plans
DC plans	Defined Contribution plans
EAs	Enumeration Areas
FAIS	Financial Advisory and Intermediary Services
FCA	Financial Conduct Authority
FSA	Financial Services Authority
FSP's	Financial Services Providers
GDP	Gross Domestic Product
HSRC	Human Sciences Research Council
INFE	International Network on Financial Education
LCH	Life-Cycle Hypothesis Theory
OECD	Organisation for Economic Cooperation and Development
OLS	Ordinary Least Square
PIH	Permanent Income Hypothesis Theory

Abbreviation	Meaning
SA	South Africa
SASAS	South African Social Attitudes Survey
SPSS	Statistical Package for the Social Sciences
UK	United Kingdom
USA	United States of America

LIST OF DEFINITIONS

Economically active population	"Economically active population comprises all persons of either sex who furnish the supply of labour for the production of economic goods and services as defined by the United Nations System of National Accounts during a specified time-reference period" (OECD, 2002).
Financial advice	Financial advice is described as a system of coaching that contributes to the rationality and approach to investment decisions (Montmarquette & Viennot-Briot, 2015).
Financial advisor	Financial advisors provide individuals with assistance for their investments by offering education, decision support, advice and marketing information (Mitchell & Smetters, 2013).
Financial risk tolerance	Financial risk tolerance is "the maximum amount of uncertainty someone is willing to accept when making a financial decision" (Grable, 2000, p. 625).
Principal-agency relationship	"The principal-agent relationship is administered by an agreement describing what the agent will perform and what the principal will do in return" (Perrow, 1986, p. 224).
Retirement	Retirement as when an individual seeks to depart from a life were one is remunerated to work (Denton & Spencer, 2009).
Retirement confidence levels	Retirement confidence levels are individuals' ability to feel comfortable or trustworthy on the issues of their retirement earnings (Greenwald, Copeland, & VanDerhei, 2017).

Retirement planning	Retirement planning includes all the contributions, benefits, activities and actions that would make an individual financially independent after they cease to work (Petkoska & Earl, 2009).
Risk profiler	Werner and Sjoberg (2016) described a risk profiler as a questionnaire that evaluates the risk ability, risk preference and risk perception in a systematic way.
Risk tolerance	Risk tolerance is the readiness to accept a different set of results (Guillemette, Finke, & Gilliam, 2012).
Transitory income	The variance between present income and permanent income (Ting & Kollamparambil, 2015).

CHAPTER 1: INTRODUCTION

1.1 BACKGROUND

Retirement planning is a critical issue all over the world and goes beyond the ordinary savings and investments that an individual can pursue (Ricci & Caratelli, 2017). It is a worldwide phenomenon that deals with strategizing on how an economically active individual will be able to survive with calculated investment savings in the future (Martin & Finke 2014). A retirement plan includes all the contributions, benefits and actions that would make an individual financially independent after they stop working (Petkoska & Earl, 2009). Olsen and Whitman (2007) suggested that in recent years there has been an improved policy focus on retirement savings programmes offered by employers. These savings programmes include the Defined Benefit (DB) plan, where employees will receive an annuity for their lifetime using formula of factors such as years of service and their final salary (Olsen & Whitman, 2007). However, this approach has gradually decreased over the years due to the cost implications it has for organisations (Chatterjee & Zahirovic-Herbert, 2010). This led to an increase in the use of Defined Contribution (DC) plans where the wealth accumulation depends on contributions by the employee and the employer and the performance of the employee's investment (Seay, Kim, & Heckman, 2016). Even though employers may contribute towards the DC plans, the primary responsibility for making provision for sufficient retirement income has been globally diverting from governments, employers, and trade unions to individuals (Martin & Finke 2014). With individuals needing such great accountability to make financial decisions, financial literacy has a very important role in those decisions (Van Rooij, Lusardi, & Alessie, 2012).

As such, the complexity of the financial concepts that employees need to understand and use to make financial decisions led to the predicament of a worldwide concern that individuals are not adequately preparing for their financial independence after they retire (Reyers, 2018). This is very applicable to South Africans who generally have a tendency not to save and are primarily not saving for their retirement (Nkoutchou & Eiselen, 2012).

This predicament makes it very important to understand the factors that contribute to an individual's behaviour to plan for retirement. Petkoska and Earl (2009) indicated that various studies have already centralised an understanding that socio-demographic factors (such as

gender, race, age, marital status, education, occupation, income levels, and number of dependents) may encourage, hinder or influence financial planning for retirement.

Results from those studies indicated that individuals with less income who are under 30 years of age and are less educated are not likely to have long-term savings, especially savings for retirement (Olsen & Whitman, 2007). Chalmers and Reuter (2012) further indicated that individuals who are younger, less educated and paid less usually seek financial advice to help with financial planning as they are likely to be the demographic group that has not planned adequately for retirement. In contrast, a study by Petkoska and Earl (2009) indicated that older individuals who work at a financial institution are more likely to have planned for retirement, regardless of their income, gender and education and this was because of their work environment that exposes then to financial concepts and enables them to make financial decisions.

Another factor that encourages or inhibits retirement planning is financial education. Lusardi and Mitchell (2011b) indicated that financial education is a process where an individual takes the necessary steps, such as gathering financial information, learning, experience or developing skills, to acquire the necessary knowledge to understand financial concepts to make sound financial decisions. Lack of proper financial education and background may lead to poor financial decisions and poor retirement planning (Hastings & Mitchell, 2011). Olsen and Whitman (2007) also noted that lack of fundamental investment knowledge might result in employees engaging in unfavourable investment decisions that may lead to less fortunate events for their retirement planning.

As such, organisations are progressively recognising the importance of providing education in financial planning and financial counselling to improve productivity and enhance employee satisfaction (Joo, Grable, & Choe, 2007). Joo and Pauwels (2002) suggested that when organisations provide financial education it has an optimistic effect on retirement confidence and this influences retirement attitude. However, Olsen and Whitman (2007) argued that although many organisations offer financial education to their employees, a number of studies showed that retirement savings plans are not achieving their primary purpose because about one third of employees do not take part in the programmes. Lusardi and Mitchell (2007) further argued that both organisations and the government have dedicated time to seminars, educational programmes, and retirement planning products in the last few

years, but such efforts had a mixed results on saving patterns because such seminars and programmes are voluntary and employees who attend may have different saving patterns than those who do not.

Despite efforts by organisations and the government, employees' savings continue to be reduced and depleted when they cash out their retirement savings because of changing jobs and lack of sufficient knowledge before making such important decisions (Alexander Forbes, 2019). Hastings and Mitchell (2011) suggested that this is also because people are impatient and cannot persevere for the future; hence, they choose to enjoy their current savings instead of higher returns in the future.

These findings from various studies make it imperative to examine the relationship between retirement planning and the value or the role of financial advice in assisting individuals to properly plan for their retirement. Chatterjee and Zahirovic-Herbert (2010) suggested that a clear way to assist people with their poor financial decisions is using the professional services of financial planners or financial advisors, even though there may be challenges with the affordability or the comfort of using such services. Kramer (2014) maintained the argument by suggesting that in principle the use of financial advisors may amend the effect of lack of knowledge in financial concepts and enhance financial decision-making among individuals, which includes properly planning for retirement.

Financial advisors can provide individuals with assistance for their investments by offering education, decision support, advice and marketing information (Mitchell & Smetters, 2013). As such, individuals with greater responsibility for their own financial circumstances and planning see it as crucial to seek professional financial advice to help with financial decision-making (Gerrans & Hershey, 2017). Seay et al. (2016) further indicated that it is evident from previous studies that consulting financial experts has significant psychological and economic benefits in helping individuals plan for their retirement.

1.2 PROBLEM STATEMENT

10X Investments (2018) conducted a survey and found that only 6% of the South African population will be able to retire and live comfortably. The survey further found that 62% of the respondents are not certain that they will be able to draw an income when they retire, while 41% have no plans for retirement. As such, most South Africans may not be financially

independent after they retire or cannot afford to retire (Sanlam benchmark survey, 2013). Hence, most South Africans are obliged to be economically active past their age of retirement to fulfil their daily needs (Zeka & Matchaba-Hove, 2016). Alternatively, they will be forced to depend on their families, friends and the government grant to sustain them during retirement (Sanlam benchmark survey, 2013). The low levels of retirement provision among South Africans may be caused by the unstable economic conditions of a high unemployment rate, poverty and high inflation rates (Magruder, 2012).

It is evident from various studies that planning for retirement may be very complex for some individuals and may require difficult financial decision that makes understanding and knowledge of financial concepts very important (Van Rooij et al., 2012). Ali and Frank (2019) indicated that due to the rapid change in workforce dynamics there has been a significant diversion to DC plans as a self-funding requirement, which significantly boosted the demand for the financial planning profession and financial advice to assist with the complex financial decisions.

Various scholars examined the predictors of retirement planning to solve the underlying problems of retirement, such as the relationship between retirement planning and financial literacy (Gerrans & Hershey, 2017; Hastings & Mitchell, 2011; Lusardi & Mitchell, 2011a). Other studies examined the relationship between financial literacy and the behaviour of seeking financial advice (Calcagno & Monticone, 2015; Debbich, 2015; Kramer, 2014). However, little research has been conducted into the relationship between seeking financial advice and retirement planning (Seay et al., 2016). Therefore, this study focused on filling this gap and investigating the relationship between retirement planning and financial advice in an emerging context with a specific focus on South Africa in order to understand these two variables and how they influence each another.

1.3 PURPOSE STATEMENT

The main aim of the study is to examine the behavioural and socio-demographic predictors of retirement planning in South Africa and to determine if financial advice has any impact on helping South Africans be financially independent when they retire.

1.4 RESEARCH OBJECTIVES

Strydom (2007) indicated that it is the norm that South Africans do not sufficiently save for retirement because only 6% of South Africans will be able to retire restfully. These statistics have led various scholars to look into the issue of retirement and its predictors to understand the patterns of the relationships between retirement planning and its predictors (Gerrans & Hershey, 2017; Hastings & Mitchell, 2011; Lusardi & Mitchell, 2011a). However, it is evident from former studies that there is still a gap in addressing the relationship between retirement planning and financial advice, especially in a South African context.

Seay et al. (2016) indicated that the rapid change in the funding model for retirement that moved from DB plans to DC plans and the shift of responsibility to manage such funding to the individual has led to the rapid growth of financial planning services. Furthermore, Anderson, Seayb, Kimc, and Lawsond (2018) found that individual interactions with financial advisors result in more prudent retirement planning behaviour and activities. For example, individuals have more calculated financial needs in retirement and develop long-term financial goals and various portfolios for retirement (Anderson et al., 2018). Thus, based on this literature, the following null and alternative hypotheses for the relationship between retirement planning and financial advice were developed:

H0: There is no relationship between retirement planning and financial advice.

H1: There is a relationship between retirement planning and financial advice.

Speelman, Clark-Murphy, and Gerrans (2006) indicated that females tend to be more risk averse than males, hence they tend to save less for retirement. Nkoutchou and Eiselen (2012) found that young individuals do not save over and above their contributions towards their retirement fund. These socio-demographics outcomes led to the following null and alternative hypotheses being developed for the study:

H0: There is no relationship between socio-demographics and retirement planning.

H2: There is a relationship between socio-demographics and retirement planning.

Clark, Fiaschetti, and Gerrans (2015) found that the socio-demographic predictors of financial advice seeking was that older females with large account balances and long experience in the labour force were most likely to seek for advice. In contrast, Finke, Huston,

and Winchester (2011) found that the individuals who usually seek financial advice are younger because they are usually inexperienced with less knowledge, are higher income earners who do not want to risk making incorrect financial decisions, and are financial literate. Thus, these socio-demographic outcomes of financial advice seeking propelled the development of the following null and alternative hypotheses for the study:

H0: There is no relationship between socio-demographics and financial advice.

H3: There is a relationship between socio-demographics and financial advice.

1.5 IMPORTANCE AND BENEFITS OF THE STUDY

There is very few studies on the relationship between retirement planning and financial advice, especially from an emerging market perspective. Thus, the importance of this study lies in understanding the influence financial advice has on retirement planning in South Africa. The importance of the study is explained from an academic, theoretical and practical point of view. These are briefly explained below:

- **From an academic point of view:** The study does new research by reviewing the relationship between retirement planning and financial advice in the South African context, which is a knowledge gap in the academic point of view.
- **From a theoretical point of view:** Various theories were applied in the study to provide more insight into the fundamental theory of retirement planning and financial advice. The life-cycle hypothesis theory (LCH) and the permanent income hypothesis theory (PIH) were applied to give insight into the saving behaviour of individuals in relation to retirement planning. For financial advice, the principal-agency theory and the prospect theory were applied in the study. The principal-agency theory provided insight into the relationship management and expectations of the investor and the agent, and the prospect theory was applied to help analyse why individuals make certain decisions.
- **From a practical point of view:** The study adds to the field of knowledge for South Africa to be able to divert the focus in the right direction for decision-making and to ensure the improvement in the statistics of people being able to retire and live comfortably after retirement. The findings of this study should promote awareness, provide knowledge and help employees, employers and government to prepare for

remedial action (such as plans, strategy etc.) to address the underlying issues of retirement planning in South Africa.

1.6 DELIMITATIONS AND ASSUMPTIONS

The delimitations and assumptions of the study are defined and briefly explained in the following sections.

1.6.1 Delimitations

Leedy and Ormrod (2015, p. 62) referred to delimitations "as what the researcher is not going to do" or not going to cover in the study.

This study has several delimitations relating to the context and unit of analysis of the study. Firstly, it is limited to individuals living in the geographical area of South Africa within the nine provinces who are 16 years or older. As such, the study did not include any South African citizens residing outside the South African borders or who are younger than 16. In addition, for the purpose of the study only the South African Social Attitudes Survey (SASAS): Financial Literacy Questionnaire conducted in 2011 by the Human Social Research Council (HSRC) were used.

Secondly, the study focuses only on the following socio-demographics: gender, race, age, marital status, education, language, occupation, income levels and number of dependents. It does not include any other demographics such as religion and type of employment (contract or permanent) because of the diverse nature of such demographics. The study further focusses only on the financial behaviour of individuals and not on any other social behaviour.

Lastly, the study focuses on investigating and examining a pre-retirement issue and does not expand to post retirement.

1.6.2 Assumptions

Leedy and Ormrod (2015, p. 23) suggested that "assumptions are so basic that, without them, the research problem itself could not exist". Several basic assumptions underlie this research study. As such, it is assumed that:

- The individuals have some basic knowledge about retirement planning.
- The individuals have a source of income or are working and will retire at some stage in their lives.
- The individuals have some form of basic education to understand basic financial concepts such as income and expenses.
- The responses in the survey are sufficient to draw conclusions for the research problem.
- HSRC obtained consent from each responded (from 16 years or older) who participated in the SASAS conducted in 2011.
- That HSRC tested their measuring instruments for validity and reliability.

1.7 SUMMARY

This chapter presented the background and definition of retirement planning and briefly discussed the existing literature around the globe and how it led to a research problem in the South African context. It described factors that affect retirement planning such as socio-demographics and financial literacy and how financial advice influences retirement planning. The latter led to the rise of the research problem that examines the relationship between retirement planning and financial advice. The research objective was indicated and three hypotheses were developed for the purpose of the study. The delimitations of what the study does not cover were stated and the assumptions for the study were noted. The importance of the study was explained and divided into the following categories: academics, theoretical and practical point of view. This chapter provided a basic understanding of what the study is about.

The outline of the next chapters are as follows: Chapter 2 displays the fundamentals and academic literature of retirement planning; Chapter 3 displays the fundamentals and academic literature of financial advice, including theories, frameworks and the basis on which these concepts are defined; Chapter 4 presents the detailed design and methodology used for the study to solve the identified problem, including data collection, sampling, statistical analysis of the data, and the methods used to validate the proposed hypotheses; Chapter 5 presents the results of the study and a discussion thereof; and lastly, Chapter 6 states the conclusion of the study, including recommendations for further research.

CHAPTER 2: RETIREMENT PLANNING

2.1 INTRODUCTION

The background of retirement planning was briefly discussed in the previous chapter. The factors affecting retirement planning, such as financial literacy, were also discussed together with socio-demographics literature and the concept of financial advice and how it influences retirement planning. The research problem was set out, and the importance of the study was explained together with the delimitations and assumptions of the study.

This chapter provide an in-depth literature review of retirement planning. First, the background of retirement planning is discussed, including the risk tolerance levels and confidence levels of individuals as behavioural factors. Next, the theoretical foundation on which retirement planning is based is discussed. Lastly, the commonly studied socio-demographic factors such as age, gender, marital status, income, education, financial literacy are discussed as factors that affect retirement planning.

2.2 BACKGROUND OF RETIREMENT PLANNING

Denton and Spencer (2009, p. 2) defined retirement as when an individual seeks to depart from a life where one is compensated to work. This includes departing from an office or appointed position without receiving further economic active gains with the intention to have freedom or enjoy other explorations, especially after a pension is earned. Retirement planning includes all the contributions, benefits, activities and actions that would make an individual financially independent after they cease working (Petkoska & Earl, 2009). Koning and Harbor (2013) stated that retirement ability is a multifaceted issue that depends on many factors and the perspectives of individuals. For example, a minimum wage earner may believe that a government old age pension is enough for retirement, while another individual may consider their assets enough for retirement; both individuals may well be mistaken (Koning & Harbor, 2013). With such dynamic issues around retirement, there is still limited knowledge about why individuals do not succeed in planning for retirement (Lusardi & Mitchell, 2011a).

There has been a significant shift where individuals and their households are now taking primary responsibility for safeguarding their own financial wellbeing during retirement in the

United States of America (USA) and around the world (Lusardi & Mitchell, 2011b). Globally, the primary responsibility for making provision for sufficient retirement income has been diverting from governments, employers, and trade unions to individuals (Martin & Finke 2014). This means that individuals' financial decisions made early in their lives may have lifelong consequences. For example, if young individuals choose to invest differently and contribute their monthly pensions towards equities instead of money market accounts, it may have a positive influence on their wealth at retirement age. Hence, Lusardi, Michaud, and Mitchell (2013) pointed out that it is critical to ensure that there is investment in financial knowledge to allow individuals to prepare for their retirement wellbeing by directing their ability to save and invest.

Ting and Kollamparambil (2015) stated that according to the 2010 statistics, South Africa has one of the lowest household saving rates compared to other developing countries such as India and China, with South Africa standing at -0.8% compared to 25% for India and 28% for China. Fountain (2019) supported this argument and stated that only 6% of the South African working population will be able to stop working and be financially independent. Ting and Kollamparambil (2015) argued that such a low household savings rate, which have been declining over the years, has an impact not only on South African individuals but also on the country's economic growth, because the decline in domestic saving means an increase in dependence on the government old age pension fund.

This supports Lusardi et al. (2013) argument that Americans are increasingly required to properly plan for their financial wellbeing during their career and retirement. The process was accelerated by the movement from the DB plan, which uses a formula to define retirement in advance based on employees' final average earnings and years of labour, to the DC plans, where the employer and the employee contribute a certain percentage to be invested in a retirement fund (Bateman, Lai, & Stevens, 2011). However, the financial markets have become complex and broad, with various channels where individuals can invest and reserve their funds (Lusardi et al., 2013).

2.3 BEHAVIOURAL FACTORS OF RETIREMENT PLANNING

Xiao (2016) indicated that financial competency is the ability to apply suitable knowledge in financial terms and perform appropriate financial behaviours to obtain desirable financial goals and improve financial wellbeing. Bachmann, Hens, and Stössel (2016) stated that an

important activity in investment management is to decide the level and amount of risk an individual is willing and able to take. Lemaster (2014) argued that although the term 'risk' has a pessimistic meaning, taking financial risks may result in both pessimistic results, such as inclining debts, and optimistic results, such as profits through investments. In addition to individuals' risk tolerance levels, retirement confidence levels are a factor for retirement. The next subsections will describe individuals' behavioural factors that influence retirement planning, namely risk tolerance and retirement confidence.

2.3.1 Risk tolerance levels

Grable (2000, p. 625) defined financial risk tolerance as "the maximum amount of uncertainty someone is willing to accept when making a financial decision". Guillemette et al. (2012) described risk tolerance as the readiness to accept a different set of results. Nguyen, Gallery, and Newton (2016) indicated that the key determinants of risk tolerance are the nature of the client-advisor relationship; the client's financial literacy; and the client's trust in the financial advice service. Risk tolerance is a primary element in financial planning models, consumer decision frameworks, and investment capability analyses (Xiao, 2016).

According to Guillemette et al. (2012), various risk assessments questionnaires are used by financial planners to determine suitable portfolio recommendations for individuals who seek retirement advice. In an advisory environment, client risk tolerance is generally assessed to assist financial advisors give appropriate advice that may help individuals plan for their retirement and decision-making in financial terms (Nguyen et al., 2016). Risk tolerance is measured in a routine survey used by financial advisors during their profiling of a customer (Nguyen et al., 2016). Fisher and Yao (2017) pointed out that comprehending customers' risk tolerance is essential for financial service providers.

Findings of previous studies supported the above literature by revealing that individuals with higher levels of financial risk tolerance are usually in a better position to be confident about retirement (Joo & Pauwels, 2002). Fisher and Yao (2017) indicated that individuals with low levels of risk tolerance may be the least likely to achieve financial stability and suitable wealth for retirement as they usually evade investing in stocks.

2.3.2 Retirement confidence levels

Greenwald et al. (2017) described retirement confidence levels as the ability of an individual to feel comfortable or confident on the issues of their retirement earnings. Wiener and Doescher (2008) suggested that an individual's anticipation for retirement will be impacted by their awareness of their optimistic outlook, which leads to a dignified retirement and waiting period prior to enjoying their golden years. According to a survey conducted by Greenwald et al. (2017), six out of ten American workers express feeling comfortable and confident that they will have reserved enough earnings to live comfortably during their retirement; however, only 18% feel extremely confident. This amounts to a very low percentage of the population and are of great concern (Chatterjee & Zahirovic-Herbert, 2010).

10X Investments (2018) depicted a similar picture in South Africa and found that 62% of people are not confident that they will have any earnings at retirement, and 41% of those individuals have not made any provision for retirement at all. Wiener and Doescher (2008) noted that individuals' fears focus on all the pessimistic ideas they may have about their retirement years. Fears are created when the policy makers tries to persuade individuals to save for the future by showing them the consequences of not having enough income during their retirement years (Wiener & Doescher, 2008); this may lead to individuals not saving at all (Greenwald et al., 2017).

Although there is still no clarity on why individuals do not adequately plan for retirement, it is evident from this discussion that retirement planning is complex and involves many factors. Therefore, the fundamental theories of retirement are discussed in the next section.

2.4 THEORETICAL FRAMEWORK

Retirement planning is the ability of an individual to save during their working life in order to enjoy the benefits when they stop working. Thus, this study must review the saving literature as a basis of individuals saving to retire. Ting and Kollamparambil (2015) indicated that theoretical literature has suggested a variety of motives that strongly support why households save. These motives can be clustered into the following five broad categories (Van Rooij et al., 2012):

1) Planning for the needs of the future while fulfilling the needs of the present with an individual's income (life-cycle motive).
2) The fulfilment of enjoying the fruits of interest and asset appreciation (intertemporal substitution motive).
3) Transferring a legacy or inheritance (bequest motive).
4) Investing and contributing to the reduction or settlement of a house or education loan and expenditure (down-payment motive).
5) Being able to reserve money for unforeseen circumstances that may lead to loss of income (precautionary saving).

Even though these motives are diverse, they complement or overlap with each other (Browning & Lusardi, 1996). Haider and Stephens (2007) pointed out that it can be challenging to review whether individuals are saving for retirement because there are various factors that can be difficult to quantify that affect the ideal level of wealth accumulation, such as risk preference, patience, and taste. This is why economists rely on the logical expectation version of the general LCH and PIH to assess whether individuals are adequately saving for retirement (Haider & Stephens, 2007, p. 1). Therefore, this study will only review the LCH and the PIH as the basis for the behaviour of individuals in saving for retirement. These theories are briefly discussed in the following sections.

2.4.1 Life-cycle hypothesis theory

Modigliani and Brumberg (1954) established a commonly used microeconomic theory called the life-cycle hypothesis theory (LCH). This theory explains that individuals' spending levels depend on the legacy they accumulated and the resources accessible and available in the present stage of their life (Kamanga, 2018). The theory assumes that individuals construct an empire in the early days of their working life to be able to consume it later during their retirement (Van Rooij et al., 2012). The theory expands to explain that the consumption of an individual changes depending on their circumstances. Van Rooij et al. (2012) affirmed that such saving behaviour allows for individuals to level their marginal utility of spending over their lifetime.

Ting and Kollamparambil (2015) explained another component of the theory: Age-related saving, where saving varies across ages and cohorts. They suggested that in this approach individuals maximise the benefits of consumption over their lifetime by taking into account

the limitations of their initial wealth and the income they expect to have accumulated for the future. They suggested that individuals do this by levelling their consumption over their lifetime, where there is negative savings in the early stages of individuals' careers and a peak at the later stages just before retirement.

However, Kamanga (2018) noted the following critiques and weaknesses of the theory raised in other studies: It is impossible to estimate many variables at once as the model suggests; individuals are more concerned about satisfaction in the present than the unforeseen future; consumption is based on what is currently earned and not the income of the future; consumption relies on individual behaviours and not what they have earned; and there is no single individual who has full control of what may happen to their income or life.

Jiménez-Martín and Sánchez Martín (2007) found that according to the LCH, in circumstances where uncertainty is not a factor, it is beneficial for households that desire to retire early to gather sufficient assets to exit the labour force environment prior to the availability of their pension fund. For example, when an individual's circumstances are uncertain, the constrains to borrow do not significantly change the incentives of early retirement, even after revealing the strong saving effort it imposes earlier on the stages of the life cycle. Blau (2008) found that at the time of retirement, many consumers' consumption expenditure tend to decrease significantly, but most maintain an even consumption path because of the uncertainty of the future; this is in line with the LCH.

Therefore, the author of this study suggests that this theory form the fundamental basis of understanding the behaviour of the saving patterns and consumption of individuals at their current stage (working days) through to their retirement.

The LCH makes way for the PIH. For example, in order for an individual to be able to save and spend over their life after retirement, there should be a permanent income that can sustain an individual's life after they retire. Hence, the applicability of the PIH is discussed in the next subsection.

