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SCHOOL OF ACCOUNTING, ECONOMICS AND FINANCE**

**An analysis of intention to invest in a retirement annuity fund at a South African  
University of Technology**

**By**

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Accountancy in Taxation degree at the University of KwaZulu-Natal**

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## DECLARATION

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## **DEDICATIONS**

This masterpiece is dedicated to my wife, Samkelisiwe, my children, Azania and Afrika, my family, and all my supportive friends.

In the end, we win!

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“However long the night may last, there will still be a morning” African proverb.

## ABSTRACT

The significance of saving for retirement cannot be overstated. Governments worldwide are worried about the increasing number of older people who have become dependent on the government and over-stretched public finances. Advancements in medical technology and adopting better lifestyles are projected to increase life expectancy for individuals in South Africa and globally. This will result in many individuals exhausting their retirement funds, rendering them unable to retire or necessitating considerable adjustments to their living standards. This study analyses the factors influencing an individual's intention to invest in a Retirement Annuity Fund (RAF), which provides significant tax benefits to contributors.

The study employed a quantitative methodology, and the sample was chosen using a simple random sampling procedure. It consisted of 300 academic and support staff employed at a South African University of Technology with an annual income ranging from R1 to R625 992. The data was gathered through a web-based questionnaire created using Google Forms and shared with participants by email. The data were utilised to construct a multinomial logistic regression model to examine the investment intentions of the participants and identify influential factors.

Most participants had sufficient basic financial literacy skills necessary to make investment decisions. The study found that the marketing efforts of RAF providers, concern for financial well-being, financial planning, awareness, and knowledge about tax benefits offered by RAFs did not influence an individual's intention to invest in RAFs. However, it found that financial literacy, social influence, and a positive attitude towards RAFs influenced the intention to invest in RAFs.

The study contributes to the existing literature by providing insights into factors influencing investment intentions towards RAFs. The fact that the tax benefits for contributors did not impact an individual's intention to invest in RAFs is concerning. The government must increase efforts to educate low and middle-income earners on its tax reforms, ensure that tax reforms are aligned to achieve their intended goals and improve individuals' understanding of retirement tax benefits. The findings will guide the National Treasury and RAF providers to enhance awareness about the advantages of investing in an RAF. This will aid in reducing the burden on welfare systems and generate capital that can be invested in the economy.

**Keywords: RAF; Awareness, Knowledge, Tax benefits, Attitudes; Financial Literacy, Investment**

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## LIST OF ABBREVIATIONS AND ACRONYMS

AIDA:	Attention Interest Desire Action
AIR:	Anticipated Inaction Regret
ATT:	Attitude scale
AUD:	Australian dollar
AVE:	Average Variance Extracted
CA:	Cronbach's Alpha
CAD:	Canadian dollar
CFA:	Confirmatory Factor Analysis
CFI:	Comparative fit index
CR:	Composite Reliability
EFA:	Exploratory Factor Analysis
EPV:	Events per variable
FSCA:	Financial Sector Conduct Authority
FSP:	Financial Service Providers
GDP:	Gross Domestic Product
GFI:	Goodness of fit index
H1:	Hypothesis 1
H2:	Hypothesis 2
H3:	Hypothesis 3
H4:	Hypothesis 4
H5:	Hypothesis 5
H6:	Hypothesis 6
H7:	Hypothesis 7
HSRC:	Human Sciences Research Council
Income Tax Act:	Income Tax Act No. 58 of 1962
ITI:	Intention to invest
KMO:	Kaiser-Meyer-Olkin
MLR:	Multinomial Logistic Regression
NTRF:	National Tertiary Retirement Fund
OECD:	Organisation for Economic Cooperation and Development
Pension Funds Act:	Pension Funds Act No. 24 of 1956
PIP:	Piani Individuali Pensionistici