2.4.2 Permanent income hypothesis theory

Friedman (1957) developed the commonly used microeconomic theory called the permanent income hypothesis (PIH) theory. The theory advocates that income is made up of two components, namely permanent income and temporary income. Permanent income

is earnings that are planned for and projected and it usually includes long-term income. Temporary income is earnings that are not regular, and it is usually short term and unexpected (Kamanga, 2018). The theory indicates that consumption emphasises the mortality of consumers, on which spending depends on lifetime earnings of individuals rather than day-to-day income (Ting & Kollamparambil, 2015). The theory affirms that only lifelong modifications in income have a big effect on consumption (Kamanga, 2018). Households plan around their spending according to their permanent income that they expect to earn in their lifetime in order to smooth their spending when changes in their earnings are anticipated (Bilgili & Bağlıtaş, 2016).

Hurst (2004) found that pre-retired consumers with low wealth have consumption growth that responds to expected changes in their earnings during the years in their early working life, and that there are no other changes in the behaviour of other pre-retired consumers. However, Haider and Stephens (2007) found that there is a positive association between consumption changes and retirement expectations, regardless of the type of a consumer.

Ting and Kollamparambil (2015) noted that the variance between the PIH and LCH is that the PIH considers reserves to be the outcome of transitory income, which can be defined as the variance between present income and 'permanent income'. For example, the forecast is that a temporary increase in income may lead to an increase in reserves, while a permanent increase in income may lead to a decrease in current reserves as individuals increase spending in expectation of future earnings. The connection between PIH and LCH is that both theories reflect the saving rate to be independent of the current income level (Ting & Kollamparambil, 2015).

These theories provide the fundamentals of saving behaviour that directly complement the behaviour in saving or planning for retirement. The next section briefly discusses the socio-demographic factors that influence retirement planning.

2.5 SOCIO-DEMOGRAPHIC FACTORS THAT INFLUENCE RETIREMENT BEHAVIOUR

Nkoutchou and Eiselen (2012) stated that there are various factors that affect individual's retirement planning behaviour; however, the most significant influencers relate to individuals' socio-demographic features. Petkoska and Earl (2009) stated that various studies have already established an understanding of demographic factors, such as income, age, gender,

and education that obstruct or promote financial planning for retirement. Hira, Rock, and Loibl (2009) noted that further studies indicated that as individuals approach retirement age, there is greater retirement planning and a decline in uncertainty levels. Nkoutchou and Eiselen (2012) supported this argument by stating that the older an individual, the higher the probability that they will properly plan and save for retirement; this is because of their accumulated wealth and because retirement is close. Families led by literate females and located in urban areas have been observed to consume more and save less of their earnings compared to male-headed households with no tertiary education located in rural areas (Ting & Kollamparambil, 2015).

Nkoutchou and Eiselen (2012, p. 34) suggested that the following socio-demographic factors are related to retirement saving:

- Age: The older individuals are, the higher the probability that they will save for retirement. This may be because retirement is in the near future or because of greater wealth accumulated through years of working (Nkoutchou & Eiselen, 2012). In contrast, individuals under 30 tend to have limited retirement savings as they usually do not have long-term saving mechanisms, are still new in the work field, and have not yet accumulated enough wealth (Olsen & Whitman, 2007).
- Wealth or income: The higher the salary of an individual, the higher the probability that an individual will save for retirement. This may be because of their increased ability to invest or save money, which makes it easier to save for retirement (Dummann, 2008).
- Gender: Males tend to be more interested in retirement issues than females. This may be because of their dominance in the work environment where they can accumulate wealth, enhancing their ability to save (Ting & Kollamparambil, 2015).
- Education: The higher an individual's education level, the higher the chances that they will save because they are better able to make financial decisions (Lusardi & Mitchell, 2011a).

2.6 SUMMARY

This section presented an in-depth theoretical discussion about retirement planning, mainly based on the saving motives such as LCH and PIH. Behavioural factors such as risk

tolerance and confidence levels were also discussed together with the socio-demographics that affect retirement planning. This provided a central understanding of retirement planning from previous studies in order to address the global crisis depicted by retirement in the future.

Martin and Finke (2014) indicated that individuals who use financial advisors tend to improve their retirement planning behaviour by highlighting the costs of insufficient savings. It is in this regard that the next chapter will discuss financial advice in a detailed literature review since it is a fundamental factor that may promote or inhibit retirement planning.

CHAPTER 3: FINANCIAL ADVICE

3.1 INTRODUCTION

An in-depth literature review on retirement planning was done in the previous chapter that included the definition of retirement planning and its background. The behavioural factors such as risk tolerance and retirement confidence were also discussed. The fundamental theories of saving behaviour that is related to retirement such as LCH and PIH were discussed. These theories show a pattern of individuals' saving and consumption behaviour when they are close to retirement. The socio-demographics that affect retirement were also discussed.

This chapter aims to provide an in-depth literature review of financial advice. First, the background of financial advice is discussed, including the definitions of financial advice and financial advisor and the role of financial advisors when helping an individual plan for their retirement, such as risk profiling. The theoretical framework that forms the basis of financial advice, namely principal-agency theory and the prospect theory, are discussed in detail. The legal and regulatory frameworks that govern the advisory services in which financial services are offered are also discussed together with the compensation for offering such advice and the competency framework. Lastly, the relationship between financial advice and retirement planning is discussed.

3.2 BACKGROUNG OF FINANCIAL ADVICE

Montmarquette and Viennot-Briot (2015) described financial advice as a system of coaching that contributes to the rational investment decisions and the approach thereof. A vast number of studies showed that individual investors still make poor financial decisions when the decision to invest is left on their platform (Mullainathan, Noeth, & Schoar, 2012). Customers regularly seek additional information and assistance to make financial decisions because of they are not aware of or unfamiliar with the various available options and choices (Inderst & Ottaviani, 2012a). Mitchell and Smetters (2013) suggested that a significant portion of individuals lack simple financial knowledge and would likely profit from seeking financial guidance.

Financial advisors provide guidance to individuals such as enhancing investments and savings; assisting in choosing financial products; improving financial confidence and peace of mind; and maximising the risk tolerance and asset mix for personal circumstances (Montmarquette & Viennot-Briot, 2015). They provide assistance for individuals with their investments by offering education, decision support, advice and marketing information (Mitchell & Smetters, 2013). Hence, Burke and Hung (2015) indicated that financial advisors play a crucial role in guiding individuals to make informed financial decisions and to enhance their financial planning. However, Mitchell and Smetters (2013) stated that although they can provide advice to individuals about financial decisions, it is still up to the individual to accept the advice.

Hens and Mayer (2014) indicated that the main role of a financial advisor is to close the gap between the market and the individual. They need to understand individuals' risk tolerance and discern which trade-offs the market delivers in order to be able to make recommendations for a portfolio of assets that yields greater outcomes on financial market trade-off (Hens & Mayer, 2014). Tang and Hu (2019) pointed out the following three common reasons why investors use financial advice: 1) To help with financial decision-making; 2) to transfer the responsibility of financial decisions to financial advisors; and 3) to self-invest without advice. Similarly, Robb, Babiarz, and Woodyard (2012, p. 293) identified the following three categories of demand for financial services: "comprehensive planning advice", "saving and investing", and "credit or borrowing".

Mitchell and Smetters (2013) indicated that financial advisors use various methods to provide advisory services, such one-on-one sessions, call centres or help desks, online, telephone calls, meetings at organisational offices, and group seminars. Hanrahan (2018) pointed out that individuals have various sources where they can obtain information and solicit opinions for decisions about financial products, including newsletters, social media such as blogs and chatrooms, professional advisors such as accountants, family and friends.

The key part of the financial advisor process is the ability to determine the risk an individual is able and willing to take (risk profiling and tolerance) (Financial Services Authority, 2011). Werner and Sjoberg (2016) pointed out that customers' risk profile are characterised by their risk preferences, risk ability and risk perception. Risk preference is psychological factor that

depicts an individual's feelings of taking risks and can be used as a measure of their loss and risk aversion (Guillemette et al., 2012). Risk ability is a financial factor that depicts an individual's ability to absorb losses in the volatile market of investments, and risk perception is subjective and has to do with how an individual understand ad perceive risk (Werner & Sjoberg, 2016).

The Financial Services Authority (2011) indicated that the risk profiler provide a system of measurement and is the most reliable mechanism for the customer assessment process. Werner and Sjoberg (2016) described a risk profiler as a questionnaire that evaluates the risk ability, risk preference and risk perception in a systematic way. When a customer is profiled correctly, it has the following benefits: From the customer's perspective, it provides a better understanding of the customer's behaviour, preferences and needs, and from the advisor's perspective, it allows the advisor to better understand the customer, which may lead to a better relationship with the client (Werner & Sjoberg, 2016). A risk profiler is a key tool for financial advisors (Financial Services Authority, 2011).

There has been a rapid transformation in collaboration between financial advisors and individual investors over the past few years as financial service providers have increased their scope of work by providing a range of services and individuals have increased responsibility for their own financial wellbeing (Hung & Yoong, 2013). There is still inadequate and mixed evidence about the advantages of using the services of financial advisors (Mullainathan et al., 2012). Kramer (2014) indicated that financial advice may assist and improve the financial knowledge of individuals, although various research has showed the shortfalls of these services. Chalmers and Reuter (2012) stated that it may be clearer that brokers are reimbursed for the financial advice service they provide; however, it is still unclear how and if investors benefit from using this advice.

A study by Hung and Yoong (2013) indicated that lessons about financial advice are biased toward policy makers (such as government and management). For example, employers may offer optional financial advice to employees to ensure they improve their financial decision-making capabilities, and it is mostly employees with little financial knowledge who take advantage of this and see the benefits of better financial outcomes. On the other hand, employers may decide to make financial advice mandatory to all employees, which may be very expensive and achieve no real behavioural change (Nkoutchou & Eiselen, 2012).

3.3 BENEFITS AND SHORT COMINGS OF FINANCIAL ADVICE

Seay et al. (2016) stated that individuals may receive greater returns, both psychologically and economically, when they use financial advice services to plan for their retirement. Financial advice enhances returns and allows for greater risk expansion in less sophisticated households and an accelerated settlement of debts (Hackethal, Haliassos, & Jappelli, 2012). It allows individuals to take advantage of collecting information and from economies of scale perspective in portfolio management, and advisors can spread the costs among their clients (Hung & Yoong, 2013). Finke et al. (2011) further pointed out the following benefits of using financial advice: 1) Improved risk management decisions to allow for better preparations of the wealth shocks; and 2) improvement in the expected net return on a customer portfolio for a given level of risk.

Kramer (2014) contended that using financial advice services also has shortcomings for adequate financial planning; for example, when advisors are conflicted, they tend to provide biased advice because of their incentive structure. In addition, Hackethal et al. (2012) stated that there is currently a theoretical and policy debate about financial advice because although professional financial advisors know what is good for the client, they have a tendency to misinterpret the concepts to take advantage of those clients who are not sufficiently informed and will know if they are receiving good or bad advice (Hackethal et al., 2012). Hence, individuals hesitate to seek advice because of the cost implications and the inferior advice associated with it (Gerrans & Hershey, 2017).

It is evident from the literature that financial advice is a very complex concept that has both benefits and shortcomings. The shortcomings led to the development of regulations and specific requirements for offering such services, and these will be discussed in depth in Section 3.5.

3.4 THEORETHICAL FRAMEWORK

Hofstee (2006, p. 92) described theory in academic terms as “a logical explanation for why something is as it is or does as it does”. Hens and Mayer (2018) pointed out that financial advice is one of the most crucial services offered in the financial industry. They stated that the role of a financial advisor is to use the decision theories to simplify and fill the gap between individuals and markets, and that the theory provides options to structure the risk

tolerance of an individual (Hens & Mayer, 2014). The next sections provide a brief overview of the decision models or theories that are applicable to financial advice.

3.4.1 The principal-agent theory

The aim of this section is to provide an understanding of the development of the economic theory of agency. The theory will be discussed to give an understanding of the fundamental relationship between two parties: A principal (individual) and the agent (advisor) who aim to address the financial decision problem. The examination of this theory is crucial as financial advice involves relationships and agreements between parties with the common goal of reciprocal outputs.

Mitnick (1973) established a commonly used microeconomic theory called the principal-agent model. Gailmard (2012, p. 3) defined the principal-agent theory "as a family of formal models addressing related concerns with similar styles of analysis". In its logical form, the agency theory makes the assumption that social life is a series of contracts. Conventionally, one participant (the buyer) of goods or services is referred to as the principal, and the other, who supplies those goods and services, is referred to as the agent, hence the term 'agency theory'. According to Perrow (1986, p. 224), "the principal-agent relationship is administered by an agreement describing what the agent will perform and what the principal will do in return". Jensen and Meckling (1976, p. 308) stated that "the principal-agency relationship can be describes as a contract under which one or more persons (the principal(s)) engage another person (the agent) to perform some service on their behalf which involves delegating some decision-making authority to the agent". These associations are very common; for example, an individual (principal) might hire an advocate (agent) to defend their case or a homeowner (principal) might hire a plumber (agent) to fix their burst pipes. Thus in the context of this case, an individual (principal) might hire a financial advisor (agent) to assist in financial decisions (Waterman & Meier, 1998).

Simonsen and Hill (1998) stated that the principal-agent model is based on the concept of logic and practicality. Thus two crucial assumptions are derived from the theory. Firstly, there are conflicts between the goals of the principals and agents, and secondly, the agents have more accumulated information than the principals, with the outcome creating information irregularity between the two variables (Waterman & Meier, 1998). Hence, Caers et al. (2006) indicated that if the behaviour of the agent is not reserved or restrained, the objectives of

the principal may likely not be achieved. There is often an expectation that agents pursue their own interests that are mainly influenced by self-seeking interests and a bureaucratic mandate (Elsig, 2011).

Finke et al. (2011) indicated that agents who pursue their own interests may make recommendations that are not aligned with their client's interests. Finke (2014) also pointed out that agency conflicts are likely to lead to the perception of less high-quality advice, especially when the client (principal) cannot distinguish between high-quality and low-quality advice. Hence, Mitchell and Smetters (2013) noted that clients may receive conflicting advice that is not in their best interest when they have trouble reviewing the quality of the advice they received.

Apart from the shortcomings of the model, Finke (2014) pointed out that the imbalance of information between the principal (individual) and the agent (investment advisor) created and expanded the need for financial advice services, and later this conflict of interest resulted in agency costs and an increase in the demand for financial advice.

3.4.2 The prospect theory

The aim of this section is to discuss the development of the theory of behavioural finance and to identify and examine the behavioural elements involved in the decision-making for investments as a key element in financial advice. The prospect theory is the fundamental key element in the concept of behavioural finance. It will be discussed to understand the difference between the model and the normative approach together with its significance as model for decision-making and applicability in financial decision-making, which is the crucial concept of this study.

Kahneman and Tversky (1979) established the descriptive theory of choice called the prospect theory. The prospect theory was established in reaction to the expected utility theory (Levy, 1992). The principles of this model rely on explanations of what people actually do (behaviours), rather than the expected utility normative theory that focuses on the observation that rational people act in a particular way to maximise expected utility (Chen & Tsao, 2010). Werner and Sjoberg (2016) noted that the difference between the expected utility model and the prospect model is that the prospect theory allocates value to gains and losses rather than the final wealth.

The prospect theory model is based on the empirical findings that individuals' behaviour is in conflict with the normative models when it comes to making decisions (Kahneman & Tversky, 1979, p. 263). Chen and Tsao (2010, p. 8) listed the following four fundamental elements of the prospect theory: 1) Dejection about losses is greater than dejection about gains (loss aversion); 2) assets are reviewed based on gains and losses relative to a particular reference point; 3) the utility function of the expected utility model is substituted by the value function; and 4) the expected utility theory practice of basic probabilities as a weighting function is substituted by the decision weights. Werner and Sjoberg (2016, p. 11) agreed with these basic elements and identified the following three aspects that constitute the fundamentals on which the prospect theory was established: 1) gains and losses are assessed relative to a reference point; 2) individuals are loss averse because they tend to like gains more than losses; and 3) investors are risk averse when dealing with gains and risk seeking when dealing with losses. Kahneman (2011) contended that the expected utility model makes rational assumptions but does not depict individuals' actual choices because it does not consider the influence of behavioural biases in the decision-making process.

Kahneman and Tversky (1979) prospect theory predicts that individuals may take more risks to evade losses than to achieve gains. However, Nofsinger and Varma (2007) pointed out that financial advisors may divert this tendency of customers when they focus on and understand the opposite of this tendency. Bernard and Ghossoub (2010) also pointed out that adopting the prospect theory to examine the economic agent's (advisor) choices and decisions appears to be consistent with adopting new performance measures. For example, it is an essential concept that losses or gains need particular treatment that variance fails to measure; if one considers that a specific formula is a better measure of performance of a risky asset, then the cumulative prospect theory may be a better theory than the expected utility model to explain the decision-making process to reach the investment decision (Bernard & Ghossoub, 2010). Chen and Tsao (2010) stated that experimental studies disclose that even if there is an equal distribution of returns among all investors, they provide a mental transformation of the cumulative distribution. This behavioural perspective is embraced in this study because most customers in the advice space are not complex or very financially literate and are usually prone behavioural biases (Nguyen et al., 2016).

It is evident from the literature that the prospect model is more applicable for financial advice as it focuses on the actual outcomes (behaviours) of why individuals do what they do when the make financial decisions.

3.5 LEGAL AND REGULATORY ISSUES OF FINANCIAL ADVICE

Chalmers and Reuter (2012) stated that the provision of financial advice to stakeholders is a huge channel in the business industry, and because of the complexity of the returns on investment it can usually be challenging for the clients, including those that are financially literate, to differentiate between bad and good advice. This may be because agents (financial advisors) usually get involved in technocratic 'slippage' or 'shirking' exercises to optimise their own benefits (Elsig, 2011, p. 4). Hence, Finke (2014) said that investors might decide to self-police in order to avert low-quality advice, for example, by using a self-regulatory organisation that is characterised by rule-based compliance.

Inderst and Ottaviani (2012a) pointed out that such governance and guidelines for clients' financial services are globally under scrutiny. Given the potential challenges related with biased advice, it is clear that the regulation of such markets is a growing issue (Gottschalk, 2019). Hanrahan (2018) indicated that the invention and design of various financial products led to the development of new and complicated financial facilities and arrangements, which created a gap between traditional categories of products, generating opportunities for regulatory arbitrage. Inderst and Ottaviani (2012b) stated that the main reason regulations were redrafted in different parts of the world was because it was evident that the provision of financial advice from conflicted parties was affecting the clients. Mitchell and Smetters (2013) noted that the principal legal queries with regards to financial advisors are grounded in the identification of the conflict of interest that may exist in providing financial advice and the mitigating measures that may be understood by stakeholders. Hanrahan (2018) pointed out that when an investor attains a financial product, a legal association arises between the investor and the agent of the financial product, as per the contract.

According to McMeel (2013), with the UK participating in an enhancing the environment of financial products, there were many challenges, such as when more than a million average investors were sold an incorrect pension type. Gottschalk (2019) stated that this global crisis led regulators to impose new laws and review current ones to allow for firmer disclosure

requirements. For example, some of the laws require advisors to obtain or have a minimal qualification to practice financial advisory services (Inderst & Ottaviani, 2012a).

There are various regulatory and legal requirements that govern the relationship between individuals and professional intermediaries who provide financial advice (Inderst & Ottaviani, 2012a). In their study, Inderst and Ottaviani (2012b) further explained that the main objective of regulatory and legal requirements is the increased protection of financial clients in the market. In the UK a reformed regulatory structure called the Financial Conduct Authority (FCA) is anticipated to substitute the Financial Services Authority (FSA), and it will be permitted to instruct the extraction of misleading promotions and financial products (Financial Services Authority, 2011). In Europe, the newly established Financial Stability Board (FSB) has made various proposals on ways to improve the protection of clients, including the formation of devoted consumer protection authorities (Financial standard Board, 2011). Facciolo (2013) noted that even though Australia and the UK have not shifted from disclosure, they have moved to prohibiting certain practices of compensation of financial advisors that can lead to a conflict of interest between the financial advisor and the client. Mitchell and Smetters (2013, p. 30) explained that the legal system in the USA applies the following three methods to mitigate conflict of interest in the context of financial advice: 1) Restricting specific actions; 2) requiring disclosure; and 3) subjecting actions or actors to fiduciary duties.

Currently, South Africa has laws and regulations that govern the provision of financial advice services. The Financial Advisory and Intermediary Services (FAIS) Act was developed in 2002 to govern the provision of advice and intermediary services. As a result, distressed stakeholders can seek recourse when there is any misrepresentation or when they were misguided by the financial service provider or a representative. The FAIS Act was legislated with the main aim of consumer protection and heavily focuses on placing effective governance on various role-players through a number of mechanisms, such as 1) requiring Financial Services Providers (FSP's) to be certified in terms of the Act and to conform with certain prescribed fit and proper criteria; 2) Placing greater accountability with regards to their representatives, who in turn have to conform with fit and proper requirements; and 3) establishing professional standards for FSP's and representatives on how they should operate in the market (Republic of South Africa, 2002). When a dispute arises due to conflict of interest between an individual and the financial advisor, the issue may be escalated to

the FAIS ombudsman. The FAIS ombudsman was appointed according to the FAIS Act as a mitigating control to address conflict of interest.

According to section 21 of the FAIS Act, the appointment of the ombudsman is regulated as follows:

> Appointment of Ombud and deputy ombuds
> 21. (1) The Board, after consultation with the Advisory Committee-
> (a) must appoint as Ombud a person qualified in law and who possesses adequate knowledge of the rendering of financial services;
> (b) may appoint one or more persons qualified in law and who possess adequate knowledge of the rendering of financial services, as deputy ombud. (Republic of South Africa, 2002, p. 36)

In summary of section 27 and 28 of the FAIS Act, the main objective of the FAIS ombudsman is to encourage consumer protection and improve the reliability of the financial services industry through resolving grievances objectively, expeditiously and cautiously (Republic of South Africa, 2002). Section 32 of the Act addresses customer education as a consumer protection measure as offered by the ombudsman, which state:

> 32. The Registrar may take any steps conducive to client education and the promotion of awareness of the nature and availability of the Ombud and other enforcement measures established by or in terms of this Act, including arrangements with the Ombud, representative bodies of the financial services industry, client and consumer bodies, or product suppliers and authorised financial services providers and their representatives to assist in the disclosure of information to the general public on matters dealt with in this Act (Republic of South Africa, 2002, p. 44).

It is evident from the literature that because of the complexity of offering various financial products, crises were bound to arise and an appropriate way to control and contain the damage through rules and regulations had to be established and that reformed were appropriate.

3.6 FINANCIAL ADVISOR COMPENSATION

Finke, Huston, and Waller (2009) pointed out that a financially literate household will most probably engage financial advice services when the benefits of using such services outweigh its cost. Finke et al. (2011) added that using financial services may be motivated by the fact that the positive outcomes of informed decisions exceed that of uninformed decisions. Thus, clients who require financial advice must understand the fees they pay to their advisor or the advisor's employer, as well as how the advisor is remunerated and additional costs (Mitchell & Smetters, 2013).

Finke et al. (2009) stated that instead of households engaging in a costly exercise to gather financial tools to educate themselves to make better financial decisions, they can save time and transfer those costs by hiring financial advisors at a minimal fee. Mitchell and Smetters (2013) described a fee as a compensation paid by the client to the advisor for providing advice and a commission is the compensation paid by the customer for the financial product they purchase from the advisor. Finke et al. (2011) pointed out that the costs of financial advice include commission obtained from selling financial products, fees for preparing financial plans, and repetitive fees that are usually levied as a portion of the assets controlled by the advisor. Individuals sometimes pay directly for investment advice, but in most instances they pay indirectly through a commission that is routed by the product providers to the financial advisors, other intermediaries or brokers (Inderst & Ottaviani, 2012b). Mitchell and Smetters (2013) suggested that it may be difficult to predict the level of the advisor's remuneration, especially when they receive a commission for the sale of their products and the fees.

Jensen and Meckling (1976) differentiated between the different costs associated with financial advice and classified them into three groups, namely monitoring costs, bonding costs and residual loss. Monitoring costs contain all the primary and administrative costs that are incurred by the consumer in the process of gathering information to equip themselves in the financial environment, such as time, research, benchmarking and comparing financial intermediaries. Bonding costs contain all the costs incurred by the agent in the process of building a better relationship and demonstrating an alignment of interest between the agent and the principal, such as obtaining professional accreditation. Any other

agency costs are referred to as residual losses, such as selling underachieving products with optimised commissions (Finke et al., 2009, p. 1).

It is evident from the literature that financial advice may be challenging to fully comprehend because of the various terminologies that are used by different sources in the financial environment (Mitchell & Smetters, 2013). Hence, Inderst and Ottaviani (2012b) stated that a well-positioned financial market will ensure that the self-interest of the advisor agrees to a large extent with that of the client.

3.7 COMPETENCY FRAMEWORK FOR FINANCIAL ADVISORS

Mitchell and Smetters (2013) suggested that financial advisors have a wide range of professional backgrounds and that the term ‘financial advisor’ is not legislated. According to the Certified Financial Planner Board (2011a), financial advisors can be, among others, stock brokers, investment advisors, accountants, attorneys. Finke (2014) advocated that one of the key elements of high-quality advice is the competency of the advisor. Furthermore, Gottschalk (2019) indicated that various authorities oblige brokers to have minimum net assets by posting a ‘surety bond’ to cover obligations and to have a minimum accreditation or professional certification.

Inderst and Ottaviani (2012a) pointed out that a vast number of regulatory and legal requirements administrate the relationship between clients and professional intermediaries who provide financial advice. Mitchell and Smetters (2013) suggested that the requirements of accreditations used by investment advisors can differ substantially. There are a vast number of professional titles for financial advisors, which include Chartered Financial Analyst, Chartered Investment Counsellor, Chartered Financial Consultant and Certified Financial Planner (Mitchell & Smetters, 2013). The Certified Financial Planner Board (2011b) administers the Certified Financial Planner (CPF) certification that requires candidates to write an exam over two days for 10 hours and uphold the ethical values of competence, objectivity, integrity, professionalism and diligence. The Chartered Financial Analyst Institute (2011) administers the educational programme for Chartered Financial Analysts (CFA) that requires candidates to spend about 300 hours in preparation for each exam they have to write and to pass all three exams.