PTEs:	Pension-related Tax Expenditures
RAF:	Retirement Annuity Fund
RMSEA:	Roots-mean square error of approximation
SARS	South African Revenue Services
SD:	Standard deviation
SPSS V29:	Statistical Product and Service Solutions Version 29
TEs:	Tax Expenditures
TLI:	Tucker-Lewis index
TPB:	Theory of Planned Behavior
UoT:	University of Technology
USA:	United States of America
USD:	United States dollar
PGBL:	Plano Gerador de Benefício Livre
VGBL:	Vida Gerador de Beneficia
RRSP:	Registered Retirement Savings Plans

## CHAPTER 1: INTRODUCTION

### 1.1 Introduction

The importance of investing in one's post-retirement life cannot be over-emphasised. Governments across the world are concerned about having so many people, including the elderly, who end up relying on and over-stretching the fiscus (Hungwe and Odhiambo, 2019; October, 2021). European countries experience unfavourable demographic movements that are affecting their economies and social policies (Olgic Drazenovic, 2021) because the dependency ratio<sup>1</sup> is worsening. There are more older people in the region because of low fertility rates and improved life expectancy (Grodem and Hippe, 2021; Nerlich and Schroth, 2018). This trend is expected to reduce the work force, resulting in productivity losses (Nerlich and Schroth, 2018). All of this has dreadful consequences for pay-as-you-go pension systems, and individual savings for retirement may not be sufficient (Andrle et al., 2021; Dolls et al., 2018). A pay-as-you-go pension system refers to a method in which individuals set aside a percentage of their income to fund their own retirement savings accounts (Andrle et al., 2021). Therefore, as the workforce decreases, the contributions made also decrease, resulting in a negative impact on the funds and returns.

This phenomenon is also found in the developing world. Redonda and Axelson (2021) found that people in South Africa were expected to live longer too due to advances in medical technology and healthier lifestyles. This will lead to many individuals outliving their retirement savings, being unable to retire, or having to adjust their standards of living significantly (October, 2021; Wood, 2019). This lack of savings may hurt South Africa's economic growth aspirations.

This chapter provides an overview of the essential elements of the study, including the background, problem statement, aims, objectives, questions, hypotheses, importance of the study, assumptions, delimitations, and the organisation of the dissertation.

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<sup>1</sup> Nerlich and Schroth (2018) define the dependency ratio is a ration of individuals who are 65 years or over to the population of individuals who are of working age.

## **1.2 Background to the study**

The South African government provides tax incentives in a quest to improve pension savings (Mitchell, 2020; Nam and Loibl, 2021). However, the tax legislation governing retirement funds had some shortcomings, necessitating retirement tax reforms (Groenewald, 2018; Redonda and Axelson, 2021). Prior to the reforms, low-income earners were not saving enough towards their post-retirement life (Redonda and Axelson, 2021). As a result, a significant number of individuals will have insufficient retirement savings and will consequently rely on the government, placing a financial strain on the national budget and their family members (Makgele and Chikwekwete, 2019; October, 2021).

Redonda and Axelson (2021) observed that sections 11(k) and 11(n) of the Income Tax Act No. 58 of 1962 (Income Tax Act) were regressive. Section 11(k) allowed for a deduction on contributions made to a pension fund, while section 11(n) allowed for a deduction on contributions made to the retirement annuity fund (RAF) (Lotter and Andrew, 2017; Van Rensburg, 2014). These specific provisions in the Income Tax Act offered individuals with high incomes the opportunity to make significant contributions to retirement funds and benefit from big deductions. The absence of an adequate threshold in the sections resulted in these laws being regressive and unfair, as they benefited those with high incomes to the detriment of the fiscus (Redonda and Axelson, 2021). This flaw in legislation resulted in a decrease in the amount of tax revenue collected by the government from this set of taxpayers, so impacting the equitable distribution of economic benefits to the poor.

In response, the National Treasury in South Africa implemented retirement reforms to address this issue, leading to amendments to the Income Tax Act, effective from 1 March 2015 (Du Plessis, 2015). The objectives of these changes were to streamline and standardise the pension system with the intention of promoting retirement savings and guaranteeing equity and fairness within the retirement system (Redonda and Axelson, 2021; Groenewald, 2018). Sections 11(k) and 11 (n) of the Income Tax Act were repealed and substituted by section 11F (Groenewald, 2018; Du Plessis, 2015).

Redonda and Axelson (2021), contend that Section 11F fell short of tackling the issue of inequality. Due to the high limits, the system continues to be unjust and regressive because it significantly favours higher-income earners who could afford to make larger contributions than low and middle-income earners (De la Fera and Redonda, 2020; Redonda and Axelson, 2021).

While some high-income earners may be able to deduct this amount and contribute less to the fiscus, most low and middle-income earners do not have incomes that are close to this limit. According to Redonda and Axelson (2021), high-income earners who make substantial contributions fail to pay their fair share of taxes on their income eroding the tax base and Section 11F did not assist minimise this effect.

### **1.3 Problem statement**

Analysis of tax return data indicates a significant increase in the number of individuals contributing to provident funds and RAFs (Redonda and Axelson, 2021). The data indicated a significant increase in contributions among top earners following the reform, with the proportion of individuals in the top decile utilising these funds for retirement savings rising from 70 percent in 2016 to over 84 percent in 2017 (Redonda and Axelson, 2021). Post-reform, the savings portfolios of individuals in the lowest four deciles displayed minimal change (Redonda and Axelson, 2021). The median contribution amount for the bottom decile decreased, whereas the median contribution for top earners in the top decile increased (Redonda and Axelson, 2021). As indicated in the background section, the changes in legislation were intended to encourage individuals with low and moderate income to boost their retirement savings. However, the reforms have failed (Redonda and Axelson, 2021). The lacklustre response to the reforms does not bode well for the government, as retirement savings alleviate a burden on social welfare (Willows, 2019). Instead, it exacerbates the existing disparity between the wealthy and the impoverished inherited from the previous generations (Farys et al., 2022; Humbelin and Farys, 2019).

Lack of awareness/knowledge about tax benefits of retirement contributions, poor financial literacy, marketing efforts by retirement product providers, social influence, financial wellness considerations, and attitudes towards retirement savings may have caused the reforms to fail. Considering the importance of the tax reform's goal, it is disappointing that there are insufficient studies evaluating people's attitudes, intentions, and knowledge of the benefits of the retirement tax reforms. To contribute to the discourse, this study assessed if awareness and knowledge about RAFs, financial literacy, marketing efforts by RAF providers, social influence, financial wellness, and attitudes towards RAFs positively influence the intentions of low and middle-income earners in South Africa to invest in RAFs.

## 1.4 Research objective

This study's research goal is to assess factors influencing an individual's intention to invest in RAFs. Previous studies have identified numerous factors affecting investments in financial products such as insurance policies (Nasir et al., 2021; Oladepo, 2019) and retirement funds (Bongini and Cucinelli, 2019; Dragos et al., 2020; Nosi et al., 2017). The objective of the current research was to assess the predictive power of awareness and knowledge about tax benefits offered by RAFs, financial literacy, marketing efforts by firms offering RAF, social interactions with important others, concern for financial wellness, and attitudes towards RAFs on the individuals' intention to invest in RAFs.

## 1.5 Research question and hypotheses

To operationalise the research objective the following research question was formulated.

*Does awareness and knowledge about tax benefits offered by RAFs, financial literacy, marketing efforts by RAF providers, social influence, financial wellness, and attitudes towards RAFs positively influence the individuals' intention to invest in RAFs?*

To address this research question, sub-questions 1 to 6 were formulated and presented below.

- Sub-question 1 (SQ1): Does awareness and knowledge of tax benefits offered by retirement annuities influence an individual's intention to invest in RAFs?
- Sub-question 2 (SQ2): Does financial literacy influence the intention to invest in RAFs?
- Sub-question 3 (SQ3): Does marketing efforts of RAF providers influence the intention to invest in RAFs?
- Sub-question 4 (SQ4): Does social influence impact the intention to invest in RAFs?
- Sub-question 5 (SQ5): Does financial wellness influence the intention to invest in RAFs?
- Sub-question 6 (SQ6): Does attitudes towards RAFs influence the intention to invest in RAFs?