The FAIS Act section 13 described the qualifications and duties of authorised financial advisors as follows:

> 13. (1) A person may not--
> carry on business by rendering financial services to clients for or on behalf of any person who-
> (i) is not authorised as a financial services provider; and
> (ii) is not exempted from the application of this Act relating to the rendering act as a representative of an authorised financial services provider. Unless such person –
> (i) is able to provide confirmation, certified by the provider. to clients-
> (aa) that a service contract or other mandatory agreement. to represent
> (bb) that the provider accepts responsibility for those activities of the provider, exists; and representative performed within the scope of, or in the course of implementing, any such contract or agreement; and
> (ii) if debarred as contemplated in section 14, complies with the requirements determined by the registrar, after consultation with the Advisory Committee, by notice in the Gazette, for the reappointment of a debarred person as a representative. (Republic of South Africa, 2002, pp. 26-28)

Finke (2014) advocated that professional accreditation of financial advisors can deliver and depict both the capability of the advisor and minimised agency costs.

The next section discusses the origin of the research problem of the study, which is the relationship between retirement planning and financial advice.

3.8 THE RELATIOSHIP BETWEEN FINANCIAL ADVICE AND RETIREMENT PLANNING

The use of financial advisors tend to improve individuals' retirement planning behaviour (Martin & Finke 2014). Montmarquette and Viennot-Briot (2015) pointed out that using a financial advisor for a prescribed period tends to improve individuals' financial assets and wellbeing and creates a positive attitude towards retirement saving behaviour. Marsden, Zick, and Mayer (2011) found that individuals who engage financial advisors tend to be more prudent in their retirement planning. Specifically, these individuals tend to have long-term financial goals, have spread retirement portfolios, and have calculated their retirement financial needs well (Marsden et al., 2011). Long-term engagement with a financial advisor

results in enhanced confidence in an individual's ability to retire peacefully and an increased savings fund for emergencies (Anderson et al., 2018).

Martin and Finke (2014) found that individuals who has calculated needs and are engaged with a financial advisor have higher savings balances and improved savings behaviour for retirement at a particular point in time. Clark, Knox-Hayes, and Strauss (2009) also found that individuals who work with a pension specialist are convinced that planning was crucial and are more likely to have a plan than those who used other methods of financial advice. Similarly, Smith and Griesdorn (2014) found that individuals who use financial planners have a high probability of contributing towards a retirement account that is tax-advantaged to yield better returns. In addition, Burke and Hung (2015) indicated that individuals may yield better benefits because they used financial advice to plan for their retirement, such as enhanced confidence for retiring and peace of mind. However, Marsden et al. (2011) pointed out that using a financial advisor does not necessarily increase the amount an individual accrues for their retirement.

It is evident from the literature discussed in this section that there is limited research about the casual relationship between financial advice and retirement planning. It is for this reason that the author of this study examined the relationship between retirement planning and financial advice, specifically in South Africa.

3.9 SUMMARY

This chapter presented a detailed background of international financial advice and narrowed it down to the South African context and legislation. Financial advice concepts such as the definitions of financial advice and financial advisor and the benefits and shortcomings of offering financial advice were discussed in-depth. The fundamental theories of financial advice service, namely the principal-agency theory and the prospect theory, were also discussed in detail. The legal and regulatory frameworks that govern the financial market in which financial advisors operate, including their competency requirements, were also discussed. The pillar of this study is the relationship between retirement planning and financial advice, and the literature related to this was also discussed.

Thus, with such in-depth literature about financial advice and its regulatory environment, there is a substantial need for professional financial advisors to assist individuals, such as

those planning for retirement, with specific recommendations for and features of various products (Inderst & Ottaviani, 2012b).

The next chapter describes the detailed design and methodology that were applied in the study. This includes the collection, sampling, and statistical analysis of the data and the methods to validate the proposed hypotheses.

CHAPTER 4: RESEARCH DESIGN AND METHODS

4.1 INTRODUCTION

The detailed academic literature for the study was discussed in Chapter 2 (retirement planning) and Chapter 3 (financial advice). The previous chapter provided an in-depth discussion about financial advice and how it relates to retirement planning. The definitions of the financial concepts and terms were discussed together with the benefits and shortcomings. The fundamental frameworks that were discussed are the principal-agency theory, which examines the relationship between the investor and the advisor, and the prospect theory, which determines the behaviour of individuals when making financial decisions. The legal frameworks that regulate the financial service environment in which financial advice services are offered were also discussed together with the compensation and competency frameworks.

As stated in Chapter 1, the research problem that this study addresses is determining the relationship between retirement planning and financial advice in South Africa. The following statistical null hypotheses with their alternatives were developed to address the research problem:

H0: There is no relationship between retirement planning and financial advice.

H1: There is a relationship between retirement planning and financial advice.

H0: There is no relationship between socio-demographics and retirement planning.

H2: There is a relationship between socio-demographics and retirement planning.

H0: There is no relationship between socio-demographics and financial advice.

H3: There is a relationship between socio-demographics and financial advice.

This chapter is imperative as it provides a foundation for the study and establishes the approach that was used to derive quality, reliable research findings. Saunders, Lewis, and Thornhill (2009) defined research methods as specific tools, techniques and procedures that scholars use to gather, analyse and interpret information to reach conclusions regarding the research objective and hypotheses.

This chapter focuses on the research paradigm, strategy and design, sampling, data collection and how the data were analysed to achieve the set objectives. The limitations are also noted and the ethical considerations are outlined.

4.2 RESEARCH PARADIGM

The main aim of this section is to describe the research paradigm that has guided the study. Aliyu, Bello, Kasim, and Martin (2014) referred to a paradigm as a way of thinking that a collective group of scientists understand and use to study the world. A research paradigm contains the principles and beliefs in a discipline and directs a researcher's approach to solving a problem. The aim of the current study was to determine whether there is a relationship between retirement planning and financial advice. The research applied the quantitative approach because it developed hypotheses to address and solve the research problem. Castellan (2010, p. 4) stated that the quantitative methodology is concerned with the discovery of an objective reality and that the scholars are independent of the phenomenon being studied. The purpose of a quantitative study is to test correlations between two variables and develop hypotheses to solve the research problem (Castellan, 2010, p. 5).

A paradigm is directed by philosophical norms concerning ontology (beliefs about the nature of reality), epistemology (the belief of what constitutes acceptable knowledge) and axiology (the role of principles and morals in research and the researcher's position) (Wahyuni, 2012, p. 70). According to Wahyuni (2012, p. 70), the following four paradigms can be applied to a research study: "Positivism (raw realism), Post positivism (Critical Realism), Interpretivism (Constructivism) and Pragmatism". This study was guided by the positivist paradigm, which is embedded in the ontological belief and doctrine that truth and reality are unrestricted and independent of the viewer and observer (Aliyu et al. (2014). Positivism was chosen for this study because of the following beliefs:

- **Ontologically:** Positivists believe that the nature of reality is external and objective and seek to use rule-based generalisations (Wahyuni, 2012).
- **Epistemologically:** Positivists use empirical testing to produce knowledge through the formation of hypotheses and the application of statistical experiments in the research process (Wahyuni, 2012). This study developed hypotheses to answer the research problem and statistical techniques were applied in the study.

- **Axiologically:** The scholar is independent, and the research is undertaken in a value-free way (Wahyuni, 2012).

4.3 DESCRIPTION OF INQUIRY STRATEGY AND BROAD RESEARCH DESIGN

4.3.1 A description of the study's inquiry strategy

The inquiry strategy is the common tactic that were applied to resolve the identified research problem. Leedy and Ormrod (2015, p. 98) asserted that the inquiry strategy includes two broad classifications, namely quantitative and qualitative research strategies.

Quantitative research is associated with measuring variables in a numerical way and identifies relationships among two or more variables, using the outcomes to confirm or modify established theories and practices (Leedy & Ormrod, 2015, p. 98). This approach is positioned towards testing theories and is deductive in nature (Leedy & Ormrod, 2015, p. 36). Usually statistical prototypes are used to evaluate the data, and the methods of gathering data tend to be structured (A. Bryman & Bell, 2011, p. 27).

In contrast, a quantitative research method reviews characteristics or abilities that cannot be articulated in numerical values (Choy, 2014). This approach is usually connected to seeking a better understanding of people's in-depth perceptions about a particular phenomenon and general social behaviour (Leedy & Ormrod, 2015, p. 98). This approach highlights an 'inductive approach' where theories are created rather than applied and tested (A. Bryman & Bell, 2011, p. 27).

The aim of this study is to determine the relationship between retirement planning and financial advice. These variables can be quantified and measured statistically to develop hypotheses. Thus, this study used a quantitative strategy of inquiry to achieve and address the objective. Furthermore, the choice of inquiry strategy is justified by various existing studies that also used the quantitative approach in their investigation of retirement planning (Chatterjee & Zahirovic-Herbert, 2010, p. 2; Gerrans & Hershey, 2017, p. 63; Hastings & Mitchell, 2011, p. 3; Koning & Harbor, 2013, p. 98).

4.3.2 The basic characteristics of quantitative research

The quantitative method or approach has the following four basic characteristics or pre-occupations that quantitative researchers are interested in: 1) Quantitative measurement; 2) developing explanations for phenomena; 3) generalisation; and 4) replication (Alan Bryman & Bell, 2007, pp. 168-173). These characteristics as explained by Bryman and Bell (Alan Bryman & Bell, 2007, pp. 168-173) are briefly discussed next:

1) **Measurement:** The quantitative research method gives precise measurements of concepts/constructs in numeric terms. As such, in quantitative research measurement can be defined as the allocation of symbols or numbers to an entity according to a set of predetermined rules in order to replicate the level of intensity of a particular characteristic/attribute of that entity.
2) **Developing explanations for phenomena:** The quantitative research method usually allows researchers to explain how things are and also allows explanations of on why things are the way they are.
3) **Generalisation:** The quantitative research method allows the researcher to state that their study results can be generalised beyond the margins of the particular context in which the study was conducted.
4) **Replication:** The quantitative research method allows for the replicability of studies. Hence, quantitative researchers are required to clearly describe the study design and methods used to allow others to replicate their work.

These characteristics are relevant for the study as the variables were measured based on the responses of the population that will be discussed in Section 4.4. The results of the study should provide reasons and motivations for why things are the way they are and allow fo generalisation and replication by other researchers.

4.3.3 A classification of the study's overall research design

(Crotty, 2003) described a research design as a comprehensive plan or blueprint that is included in the research in which the researcher describes the fundamentals of the research and summarises how the research will be performed. This study's research design is best described by the following descriptors:

- **Empirical research:** This includes all research where the researcher accumulates new data (irrespective of the data collection method) or where the researcher re-analyses existing data that another researcher have collected previously for other research or another purpose (Babbie & Mouton, 2001, p. 75). This study is classified as empirical because the researcher re-analysed existing data (secondary data) that was collected by someone else.
- ***Basic research*:** This research is conducted to add to the academic field and enhance scientific knowledge about a particular subject or field (Saunders, Lewis, & Thornhill, 2007, p. 592). The research is undertaken to understand what drives individuals to plan for retirement in the scope of academic context and the outcomes will help management in various organisations in decision-making process or be used for public policy formulation to solve a real problem.
- **Descriptive research:** This research aimed to describe the nature of the relationship between two or more constructs (Saunders et al., 2007, p. 134). This study's objective is to understand the relationship between retirement planning and financial advice.
- **Experimental study:** This is a type of study where the researcher reflects and considers various possible factors that may have an effect on or influence a particular condition or phenomenon (Leedy & Ormrod, 2015, p. 196). The study determined the influence of financial advice on retirement planning.
- **Secondary data:** This includes data that was initially collected for another research or purpose (Leedy & Ormrod, 2015, p. 94). The researcher used secondary data to address the research problem.
- **Quantitative data:** The data collection technique that were applied to this study is surveys or questionnaires, which generated numerical data.

4.4 SAMPLING

This section describes the study's 'sampling plan' and the sampling technique that was applied in the study. Leedy and Ormrod (2015, p. 94) stated that a researcher can use two types of data sets, namely primary data and secondary data. Hox and Boeije (2005, p. 593) described primary data as "original data that was collected for a specific research goal". Johnston (2017, p. 620) described secondary data as "an examination of data that was previously collected for another purpose".

Johnston (2017, p. 624) listed the following benefits of using secondary data: a) It is time saving and minimises costs; b) large, high-quality databases can be obtained without additional costs; and c) it adds speed to the research because of the saved time of not collecting the initial data. However, Hox and Boeije (2005, p. 596) stated that using secondary data has drawbacks such as the data may not fit or answer the research problem; the participants are unknown to the secondary researcher because of confidentiality; follow-up questions cannot be asked; and the researcher does not know how the data was collected (Johnston, 2017, p. 625).

The study used secondary data that was collected by the HSRC in 2011. The HSRC has been conducting a repeated cross-sectional survey annually since 2003, which include the SASAS survey. Because of increasing demand from other organisations and certain sectors of the government, the HSRC expanded their horizons and now sell questions or modules in the surveys to external organisations to gather data of interest to that party (the so-called client questionnaire) (Human Sciences Research Council, 2011, p. 1).

According to the Human Sciences Research Council (2011, p. 1), in 2011 the Financial Services Board(FSB) procured a complete module of questions in the SASAS survey to attempt to define “a financial literacy baseline” for South Africa. The SASAS 2011 was set up to indicate a representative sampled population of 3 500 people aged 16 years and older in households that are geologically spread across the nine provinces of the country. The interviews of the SASAS round included a sample of 500 Population Census enumeration areas as primary sampling units, stratified by province, geographical sub-type and majority population group (Human Sciences Research Council, 2011).

4.5 DATA COLLECTION

This section focuses on and outlines how the data was collected for the study. There are various approaches that can be used to gather data in a quantitative study, such as structured interviews, surveys and questionnaires with closed-ended questions (Leedy & Ormrod, 2015, pp. 159-161). Semi-structure or unstructured interviews, questionnaires with open-ended questions and observations are usually associated with qualitative research (Leedy & Ormrod, 2015, pp. 277-278). This section will only discuss the data collection technique used in this study.

Leedy and Ormrod (2015, p. 159) described survey research as acquiring data, such as information about opinions, attitudes, characteristics, about one or more groups of individuals in the form of questions and then tabulating those responses. Surveys have various benefits, for example, it is usually very simple in design and it is used with more or less complexity in many areas of human activity (Leedy & Ormrod, 2015, p. 159). Even though the scholar may need more technical knowledge to design an electronic survey, it can reduce the amount work after the data has been gathered because the information is captured as the respondent completes in the survey, and therefore, there is no need for manual intervention after the survey is returned to the researcher. It also avoids the risks of capturing incorrect or incomplete data. Furthermore, the information is available for evaluation as soon the respondent completes the survey (A. Bryman & Bell, 2011, p. 233).

This study used existing data (secondary data) that was collected by the HSRC in the SASAS (www.hsrc.ac.za/sasas), which is a survey representing South Africa that was conducted in 2011. SASAs is designed as a time series, and is progressively providing a unique, long-term account of the speed and direction of transformation in underlying public values and the social fabric of modern South Africa. SASAS thus represents a notable tool for monitoring progressing social, economic and political values among South Africans, and it also shows promising utility as an anticipatory or predictive mechanism that can inform decision- and policy-making processes (Human Sciences Research Council, 2011, p. 1). As such, this survey served as the data source for the study.

The validity and justification of using this technique to collect data is supported by various existing studies that also used surveys to investigate of retirement planning (Chatterjee & Zahirovic-Herbert, 2010; Gerrans & Hershey, 2017; Hastings & Mitchell, 2011; Koning & Harbor, 2013).

4.6 DATA ANALYSIS

The main objective of this section is to define the main approaches and methods that were used to analyse the gathered data for the study.

4.6.1 Applicable software

The IBM software Statistical Package for the Social Sciences (SPSS) Statistics 21 package was used to analyse the data collected in the survey. This package was selected because the information could be imported directly from the SASAS website (www.hsrc.ac.za/sasas) and supports the SPSS module as per this description (SASAS2011_FSB.sav (n=2972); 897 variables, 'benchwgt' (weight variable)).

4.6.2 Descriptive statistics

Leedy and Ormrod (2015, p. 241) explained that descriptive statistics describe a body or characteristics of information. Such statistics allow the researcher to define the measures of central tendency (median and mean arithmetic average), the amount of variability (standard deviation), and the degree to which two or more variables are connected with one another (correlation). The median, indicating 'middle', "is the numerical centre of a data set", and the mean is the "arithmetic average of the scores in the data set" (Leedy & Ormrod, 2015, p. 241). For the study, descriptive statistics were used to summarise the demographic data of respondents. The validity of and motivation for using descriptive statistics to analyse demographics are supported by various existing studies that also used this technique in their research to analyse socio-demographics (Earl, Gerrans, & Halim, 2015, p. 3; Gerrans & Hershey, 2017, pp. 67-68; Muratore & Earl, 2010, p. 102).

4.6.3 A chi-square test

A chi-square test for independence were performed to examine the relationship between financial advice and retirement planning. The chi-square test of independence is a statistical analysis technique that is used to test the relationship between categorical variables (Kim, 2017). This technique is basically a hypothesis test that addresses the question of whether the values of one categorical variable depends on the values of other categorical variables (Schober & Vetter, 2019). The formula of the chi-square test are presented as follows:

$$\chi^2 = \Sigma(O_i - E_i)^2 / E_i$$

Where:

- O = Observed value(s)

- E = Expected value(s)

One advantage of the chi-square test of independence is its robustness when it comes to the distribution of data. The technique also shines in terms of computational complexities. Other advantages include its robustness with respect to the detailed information that can be derived from the test, and its usefulness in studies that do not meet its parametric assumptions and its flexibility (McHugh, 2013; Solomon & Mulugeta, 2019).

One disadvantage of using the chi-square test of independence is that the method has minimum requirements for the number of observations. The method stipulates that for the analysis to be robust, 20 or more observations should be used; this can be an issue for small samples (Kim, 2017). The chi-square test of independence also has specific requirements for the characteristics of the variables, and it recommends that the number of categories within a variable should be a maximum of two. If the variables are not categorical variables or consist of more than two categories, there will be computational challenges with the chi-square test of independence (Acharya, Canonne, & Tyagi, 2019).

4.6.4 Logistic regression model

One of the requirements of Ordinary Least Square (OLS) regression analysis is that the dependent variable must be a continuous or discrete variable. In this study, the dependent variable, retirement planning, was modelled as a categorical/binary variable, and hence the logistic regression model was the most appropriate analysis method. Logistic regression is a statistical technique used to analyse a data set in which there are one or more explanatory variables that determine or explain an outcome (Austin & Merlo, 2017). In other words, logistic regression predicts the outcome of a categorical/ dichotomous/binary variable on the basis of predictor variables that can be binary or nominal (Ranganathan, Pramesh, & Aggarwal, 2017).

The main objective of logistic regression analysis is to check if the probability of getting a value of the dependent variable is related to the independent or explanatory variables. When using the logistic regression technique, the probability of a result falling in one of the two response categories (dichotomous response) is modelled as a function of one or several independent/explanatory variables (Norton & Dowd, 2018).

The model specifications for logistic regression are as follows (Gujarati, 2003):

$$P_i = E\ (Y_i = 1|\ X_i) = 1 / 1 + e - (\beta_1 + \beta_2\ X_i)$$

Where:

- P_i represents the probability that respondent *i* displays retirement planning behaviour
- (Y_i = 1) means the event occurs (respondent *i* displays retirement planning behaviour)
- (Y_i = 0) means the event does not occur (respondent *i* does not display retirement planning behaviour)
- X_i represents the independent or explanatory variable (age, gender, race, education level, number of dependents, marital status, income, employment status, financial advice)

The following empirical model was therefore formulated:

- F (Y_i) = (age, gender, race, education level, number of dependents, marital status, income, employment status, financial advice, + ε)

Where:

- Y_i = Retirement planning
- ε = Error term

The motivation to use logistic regression for the statistical analysis is validated by various scholars who used the same approach to achieve their objectives while investigating the relationship between retirement planning and its predictors or influencers (Barbić, Palić, & Bahovec, 2016; Seay et al., 2016).

The advantages of the logistic regression model over other techniques such as ANOVA, t-test or OLS regression are that a) the technique is suitable for analysing the relationship between a dichotomous, categorical, or binary regress and dependent variable and a set of both categorical and continuous independent variables (Ciu & Oetama, 2020); b) it is more suitable when modelling a non-linear distribution, which is not plausible with OLS regression or ANOVA (Ghazvini, Yousefi, Firoozeh, & Mansouri, 2019); and c) when using the binary logistic regression technique, the probability of a result falling in one of the two response categories (dichotomous response) is modelled as a function of one or several independent or explanatory variables (O'Connell & Amico, 2019).

A shortcoming of the logistic regression model is that the model attempts to predict precise probabilistic outcomes based on independent characteristics, which may lead to the model being over-fit. This implies that the model may overstate the accuracy of the predictions. The logistic regression model may not be able to solve no-linear problems because of its assumptions of linearity (Ranganathan et al., 2017). The requirement of moderate or no multicollinearity between independent variables can also be an issue that can potentially result in unreliable results. Finally, the model requires large data sets to produce better results (Van Smeden et al., 2016).

4.6.5 Reliability test

The reliability test examines the magnitude to which a scale is consistent and stable within itself across time (Kimberlin & Winterstein, 2008). Cronbach's alpha was developed by Lee Cronbach in 1951 in an effort to measure reliability or the internal consistency of a scale (Cronbach, 1951; Glen, 2014; Tavakol & Dennick, 2011). In other words, Cronbach aimed to examine how well a test measures what it is intended to measure. Internal consistency measures the magnitude to which all the items in a test measure the same concept or construct. It is focused on the interrelatedness of items included in the test (Glen, 2014; Tavakol & Dennick, 2011).

Cronbach's alpha formula looks as follows (Glen (2014):

$$\alpha = \frac{N \cdot \check{c}}{\tilde{v} + (N-1) \cdot \check{c}}$$

Where:

- α = Cronbach's alpha
- *N* = Number of items
- č = Average covariance between items
- ṽ = Average variance

Cronbach's alpha was used to test the internal consistency and reliability of the instrument (questionnaire) in this study. Cronbach's alpha is presented as a number between 0 and 1.

The main merits of using Cronbach's alpha are that it provides a unique measurement of the internal consistency or reliability of a scale, rather than a situation where there are

several possible reliabilities (Allen, 2017); it provides a relatively less complex technique for understanding the reliability of a scale or how much a scale measures what it intends to measure (Cohen & Swerdlik, 2010); and it is a widely used reliability test making it easy for most people to understand.

One drawback of Cronbach's alpha is that inappropriate use of Cronbach's alpha can lead to situations where either a test or scale is incorrectly rejected or the test is suspected of not generating robust results that can be trusted (Tavakol & Dennick, 2011). Additionally, Cronbach's alpha assumes that the items in a test are only measuring one latent variable or dimension and if one measures more than one dimension by mistake or by design, the test results may not be robust, and therefore, will be meaningless (Glen, 2014). Another issue with Cronbach's alpha is that sample size can significantly influence the findings in a positive or negative way (Yurdugül, 2008).

Regardless of the abovementioned drawbacks, Cronbach's alpha remains the most commonly used reliability and validity test. This is mainly because the technique is less complex and is widely understood by scholars compared to lesser known techniques such as test-retest reliability estimates (Cohen & Swerdlik, 2010). Therefore, Cronbach's alpha was used to test for reliability in this study.

The results in Table 1 shows a Cronbach's alpha of 0.746, which is acceptable because it suggests that the items in the questionnaire have high internal consistency (Ateef, 2020). The full results of Cronbach's alpha and exploratory factor analysis are presented in Appendix B.

Table 1: Reliability test

Cronbach's Alpha	Cronbach's Alpha Based on Standardised Items	N of Items
.746	.740	22

Source: Author's own work

4.6.6 Diagnostic tests

Diagnostic tests were carried out on the independent variables (explanatory variables) to evaluate their appropriateness or suitability for inclusion in the logistic regression model. The multicollinearity test and goodness of fit test that were done are explained here:

- **Multicollinearity test:** In the presence of multicollinearity, the regression coefficients are indeterminate and standard errors are infinite, and even if they are definite, they pose a greater risk of committing a type 1 error (rejecting the null hypothesis when it is true) (Greene & Hensher, 2003). As a result, coefficients will not be estimated with accuracy and the results cannot be relied on (Gujarati & Sangeetha, 2007).
- **Goodness of fit test:** Goodness of fit of a model shows how well the estimates produced by the model accurately reflect the true behaviour captured in the data (Hosmer , Lemeshow, & Sturdivant, 2013). In other words, it measures how well the model fits the data (Gujarati & Sangeetha, 2007).

4.7 ASSESSING AND DEMONSTRATING THE QUALITY AND RIGOUR OF THE RESEARCH DESIGN

All the measurement instruments, such as surveys, for this study were evaluated for validity and reliability. The validity of surveys as a measurement instrument is concerned with the degree of "how well the instrument measures what it is intended to measure" (Leedy & Ormrod, 2015, p. 114). On the other hand, reliability is the consistency with which the measurement instrument yields certain stable outcomes when the object measured has not yet changed. Furthermore, internal reliability emphasises the degree to which all the items in the instrument yield similar results (A. Bryman & Bell, 2011, pp. 158-159; Leedy & Ormrod, 2013, pp. 114-117).

The study used secondary data gathered by the HSRC, which is a reputable company in South Africa, and therefore, we can rely the assumption that they tested their measuring instruments for validity and reliability.

4.8 RESEARCH ETHICS

The study used secondary data gathered by the HSRC in South Africa. Thus for the ethical values and purposes of the study it can be assumed that the HSRC obtained consent from each responded (from 16 years or older) who participated in the SASAS conducted in 2011. Furthermore, all applicable research ethics set out in the University of Pretoria's Code of Ethics for Research were observed and complied with throughout the study.

4.9 LIMITATIONS

The main limitation of this study is the secondary nature of the data, which means the author did not develop the questionnaire. This could have been a problem as the survey might not have answered the research problem; however, the HSRC is a reputable institution in South Africa and have been conducting such surveys for a number of years, and they have developed the measuring instruments in such a way that various financial fields or concepts are addressed, which helped to address the research problem.

The author also encountered challenges concerning the research design, particularly in selecting a suitable methodology, specifically the most suitable statistical approach. There are a variety of statistical analysis approaches that can be used but all of them have their own merits and shortcomings. Striking a balance between the suitability of a statistical approach and the available data are always challenging. In this study, the challenges encountered include the fact that some of the statistical analysis techniques like the chi-square test of independence have limitations, such as minimum requirements for the number of observations (Acharya et al., 2019). The method stipulates that for the analysis to be robust, 20 or more observations should be used (Schober & Vetter, 2019; Sur, Chen, & Candès, 2019). The chi-square test of independence also has specific requirements for the characteristics of the variables, and it recommends that the number of categories within a variable should be a maximum of two (Savela, 2018). To overcome this challenge in this study, the two variables that were included in the chi-square test of independence were coded as categorical variables with a maximum of two categories.