## **1.6 Significance of the study**

When citizens are not adequately saving for retirement, they cannot provide for post-retirement life and will end up depending on the state (Makgele and Chikwekwete, 2019; October, 2021). This puts more pressure on the fiscus. Moreover, the lack of savings by South Africans deprives the government of the much-needed domestic pool of capital to help create jobs and sustain the economy (Ribaj and Mexhuani, 2021). This study contributes to knowledge by revealing the relationships between awareness and knowledge of RAF, including its tax benefits, financial literacy, marketing efforts by firms offering RAF, social influence, concern for financial wellness, attitudes towards RAFs and the individuals' intention to invest in RAFs. Such knowledge will help the national treasury and financial service providers develop guidelines to improve awareness and knowledge to influence attitudes about the benefits of investing in a RAF. The improved awareness and knowledge will help the South African government to achieve its primary goal of ensuring that low- and middle-income earners invest adequately for retirement. This will allow the people of South Africa to retire closer to comfort, easing pressure on welfare demands and creating a domestic pool of capital to invest in the economy.

## **1.7 Scope of the study**

To ensure the study's feasibility, the study followed a case study approach conducted at a University of Technology (UoT) in KwaZulu-Natal. The study included academic and support staff participants across all its campuses and faculties, employed on a permanent or fixed-term contract basis, whose yearly pay ranged from R1 to R625 992 during November 2023.

## **1.8 Assumptions of the study**

Latief (2009) states that the core assumptions in a study are those regarding the relationship between variables in a research model which the researcher believe to exist and can be discovered. In addition, Vaandering and Reimer (2021) state that researcher's beliefs can influence the study. For example, relationship between the researcher and the participants, researcher's expertise, or involvement in the manifestation of the phenomenon under investigation might lead to bias. The bias that could arise from the researcher's relationship with the participants was attenuated using an online questionnaire with guaranteed anonymity and that during data collection, the researcher was off campus; hence, reduced influence on participants. Assumptions as averred by Latief (2009) are presented below.

- The participants are aware and knowledgeable about investing in RAFs since they are in a university setting and workshops on retirement fund savings have been conducted on regular intervals. While it is not possible to know if all staff members have attended these workshops, this assumption is because the workshops are open to all staff members and cover all retirement funds, including RAFs. These workshops are advertised widely on the UoT's internal mail system and posters in departmental notice boards to which all staff have access.
- With most of the UoT's employees being of African descent, the assumption was they do not prioritise investment in retirement annuity funds. The permanent staff members limit their contributions to the compulsory employer pension fund while contributions are not compulsory for the fixed term contract staff, indicating that are unlikely to contribute to the employer pension fund. Willows and October (2023) state that they prefer alternate investments such as livestock and educating their children.
- Those who are contributing 24% of their pensionable income in terms of the rules of the compulsory employer's pension scheme will not be interested in investing in a RAF. The assumption is informed by a well-accepted guideline by most professionals in the field that it is advisable to save 15% of your income before taxes (Young, 2024). This is if individuals started saving from their first pay or before age 25 years, those who put off investing until later in life will have to make larger contributions (Parker, 2024).

## **1.9 Outline of the study**

This investigation was conducted in a manner that ensured a logical progression of the research process. The study is structured into five chapters, which are presented in the following manner.

**Chapter 1:** This chapter presented the study's overall purpose and summarises the research undertaken. The background and context of the study are argued, and the problem statement is stated. The aim, objectives, and research question to be addressed are discussed in this chapter. Furthermore, the chapter discusses the significance of the study and its limitations.

**Chapter 2:** This chapter provided a literature review on retirement savings, taxation of retirement benefits, and retirement tax reforms, focusing on local and international literature. It also reviewed theoretical literature focused on attitudes, knowledge, awareness, and intentions by individuals to make certain financial decisions and savings. The definition,

background, different types of retirement savings, and changes to the Income Tax Act after the 1 March 2015 reforms are discussed.

**Chapter 3:** This chapter explains the research method used in this study and the logic behind why the method was selected. The research objectives, questions, methodology, population, sampling, research instruments, ethics and analysis are discussed.

**Chapter 4:** This chapter discusses the data cleansing process that was carried out following the data collection for analysis. Moreover, the chapter centres on the presentation and examination of the study's results.

**Chapter 5:** This chapter presents discussions and findings that are directly relevant to the study's aims. The findings are discussed in relation to the pertinent literature about the research objectives. The chapter also outlines the conclusions and recommendations resulting from the outcomes of this investigation. The potential areas for further investigation are delineated.

### **1.10 Chapter summary**

This chapter included a comprehensive summary of the background and reasons behind the study. The chapter also presented the research problem, aim and objective which were examined in this study. Moreover, the significance for the study, question and the scope of the investigation were appropriately acknowledged. Furthermore, it provided an outline and structure of the dissertation. The following chapter provides a literature review of the pertinent theoretical and empirical literature.

## **CHAPTER 2: LITERATURE REVIEW**

### **2.1 Introduction**

Chapter 1 outlined the research questions, which inform all the aspects and decisions of this study, including the literature review. The present study aimed to assess whether awareness and knowledge about tax benefits of RAFs, financial literacy, marketing effort of RAF providers, social influence, financial wellness, and attitudes towards RAFs affect the intention to invest in RAF among low and middle-income earners.

This chapter examines the literature on the retirement fund system in South Africa, focusing on its influence and investment in the economy. An overview and architecture of the retirement system is presented. This chapter also critically reviews the literature surrounding RAFs as a post-retirement investment vehicle and the significance of investing for retirement. It also explores the importance of investing for retirement. The chapter further expounds how retirement benefits are taxed, and the tax reforms that have been instituted and their impact on retirement benefits. The conceptual model of the study is presented, and the hypothesised predictor variables are discussed to support the formulation of hypotheses presented in Section 1.5 in Chapter 1.

### **2.2 Retirement saving in South Africa**

The retirement fund system is enormous; estimated to have a total assets base that equates to half of South Africa's gross domestic product (GDP), with pension funds owning around 40% of the assets on the Johannesburg Stock Exchange (Orthofer et al., 2019). Investment in the South African economy is dependent on these pension funds as a source of domestic capital, and for most households, savings held in pension funds are the only source of wealth. Given the importance of retirement funds to the economy and household wealth, it is imperative to ensure that the system runs well (Pillay and Fedderke, 2022). Notwithstanding the substantial assets of the system, it is worrisome that these assets represent savings of only 23% of working-age South Africans (Orthofer et al., 2019).

#### **2.2.1 Overview and architecture of the retirement system in South Africa**

The pension system in South Africa is illustrated in Table 2.1 below, encompassing public, occupational, and private pension funds (Pillay and Fedderke, 2022). The regulation of these

pension funds is governed by the Social Assistance Act No. 13 of 2004, the Pension Funds Act No. 24 of 1956 (Pension Funds Act), and the Income Tax Act (South African National Treasury, 2023a).

**Table 2.1:** Different retirement funds in South Africa

Form of pension	What does it entail?
Older person's grant	For citizens over 60, the state pension system offers a monthly grant that provides a minimum income; however, not all citizens over 60 receive this grant. A means-test that considers a minimum income and asset requirement is used to determine eligibility for the grant (South African Social Security Agency, 2023). This grant is funded by tax revenues and is intended to reduce poverty rates among the elderly (South African National Treasury, 2023a).
Occupational Retirement Funds	Employer-based retirement plans have been in existence since the passing of the Pension Funds Act; employers either have a pension or provident fund (Orthofer et al., 2019). These two funds differ in how the benefits are distributed or paid to the members at retirement (see section 2.2.2). Workers (mostly on permanent or fixed-term contracts longer than two years) are compelled to join and contribute a percentage of their earnings to the fund (Davidyan, 2021).
Private Pensions	A considerable part of the working-age population in South Africa is either unemployed, self-employed or in non-standard forms of work (Pillay and Fedderke, 2022). Hence, most are often excluded from occupational pensions (Pillay and Fedderke, 2022). The only option for many of them to save for their retirement is a personal retirement fund. The available vehicle for this in South Africa is a RAF because it offers similar tax benefits as occupational pensions (Coetzee et al., 2023).