A challenge and limitation faced with the logistic regression is the issue of multicollinearity, which occurs when there are high correlations between the explanatory variables. This means that an explanatory variable can predict another explanatory variable, which creates redundant statistics and thereby skews the findings of the regression model (Bergtold, Yeager, & Featherstone, 2018; Vatcheva, Lee, McCormick, & Rahbar, 2016). To deal with this problem, the researcher used variance inflation factor to test and correct multicollinearity. In this study, the mean variance inflation factor for all the variables showed that there were negligible linear associations among the variables, justifying their inclusion in the logistic regression model. The other challenge was the issue of how accurately the estimates produced by the model reflect the true behaviour captured in the data, in other

words, how well the model fits the available data (Ranganathan et al., 2017). To deal with this problem, the researcher used the goodness of fit test to make sure the regression model fits well with the data (Zhang, Chen, & Zou, 2016). This test produced statistically non-significant values, which indicated that the logistic regression model was a good fit (Omondi-Ochieng, 2019).

4.10 SUMMARY

This chapter discussed the research method used for this empirical study. This discussion included the research paradigm, research design, the selection of the sample, and the data collection and analysis. The quality and rigour of the research design were also discussed together with the ethical considerations and applicable limitations. The statistical techniques used to analyse the data were also outlined to clarify the statistical importance of the results for the study. It is clear from the research design and methodology discussed in this chapter that the data was properly analysed in order to solve the research problem.

The next chapter discusses the results or the findings of the study and answers the objectives and tests the hypotheses.

CHAPTER 5: RESULTS

5.1 INTRODUCTION

The research paradigm and design, data collection, sampling, data analysis, ethical considerations, and study limitations were discussed in detail in the previous chapter.

This chapter presents the findings of the empirical data analysis. It answers the research problem that was stated in Chapter 1, which is to determine the relationship between retirement planning and financial advice in South Africa. The researcher start by presenting the basic descriptive statistics, followed by the presentation of findings from the chi-square test and the multivariate logistic regression model, as explained in Chapter 4. Then the findings for the reliability test of the questionnaire and the diagnostic tests are presented to check the robustness of the model.

5.2 DESCRIPTION OF THE SAMPLE

Table 2 presents all the variables that were used in this study and it shows the descriptive statistics, including the categories of variables, and the frequencies and percentages for each category for all variables. The frequencies in Table 2 is the number of respondents in each category.

Table 2: Descriptive statistics for variables used in the analysis

Variable	Coding/Categories	Frequency	Percentage
Population groups/race	African	1294	62.4
	Coloured	340	16.4
	Asian/Indian	192	9.3
	White	249	12.0
Gender	Female	886	42.7
	Male	1189	57.3
Age	16–29	614	29.6
	30–49	885	42.7
	50–69	463	22.3
	70+	113	5.4
Marital status	Married	415	20
	Living with partner	364	17.5
	Widow/Widower	207	10
	Divorced	82	4
	Separated	54	2.6

Variable	Coding/Categories	Frequency	Percentage
	Never married	953	45.9
Education level	No school	87	4.2
	Primary school	330	15.9
	High school	723	34.8
	Matric	650	31.3
	Tertiary education	285	13.8
Employment status	Unemployed	999	48.1
	Employed	1176	51.9
Income	Low income	1037	50
	Middle income	937	45.2
	High income	101	4.9
Number of dependents	No dependents	927	44.7
	1–2 dependents	795	38.3
	More than 3 dependents	353	17.0
Financial literacy	Financially literate	986	47.5
	Not financially literate	1089	52.5
Financial advice	Yes	1379	66.5
	No	696	33.5
Confidence levels of retirement	Confident	978	47.2
	Not confident	1097	52.8

Source: Author's own work

The descriptive analysis for the respondents are as follows as per the demographics in Table 2:

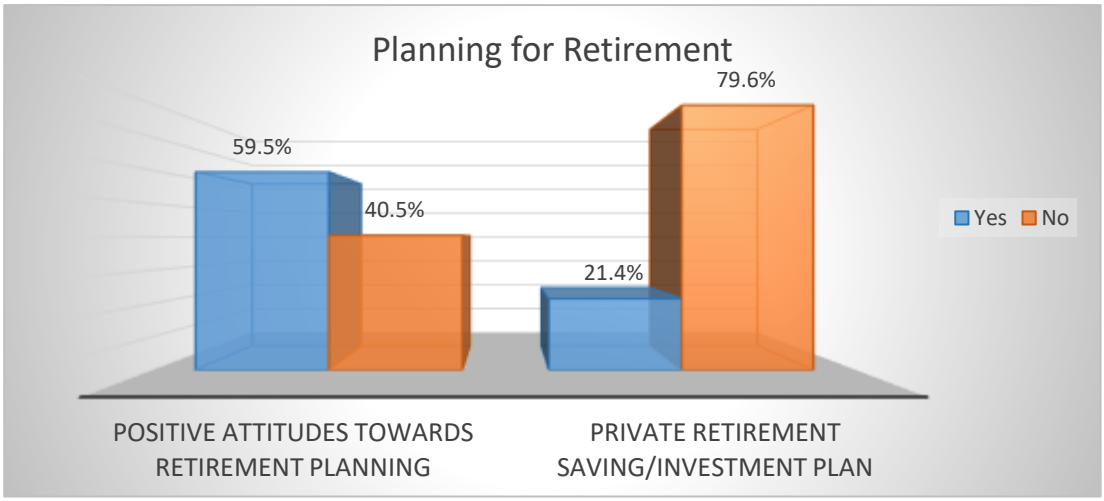
- **Race:** In the sample tested, 1 294 of the respondents identified themselves as African, 340 identified themselves as Coloured, 192 identified themselves as Asian/Indian, and 249 identified themselves as white.
- **Gender:** In the sample, 886 of the respondents identified themselves as female and 1 189 identified themselves as male.
- **Age:** Of the respondents, 614 were between the ages of 16 and 29; 885 were between the ages of 30 and 49; 463 were between the ages of 50 and 69; and 113 of the respondents were 70 or older.
- **Marital status:** In the sample, 415 of the respondents were married, 364 were living with a partner, 207 were widows/widowers, 82 were divorced, 54 were separated, and 953 of the respondents were never married.

- **Educational level:** Of the respondents, 87 had no formal education, 330 had primary school education, 723 had high school education, 650 had matric, and 285 had tertiary education.
- **Employment status:** 999 of the respondents were unemployed and 1 176 of the respondents were employed.
- **Income:** 1 037 of the respondents were in the low-income category, 937 of the respondents were in the middle-income category, and 101 of the respondents were in the high-income category.
- **Number of dependents** Of all the respondents, 927 of the respondents had no dependents, 795 had 1–2 dependents, and 353 of the respondents had more than three dependents.
- **Financial literacy:** In the sample, 986 of the respondents were financially literate and 1 089 not financially literate.
- **Financial advice:** Of the respondents, 1 379 indicated that they have receive financial advice and 696 said they have not.
- **Confidence level of retirement:** In the sample, 978 of the respondents were confident about retirement and 1 097 were not confident.

The analytical outcomes for the processed questions are in the questionnaire (Appendix A).

According to Appendix A, question 134 required respondents to indicate whether they did financial planning or not? This was to evaluate the behaviour and responses towards retirement. The results are presented in Figure 1. The figure shows that 59.5% of the respondents have a positive attitude towards retirement planning, however, only 21.4% are actually taking actions such as saving and investing for retirement.

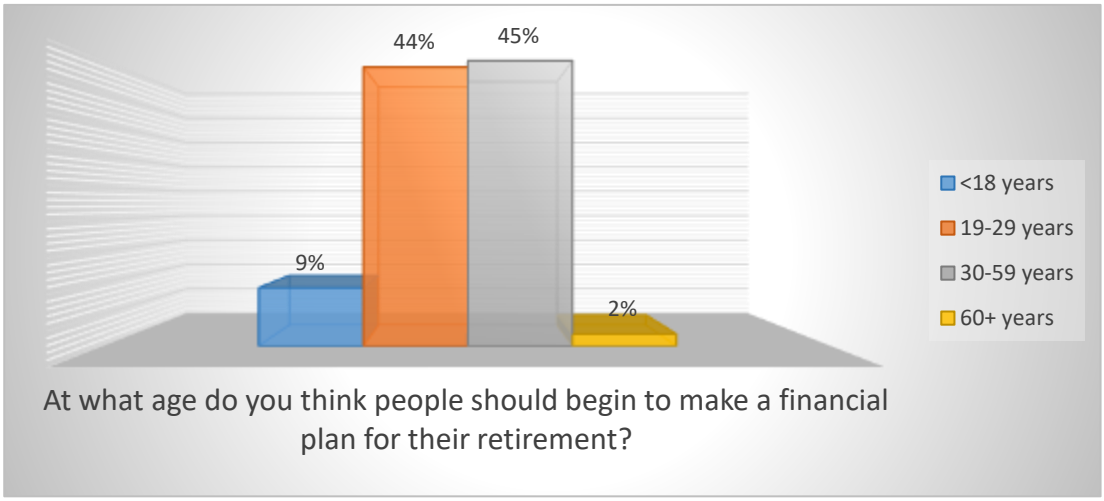
Figure 1: Retirement planning



Source: Author's own work

Question 39 of the questionnaire required respondents to indicate at what age do they think people should begin to make a financial plan for retirement? The findings are presented in Figure 2, which shows that 9% of the respondents indicated that individuals should begin at 18 years of age, 44% indicated between the ages of 19 and 29, 45% indicated between the ages of 30 and 59, and only 2% indicated that individuals should save for retirement at age 60.

Figure 2: Age and financial planning for retirement

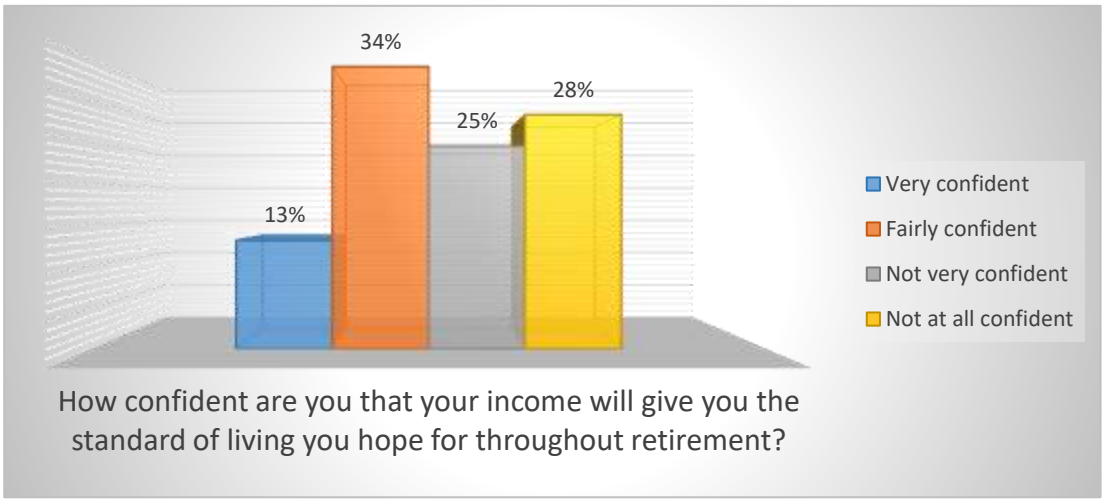


Source: Author's own work

Question 41 in Appendix A required respondents to how indicate confident are they that their income will give them the standard of living they hope for throughout retirement after taking all of their various sources of retirement income into account? The findings are presented in

Figure 3 and shows that 13% were *very confident*, 34% were *fairly confident*, 25% were *not very confident*, and 28% were *not at all confident*.

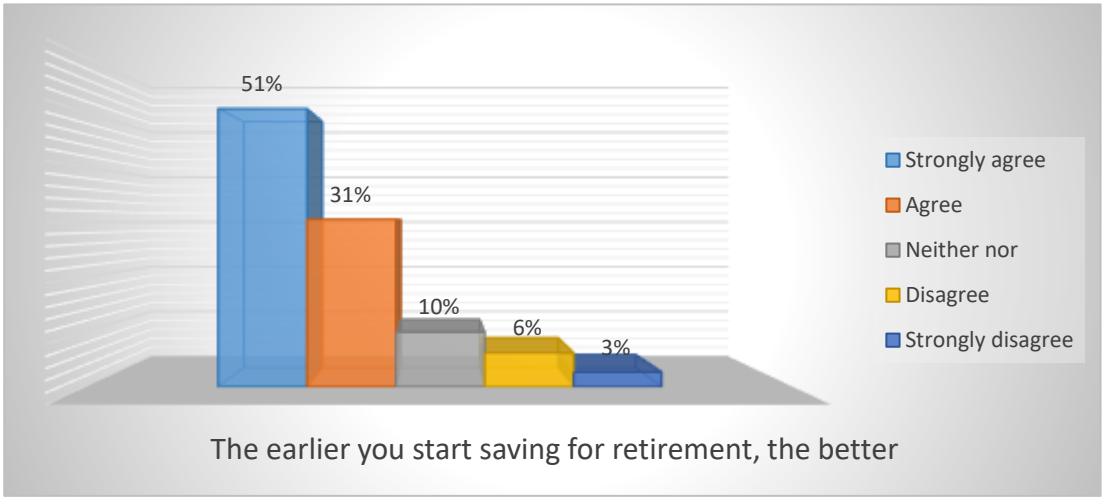
Figure 3: Confidence levels of retirement



Source: Author's own work

Question 125 in Appendix A required the respondents to agree or disagree with the question that the earlier one starts saving for retirement, the better? The findings are presented in Figure 4. The findings indicate that 51% of the respondents strongly agreed with the statement, 31% agreed, 10% were uncertain, 6% disagreed, and only 3% strongly disagreed.

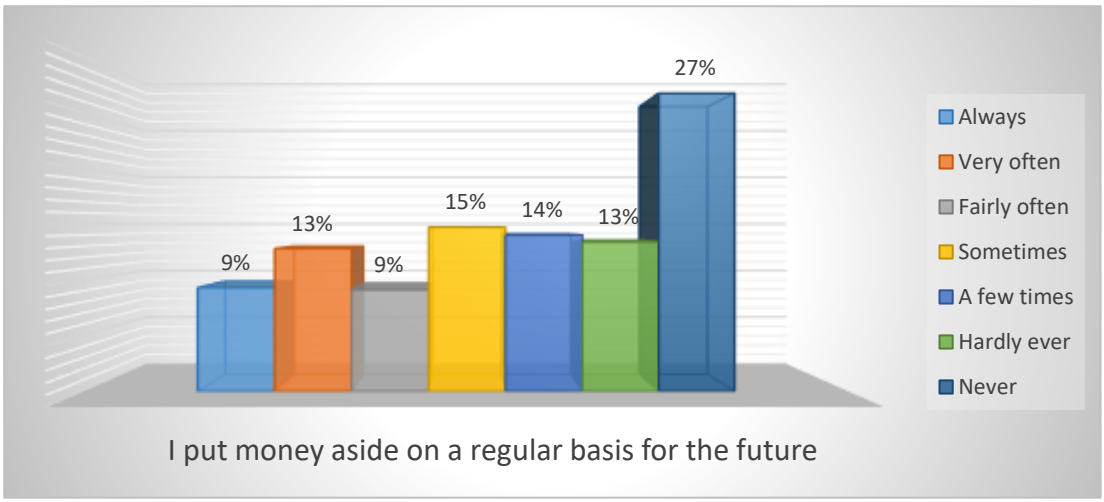
Figure 4: When to start saving for retirement



Source: Author's own work

Question 133 in Appendix A required the respondents to indicate whether they regularly put money aside for the future. The findings are presented in Figure 5. The table shows that 9% of the respondents chose *always*, 13% chose *very often*, 15% indicated *sometimes*, and 27% indicated *never*.

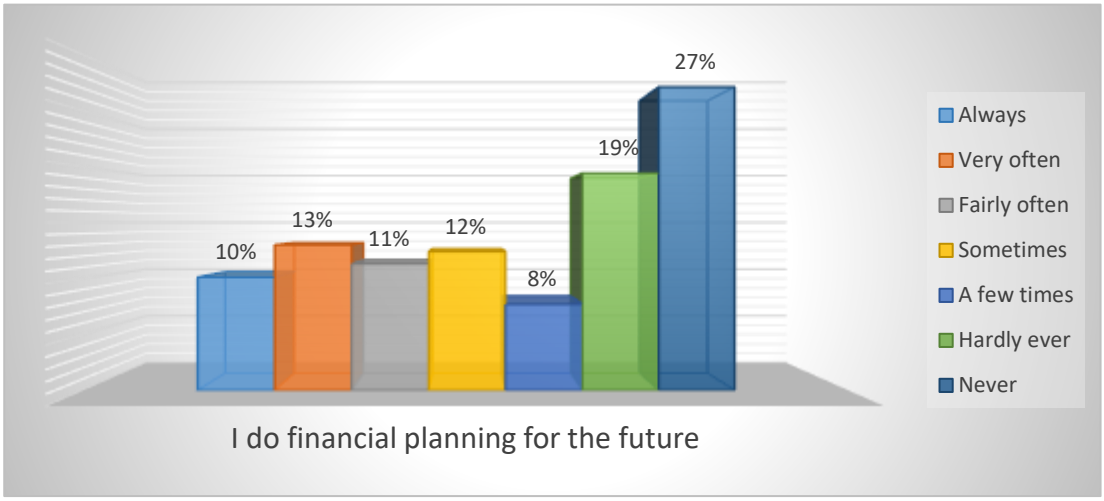
Figure 5: Regular saving for the future



Source: Author's own work

Question 134 in Appendix A required respondents to indicate whether or not they do financial planning for the future? The findings are presented in Figure 6. The table shows that 10% indicated *always*, 12% chose *sometimes*, 19% selected *hardly ever*, and 27% indicated *never*.

Figure 6: Financial planning for the future



Source: Author's own work

5.3 RETIREMENT PLANNING AND INDEPENDENT VARIABLES

5.3.1 Hypothesis testing

All independent variables were tested against the null hypothesis to test that they do not have a relationship with the dependent variable:

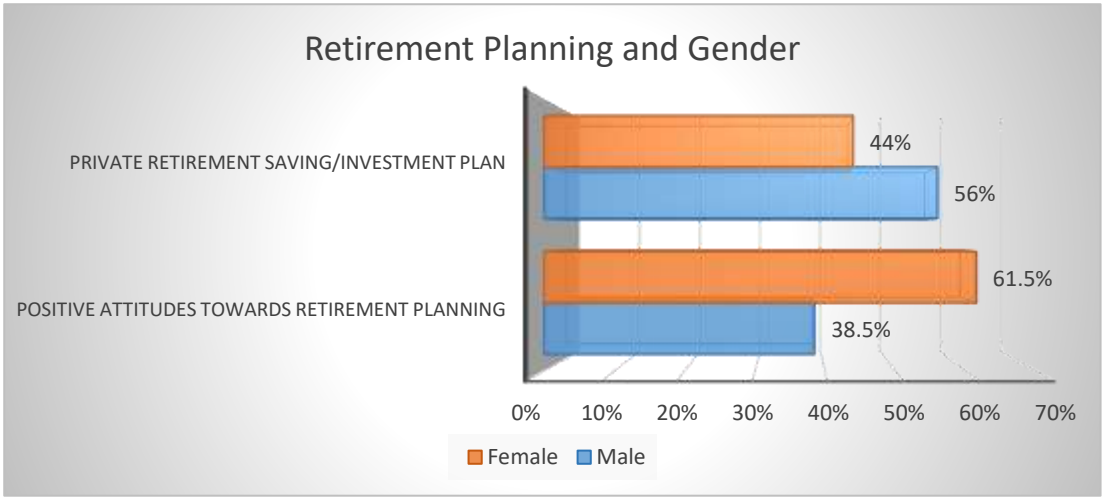
H0: There is no statistically significant relationship between the independent variables and the dependent variable (retirement planning).

H1: There is a statistically significant relationship between the independent variables and the dependent variable (retirement planning).

In this study significance levels less than or equal to 0.1 (10%) as measured by the p-value are considered statistically significant (Craparo, 2007). The p-value tests if the observed results occurred because of sampling error or not. If the p-value is less than or equal to the significance level, it means that the observed results reflect the true characteristics of the entire population, and therefore, the null hypothesis can be rejected (Faherty, 2007; Sirkin, 2005).

5.3.2 Retirement planning and gender

Figure 7: Retirement planning and gender



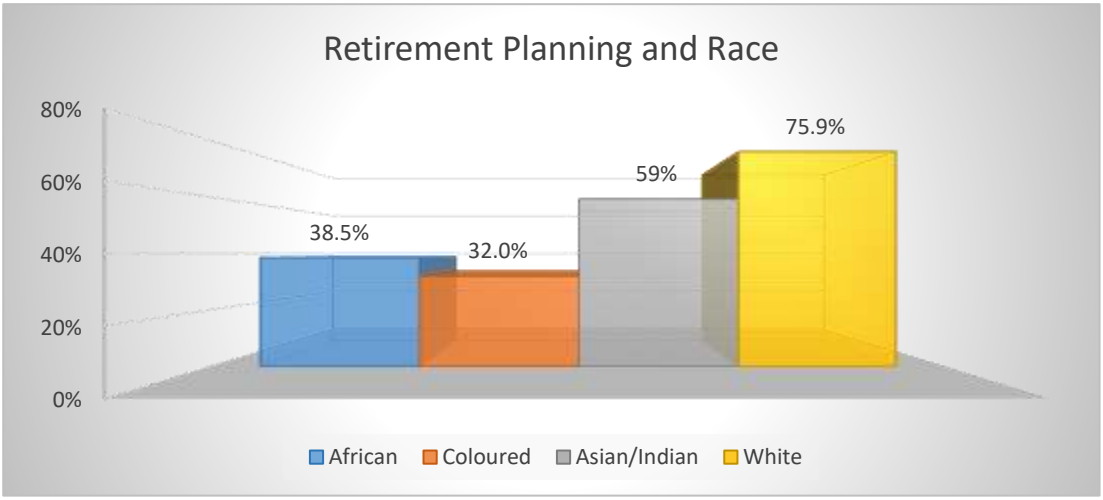
Source: Author's own work

The data analysis presented in Figure 7 suggests that South African women appear to have a more positive attitude towards retirement planning than men (61.5% vs 38.5%). This

means that South African women give more thought to saving and investing for retirement than South African men. However, fewer women than men are taking action and actually making plans and provision for retirement (56% vs 44%). This could be explained by the fact that South African women earn less that men, which leaves them with less money to save or invest for retirement. These results suggest that there is a positive relationship between gender and retirement planning. The relationship is statistically significant at 5% significance level (p = 0.046), and therefore, the null hypothesis that there is no relationship between gender and retirement planning is rejected and the alternative hypothesis that there is a relationship between gender and retirement planning is accepted.

5.3.3 Retirement planning and race

Figure 8: Retirement planning and race

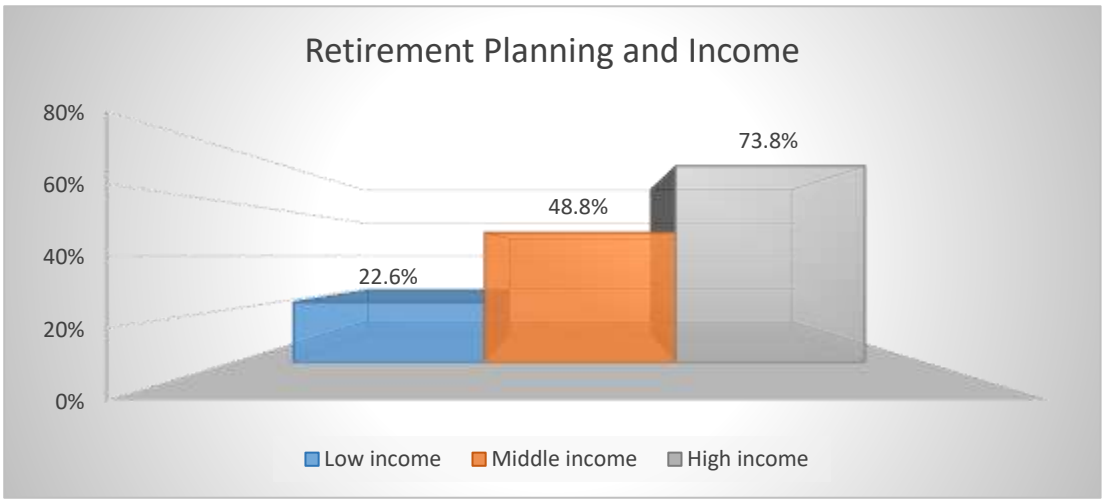


Source: Author's own work

The data analysis presented in Figure 8 reveal that white people exhibited more retirement planning behaviour (75.9%) than any other race. This means that of 75.9% of all the white people who participated in this study plan for retirement. Furthermore, the findings suggest that Coloureds and Africans are the population groups that plan least for retirement (32% and 38.5%, respectively). The results also show that 59% of Asians and Indians displayed retirement planning behaviour. These results suggest that there is a relationship between race and retirement planning. The relationship is statistically significant at 10% significance level (p = 0.072). Therefore, the null hypothesis that there is no relationship between race and retirement planning is rejected, and the alternative hypothesis that there is a relationship between race and retirement planning is accepted.

5.3.4 Retirement planning and income

Figure 9: Retirement planning and income

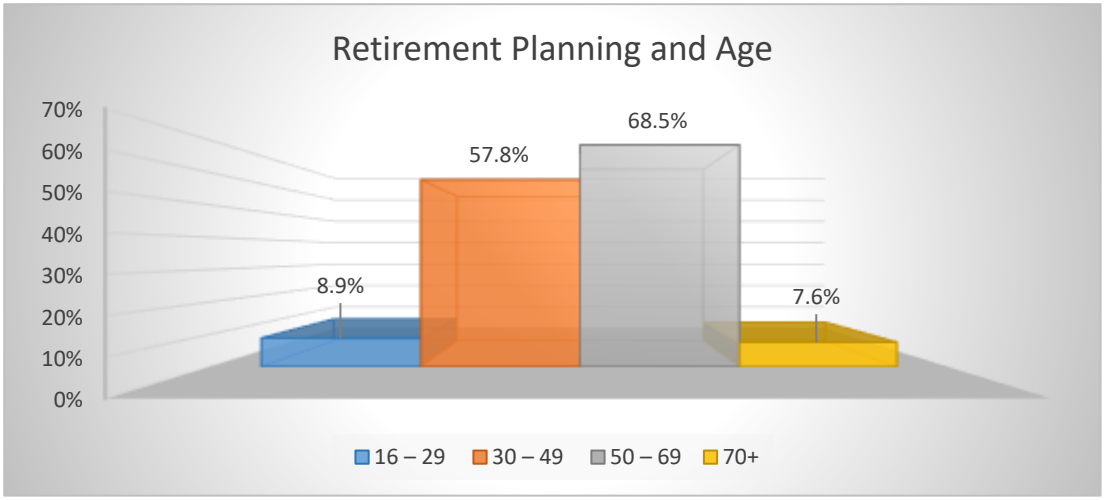


Source: Author's own work

Respondents in the high-income category (73.8%) exhibited more retirement planning behaviour than the middle-income (48.8%) and low-income (22.6%) categories. These results presented in Figure 9 suggest that there is a positive relationship between income and retirement planning. The relationship is statistically significant at 1% significance level ($p = 0.000$). This means that the null hypothesis that there is no relationship between income level and retirement planning is rejected and the alternative hypothesis that there is a relationship between income level and retirement planning is accepted.

5.3.5 Retirement planning and age

Figure 10: Retirement planning and age

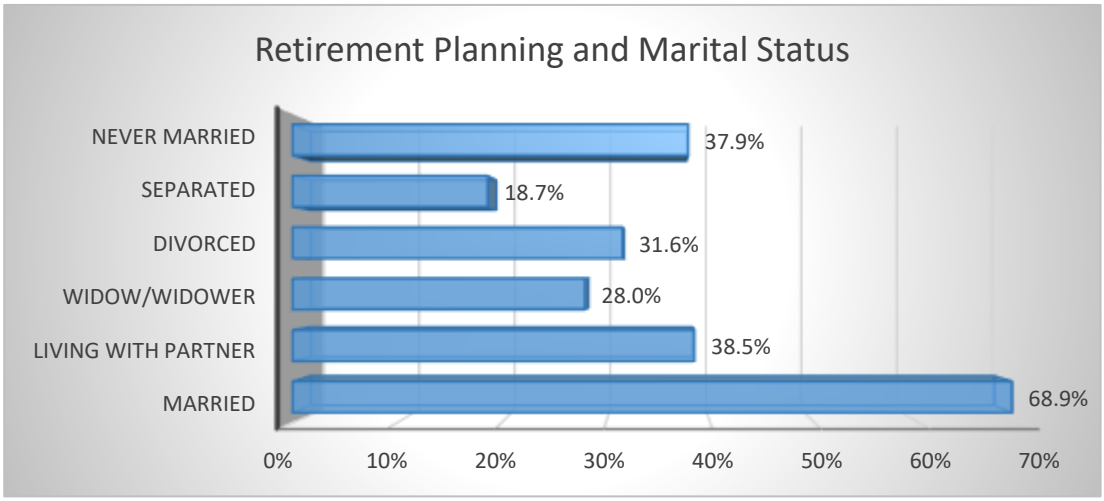


Source: Author's own work

The results presented in Figure 10 show that most South Africans plan for retirement when they are between the ages of 50 and 69 (68.5%). Of all the South Africans within the 30–49 age group, 57.8% plan for retirement. Only 8.9% of South Africans between the ages of 16 and 29 plan for retirement, and only 7.6% of South Africans 70 or older plan for retirement. These results suggest that there is a positive relationship between age and retirement planning. As South Africans get older, their retirement planning behaviour increases. This can be explained by the fact younger people think less about planning for retirement. The relationship is statistically significant at 5% significance level ($p = 0.022$), meaning that the null hypothesis that there is no relationship between age and retirement planning is rejected, and the alternative hypothesis that there is a relationship between age and retirement planning is accepted.

5.3.6 Retirement planning and marital status

Figure 11: Retirement planning and marital status



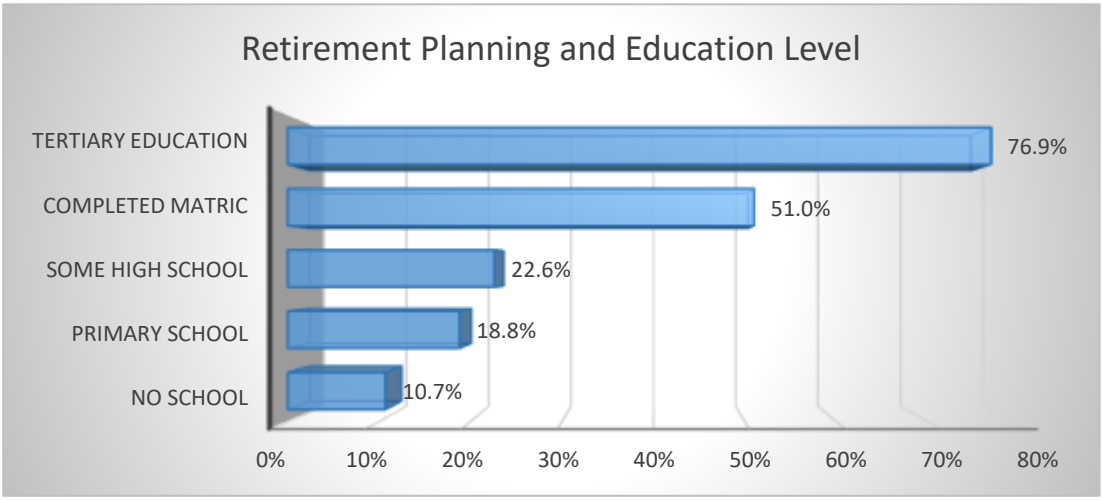
Source: Author's own work

The results presented in Figure 11 reveal that married South Africans (68.9%) plan for retirement more than South Africans in all the other different marital status categories. This is followed by South Africans living with partners (38.5%), South Africans who have never been married (37.9%), South Africans who are divorced (31.6%), and South Africans who are widows/widowers (28%). South Africans who are separated (18.7%) plan less for retirement than respondents in all the other different marital status categories. These

findings show that there is a relationship between marital status and retirement planning. The relationship is statistically significant at 5% significance level (p = 0.049). Therefore, the null hypothesis that there is no relationship between marital status and retirement planning is rejected, and the alternative hypothesis that there is a relationship between marital status and retirement planning is accepted.

5.3.7 Retirement planning and education level

Figure 12: Retirement planning and education level

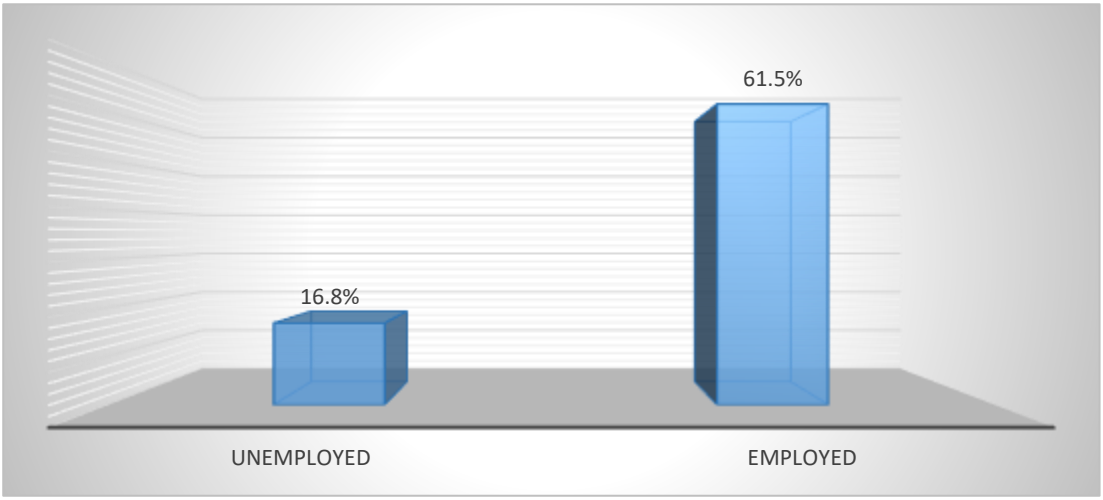


Source: Author's own work

The findings from this study presented in Figure 12 suggest that the higher the level of education of the respondent, the higher the chances that they plan for retirement. The results show that 76.9% of South Africans who have tertiary education plan for retirement, followed by South Africans who have matric (51%), South Africans who have some high school education (22.6%), and South Africans who have some primary school education (18.8%). The situation is dire for South Africans who have no education with only 10.7% of them planning for retirement. These results suggest that there is an association between education level and retirement planning: As the level of education increases, retirement planning behaviour also increases among South Africans. The relationship is statistically significant at 1% significance level (p = 0.002). Therefore, the null hypothesis that there is no relationship between education level and retirement planning is rejected, and the alternative hypothesis that there is a relationship between education level and retirement planning is accepted.

5.3.8 Retirement planning and employment status

Figure 13: Retirement planning and employment status



Source: Author's own work

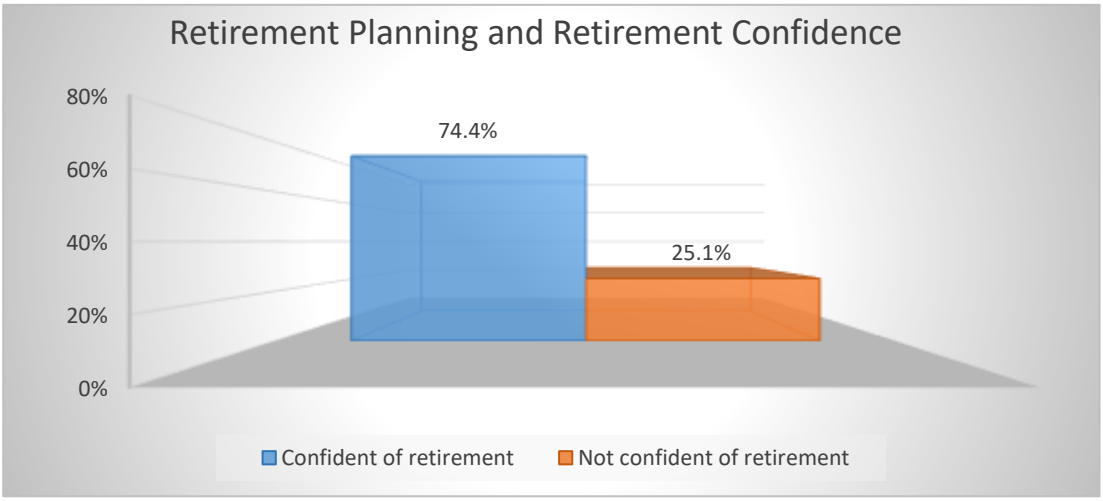
Only 21% of unemployed South Africans plan for retirement, compared to 79% of those who are employed. These findings, presented in Figure 13, are expected since unemployed people are less likely to have funds to invest for retirement. These findings suggest that there is a relationship between employment status and retirement planning. As the respondents move from being unemployed to being employed, their retirement planning behaviour increases. The relationship is statistically significant at 1% significance level ($p = 0.000$), meaning that the null hypothesis that there is no relationship between employment status and retirement planning is rejected, and the alternative hypothesis that there is a relationship between employment status and retirement planning is accepted.

5.3.9 Retirement planning and retirement confidence

Of the South Africans who indicated that they have no retirement confidence, only 25.1% exhibited retirement planning behaviour, compared to 74.4% of South Africans that claim they have retirement confidence. These findings presented in Figure 14 suggest that there is a positive relationship between retirement confidence levels and retirement planning. As the retirement confidence levels increase, retirement planning behaviour increases among South Africans. The relationship is statistically significant at 5% significance level ($p = 0.050$). Therefore, the null hypothesis that there is no relationship between retirement

confidence and retirement planning is rejected, and the alternative hypothesis that there is a relationship between retirement confidence and retirement planning is accepted.

Figure 14: Retirement planning and retirement confidence



Source: Author's own work

5.3.10 Retirement planning and financial advice

One of the main aims of this study was to explore the relationship between retirement planning and financial advice. This subsection presents financial advice across the socio-demographics. These results are presented in Table 3.

Table 3: Financial advice and demographics

Variable	Financial Advice (% within demographic)	
	No	Yes
Race		
African	40.3	59.7
Coloured	32.4	67.6
Asian/Indian	19.8	80.2
White	10.8	89.2
Gender		
Male	28.3	71.7
Female	37.4	62.6
Age		
16–29	35.5	64.5
30–49	33.1	66.9
50–69	33.0	67.0

Variable	Financial Advice (% within demographic)	
	No	Yes
70+	28.3	71.7
Marital Status		
Married	38.0	62.0
Living with partner	23.0	77.0
Widow/Widower	35.7	64.3
Divorced	37.8	62.2
Separated	28.6	71.4
Never married	38.2	61.8
Education Level		
No school	49.4	50.6
Primary school	47.6	52.4
High school	39.0	61.0
Matric	29.6	73.1
Tertiary education	12.7	87.3
Employment Status		
Unemployed	41.6	58.4
Employed	23.0	77.0
Income		
Low income	44.2	55.8
Middle income	24.2	75.8
High income	10.9	89.1

Source: Author's own work

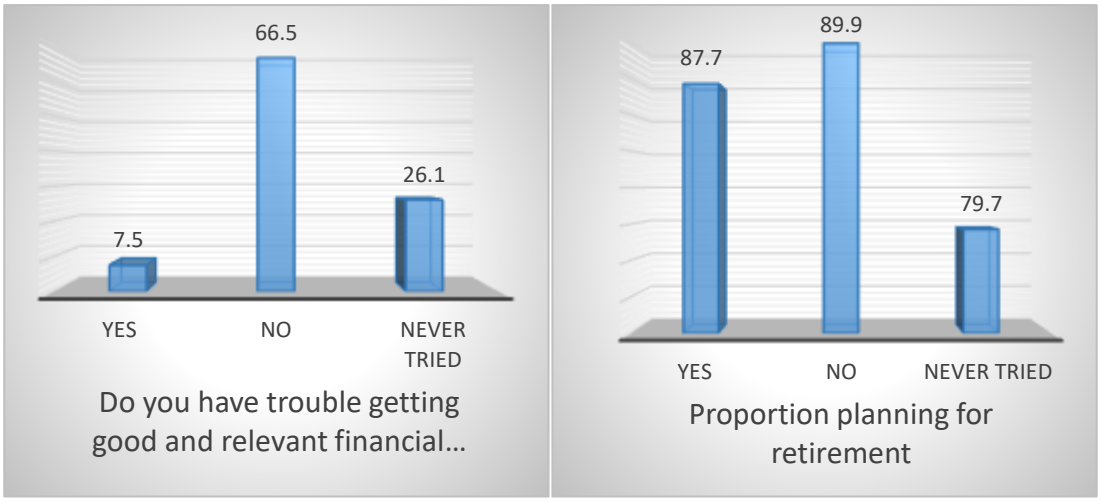
Table 3 shows that when it comes to financial advice and race, white respondents (89.2%) reported that they receive financial advice more than any other population group. This was followed by Asians/Indians (80.2%), Coloureds (67.6%) and Africans (59.7%). Male South Africans reported that they receive financial advice more than female respondents (71.7% vs 62.6%).

In terms of age, older South African seek financial advice more than younger South Africans. South Africans who live with partners get financial advice (77%) more than South Africans in other marital status categories. Respondents with tertiary education (87.3%) indicated that they receive financial advice more than respondents with less education.

More employed South Africans receive financial advice than unemployed South Africans (77% vs 58.4%). High-income earners (89.1%) receive financial advice more than middle-income (75.8%) and low-income (55.8%) earners.

Question 79 in Appendix A required respondents to indicate if they had trouble getting good and relevant financial advice. The findings are presented in Figure 15, showing that 7.5% of the respondents indicated *yes,* 66.5% indicated *no*, and 26.1% indicated *never tried*. This indicates that South Africans who have trouble getting good and relevant financial advice are less likely to plan for retirement that those who have no trouble getting financial advice. Respondents who have never tried to get financial advice are the least likely to plan for retirement. These findings show that access to good and relevant financial advice increases the probability of planning for retirement among South Africans.

Figure 15: Access to good and relevant financial advice and retirement planning



Source: Author's own work

5.4 CHI-SQUARE TEST RESULTS

A chi-square test for independence was performed to examine the relationship between financial advice and retirement planning. The relationship was statistically significant at 1% significance level (p =.000). Therefore, the null hypothesis that there is no relationship between financial advice and retirement planning is rejected, and the alternative hypothesis that there is a relationship between financial advice and retirement planning is accepted. South Africans who reported that they have received financial advice were more likely to exhibit retirement planning behaviour compared to those who did not receive financial advice. The findings in Table 4 suggest that financial advice can increase retirement planning among South Africans.

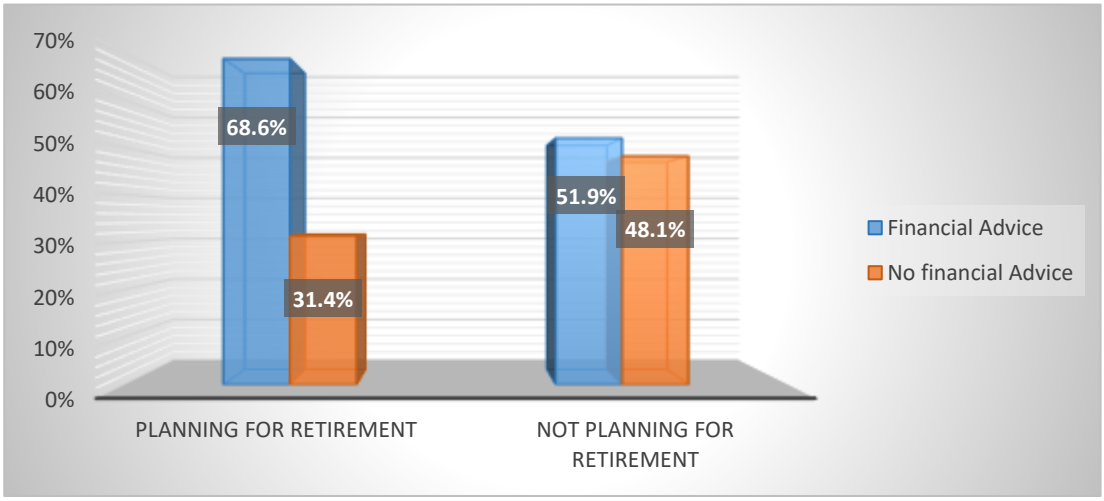
Table 4: Cross tabulation between retirement planning and financial advice

Retirement Planning * Financial Advice Crosstabulation					
			Financial Advice		Total
			No	Yes	
Retirement planning	Not planning	Count	129	139	268
		% within retirement planning	48.1%	51.9%	100%
		% within financial advice	18.5%	10.1%	12.9%
	Planning for retirement	Count	567	1240	1807
		% within retirement planning	31.4%	68.6%	100%
		% within financial advice	81.5%	89.9%	87.1%
Total		Count	696	1379	2075
		% within retirement planning	33.5%	66.5%	100%
		% within financial advice	100%	100%	100%

Source: Author's own work

Question 134 in Appendix A required respondents to indicate whether or not they did financial planning for the future. The findings are presented in Figure 16. Among South Africans who exhibited retirement planning behaviour, 68.6% reported they received financial advice compared to 31.4% who indicated that they did not receive financial advice. On the other hand, among South Africans who did not exhibit retirement planning behaviour, 59.1% indicated that they received financial advice and 48.1% did not. These results imply that the more financial advice South Africans get the more likely they are to plan for retirement (see Table 4 and Figure 16).

Figure 16: Retirement planning and financial advice



Source: Author's own work

These findings suggest that financial advice is not the only determinant of retirement planning. This is because more than half the respondents who did not exhibit retirement planning behaviour (51.9%) also reported that they received financial advice. This means that even though these respondents got financial advice, most of them do not plan for retirement. This shows that there are factors that influence retirement planning other than financial advice. It can therefore be inferred that if policy makers want to encourage South Africans to plan for retirement, improving access to and availability of good, affordable financial advice can be a good place to start. However, improving access to financial advice alone will not be enough, they also have to focus on factors such as financial literacy.

5.5 LOGISTIC REGRESSION MODEL RESULTS

In this study the researcher sought to explore how various demographic, socioeconomic and other characteristics such as financial literacy, financial advice and retirement confidence levels influence retirement planning among South Africans. To gain insight into how the variables influence retirement planning, the following variables were selected: population groups, gender, age, marital status, income, education level, number of dependents, financial literacy, financial advice and retirement confidence level. These variables were selected because they help reveal the relationship between, for example, gender or age of a respondent and retirement planning. It is very likely that variables such as income and financial literacy affect retirement planning in one way or another. As such, these variables were included as explanatory or independent variables in the logistic regression model predicting retirement planning.

The odds ratio in Table 5 is a measure of association/relationship between an exposure and an outcome; in other words, it represents the chance/odds that an outcome will occur given a specific exposure compared to the chance/odds of the outcome occurring in the absence of the exposure (Szklo & Nieto, 2014; Szumilas, 2010). In this study, the odds ratio represents the chance/odds that an outcome (retirement planning) will occur given a specific exposure (e.g. financial advice) compared to the chance/odds of the outcome (retirement planning) occurring in the absence of the exposure (e.g. financial advice). Standard error measures the magnitude of accuracy with which an estimate represents the true population (Rabe-Hesketh & Everitt, 2003).

Table 5: Logistic regression model results

Variables	Odds Ratios	Standard Error	P-value
Race			
African	1		
Coloured	0.79	0.20	0.26
Asian/Indian	1.59	0.11	0.02
White	1.85	0.17	0.00
Gender			
Male	1		
Female	0.63	0.95	0.00
Age			
16–29	1		
30–49	1.78	1.22	0.00
50–69	1.81	0.85	0.02
70+	0.12	0.92	0.11
Marital Status			
Married	1		
Living with partner	0.52	1.05	0.02
Widow/Widower	0.07	0.22	0.58
Divorced	0.22	0.54	0.00
Separated	0.11	1.24	0.81
Never married	0.43	0.08	0.03
Education Level			
No school	1		
Primary school	1.01	0.80	0.59
High school	1.36	0.21	0.28
Matric	1.44	1.09	0.06
Tertiary education	1.83	0.08	0.00
Employment Status			
Unemployed	1		
Employed	1.86	0.20	0.00
Income			
Low income	1		
Middle income	1.41	0.61	0.07
High income	1.79	0.54	0.01
Number of Dependents			
No dependents	1		
1–2 dependents	0.62	0.55	0.33
More than 3 dependents	0.81	0.74	0.00
Financial Advice			
Yes	1		

Variables	Odds Ratios	Standard Error	P-value
No	0.35	0.81	0.02
Confidence Levels of Retirement			
Confident	1		
Not confident	0.55	1.44	0.00

Source: Author's own work

- **Race:** The logistic regression model revealed that South Africans who identify themselves as Asian/Indian are 59% more likely than South Africans who identify themselves as African to exhibit retirement planning behaviour. White South Africans are 85% more likely than those who identify themselves as African to exhibit retirement planning behaviour. There is no statistically significant difference between retirement planning behaviour exhibited by Coloured respondents and African respondents. Overall, these results suggest that there is a relationship between race and retirement planning and that race is an important predictor of retirement planning behaviour among South Africans.
- **Gender:** In the logistic regression model predicting retirement planning, holding all other variables constant, the findings suggest that South African women are 37% less likely than South African men to exhibit retirement planning behaviour. These findings suggest that there is a positive relationship between gender and retirement planning.
- **Age:** The logistic regression model reveals that South Africans in the age group 50–69 are 85% more likely than South Africans in the 16–29 age group to exhibit retirement planning behaviour; followed by South Africans in the age group 30–49, who are 78% more likely than those in the 16–29 age group to exhibit retirement planning behaviour. There is no significant difference between retirement planning behaviour exhibited by South Africans over the age of 70 and South Africans in the 16–19 age group. These findings suggest that there is a positive relationship between age and retirement planning. As South Africans get older, their retirement planning behaviour increases. This can be explained by the fact that as people get older, they start to think more about planning for retirement.
- **Marital status:** As far as marital status is concerned, the logistic regression analysis results reveal that South Africans living with partners are 48% less likely than married South Africans to exhibit retirement planning behaviour. The findings also show that

divorced South Africans are 78% less likely than married South Africans to exhibit retirement planning behaviour. Respondents who stated that they have never been never married are 57% less likely than married respondents to exhibit retirement planning behaviour. There is no statistically significant difference between retirement planning behaviour exhibited by widows/widowers or separated South Africans and married South Africans. Overall, these findings demonstrate that there is a relationship between marital status and retirement planning. The results also show that marital status is an important predictor of retirement planning behaviour among South Africans.

- **Education level:** South Africans with matric are 44% more likely than South Africans with no formal education to exhibit retirement planning behaviour. Similarly, South Africans with tertiary education are 83% more likely than South Africans with no formal education to exhibit retirement planning behaviour. There is no significant difference between retirement planning behaviour exhibited by South Africans with high school or primary school education and South Africans with no formal education. These results suggest that there is a positive relationship between education level and retirement planning. As South Africans' education levels increase, retirement planning behaviour also increases.
- **Employment status:** In the logistic regression model predicting retirement planning, holding all other variables constant, the findings suggest that employed South Africans are 86% more likely than unemployed South Africans to exhibit retirement planning behaviour. These findings suggest that there is a positive relationship between employment status and retirement planning. As South Africans move from being unemployed to being employed their retirement planning behaviour increases.
- **Income level:** South Africans in the middle-income group are 44% more likely than South Africans in the low-income group to exhibit retirement planning behaviour. High earning South Africans are 79% more likely than low-income earners to exhibit retirement planning behaviour. This is expected since high-income earners are more likely to have money to invest for retirement than low-income earners. These findings suggest that there is a positive relationship between income level and retirement planning. As South Africans' income increases, retirement planning behaviour also increases.