*Source: Own table*

### 2.2.2 Types of retirement savings options

As presented in Table 2.1, individuals in South Africa can receive an older person's grant from the government, as outlined in the Social Assistance Act No 13 of 2004. The beneficiaries of this pension are not required to make any contributions throughout their working or youthful years. Additionally, Table 2.1 provides a concise summary of occupational and personal pensions. Various types of pension funds are available in South Africa as stipulated by the Pensions Funds Act, while the tax benefits associated with these funds can be found in the Income Tax Act. This section discusses the various categories of occupational and personal pensions and examines their distinctive characteristics.

**Pension fund:** This is a fund arranged by an employer where qualifying employees in the workplace are required to join and contribute to the fund. These can take the form of either defined benefit or defined contribution plans. The member's contributions to the fund are determined as a percentage of their salary (Cameron and Fourie, 2020; Kokott, 2012). In some cases, employers also contribute to the fund to benefit employees. Upon retirement, the member may elect to receive a lump sum of up to one-third of the total value of investment, and the balance must be reinvested and received as annuities (Coetzee et al., 2023; South African Revenue Service, 2023).

**Provident fund:** An employer arranges a provident fund with the same features as the pension fund. The difference is that upon retirement, the member receives a once-off (100% fund value) tax-free cash lump sum payment from the fund (Coetzee et al., 2023; South African Revenue Service, 2023). The new reforms (see Section 2.5) are essential for members of provident funds who joined after 1 March 2015 or were already members and younger than 55 years at the time. The contributions made by these members after 1 March 2015 (post-reforms) are no longer eligible for a single lump sum benefit upon retirement (South African National Treasury, 2023a). Like pension fund members, these members will now have to use two-thirds of their benefits to purchase annuities and only receive one-third as a cash lump sum benefit (South African Revenue Service, 2023). The law was enacted on this date, but implementation was delayed by two years to 1 March 2018.

**Preservation fund:** This is where accrued fund benefits of employees who withdraw from a pension or provident early may be invested (Pillay and Fedderke, 2022). They may have left because of discontinuing their employment with an employer due to dismissal, resignation,

retrenchment, or in the event of termination the employer's pension or provident (Cameron and Fourie, 2019; Chungu and Kulula, 2020).

**Umbrella (multi-employer) fund:** Where employers do not have their individual workplace pension or provident fund, employers affiliate to umbrella (multi-employer) funds. An umbrella (multi-employer) fund is a fund where employees from different employers contribute and belong; they are open to any group of employees (Davidyan, 2021). A case in point is the National Tertiary Retirement Fund (NTRF); employees are employed by different higher education institutions in South Africa.

**Retirement Annuity Funds:** RAFs are a form of personal retirement scheme presented in Table 2.1. Unlike the other funds, individuals join voluntarily, with no employer involvement (Coetzee et al., 2023). In essence, a RAF is a personal pension that an informally employed, self-employed, or employed person who wishes to top up a retirement fund can take up.

The contributions to a RAF are based on the individual's choice to pay the premium monthly or annually directly to the provider (Cameron and Fourie, 2020). RAFs are set up and offered by financial services providers. For example, fund managers and insurance companies, "to hold the assets and liabilities of their retirement annuity accounts, and the assets are often held in the form of insurance policies" (Pillay and Fedderke, 2022, p.5). After turning 55 years, a member may retire from the fund and receive a cash lump sum of up to one-third of the fund value, and the balance of the amount must be used to purchase annuities (South African Revenue Service, 2023; Stiglingh et al., 2023).