- **Number of dependents:** South Africans with more than three dependents are 19% less likely than South Africans with no dependents to exhibit retirement planning behaviour. There is no statistically significant difference between retirement planning behaviour exhibited by South Africans with 1–2 dependents and South Africans with no dependents. Overall, these results suggest that there is a negative relationship between the number of dependents and retirement planning. This might be explained by the fact that South Africans with more dependents may have less funds to invest for retirement.
- **Financial advice:** Findings from the multivariate logistic regression also reveal the importance of financial advice in determining retirement planning. South Africans who indicated that they have received no financial advice are 65% less likely than South Africans who have received financial advice to exhibit retirement planning behaviour. These results imply that there is a positive relationship between financial advice and retirement planning. The more financial advice South Africans get, the more they plan for retirement.
- **Retirement confidence levels:** South Africans who reported low retirement confidence levels are 55% less likely than South Africans who indicated that they are confident to retire to exhibit retirement planning behaviour. These findings suggest that there is a positive relationship between retirement confidence levels and retirement planning. As South Africans' retirement confidence levels increase, retirement planning behaviour increases.

5.6 DIAGNOSTIC TESTS

Diagnostic tests were carried out on the independent variables (explanatory variables) to evaluate their appropriateness or suitability for inclusion in the logistic regression model. The multicollinearity test and goodness of fit test that was done are described here:

- **Multicollinearity test:** In the presence of multicollinearity, the regression coefficients are indeterminate and standard errors are infinite, and even if they are definite, they pose a greater risk of committing a type 1 error (rejecting the null hypothesis when it is true) (Greene & Hensher, 2003). As a result, coefficients will not be estimated with accuracy and the results cannot be relied on (Gujarati & Sangeetha, 2007). This study employed variance inflation factor to test for multicollinearity. In this study, the mean

variance inflation factor for all the variables is 1.2, showing that there are negligible linear associations among the variables, justifying their inclusion in the logistic regression model.

- **Goodness of fit test:** The goodness of fit of a model shows how accurately the estimates produced by the model reflect the true behaviour captured in the data; in other words, it measures how well the model fits the data (Gujarati & Sangeetha, 2007; Hosmer et al., 2013). This study produced statistically non-significant Hosmer-Lemeshow values for the model, which indicates that the logistic regression model is a good fit.

5.7 SUMMARY

This chapter examined the relationship between retirement planning and financial advice in South Africa. In order to do so, the descriptive statistics, including the categories of variables, frequencies and percentages for each category for all variables in the study, were examined. Then a chi-square test and the logistic regression model were applied to determine the relationship between retirement planning and financial advice. The chi-square test and the logistic regression model indicated that there is a significant relationship between retirement planning and financial advice. This relationship is indicated because the more South Africans receive financial advice, the more likely they are to plan for retirement.

Based on the results of the study, the first hypothesis that there is a significant relationship between retirement planning and financial advice can be accepted and the null hypothesis that there is no relationship between retirement planning and financial advice can be rejected.

Furthermore, the logistic regression was applied in the study to determine the relationship between the socio-demographics and retirement planning. The logistic regression analysis indicated that there is a positive relationship between the socio-demographics and retirement planning. The relationship is indicated by the fact that when an individual is married and older, more educated, wealthier, and more stable in their employment status, they more likely to plan for retirement. It was further noted that males are more likely to plan for retirement than females in South Africa, and that whites has a higher rate of planning for retirement than other races. However, the results showed that there is no relationship between number of dependents and retirement planning, because when an individual has

more dependents they are less likely to plan for retirement. This may be because there are less money to save.

Based on the results of the study, the second hypothesis that there is a relationship between retirement planning and socio-demographics is accepted and the null hypothesis that there is no relationship between retirement planning and socio-demographics is rejected.

The study also examined the relationship between financial advice and socio-demographics. The results indicated that financial advice have an important correlation with socio-demographics. It indicates that a male individual, who is white, older, not married but lives with a partner, who earns a higher income, and is educated are more likely to receive financial advice than a female who has the opposite socio-demographics. With these results in mind, the study shows that there is a relationship between financial advice and socio-demographics; however, it does not conclude whether it is a positive or negative relationship.

Thus, based on the results of the study, the third hypothesis that there is a relationship between financial advice and socio-demographics is accepted and the null hypothesis that there is no relationship between financial advice and socio-demographics is rejected.

The finding discussed in this chapter answered the research problem and all the developed hypotheses. The next chapter outlines the conclusion and recommendations for future research.

CHAPTER 6: CONCLUSION

6.1 INTRODUCTION

The main aim for this study was to determine the relationship between retirement planning and financial advice. In that regard, Chapter 1 provided a detailed background of the study, deliberated on the problem statement, formulated hypotheses to help achieve the objectives of the study, and described the rationale for the study. Chapter 2 provided an in-depth review of the academic literature, highlighting the fundamentals of retirement planning, savings theories that motivate retirement saving behaviour, factors affecting retirement planning, and the socio-demographics of retirement planning. Chapter 3 provided an in-depth review of the academic literature, highlighting the fundamentals of financial advice, discussing the behavioural theories that influence financial advice and decision-making; the legal, compensation and competency frameworks were also discussed. Chapter 4 described the methodology applied in the study to attain the described objectives. Chapter 5 was dedicated to describing and discussing the results.

This chapter discusses the summary of the findings compared to other literature, the contributions and future scope of the study, and conclude by making recommendations.

6.2 SUMMARY OF THE FINDINGS OF THE STUDY

The first hypothesis relates to evaluating the relationship between retirement planning and financial advice. Marsden et al. (2011) found that there is no relationship between financial advice and retirement saving. In contrast, Cockerline (2012) found that there is significant correlations between retirement readiness and the utilisation of financial advice. This is in line with the findings of this study, which found that there is a positive relationship between retirement planning and financial advice.

The second hypothesis relates to evaluating the relationship between retirement planning and socio-demographics. Kim, Kwon, and Anderson (2005) found that Black respondents are more confident than their white counterparts about the perceived adequacy of their retirement income. Reyers (2018) found that when all other behavioural and socio-demographics are constant, Blacks are more likely to be confident about their retirement

savings than whites. In contrast, this study found that the white respondents are more likely to be confident and usually plan for retirement.

The third hypothesis relates to evaluating the relationship between financial advice and socio-demographics. Chalmers and Reuter (2012) found that less educated, young individuals, with lower incomes are most likely to choose financial advice. In contrast, this study found that older males who are financial literate and are high-income earners are most likely to seek financial advice.

6.3 CONTRIBUTIONS AND FUTURE SCOPE OF THE STUDY

This study focused on the relationship between retirement planning and financial advice because not many studies have researched this topic in South Africa. The results of this study indicate that there is a strong relationship between planning for retirement and financial advice. This means that the more South African individuals seek financial advice, the more likely they are to plan for retirement. Thus this study will add to the field of knowledge about South Africans' position in terms of planning for retirement and the influence that financial advice has on retirement. When managers, governments and other institutions are aware of the importance of financial advice for retirement planning, they will be able to make decisions to ensure individuals plan better for retirement.

The researcher proposes that an extensive study be conducted on post-retired households who received financial advice and the value it added to their retirement wealth accumulation for financial independence. The literature may provide a clear path to support this study in terms of the value that financial advice may add to pre-retirement planning. Furthermore, a study should be conducted that applies the prospect theory, instead of the more common saving theories such as LCH and PIH, as a fundamental theory to predict the behaviour of individuals in their retirement planning choices.

6.4 RECOMMENDATIONS OF THE STUDY

In light of this study's results and conclusions, the researcher proposes the following:

- Due to the daily emerging risks and environmental changes, future studies should be conducted based on recently collected data. For example, Covid-19 changed people's lives in the blink of an eye, and many people's saving behaviour has

changed due to the pandemic and many people's financial behaviours will change because of increasing job losses and low economic activity that occurred during the lockdown period.

- The use of secondary data should be minimised because of its limitation to reach beyond what the data was designed for. For example, one of the shortcomings of secondary data is that the questions are already designed, and this limits the researcher if the questions do not answer their research problem.

Overall, the study achieved its objective and, by applying statistical techniques, it determined that retirement planning has a positive relationship with financial advice.

7. REFERENCES

10X Investments. (2018). South African retirement reality report 2018. Retrieved from https://www.10x.co.za/blog/south-african-retirement-reality-report

Acharya, J., Canonne, C. L., & Tyagi, H. (2019). *Inference under information constraints: Lower bounds from chi-square contraction.* Paper presented at the *Proceedings of the The Thirty-Second Conference on Learning Theory, in PMLR 99 (pp. 3–17)*.

Alexander Forbes. (2019). Understanding the value of retirement benefits counselling for retirement fund members. Retrieved from https://www.alexanderforbes.co.za/articles/saving-in-the-south-african-context

Ali, S. B., & Frank, H. A. (2019). Retirement planning decisions: Choices between defined benefit and defined contribution plans. *The American Review of Public Administration, 49*(2), 218–235.

Aliyu, A. A., Bello, M. U., Kasim, R., & Martin, D. (2014). Positivist and non-positivist paradigm in social science research: Conflicting paradigms or perfect partners. *Journal of Management & Sustainability, 4(3)*, 79. doi:10.5539/jms.v4n3p79

Allen, M. (2017). *The SAGE encyclopedia of communication research methods*: Sage Publications.

Anderson, S. G., Seayb, M. C., Kimc, K. T., & Lawsond, D. R. (2018). Advisor compensation: Which clients know and how do they pay? *Financial Services Review, 27*(3).

Ateef, M. (2020). Measurement properties of the knee injury and osteoarthritis outcome score patello femoral questionnaire in Saudi Arabians. *PeerJ, 8*, e9323. doi:10.7717/peerj.9323

Austin, P. C., & Merlo, J. (2017). Intermediate and advanced topics in multilevel logistic regression analysis. *Statistics in medicine, 36*(20), 3257-3277.

Babbie, E., & Mouton, J. (2001). The practice of social research. *Cape Town: Oxford University Press Southern Africa*.

Bachmann, K., Hens, T., & Stössel, R. (2016). Which measures predict risk taking in a multi-stage controlled decision process? *Swiss Finance Institute Research Paper*(17-51).

Barbić, D., Palić, I., & Bahovec, V. (2016). Logistic regression analysis of financial literacy implications for retirement planning in Croatia. *Croatian Operational Research Review, 7*(2), 319–331.

Bateman, H., Lai, A., & Stevens, R. (2011). Analysis of risk presentations in retirement investment choices under prospect theory.

Bergtold, J. S., Yeager, E. A., & Featherstone, A. M. (2018). Inferences from logistic regression models in the presence of small samples, rare events, nonlinearity, and multicollinearity with observational data. *Journal of Applied Statistics, 45*(3), 528–546.

Bernard, C., & Ghossoub, M. (2010). Static portfolio choice under cumulative prospect theory. *Mathematics and financial economics, 2*(4), 277–306.

Bilgili, F., & Bağlıtaş, H. H. (2016). Testing the permanent income and random walk hypotheses for Turkey. *International Journal of Economics and Financial Issues, 6*(4), 1371–1378.

Blau, D. M. (2008). Retirement and consumption in a life cycle model. *Journal of Labor Economics, 26*(1), 35–71.

Browning, M., & Lusardi, A. (1996). Household saving: Micro theories and micro facts. *Journal of Economic literature, 34*(4), 1797–1855.

Bryman, A., & Bell, E. (2007). Business research strategies. *Business research methods*, 226–238.

Bryman, A., & Bell, E. (2011). Business research methods. *New York: Oxford University Press.*(3rd).

Burke, J., & Hung, A. A. (2015). *Do financial advisers influence savings behavior?* : RAND Corporation.

Caers, R., Bois, C. D., Jegers, M., Gieter, S. D., Schepers, C., & Pepermans, R. (2006). Principal-agent relationships on the stewardship-agency axis. *Nonprofit Management and Leadership, 17*(1), 25–47.

Calcagno, R., & Monticone, C. (2015). Financial literacy and the demand for financial advice. *Journal of Banking & Finance, 50*, 363–380.

Castellan, C. M. (2010). Quantitative and qualitative research: A view for clarity. *International journal of education, 2*(2), 1.

Certified Financial Planner Board. (2011a). Types of financial advisors. Retrieved from http://letsmakeaplan.org/Why-You-Need-A-Plan/Types-of-Financial-Advisors.aspx?gclid=CNrpgrKLuKoCFeJ65Qodv%20DYT8A

Certified Financial Planner Board. (2011b). CFP board mission. Retrieved from http://www.cfp.net/

Chalmers, J., & Reuter, J. (2012). What is the impact of financial advisors on retirement portfolio choices and outcomes? *SSRN, 2078536*. doi:10.2139/ssrn.2078536

Chartered Financial Analyst Institute. (2011). What we stand for. Retrieved from http://www.cfainstitute.org/about/strategy/Pages/index.aspx

Chatterjee, S., & Zahirovic-Herbert, V. (2010). Retirement planning of younger baby-boomers: who wants financial advice? *Financial Decisions, 22*(2), 1–12.

Chen, W. K., & Tsao, C. (2010). The third order cumulative prospect stochastic dominance in portfolio management.

Choy, L. T. (2014). The strengths and weaknesses of research methodology: Comparison and complimentary between qualitative and quantitative approaches. *IOSR Journal of Humanities and Social Science, 19*(4), 99–104.

Ciu, T., & Oetama, R. S. (2020). Logistic regression prediction model for cardiovascular disease. *International Journal of New Media Technology, 7*(1), 33–38.

Clark, G. L., Fiaschetti, M., & Gerrans, P. (2015). The demand for advice in defined contribution pension plans: Age, gender, and the size-of-bet effect.

Clark, G. L., Knox-Hayes, J., & Strauss, K. (2009). Financial sophistication, salience, and the scale of deliberation in UK retirement planning. *Environment and Planning A: Economy and Space, 41*(10), 2496–2515. doi:10.1068/a41265

Cockerline, J. (2012). New evidence on the value of financial advice. *The Investment Funds Institute of Canada*.

Cohen, R., & Swerdlik, M. (2010). Test development. In Psychological testing and assessment. In: New York, NY: McGraw-Hill Higher Education.

Craparo, R. (2007). Significance level. In N. J. Salkind (Ed.), Encyclopedia of measurement and statistics (Vol. 3; p. 890). In: Thousand Oaks, CA: SAGE Publications.

Cronbach, L. (1951). Coefficient alpha and the internal structure of tests. . Psychometrika, 16, 297–334.

Crotty, M. (2003). *The foundations of social research: Meaning and perspective in the research process*: Sage.

Debbich, M. (2015). Why financial advice cannot substitute for financial literacy? *Banque de France Working Paper No. 534*.

Denton, F. T., & Spencer, B. G. (2009). What is retirement?: A review and assessment of alternative concepts and measures. *Canadian Journal on Aging/La Revue Canadienne Du Vieillissement, 28*(1), 63-76.

Dummann, K. (2008). Retirement saving and attitude towards financial intermediaries: Evidence for Germany. *Thuenen-Series of Applied Economic Theory, 99*.

Earl, J. K., Gerrans, P., & Halim, V. A. (2015). Active and adjusted: Investigating the contribution of leisure, health and psychosocial factors to retirement adjustment. *Leisure Sciences, 37*(4), 354–372.

Elsig, M. (2011). Principal–agent theory and the World Trade Organization: Complex agency and 'missing delegation'. *European Journal of International Relations, 17*(3), 495–517.

Facciolo, F. J. (2013). Introduction to Symposium: Revolution in the regulation of financial advice: The US, the UK and Australia. *St. John's Law Review, 87*(2/3), 297.

Faherty, V. E. (2007). *Compassionate statistics: Applied quantitative analysis for social services (with exercises and instructions in SPSS)*: Sage Publications.

Financial Services Authority. (2011). The Financial Conduct Authority: Approach to regulation. *London: Financial Services Authority.*

Financial standard Board. (2011). Consumer finance protection with particular focus on credit. *Basel: Financial Stability Board*.

Finke, M. S. (2014). Fiduciary standard and financial advice: Findings from academic literature. *SSRN, 2419727*. doi:10.2139/ssrn.2419727

Finke, M. S., Huston, S. J., & Waller, W. (2009). Do contracts impact comprehensive financial advice? *SSRN, 1429807*. doi:doi:10.2139/ssrn.1429807

Finke, M. S., Huston, S. J., & Winchester, D. D. (2011). Financial advice: Who pays. *Journal of Financial Counseling and Planning, 22*(1), 18.

Fisher, P. J., & Yao, R. (2017). Gender differences in financial risk tolerance. *Journal of Economic Psychology, 61*, 191–202.

Fountain, L. D. (2019). Retirement planning in reality. *AlanGray*. Retrieved from

https://www.allangray.co.za/latest-insights/retirement/retirement-planning-in-reality/

Friedman, M. (1957). Introduction to "A Theory of the Consumption Function". In A theory of the consumption function (pp. 1–6). Princeton University ©press. In.

Gailmard, S. (2012). Accountability and principal-agent models. *Chapter prepared for the Oxford Handbook of Public Accountability*.

Gerrans, P., & Hershey, D. A. (2017). Financial adviser anxiety, financial literacy, and financial advice seeking. *Journal of Consumer Affairs, 51*(1), 54–90.

Ghazvini, K., Yousefi, M., Firoozeh, F., & Mansouri, S. (2019). Predictors of tuberculosis: Application of a logistic regression model. *Gene Reports, 17*, 100527.

Glen, S. (2014). Cronbach's Alpha: Simple definition, use and interpretation. *StatisticsHowTo.com*. Retrieved from https://www.statisticshowto.com/cronbachs-alpha-spss/.

Gottschalk, F. C. (2019). Regulating markets with advice: an experimental study. *SSRN, 3113528*. doi:10.2139/ssrn.3113528

Grable, J. E. (2000). Financial risk tolerance and additional factors that affect risk taking in everyday money matters. *Journal of business and psychology, 14*(4), 625–630.

Greene, W. H., & Hensher, D. A. (2003). A latent class model for discrete choice analysis: contrasts with mixed logit. *Transportation Research Part B: Methodological, 37*(8), 681–698.

Greenwald, L., Copeland, C., & VanDerhei, J. (2017). The 2017 retirement confidence survey: Many workers lack retirement confidence and feel stressed about retirement preparations. *EBRI Issue Brief, 431*.

Guillemette, M., Finke, M. S., & Gilliam, J. (2012). Risk tolerance questions to best determine client portfolio allocation preferences. *Journal of Financial Planning, 25*(5), 36-44.

Gujarati, D. N. (2003). Basic econometrics (4th ed.). *Singapura: McGraw-Hill*.

Gujarati, D. N., & Sangeetha. (2007). Basic econometrics. *New Delhi: Tata McGraw-Hill., 110*(008), 451-452.

Hackethal, A., Haliassos, M., & Jappelli, T. (2012). Financial advisors: A case of babysitters? *Journal of Banking & Finance, 36*(2), 509–524.

Haider, S. J., & Stephens, M. J. (2007). Is there a retirement-consumption puzzle? Evidence using subjective retirement expectations. *The review of economics and statistics, 89*(2), 247–264.

Hanrahan, P. (2018). Legal framework for the provision of financial advice and sale of financial products to Australian households. *Background Paper,7. Royal Commission into Misconduct in the Banking, Superannuation and Financial Services Industry*.

Hastings, J., & Mitchell, O. S. (2011). How financial literacy and impatience shape retirement wealth and investment behaviors. *Journal of Pension Economics & Finance*(19), 1–20. doi:10.1017/S1474747218000227

Hens, T., & Mayer, J. (2014). Theory matters for financial advice! *Swiss Finance Institute Research Paper*.

Hens, T., & Mayer, J. (2018). Decision theory matters for financial advice. *Computational Economics, 52*(1), 195–226.

Hira, T. K., Rock, W. L., & Loibl, C. (2009). Determinants of retirement planning behaviour and differences by age. *International Journal of Consumer Studies, 33*(3), 293–301.

Hofstee, E. (2006). Constructing a good dissertation. *Johannesburg: EPE*.

Hosmer , D. W. J., Lemeshow, S., & Sturdivant, R. X. (2013). *Applied logistic regression* (Vol. 398): John Wiley & Sons.

Hox, J. J., & Boeije, H. R. (2005). Data collection, primary versus secondary. *In Encyclopedia of Social Measurement (pp. 593–599)*. doi:10.1016/b0-12-369398-5/00041-4

Human Sciences Research Council. (2011). South African Social Attitudes Survey (SASAS) 2011 FSB user guide. Retrieved from www.hsrc.ac.za/sasas

Hung, A., & Yoong, J. (2013). Asking for help: Survey and experimental evidence on financial advice and behavior change. *The market for retirement financial advice. RAND Working Paper Series WR-714-1*. doi:10.2139/ssrn.1532993

Hurst, E. (2004). Grasshoppers, ants and pre-retirement wealth: A test of permanent income consumers. *Michigan Retirement Research Center Research Paper No. WP, 88*.

Inderst, R., & Ottaviani, M. (2012a). Financial advice. *Journal of Economic literature, 50*(2), 494–512.

Inderst, R., & Ottaviani, M. (2012b). Regulating financial advice. *European Business Organization Law Review, 13*(2), 237–246.

Jensen, M. C., & Meckling, W. H. (1976). Theory of the firm: Managerial behavior, agency costs and ownership structure. *Journal of Financial Economics, 3*(4), 305–360.

Jiménez-Martín, S., & Sánchez Martín, A. R. (2007). An evaluation of the life cycle effects of minimum pensions on retirement behavior. *Journal of Applied Econometrics, 22*(5), 923–950.

Johnston, M. P. (2017). Secondary data analysis: A method of which the time has come. *Qualitative and quantitative methods in libraries, 3*(3), 619-626.

Joo, S. H., Grable, J. E., & Choe, H. (2007). Who is and who is not willing to use online employer-provided retirement investment advice. *journal of employment counseling, 44*(2), 73–85.

Joo, S. H., & Pauwels, V. (2002). Factors affecting workers' retirement confidence: A gender perspective. *Journal of Financial Counseling and Planning, 13*(2).

Kahneman, D. (2011). *Thinking, fast and slow*: Macmillan.

Kahneman, D., & Tversky, A. (1979). Prospect theory: An analysis of decisions under risk. *Econometrica, 47(2)*, 263–291.

Kamanga, T. (2018). *The role of financial literacy in financial inclusion in emerging markets: evidence from South Africa.* University of Cape Town,

Kim. (2017). Statistical notes for clinical researchers: Chi-squared test and Fisher's exact test. *Restorative dentistry & endodontics, 42*(2), 152–155.

Kim, Kwon, J., & Anderson, E. A. (2005). Factors related to retirement confidence: Retirement preparation and workplace financial education. *Financial Counseling and Planning, 16*(2), 77–89.

Kimberlin, C. L., & Winterstein, A. G. (2008). Validity and reliability of measurement instruments used in research. *American journal of health-system pharmacy, 65*(23), 2276–2284.

Koning, F. F., & Harbor, W. (2013). *Investigating retirement ability of high net worth individuals in South Africa.* Paper presented at the Actuarial Society of South Africa's 2013 Convention.

Kramer, M. M. (2014). Financial literacy, overconfidence and financial advice seeking. *Journal of Economic Behavior & Organization, 131, 198–217*.

Leedy, P. D., & Ormrod, J. E. (2013). Planning and design (10th ed.). Pearson.

Leedy, P. D., & Ormrod, J. E. (2015). Practical research: Planning and design: Planning and design. (11th ed.). Pearson.

Lemaster, P. (2014). Gender and financial risk tolerance across the life span. *PhD Dissertation. West Virginia University.*

Levy, J. S. (1992). An introduction to prospect theory. *Political Psychology, 13(2), 171–186.*

Lusardi, A., Michaud, P., & Mitchell, O. (2013). Optimal financial knowledge and wealth inequality. *National Bureau of Economic Research Working Paper No. w18669*. doi:10.3386/w18669

Lusardi, A., & Mitchell, O. S. (2007). Financial literacy and retirement preparedness: Evidence and implications for financial education. *Business economics, 42*(1), 35–44.

Lusardi, A., & Mitchell, O. S. (2011a). *Financial literacy and planning: Implications for retirement wellbeing*. Retrieved from https://www.dartmouth.edu/~alusardi/Papers/FinancialLiteracy.pd

Lusardi, A., & Mitchell, O. S. (2011b). Financial literacy and retirement planning in the United States. *National Bureau of Economic Research Working Paper No. 17108*. doi:10.3386/w17078

Magruder, J. R. (2012). High unemployment yet few small firms: the role of centralized bargaining in South Africa. *American Economic Journal Applied Economics, 4(3), 138–166.*

Marsden, M., Zick, C. D., & Mayer, R. N. (2011). The value of seeking financial advice. *Journal of family and economic issues, 32*(4), 625–643.

Martin, T. K. J., & Finke , M. (2014). A comparison of retirement strategies and financial planner value. *Journal of Financial Planning, 27*(11), 46.

McHugh, M. L. (2013). The chi-square test of independence. *Biochemia medica, 23*(2), 143–149.

McMeel, G. (2013). International issues in the regulation of financial advice: A United Kingdom perspective-the retail distribution review and the ban on commission payments to financial intermediaries. *St. John's Law Review, 87(2), 595*.

Mitchell, O. S., & Smetters, K. (2013). *The market for retirement financial advice*: Oxford University Press.

Mitnick, B. M. (1973). *Fiduciary rationality and public policy: The theory of agency and some consequences.* Paper presented at the 1973 Annual Meeting of the American Political Science Association, New Orleans, LA

Modigliani, F., & Brumberg, R. (1954). Utility analysis and the consumption function: An interpretation of cross-section data. *Post-keynesian economics, 1*, 338–436.

Montmarquette, C., & Viennot-Briot, N. (2015). The value of financial advice. *Annals of Economics and Finance, 16*(1), 69–94.

Mullainathan, S., Noeth, M., & Schoar, A. (2012). *The market for financial advice: An audit study. National Bureau Of Economic Research Working Paper 17929*. Retrieved from

Muratore, A. M., & Earl, J. K. (2010). Predicting retirement preparation through the design of a new measure. *Australian Psychologist, 45*(2), 98–111.

Nguyen, L., Gallery, G., & Newton, C. (2016). The influence of financial risk tolerance on investment decision-making in a financial advice context. *Australasian Accounting, Business and Finance Journal, 10*(3), 3–22.

Nkoutchou, H., & Eiselen, R. (2012). Retirement saving behaviour of young adults in the financial services sector. *Journal of Economic and Financial Sciences, 5*(1), 31–48.

Nofsinger, J. R., & Varma, A. (2007). How analytical is your financial advisor? *Financial Services Review, 16*(4), 245.

Norton, E. C., & Dowd, B. E. (2018). Log odds and the interpretation of logit models. *Health services research, 53*(2), 859–878.

O'Connell, A. A., & Amico, K. R. (2019). Logistic regressions and extensions. *In G. R. Hancock, L. M. Stapleton, & R. O. Mueller (Eds.), The reviewer's guide to quantitative methods in the social sciences (pp. 214–234). Taylor & Francis.*

OECD. (2002). DevelopmentGlossary of statistical terms. Retrieved from https://stats.oecd.org/glossary/detail.asp?ID=730

Olsen, A., & Whitman, K. (2007). Effective retirement savings programs: Design features and financial education. *Social Security Bulletin, 67(3), 53–72*.

Omondi-Ochieng, P. (2019). Resource-based theory of college football team competitiveness. *International Journal of Organizational Analysis, 27(4).* doi:10.1108/IJOA-04-2018-1403

Perrow, C. (1986). Complex organizations (3rd ed.). New York: McGraw-Hill. In.

Petkoska, J., & Earl, J. K. (2009). Understanding the influence of demographic and psychological variables on retirement planning. *Psychology and Aging, 24(1), 245–251.*

Rabe-Hesketh, S., & Everitt, B. (2003). *Handbook of statistical analyses using stata*: CRC Press.

Ranganathan, P., Pramesh, C., & Aggarwal, R. (2017). Common pitfalls in statistical analysis: Logistic regression. *Perspectives in Clinical Research, 8(3), 148–151*. doi:10.4103/picr.PICR_87_17

Republic of South Africa. (2002). Financial Advisory and Intermediary Services Act 37 of 2002. Retrieved from https://www.gov.za/documents/financial-advisory-and-intermediary-services-act

Reyers, M. (2018). Perceptions of retirement adequacy: Evidence from South Africa. *Journal of Financial Counseling and Planning, 29*(2), 343–356.

Ricci, O., & Caratelli, M. (2017). Financial literacy, trust and retirement planning. *Journal of Pension Economics & Finance, 16*(1), 43–64.

Robb, C. A., Babiarz, P., & Woodyard, A. (2012). The demand for financial professionals' advice: The role of financial knowledge, satisfaction, and confidence. *Financial Services Review, 21*(4), 291–305.

Sanlam benchmark survey. (2013). South Africa's retirement crisis: An infographic. Retrieved from https://moneysmart.co.za/community/2013/05/south-africas-retirement-crisis-a-retirementplanning

Saunders, M., Lewis, P., & Thornhill, A. (2007). Research methods for business students (4th ed.). Pearson Education.

Saunders, M., Lewis, P., & Thornhill, A. (2009). Research methods for business students (5th ed.). Pearson Education.

Savela, T. (2018). The advantages and disadvantages of quantitative methods in schoolscape research. *Linguistics and Education, 44*, 31–44.

Schober, P., & Vetter, T. R. (2019). Chi-square tests in medical research. *Anesthesia & Analgesia, 129*(5), 1193.

Seay, M., Kim, K. T., & Heckman, S. (2016). Exploring the demand for retirement planning advice: The role of financial literacy. *Financial Services Review, 25*(4), 331–350.

Simonsen, B., & Hill, L. (1998). Municipal bond issuance: Is there evidence of a principal-agent problem? *Public Budgeting & Finance, 18*(4), 71–100.

Sirkin, R. M. (2005). *Statistics for the social sciences*: Sage Publications.

Smith, H. L., & Griesdorn, T. (2014). Do saving rules influence self-©Employed households' participation in tax-deferred retirement plans? . *Family and Consumer Sciences Research Journal, 43(1), 47–60.*

Solomon, S., & Mulugeta, W. (2019). Diagnosis and risk factors of advanced cancers in Ethiopia. *Journal of cancer prevention, 24*(3), 163–172.

Speelman, C., Clark-Murphy, M., & Gerrans, P. (2006). Decision making clusters and gender issues in retirement savings. *Proceedings of Australian Society of Heterodox Economists Conference (pp. 337–346)*. Retrieved from https://ro.ecu.edu.au/cgi/viewcontent.cgi?referer=https://www.google.com/&httpsredir=1&article=2761&context=ecuworks

Strydom, P. (2007). Saving behaviour by South African households. *First National Bank*. Retrieved from https://www.fnb.co.za/economics/econhtml/docs/SavingHouseholds.pdf

Sur, P., Chen, Y., & Candès, E. J. (2019). The likelihood ratio test in high-dimensional logistic regression is asymptotically a rescaled chi-square. *Probability Theory and Related Fields, 175(1–2), 487–558*.

Szklo, M., & Nieto, F. J. (2014). *Epidemiology: beyond the basics*: Jones & Bartlett Publishers.

Szumilas, M. (2010). Explaining odds ratios. *Journal of the Canadian academy of child and adolescent psychiatry, 19*(3), 227.

Tang, N., & Hu, X. (2019). Financial literacy and the use of financial advice—a non-monotonic relationship. *TIAA Institute*. Retrieved from https://www.tiaainstitute.org/publication/financial-literacy-and-use-financial-advice-non-monotonic-relationship

Tavakol, M., & Dennick, R. (2011). Making sense of Cronbach's alpha. *International journal of medical education, 2*, 53-55. doi:10.5116/ijme.4dfb.8dfd

Ting, L., & Kollamparambil, U. (2015). Nature and determinants of household retirement savings behaviour in South Africa. *Development Southern Africa, 32*(6), 675–696.

Van Rooij, M. C., Lusardi, A., & Alessie, R. J. (2012). Financial literacy, retirement planning and household wealth. *The Economic Journal, 122*(560), 449-478.

Van Smeden, M., De Groot, J. A., Moons, K. G., Collins, G. S., Altman, D. G., Eijkemans, M. J., & Reitsma, J. B. (2016). No rationale for 1 variable per 10 events criterion for binary logistic regression analysis. *BMC medical research methodology, 16*(1), 163.

Vatcheva, K. P., Lee, M., McCormick, J. B., & Rahbar, M. H. (2016). Multicollinearity in regression analyses conducted in epidemiologic studies. *Epidemiology (Sunnyvale), 6*(2), 227.

Wahyuni, D. (2012). The research design maze: Understanding paradigms, cases, methods and methodologies. *Journal of applied management accounting research, 10*(1), 69–80.

Waterman, R. W., & Meier, K. J. (1998). Principal-agent models: An expansion? *Journal of public administration research and theory, 8*(2), 173–202.

Werner, J., & Sjoberg, J. (2016). Prospect theory in the automated advisory process. Masters Thesis. KTH Industrial Engineering and Management. In.

Wiener, J., & Doescher, T. (2008). A framework for promoting retirement savings. *Journal of Consumer Affairs, 42*(2), 137–164.

Xiao, J. J. (2016). Handbook of consumer finance research. *Springer*.

Yurdugül, H. (2008). Minimum sample size for Cronbach's coefficient alpha: a Monte-Carlo study. *Hacettepe Üniversitesi eğitim fakültesi dergisi, 35*(35), 1–9.

Zeka, B., & Matchaba-Hove, T. (2016). *Determining retirement intentions: A study of working individuals in the Eastern Cape, South Africa. Proceedings of the 24th International Academic Conference, Barcelona (pp. 430–445)*.

Zhang, C., Chen, N., & Zou, C. (2016). Robust multivariate control chart based on goodness-of-fit test. *Journal of Quality Technology, 48*(2), 139-161.

APPENDIX A: DATA COLLECTION INSTRUMENT

Abstract of the "South African Social Attitudes Survey 2011: FSB Questionnaire draft"

South Africa Financial Literacy Baseline Survey
September/October 2011

RESPONDENTS AGED 16 YEARS + Good (morning/afternoon/evening), I'm _____ and we are conducting a survey for the Human Sciences Research Council (HSRC). The HSRC regularly conducts surveys of opinion amongst the South African population. Topics include a wide range of social matters such as communications, politics, education, unemployment, and the problems of the aged and inter-group relations. As a follow-up to this earlier work, we would like to ask you questions on a variety of subjects that are of national importance. To obtain reliable, scientific information we request that you answer the questions that follow as honestly as possible. Your opinion is important in this research. The area in which you live and you yourself have been selected randomly for the purpose of this survey. The fact that you have been chosen is thus quite coincidental. The information you give to us will be kept confidential. You and your household members will not be identified by name or address in any of the reports we plan to write.

**** RESPONSE CODES**

Completed questionnaire	=	01
Partially completed questionnaire (specify reason)	=	02
Revisit		
Appointment made	=	03
Selected respondent not at home	=	04
No one home	=	05
Do not qualify		
Vacant house/flat/stand/not a house or flat/demolished	=	06
No person qualifies according to the survey specifications	=	07
Respondent cannot communicate with interviewer because of language	=	08
Respondent is physically/mentally not fit to be interviewed	=	09
Refusals		
Contact person refused	=	10
Interview refused by selected respondent	=	11
Interview refused by parent	=	12
Interview refused by other household member	=	13

OFFICE USE
= 14

Name of Interviewer

……..

Number of interviewer ……

Checked by ……

Signature of supervisor ……

FIELDWORK CONTROL

CONTROL	YES	NO	REMARKS
Personal	1	2	
Telephonic	1	2	
Name	SIGNATURE……..		
……..	DATE……../……/……..2011		

RESPONDENT SELECTION PROCEDURE

Number of households at visiting point

Number of persons 16 years and older at visiting point

Please list all persons at the visiting point/on the stand who are 16 years and older and were resident 15 out of the past 30 days. Once this is completed, use the Kish grid on next page to determine which person is to be interviewed.

Name of persons aged 16 years and older

01	
02	
03	
04	
05	
06	NAME OF RESPONDENT
07	ADRESS OF RESPONDENT……
08	……
09	TEL NO:
10	

FSB/NATIONAL TREASURY FINANCIAL LITERACY BASELINE SURVEY QUESTIONNAIRE: 2011

Number of persons in this household	
Number of persons 16 years or older in this household	

INTERVIEWER: PLEASE CIRCLE APPROPRIATE CODES

Household schedule	Write in from oldest (top) to youngest (bottom)	Age in completed years	Sex M=1 F=2	Race Group	Relationship to respondent
Please list all persons in the household who eat from the same cooking pot and who were resident 15 out of the past 30 days Note: Circle the number next to the name of the household head.	01 02 03 04 05 06 07 08 09 10				

Race Group codes
1 = African/Black
2 = Coloured
3 = Indian/Asian
4 = White
5 = Other

Relationship to respondent codes
1 = Respondent
2 = Wife or husband or partner
3 = Son or daughter
4 = Father or mother
5 = Brother or sister
6 = Grandchild
7 = Grandparent
8 = Mother-in-law or father-in-law
9 = Son-in-law or daughter-in-law
10 = Brother-in-law or sister-in-law
11 = Other relation
12 = Non-relation

SECTION 3: FINANCIAL PLANNING

I would now like to discuss various aspects of planning for the future, including planning for unexpected events as well as making plans for things that you know will happen in the medium to long term.

Retirement

39. At what age do you think people should begin to make a financial plan for their retirement?

Age (in years)	……..
(Don't know)	8
(Refused)	9

40. Which of the following are included in your financial plan for retirement? [FSB Showcard 5**]**

INTERVIEWER: MULTIPLE RESPONSES ALLOWED. CIRCLE ALL THAT APPLY.

a.	Government old age pension	01
b.	Workplace pension	02
c.	Personal retirement savings plan	03
d.	Moving to a cheaper property in the same area	04
e.	Moving to a cheaper area	05
f.	Sell your financial assets (such as: stocks, bonds or mutual funds)	06
g.	Sell your non-financial assets (such as: a car, property, art, jewels, etc.)	07
h.	Use an inheritance	08
i.	Rely on your spouse or partner to support you	09
j.	Rely on your children to support you	10
k.	Rely on financial support from your wider family	11
l.	Drawing an income from your own business	12
m.	Continue to work after retirement age to earn money	13
n.	Other (SPECIFY)	14
o.	(Don't know)	98
p.	(Refused)	99

41. Taking all of the various sources of retirement income into account, how confident are you that your income will give you the standard of living you hope for throughout retirement?

Very confident	1

Fairly confident	2
Not very confident	3
Not at all confident	4
(Don't know)	8
(Refused)	9

SECTION 5: FINANCIAL ADVICE

78. If you need financial advice, who do you normally ask for help?

INTERVIEWER: MULTIPLE RESPONSES ALLOWED. CIRCLE ALL THAT APPLY.

a.	Family member	01
b.	Friend	02
c.	Someone you trust in the community	03
d.	Your employer	04
e.	Co-worker or colleague	05
f.	Independent broker	06
g.	Financial advisor other than an independent broker (e.g. tax consultant, auditor)	07
h.	Stokvel /umgalelo/savings club	08
i.	Burial society	09
j.	Church	10
k.	Bank	11
l.	Insurance company	12
m.	Mashonisa	13
n.	Other (SPECIFY)	14
o.	Would not ask anyone for help	15
p.	(Don't know)	98

79. Do you have trouble getting good and relevant financial advice?

Yes	01	
No	02	→ Skip to Q.81

(Question not relevant/Never tried)	03	→	Skip to Q.81
(Don't know)	08	→	Skip to Q.81
(Refused)	09	→	Skip to Q.81

80. Thinking about the last time you tried to get good financial advice; do you think any of the following statements apply to your experience?

INTERVIEWER: MULTIPLE RESPONSES ALLOWED. CIRCLE ALL THAT APPLY.

a.	You did not know where to look for advice	1
b.	You could not find the advice you were looking for	2
c.	You could not get advice at a time to suit you	3
d.	You did not understand the advice you were given	4
e.	There were so many advisors available you didn't know which to choose	5
f.	You asked advice from several people and found that they gave different answers	6
g.	You got advice but you didn't know whether to trust it or not	7
h.	You followed the advice you were given and later regretted it	8

81. In the last 12 months, have you asked a financial professional for financial advice in relation to any of the following?

INTERVIEWER: MULTIPLE RESPONSES ALLOWED. CIRCLE ALL THAT APPLY.

a.	Savings or investment	1		
b.	Taking out mortgage or loan	2		
c.	Insurance of any type	3		
d.	Tax planning	4		
e.	Managing credit/debt	5		
f.	(None of the above)	6	→	Skip to Q.84
g.	(Don't know)	8	→	Skip to Q.84
h.	(Refused)	9	→	Skip to Q.84

IF YES TO ANY IN Q.81:

82. Thinking about the professional you have used most often for financial advice, was this an...?

...Independent Financial Advisor	1
...Manager or advisor at a bank or building society	2
...Manager or advisor at an insurance company	3

...Accountant	4
Other (SPECIFY)	5
(Don't know)	8
(Refused)	9

83. Did you pay for (any of) this advice or was it entirely free?

Paid for advice	1
Entirely free	2
(Don't know)	8
(Refused)	9

84. Thinking about the last time you tried to get good financial advice; do you think any of the following statements apply to your experience? [INTERVIEWER: Read out and mark all that apply].

a.	You felt that the advisor understood your needs	1
b.	You got the advice that you needed	2
c.	You were able to understand exactly what the advisor was recommending	3
d.	The advisor behaved professionally	4
e.	(Don't know)	8
f.	(Refused)	9

85. In the last 12 months, have you asked friends or family for financial advice in relation to any of the following?

INTERVIEWER: MULTIPLE RESPONSES ALLOWED. CIRCLE ALL THAT APPLY.

a.	Savings or investments	1
b.	Taking out a home loan	2
c.	Taking out a loan or credit agreement	3
d.	Insurance of any type	4
e.	Tax	5
f.	Managing credit/debt	6
g.	(None of the above)	7
h.	(Don't know)	8

I.	(Refused)	9

Indicate the extent to which you would trust or distrust the following to provide good financial advice. Please answer even if you do not currently get advice from these sources. [FSB Showcard 11]

		Strongly trust	Trust	Neither trust nor distrust	Distrust	Strongly distrust	(Do not know)
86.	Independent broker or financial advisor	1	2	3	4	5	8
87.	Insurance company	1	2	3	4	5	8
88.	Bank or banker	1	2	3	4	5	8
89.	Government	1	2	3	4	5	8
90.	Informal associations like stokvels or umgalelos or savings clubs	1	2	3	4	5	8
91.	Friends and family	1	2	3	4	5	8
92.	An employer or work colleague	1	2	3	4	5	8
93.	Church	1	2	3	4	5	8
94.	Someone in your community with a good education	1	2	3	4	5	8
95.	TV or radio advertisement	1	2	3	4	5	8
96.	Newspaper	1	2	3	4	5	8
97.	A moneylender or mashonisa	1	2	3	4	5	8

Making Decisions

How much do you agree or disagree with the following statements? [FSB Showcard 12]

		Totally agree	Tend to agree	Tend to disagree	Totally disagree	(Don't know)	(Not applicable)	(Refused)
98.	I've got a clear idea of the sorts of financial products or	1	2	3	4	5	6	7

		Totally agree	Tend to agree	Tend to disagree	Totally disagree	(Don't know)	(Not applicable)	(Refused)
	services that I need without consulting a financial advisor.							
99.	I always research my choices thoroughly before making any decisions about financial products or services.	1	2	3	4	5	6	7

100. In the last 12 months, have you made a decision about any of the following that you later regretted?

INTERVIEWER: MULTIPLE RESPONSES ALLOWED. CIRCLE ALL THAT APPLY.

a.	Savings or investments	1
b.	Taking out a home loan	2
c.	Taking out a loan or credit agreement	3
d.	Insurance of any type	4
e.	Tax	5
f.	Managing credit/debt	6
g.	(None of the above)	7
h.	(Don't know)	8
i.	(Refused)	9

Please tell me to what extent you agree or disagree with the following statements? [FSB Showcard 13**]**

		Strongly Agree	Agree	Neither nor	Disagree	Strongly disagree	(Don't know)
125.	The earlier you start saving for retirement, the better	1	2	3	4	6	7

Please tell me how well each of the following statements applies to you on a scale of 1 to 7 where 1 is always and 7 is never? [FSB Showcard 14**]**

		Always	Very often	Fairly often	Some-times	A few times	Hardly ever	Never
133.	I put money aside on a regular basis for the future.	1	2	3	4	5	6	7
134	I do financial planning for the future.	1	2	3	4	5	6	7

APPENDIX B: SPSS OUTPUT

Questionnaire Data: SPSS output

The SPSS System Outputs

```
DESCRIPTIVES VARIABLES = Gender Race Education_level Employement_status
Number_dependent Income Age_groups Financial_advice Marital_status
Financial_literacy Retirement_confidence
 /STATISTICS=MEAN STDDEV MIN.
```

Descriptive

Notes

Output Created		
Comments		
Input	Data	C:\Users\TEEJAY\Desktop\Zvese\kedi\Kedi_clean.sav
	Active Dataset	DataSet1
	Filter	<none>
	Weight	<none>
	Split File	<none>
	N of Rows in Working Data File	2075
Missing Value Handling	Definition of Missing	User-defined missing values are treated as missing.
	Cases Used	All non-missing data are used.
Syntax		DESCRIPTIVES VARIABLES = Gender Race Education_level Employement_status Number_dependent Income Age_groups Financial_advice Marital_status Financial_literacy Retirement_confidence /STATISTICS=MEAN STDDEV MIN.
Resources	Processor Time	00:00:00.00
	Elapsed Time	00:00:00.00

Descriptive statistics

	N	Minimum	Mean	Std. Deviation
Gender	2075	1	1.57	.495
Race	2075	1	1.71	1.054
Education_level	2075	0	2.34	1.029
Employement_status	2075	1.00	1.5667	.49564
Number_dependent	2075	1.00	1.7234	.73526
Income	2075	1.00	1.5489	.58747
Age_groups	2075	1.00	2.0361	.85786
Financial_advice	2075	1.00	1.6646	.47225
Marital_status	2075	1.00	4.5884	2.44540
Financial_literacy	2075	1.00	1.3986	.48972
Retirement_confidence	2075	1.00	1.5287	.49930
Valid N (listwise)	2075			

```
FREQUENCIES VARIABLES=Gender Race Education_level Employement_status
Number_dependent Income Age_groups Financial_advice Marital_status
Financial_literacy Retirement_confidence
 /ORDER=ANALYSIS.
```

Frequencies

Notes

Output Created		
Comments		
Input	Data	C:\Users\TEEJAY\Desktop\Zvese\kedi\Kedi_clean.sav
	Active Dataset	DataSet1
	Filter	<none>
	Weight	<none>
	Split File	<none>
	N of Rows in Working Data File	2075
Missing Value Handling	Definition of Missing	User-defined missing values are treated as missing.
	Cases Used	Statistics are based on all cases with valid data.
Syntax		FREQUENCIES VARIABLES = Gender Race Education_level Employement_status Number_dependent Income Age_groups Financial_advice Marital_status Financial_literacy Retirement_confidence /ORDER=ANALYSIS.
Resources	Processor Time	00:00:00.03
	Elapsed Time	00:00:00.03

Statistics

		Gender	Race	Education_level	Employment_status	Number_dependent	Income	Age_ Groups	Financial_ Advice	Marital_ Status	Financial_Literacy	Retirement_confidence
N	Valid	2075	2075	2075	2075	2075	2075	2075	2075	2075	2075	2075
	Missing	0	0	0	0	0	0	0	0	0	0	0

Frequency Table

Gender

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	886	42.7	42.7	42.7
	Female	1189	57.3	57.3	100.0
	Total	2075	100.0	100.0	

Race

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	African	1294	62.4	62.4	62.4
	Coloured	340	16.4	16.4	78.7
	Asian/Indian	192	9.3	9.3	88.0
	White	249	12.0	12.0	100.0
	Total	2075	100.0	100.0	

Education_level

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No Schooling	87	4.2	4.2	4.2

Education_level

		Frequency	Percent	Valid Percent	Cumulative Percent
	Primary	330	15.9	15.9	20.1
	Secondary Education	733	35.3	35.3	55.4
	Matric	650	31.3	31.3	86.7
	Tertiary Education	275	13.3	13.3	100.0
	Total	2075	100.0	100.0	

Employement_status

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Employed	899	43.3	43.3	43.3
	Unemployed	1176	56.7	56.7	100.0
	Total	2075	100.0	100.0	

Number_dependent

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0 dependents	927	44.7	44.7	44.7
	1–2 dependents	795	38.3	38.3	83.0
	More than 3 dependents	353	17.0	17.0	100.0
	Total	2075	100.0	100.0	

Income

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Low income	1037	50.0	50.0	50.0
	Middle income	937	45.2	45.2	95.1
	High income	101	4.9	4.9	100.0
	Total	2075	100.0	100.0	

Age_groups

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	16–29	614	29.6	29.6	29.6
	30–49	885	42.7	42.7	72.2
	50–69	463	22.3	22.3	94.6
	70+	113	5.4	5.4	100.0
	Total	2075	100.0	100.0	

Financial_advice

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No	696	33.5	33.5	33.5
	Yes	1379	66.5	66.5	100.0
	Total	2075	100.0	100.0	

Marital_status

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Living with partner	415	20.0	20.0	10.4
	Married	364	17.5	17.5	38.3
	Widower/widow	207	10.0	10.0	48.3
	Divorced	82	4.0	4.0	52.2

Marital_status

		Frequency	Percent	Valid Percent	Cumulative Percent
	Separated	54	2.6	2.6	53.6
	Never married	953	45.9	45.9	100.0
	Total	2075	100.0	100.0	

Financial_literacy

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not financially literate	986	47.5	47.5	47.5
	Financially literate	1089	52.5	52.5	100.0
	Total	2075	100.0	100.0	

Retirement_confidence

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Confident	978	47.1	47.1	47.1
	Not confident	1097	52.9	52.9	100.0
	Total	2075	100.0	100.0	

At what age do you think people should begin to make a financial plan for their retirement?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	<18	614	9.0	9.0	9.0
	19–29	885	44.0	44.0	63.0
	30–59	463	45.0	45.0	98.0
	60+	113	2.0	2.0	100.0
	Total	2075	100.0	100.0	

Confidence_level

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very confident	271	13.1	13.1	13.1
	Fairly confident	707	34.1	34.1	47.1
	Not very confident	509	24.5	24.5	71.7
	Not at all confident	588	28.3	28.3	100.0
	Total	2075	100.0	100.0	

The earlier you start saving for retirement, the better

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly agree	1050	50.6	50.6	50.6
	Agree	757	30.0	30.0	80.6
	Neither nor	207	10.0	10.0	90.6
	Disagree	56	6.0	6.3	96.9
	Strongly disagree	5	3.0	3.0	100.0
	Total	2075	100.0	100.0	

I put money aside on a regular basis for the future

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Always	318	15.3	15.3	15.3
	Very often	265	12.8	12.8	28.1

I put money aside on a regular basis for the future

		Frequency	Percent	Valid Percent	Cumulative Percent
	Fairly often	189	9.1	9.1	37.2
	Sometimes	306	14.7	14.7	52.0
	A few times	164	7.9	7.9	59.9
	Hardly ever	278	13.4	13.4	73.3
	Never	555	26.7	26.7	100.0
	Total	2075	100.0	100.0	

I do financial planning for the future

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Always	335	16.1	16.1	16.1
	Very often	270	13.0	13.0	29.2
	Fairly often	213	10.3	10.3	39.4
	Sometimes	257	12.4	12.4	51.8
	A few times	160	7.7	7.7	59.5
	Hardly ever	277	13.3	13.3	72.9
	Never	563	27.1	27.1	100.0
	Total	2075	100.0	100.0	

```
CROSSTABS
 /TABLES=Retiremnt_planning BY Gender
 /FORMAT=AVALUE TABLES
 /STATISTICS=CHISQ PHI
 /CELLS=COUNT ROW COLUMN TOTAL
 /COUNT ROUND CELL
 /BARCHART.
```

Case processing summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
Retiremnt_planning * Gender	2075	100.0%	0	0.0%	2075	100.0%

Retiremnt_planning * Gender crosstabulation

			Gender		
			Male	Female	Total
Retiremnt_planning	Not planning	Count	116	152	268
		% within Retiremnt_planning	43.3%	56.7%	100.0%
		% within Gender	13.1%	12.8%	12.9%
		% of Total	5.6%	7.3%	12.9%
	Planning for retirement	Count	770	1037	1807
		% within Retiremnt_planning	42.6%	57.4%	100.0%
		% within Gender	86.9%	87.2%	87.1%
		% of Total	37.1%	50.0%	87.1%
Total		Count	886	1189	2075
		% within Retiremnt_planning	42.7%	57.3%	100.0%
		% within Gender	100.0%	100.0%	100.0%
		% of Total	42.7%	57.3%	100.0%