In summary, South Africa has a sophisticated retirement fund system. However, the system excludes many South Africans who are unemployed and those who earn low incomes as they cannot contribute to the funds (Orthofer et al., 2019). The excluded majority are forced to rely on the State's old-age pension grant for their retirement, while those earning higher incomes are provided for by contributions made to tax-subsidised private pension funds (Andrews and Adams, 2020). In the eyes of many South Africans, RAFs are mere insurance policies, which is why the uptake is low (Pillay and Fedderke, 2022).

### **2.3 Tax incentives and pension-related tax expenditures**

To nurture a saving culture amongst citizens, governments worldwide implement several tax expenditures (TEs). TEs can be described as revenue forgone by the government because of

legislative provisions that differ from universal tax treatment (South African National Treasury, 2022). TEs come in the form of special tax credits, special tax rates, deferral of tax liability, exemptions, rebates, special deductions, and allowances (Coetzee et al., 2023). TEs include pension-related tax expenditures (PTEs), which is the revenue foregone by the government by not taxing income paid to retirement funds and exempting from taxation the investments income from retirement funds (De la Feria and Redonda, 2020; South African National Treasury, 2022). The PTEs are supported by the Income Tax Act, which provides a tax deduction on contributions made by employees (Section 11F) and employers (Section 11(l)) to retirement funds, delays taxation on the gains and income in these funds, and favourable tax treatment when retirees exit the funds (Redonda and Axelson, 2021; Stiglingh et al., 2023).

Governments allocate a large share of their budgets to funding pensions for their residents. For example, the pension deficit in Brazil is ranked among the highest globally, estimated at approximately 20% of the general government expenditure and 5.7 % of GDP in 2022 (International Monetary Fund, 2023). In the 2021-2022 financial year, the Indian Government estimated that 26.6% of the total government expenditure was allocated to Social Services (India Ministry of Finance, 2022). During 2020/2021, pension-related spending in South Africa was estimated at R97 734 million, equating to 38.79% of the total tax expenditure (South African National Treasury, 2023b). Such a level of TE shows that the government sacrifices a significant portion of tax revenue to encourage those who earn some income to save for post-working life (South African National Treasury, 2023b). The government implements these policies to reduce the burden of caring for older people from the fiscus and excessive reliance on relatives and shift it to individuals, hoping that all elderly citizens will live out their post-retirement years comfortably (Makgele and Chikwekwete, 2019; Redonda and Axelson, 2021; October, 2021).

### **2.3.1 Policy changes to encourage retirement savings**

Governments have attempted to transfer the responsibility of giving retirement benefits from the fiscus by promoting private pension savings. Chekki (2021) associates the move with ageing populations (changes in demographics), high levels of unemployment, poor-performing economies, and declining tax revenues. As a result, most governments are moving away from the pay-as-you-go to funded retirement systems (Redonda and Axelson, 2021). According to Chekki (2021: 60), “pay-as-you-go systems are based on intergenerational solidarity and avoidance of financial risks”, which means that the pension of retired persons will be paid from

the contributions made by active persons contributing to the fund. The disadvantage of this system is low returns, projected by the long-term growth rate, and it is susceptible to demographic changes (Barsoum and Selwaness, 2022; Holzmann et al., 2008). Pay-as-you-go pension funds are vulnerable to budget deficits, which imperils their financial sustainability in the mid to long-term, which is why governments are moving towards funded retirement systems (Chekki, 2021). While there is no public pension system or a pay-as-you-go pension in South Africa the government does provide an older person's grant to the elderly, aimed at alleviating post-retirement poverty, as stated in section 2.2.1. Hence, the government is attempting to reduce dependence on state-provided grants by incentivising a greater number of individuals to enrol on a funded system (Redonda and Axelson, 2021).