Chi-square tests

	Value	df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	.043[a]	1	.046		

Chi-square tests

Continuity Correction[b]	.020	1	.888		
Likelihood Ratio	.043	1	.046		
Fisher's Exact Test				.843	.443
Linear-by-Linear Association	.043	1	.036		
N of Valid Cases	2075				

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 114.43.
b. Computed only for a 2x2 table

```
CROSSTABS
 /TABLES=Retiremnt_planning BY Race
 /FORMAT=AVALUE TABLES
 /STATISTICS=CHISQ PHI
 /CELLS=COUNT ROW COLUMN TOTAL
 /COUNT ROUND CELL
 /BARCHART.
```

Case processing summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
Retiremnt_planning * Race	2075	100.0%	0	0.0%	2075	100.0%

Retiremnt_planning * Race crosstabulation

			Race				
			African	Coloured	Asian/Indian	White	Total
Retiremnt_planning	Not planning	Count	198	27	14	29	268
		% within Retiremnt_planning	73.9%	10.1%	5.2%	10.8%	100.0%
		% within Race	15.3%	7.9%	7.3%	11.6%	12.9%
		% of Total	9.5%	1.3%	0.7%	1.4%	12.9%
	Planning for retirement	Count	1096	313	178	220	1807
		% within Retiremnt_planning	60.7%	17.3%	9.9%	12.2%	100.0%
		% within Race	84.7%	92.1%	92.7%	88.4%	87.1%
		% of Total	52.8%	15.1%	8.6%	10.6%	87.1%
Total		Count	1294	340	192	249	2075
		% within Retiremnt_planning	62.4%	16.4%	9.3%	12.0%	100.0%
		% within Race	100.0%	100.0%	100.0%	100.0%	100.0%
		% of Total	62.4%	16.4%	9.3%	12.0%	100.0%

Chi-square tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	19.784[a]	3	.072
Likelihood Ratio	21.383	3	.001
Linear-by-Linear Association	8.874	1	.072
N of Valid Cases	2075		

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 24.80.

```
CROSSTABS
 /TABLES=Retiremnt_planning BY Income
 /FORMAT=AVALUE TABLES
 /STATISTICS=CHISQ PHI
 /CELLS=COUNT ROW COLUMN TOTAL
```

```
/COUNT ROUND CELL.
```

Case processing summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
Retiremnt_planning * Income	2075	100.0%	0	0.0%	2075	100.0%

Retiremnt_planning * Income crosstabulation

			Income			
			Low income	Middle income	High income	Total
Retiremnt_planning	Not planning	Count	170	94	4	268
		% within Retiremnt_planning	63.4%	35.1%	1.5%	100.0%
		% within Income	16.4%	10.0%	4.0%	12.9%
		% of Total	8.2%	4.5%	0.2%	12.9%
	Planning for retirement	Count	867	843	97	1807
		% within Retiremnt_planning	48.0%	46.7%	5.4%	100.0%
		% within Income	83.6%	90.0%	96.0%	87.1%
		% of Total	41.8%	40.6%	4.7%	87.1%
Total		Count	1037	937	101	2075
		% within Retiremnt_planning	50.0%	45.2%	4.9%	100.0%
		% within Income	100.0%	100.0%	100.0%	100.0%
		% of Total	50.0%	45.2%	4.9%	100.0%

Chi-square tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	25.280[a]	2	.000
Likelihood Ratio	27.358	2	.000
Linear-by-Linear Association	25.263	1	.000
N of Valid Cases	2075		

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 13.04.

```
CROSSTABS
 /TABLES=Retiremnt_planning BY AGEGRP
 /FORMAT=AVALUE TABLES
 /STATISTICS=CHISQ PHI
 /CELLS=COUNT ROW COLUMN TOTAL
 /COUNT ROUND CELL.
```

Case processing summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
Retiremnt_Planning * AGEGRP	2075	100.0%	0	0.0%	2075	100.0%

Retiremnt_planning * AGEGRP crosstabulation

			AGEGRP							
			1	2	3	4	5	6	7	Total
Retiremnt_planning	Not planning	Count	17	69	55	54	31	20	22	268
		% within Retiremnt_planning	6.3%	25.7%	20.5%	20.1%	11.6%	7.5%	8.2%	100.0%

Retiremnt_planning * AGEGRP crosstabulation

		% within AGEGRP	12.6%	14.4%	11.4%	13.5%	11.6%	10.3%	19.5%	12.9%
		% of Total	0.8%	3.3%	2.7%	2.6%	1.5%	1.0%	1.1%	12.9%
	Planning for retirement	Count	118	410	429	347	237	175	91	1807
		% within Retiremnt_planning	6.5%	22.7%	23.7%	19.2%	13.1%	9.7%	5.0%	100.0%
		% within AGEGRP	87.4%	85.6%	88.6%	86.5%	88.4%	89.7%	80.5%	87.1%
		% of Total	5.7%	19.8%	20.7%	16.7%	11.4%	8.4%	4.4%	87.1%
Total		Count	135	479	484	401	268	195	113	2075
		% within Retiremnt_planning	6.5%	23.1%	23.3%	19.3%	12.9%	9.4%	5.4%	100.0%
		% within AGEGRP	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
		% of Total	6.5%	23.1%	23.3%	19.3%	12.9%	9.4%	5.4%	100.0%

Chi-square tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	8.076[a]	6	.022
Likelihood Ratio	7.680	6	.262
Linear-by-Linear Association	.013	1	.022
N of Valid Cases	2075		

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 14.59.

```
CROSSTABS
  /TABLES=Retiremnt_planning BY Marital_status
  /FORMAT=AVALUE TABLES
  /STATISTICS=CHISQ PHI
  /CELLS=COUNT ROW COLUMN TOTAL
  /COUNT ROUND CELL.
```

Crosstabs

Case processing summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
Retiremnt_planning * Marital_status	2075	100.0%	0	0.0%	2075	100.0%

Retiremnt_planning * Marital_status crosstabulation

			Marital_Status						
			Living with partner	Married	Widower/ widow	Divorced	Separated	Never married	Total
Retiremnt_planning	Not planning	Count	36	54	31	7	7	133	268
		% within Retiremnt_planning	13.4%	20.1%	11.6%	2.6%	2.6%	49.6%	100.0%
		% within Marital_status	16.7%	9.3%	15.0%	8.5%	25.0%	13.8%	12.9%
		% of Total	1.7%	2.6%	1.5%	0.3%	0.3%	6.4%	12.9%
		Count	180	525	176	75	21	830	1807

Retiremnt_planning * Marital_status crosstabulation

	Planning for retirement	% within Retiremnt_planning	10.0%	29.1%	9.7%	4.2%	1.2%	45.9%	100.0%
		% within Marital_status	83.3%	90.7%	85.0%	91.5%	75.0%	86.2%	87.1%
		% of Total	8.7%	25.3%	8.5%	3.6%	1.0%	40.0%	87.1%
Total		Count	216	579	207	82	28	963	2075
		% within Retiremnt_planning	10.4%	27.9%	10.0%	4.0%	1.3%	46.4%	100.0%
		% within Marital_status	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
		% of Total	10.4%	27.9%	10.0%	4.0%	1.3%	46.4%	100.0%

Chi-square tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	15.835[a]	5	.049
Likelihood Ratio	15.708	5	.008
Linear-by-Linear Association	1.536	1	.215
N of Valid Cases	2075		

a. 1 cells (8.3%) have expected count less than 5. The minimum expected count is 3.62.

```
CROSSTABS
  /TABLES=Retiremnt_planning BY Employement_status
  /FORMAT=AVALUE TABLES
  /STATISTICS=CHISQ PHI
  /CELLS=COUNT ROW COLUMN TOTAL
  /COUNT ROUND CELL.
```

Crosstabs

Case processing summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
Retiremnt_planning * Employement_status	2075	100.0%	0	0.0%	2075	100.0%

Retiremnt_planning * Employement_status crosstabulation

			Employement_status		
			Employed	Unemployed	Total
Retiremnt_planning	Not planning	Count	90	178	268
		% within Retiremnt_planning	33.6%	66.4%	100.0%
		% within Employement_status	10.0%	15.1%	12.9%
		% of Total	4.3%	8.6%	12.9%
	Planning for retirement	Count	809	998	1807
		% within Retiremnt_planning	44.8%	55.2%	100.0%
		% within Employement_status	90.0%	84.9%	87.1%
		% of Total	39.0%	48.1%	87.1%

Retiremnt_planning * Employement_status crosstabulation

Total	Count	899	1176	2075
	% within Retiremnt_planning	43.3%	56.7%	100.0%
	% within Employement_status	100.0%	100.0%	100.0%
	% of Total	43.3%	56.7%	100.0%

Chi-square tests

	Value	df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	11.898[a]	1	.000		
Continuity Correction[b]	11.447	1	.001		
Likelihood Ratio	12.154	1	.000		
Fisher's Exact Test				.001	.000
Linear-by-Linear Association	11.892	1	.000		
N of Valid Cases	2075				

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 116.11.
b. Computed only for a 2x2 table

```
CROSSTABS
 /TABLES=Retiremnt_planning BY Financial_literacy
 /FORMAT=AVALUE TABLES
 /STATISTICS=CHISQ PHI
 /CELLS=COUNT ROW COLUMN TOTAL
 /COUNT ROUND CELL.
```

Crosstabs

Case processing summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
Retiremnt_planning * Financial_literacy	2075	100.0%	0	0.0%	2075	100.0%

Retiremnt_planning * Financial_literacy crosstabulation

			Financial_Literacy		
			Not financially literate	Financially literate	Total
Retiremnt_planning	Not planning	Count	175	93	268
		% within Retiremnt_planning	65.3%	34.7%	100.0%
		% within Financial_literacy	14.0%	11.2%	12.9%
		% of Total	8.4%	4.5%	12.9%
	Planning for retirement	Count	1073	734	1807
		% within Retiremnt_planning	59.4%	40.6%	100.0%
		% within Financial_literacy	86.0%	88.8%	87.1%
		% of Total	51.7%	35.4%	87.1%
Total		Count	1248	827	2075
		% within Retiremnt_planning	60.1%	39.9%	100.0%
		% within Financial_literacy	100.0%	100.0%	100.0%

Retiremnt_planning * Financial_literacy crosstabulation

	% of Total	60.1%	39.9%	100.0%

Chi-square tests

	Value	df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	3.410[a]	1	.005		
Continuity Correction[b]	3.168	1	.075		
Likelihood Ratio	3.459	1	.063		
Fisher's Exact Test				.071	.037
Linear-by-Linear Association	3.409	1	.005		
N of Valid Cases	2075				

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 106.81.
b. Computed only for a 2x2 table

```
CROSSTABS
 /TABLES=Retiremnt_planning BY Financial_advice
 /FORMAT=AVALUE TABLES
 /STATISTICS=CHISQ PHI
 /CELLS=COUNT ROW COLUMN TOTAL
 /COUNT ROUND CELL.
```

Crosstabs

Case processing summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
Retiremnt_planning * Financial_advice	2075	100.0%	0	0.0%	2075	100.0%

Retiremnt_planning * Financial_advice crosstabulation

			Financial_Advice		
			No	Yes	Total
Retiremnt_planning	Not planning	Count	129	139	268
		% within Retiremnt_planning	48.1%	51.9%	100.0%
		% within Financial_advice	18.5%	10.1%	12.9%
		% of Total	6.2%	6.7%	12.9%
	Planning for retirement	Count	567	1240	1807
		% within Retiremnt_planning	31.4%	68.6%	100.0%
		% within Financial_advice	81.5%	89.9%	87.1%
		% of Total	27.3%	59.8%	87.1%
Total		Count	696	1379	2075
		% within Retiremnt_planning	33.5%	66.5%	100.0%
		% within Financial_advice	100.0%	100.0%	100.0%
		% of Total	33.5%	66.5%	100.0%

Chi-square tests

	Value	df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	29.397[a]	1	.008		
Continuity Correction[b]	28.650	1	.000		
Likelihood Ratio	28.108	1	.000		
Fisher's Exact Test				.000	.000

Chi-square tests

Linear-by-Linear Association	29.382	1	.008		
N of Valid Cases	2075				

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 89.89.
b. Computed only for a 2x2 table

```
CROSSTABS
 /TABLES=Retiremnt_planning BY Retirement_confidence
 /FORMAT=AVALUE TABLES
 /STATISTICS=CHISQ PHI
 /CELLS=COUNT ROW COLUMN TOTAL
 /COUNT ROUND CELL.
```

Crosstabs

Case processing summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
Retiremnt_planning * Retirement_confidence	2075	100.0%	0	0.0%	2075	100.0%

Retiremnt_planning * Retirement_confidence crosstabulation

			Retirement_confidence		
			Confident	Not confident	Total
Retiremnt_planning	Not planning	Count	99	169	268
		% within Retiremnt_planning	36.9%	63.1%	100.0%
		% within Retirement_confidence	10.1%	15.4%	12.9%
		% of Total	4.8%	8.1%	12.9%
	Planning for retirement	Count	879	928	1807
		% within Retiremnt_planning	48.6%	51.4%	100.0%
		% within Retirement_confidence	89.9%	84.6%	87.1%
		% of Total	42.4%	44.7%	87.1%
Total		Count	978	1097	2075
		% within Retiremnt_planning	47.1%	52.9%	100.0%
		% within Retirement_confidence	100.0%	100.0%	100.0%
		% of Total	47.1%	52.9%	100.0%

Chi-square tests

	Value	df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	12.830[a]	1	.050		
Continuity Correction[b]	12.365	1	.000		
Likelihood Ratio	12.998	1	.000		
Fisher's Exact Test				.000	.000
Linear-by-Linear Association	12.824	1	.050		
N of Valid Cases	2075				

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 126.32.
b. Computed only for a 2x2 table

```
CROSSTABS
 /TABLES=Retiremnt_planning BY Financial_advice
 /FORMAT=AVALUE TABLES
 /STATISTICS=CHISQ
 /CELLS=COUNT ROW COLUMN
 /COUNT ROUND CELL.
```

Reliability

Case processing summary

		N	%
Cases	Valid	2075	100.0
	Excluded[a]	0	.0
	Total	2075	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardised Items	N of Items
.746	.740	22

Item statistics

	Mean	Std. Deviation	N
Q116	3.19	1.387	2075
Q117	3.51	1.471	2075
Q118	3.44	1.461	2075
Q119	3.29	1.860	2075
Q120	3.15	1.757	2075
Q123	1.92	1.240	2075
Q124	2.47	1.713	2075
Q125	1.77	1.171	2075
Q126	2.42	1.740	2075
Q127	3.77	1.850	2075
Q128	2.12	1.561	2075
Q129	2.21	1.664	2075
Q131	5.56	1.931	2075
Q132	5.23	1.905	2075
Q133	4.34	2.211	2075
Q134	4.31	2.244	2075
Q135	3.87	2.012	2075
Q136	4.40	1.952	2075
Q137	3.84	2.006	2075
Q138	3.75	2.073	2075
Q139	4.64	2.047	2075
Q140	4.63	2.049	2075

Summary item statistics

	Mean	Minimum	Maximum	Range	Maximum/ Minimum	Variance	N of Items
Inter-Item Correlations	.114	-.366	.798	1.164	-2.180	.043	22

Item-total statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
Q116	74.64	250.563	-.048	.347	.756
Q117	74.32	244.011	.091	.582	.749
Q118	74.39	242.974	.116	.543	.748
Q119	74.54	240.156	.117	.463	.750
Q120	74.69	242.760	.083	.548	.751

Item-total statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
Q123	75.91	237.906	.286	.308	.739
Q124	75.37	231.321	.310	.370	.736
Q125	76.06	238.051	.303	.379	.738
Q126	75.42	228.702	.354	.431	.733
Q127	74.07	230.125	.300	.212	.737
Q128	75.71	230.805	.361	.519	.733
Q129	75.62	230.388	.341	.499	.734
Q131	72.27	230.079	.283	.377	.738
Q132	72.60	225.261	.376	.421	.731
Q133	73.49	227.839	.264	.651	.740
Q134	73.52	225.916	.288	.671	.738
Q135	73.96	219.225	.455	.302	.724
Q136	73.43	221.997	.422	.338	.727
Q137	73.99	219.461	.453	.575	.724
Q138	74.08	220.678	.412	.534	.727
Q139	73.19	220.957	.415	.632	.727
Q140	73.20	220.539	.421	.632	.727

Scale statistics

Mean	Variance	Std. Deviation	N of Items
77.83	250.380	15.823	22

Scale statistics

Mean	Variance	Std. Deviation	N of Items
130.77	80979.065	284.568	6

```
RELIABILITY
 /VARIABLES=Q79 Q113 Q114 Q115
 /SCALE('ALL VARIABLES') ALL
 /MODEL=ALPHA
 /STATISTICS=DESCRIPTIVE SCALE
 /SUMMARY=TOTAL CORR.
```

Reliability

Case processing summary

		N	%
Cases	Valid	2075	100.0
	Excluded[a]	0	.0
	Total	2075	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardised Items	N of Items
.682	.656	4

Item statistics

	Mean	Std. Deviation	N
Q79	2.28	.980	2075
Q113	1.72	1.797	2075
Q114	1.76	2.043	2075
Q115	2.14	2.059	2075

Summary item statistics

	Mean	Minimum	Maximum	Range	Maximum/ Minimum	Variance	N of Items
Inter-Item Correlations	.323	.147	.511	.364	3.477	.031	4

Item-total statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
Q79	5.62	23.019	.191	.037	.742
Q113	6.18	14.900	.551	.311	.557
Q114	6.14	13.293	.558	.323	.549
Q115	5.76	12.930	.581	.348	.530

Exploratory factor analysis

```
FACTOR
 /VARIABLES Q39 Q41 Q79 Q113 Q114 Q115 Q116 Q117 Q118 Q119 Q120 Q123 Q124 Q125
Q126 Q127 Q128 Q129
 Q131 Q132 Q133 Q134 Q135 Q136 Q137 Q138 Q139 Q140
 /MISSING LISTWISE
 /ANALYSIS Q39 Q41 Q79 Q113 Q114 Q115 Q116 Q117 Q118 Q119 Q120 Q123 Q124 Q125 Q126
Q127 Q128 Q129
 Q131 Q132 Q133 Q134 Q135 Q136 Q137 Q138 Q139 Q140
 /PRINT INITIAL CORRELATION KMO REPR AIC EXTRACTION ROTATION
 /FORMAT SORT BLANK(.10)
 /PLOT EIGEN
 /CRITERIA MINEIGEN(1) ITERATE(25)
 /EXTRACTION PC
 /CRITERIA ITERATE(25)
 /ROTATION VARIMAX
 /SAVE REG(ALL)
 /METHOD=CORRELATION.
```

Factor Analysis

KMO and Bartlett's test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.820
Bartlett's Test of Sphericity	Approx. Chi-Square	21750.016
	df	378
	Sig.	.000

Communalities

	Initial	Extraction
Q39	1.000	.245
Q41	1.000	.459
Q79	1.000	.222
Q113	1.000	.656
Q114	1.000	.666
Q115	1.000	.676
Q116	1.000	.487
Q117	1.000	.701
Q118	1.000	.661
Q119	1.000	.603
Q120	1.000	.708
Q123	1.000	.460
Q124	1.000	.526
Q125	1.000	.562
Q126	1.000	.611
Q127	1.000	.429

Communalities

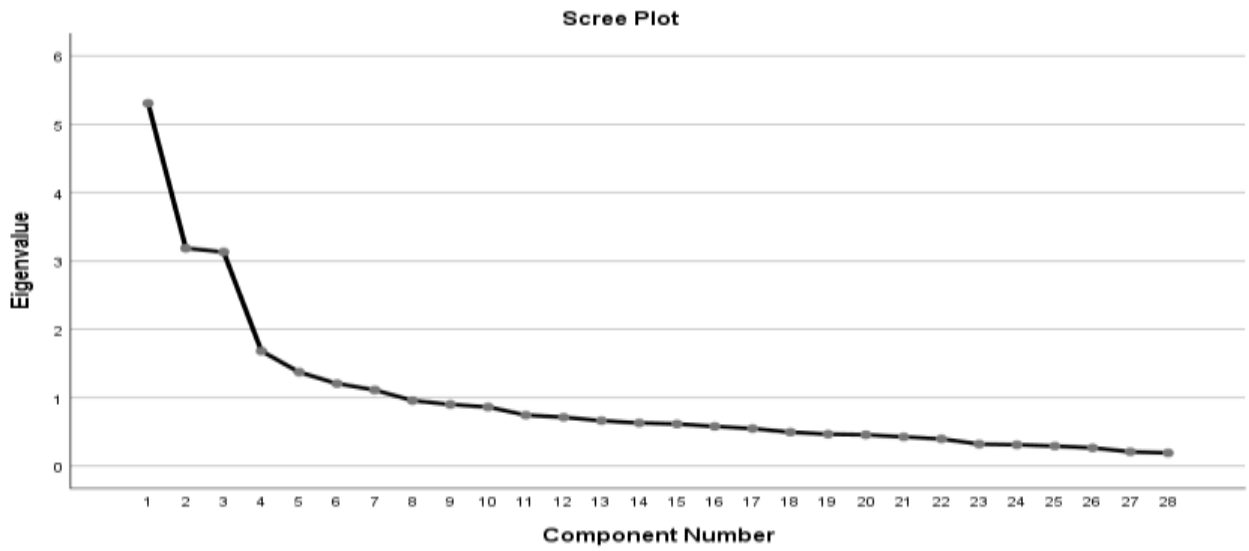
Q128	1.000	.654
Q129	1.000	.633
Q131	1.000	.666
Q132	1.000	.660
Q133	1.000	.753
Q134	1.000	.780
Q135	1.000	.484
Q136	1.000	.606
Q137	1.000	.753
Q138	1.000	.669
Q139	1.000	.839
Q140	1.000	.821

Extraction method: Principal component analysis.

Total variance explained

Com-ponent	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	5.307	18.954	18.954	5.307	18.954	18.954	3.540	12.644	12.644
2	3.186	11.378	30.332	3.186	11.378	30.332	3.220	11.501	24.145
3	3.130	11.180	41.512	3.130	11.180	41.512	2.537	9.062	33.208
4	1.681	6.004	47.516	1.681	6.004	47.516	2.098	7.493	40.701
5	1.372	4.898	52.414	1.372	4.898	52.414	1.955	6.983	47.684
6	1.205	4.302	56.716	1.205	4.302	56.716	1.862	6.650	54.334
7	1.111	3.969	60.685	1.111	3.969	60.685	1.778	6.351	60.685
8	.956	3.415	64.099						
9	.899	3.211	67.311						
10	.862	3.078	70.388						
11	.743	2.653	73.041						
12	.712	2.543	75.585						
13	.661	2.361	77.946						
14	.629	2.245	80.191						
15	.613	2.191	82.382						
16	.577	2.061	84.443						
17	.546	1.950	86.393						
18	.494	1.764	88.157						
19	.465	1.660	89.817						
20	.455	1.625	91.442						
21	.425	1.518	92.960						
22	.395	1.409	94.369						
23	.319	1.138	95.507						
24	.308	1.100	96.608						
25	.291	1.038	97.645						
26	.263	.939	98.584						
27	.207	.739	99.323						
28	.189	.677	100.000						

Extraction method: Principal component analysis.



Component matrix[a]

	Component						
	1	2	3	4	5	6	7
Q128	.662		.394	-.191			
Q129	.657	-.103	.332	-.137		.168	-.171
Q126	.614		.332	-.102	-.101	.221	-.230
Q124	.582		.352			.134	-.191
Q114	.559		.368		-.282	-.351	.120
Q134	.551		-.411	.357	.411		
Q115	.544		.247	.188	-.150	-.428	.268
Q125	.527		.321	-.223	.231	.254	.109
Q133	.509		-.392	.406	.405		
Q123	.499		.245	-.207	.139	.295	
Q127	.463		.152	.109	-.259		-.330
Q113	.450		.314	.129	-.207	-.405	.363
Q135	.442	.378	-.191	-.139	.135	-.188	-.191
Q41	.412			.317	.355		.232
Q79	.289		.167	.161	.280		
Q118	-.315	.594	.379	.191	.138		
Q117	-.333	.587	.443	.194			
Q138	.247	.579	-.297	-.385	.135	-.132	
Q137	.319	.561	-.307	-.390	.147	-.257	
Q120	-.304	.546	.482	.230	.140		
Q139	.289	.508	-.389		-.268	.362	.367
Q140	.304	.497	-.404		-.240	.351	.364
Q136	.306	.486	-.223	-.217	.189	-.269	-.267
Q116	-.389	.429	.366				
Q119	-.188	.470	.521	.242			
Q131	.226	.300	-.318	.480	-.383		-.214
Q132	.333	.306	-.341	.478	-.258		-.187
Q39	.275		.142		.178		.323

Component matrix[a]

Extraction method: Principal component analysis.
a. 7 components extracted.

Rotated component matrix[a]

	Component						
	1	2	3	4	5	6	7
Q129	.765	-.108			.161		
Q126	.763				.101	.116	
Q128	.745				.288		
Q124	.676			.169	.149		
Q125	.621			.267		-.281	.135
Q123	.601			.194		-.176	.161
Q127	.475				.158	.404	
Q120		.836					
Q117		.822		-.110			
Q118		.799					
Q119		.767					
Q116	-.119	.615		-.218		-.192	
Q137			.838				.212
Q136			.760			.133	
Q138			.752				.313
Q135	.179		.630	.136		.168	
Q134		-.326	.206	.742		.271	
Q133		-.295	.176	.738		.294	
Q41	.142			.640	.150		
Q79	.196	.120		.388	.117		
Q39	.155			.344	.208	-.180	.138
Q113	.173			.120	.781		
Q115	.198		.111	.206	.756	.108	
Q114	.397				.703		
Q131						.786	.187
Q132			.125	.179		.748	.224
Q139			.243			.198	.860
Q140			.251			.202	.845

Extraction method: Principal component analysis.
Rotation method: Varimax with Kaiser normalisation.
a. Rotation converged in six iterations.

Component transformation matrix

Component	1	2	3	4	5	6	7
1	.667	-.317	.301	.399	.364	.210	.165
2	-.078	.670	.578	-.069	.014	.227	.392
3	.497	.594	-.326	-.125	.318	-.297	-.297
4	-.240	.250	-.428	.512	.145	.631	-.125
5	-.061	.162	.268	.701	-.347	-.452	-.286
6	.390	.093	-.393	.076	-.643	.033	.514
7	-.296	-.007	-.244	.247	.459	-.461	.607

Extraction method: Principal component analysis.
Rotation method: Varimax with Kaiser normalisation.