A funded system (pension fund) is where an individual contributes to a fund, with the contributions and earnings thereof accumulating in that individual's account until retirement. At retirement, the individual receives one-third of the entire pension amount as a single payment, while the remaining portion is converted into annuities (De la Feria and Redonda, 2020; Redonda and Axelson, 2021). The advantage of this system is that it provides a return commensurate with the invested funds in the market and is higher than the pay-as-you-go system (Barsoum and Selwaness, 2022). The funded system supports long-term savings that are beneficial to economic growth. The downside is that individuals are vulnerable to financial risks as the markets tend to be volatile (Chekki, 2021). Moving to the funded system is not a cure-all, and there is a concern that people, especially the youth, still need to save for retirement. Younger people face other commitments such as raising families, paying for studies, servicing debt, supporting their parents, extended families and opting to delay saving for retirement until later in life (Poterba, 2014; Redonda and Axelson, 2021).

The delay in saving for retirement creates a problem because it affects the income-replacement ratios. This ratio represents the percentage of pre-retirement income that an individual would require to maintain the same level of living standards after retirement (Jang and Sung, 2021). Thus, the age at which an individual starts saving affects the income-replacement ratio, and delays should be discouraged. Individuals who adequately prepare for retirement will enjoy a steady and decent income after retirement. Hence, they stay independent of government-funded old age grants. Thus, governments incentivise retirement savings behaviour by incurring PTEs (Mitchell, 2020; Nam and Loibl, 2021).

### 2.3.2 The goal and the cost of PTEs in South Africa

The goal of PTEs in South Africa is to encourage retirement savings until retirement and use them to acquire pensions to provide retirees with regular income (South Africa National Treasury, 2023a). For this reason, the Income Tax Act does not tax the income used to contribute to retirement. The favourable treatment of retirement contributions by revenue services incentivises individuals to make investments for their retirement (Organisation for Economic Cooperation and Development, 2016). Opting to invest in a private pension, such as a RAF, rather than other savings options, offers a tax advantage that leads to savings on personal income tax (Organisation for Economic Cooperation and Development, 2016). These policy provisions come at a significant cost to the fiscus as revenues foregone by the State, as discussed below. However, they are necessary to encourage retirement savings, which need to be improved.

According to Snyman et al. (2017), most South Africans may not retire in the comfort they wished. The statistics suggest that only 4% of the population may retire comfortably, 12% are simply managing, 33% must significantly adjust their lifestyle, and 51% must work post-retirement age, depending on their children or the state welfare (Makgele and Chikwekwete, 2019). A study by Willows (2019) on participants of a retirement fund at a South African higher education institution revealed that one-third of the participants will have inadequate savings for retirement.

As seen in the figures above, the PTEs offered by the South African government have not successfully ensured adequate retirement savings by individuals. The research shows that many South Africans are at risk of retiring with insufficient or no savings. Coupled with improved life expectancies, this poses a problem for retirees, the government, and the retirees' children (Antoni et al., 2020). Furthermore, whilst the goal to ensure decent levels of income for individuals at retirement and mitigate the market volatility is admirable, the cost of PTEs to the fiscus is substantial, and their efficiency turns out to be below expectation (Richardson et al., 2022). PTEs are almost always upside-down<sup>2</sup> subsidies that disproportionately advantage higher-income earners and perpetuate inequity (Humbelin and Farys, 2019). Such allowances overly reduce the redistributive effect of taxes. As such deductions in a progressive tax system

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<sup>2</sup> “An upside-down subsidy occurs because a tax expenditure benefits only those persons with enough income to pay tax; moreover, if the tax expenditure is structured as a deduction or exclusion, the value of the benefit increases with the recipient's marginal tax rate” (Griffith, 1988:1159).

provide better tax relief for higher-income earners (Farys et al., 2022; Humbelin and Farys, 2019).

In the Pensions Outlook report, the Organisation for Economic Cooperation and Development (OECD) (2016) states that average income earners in OECD countries got an advantage by investing in a private pension fund instead of a general savings account. The benefit can be as high as 281% in Mexico, 51% in Israel, 46% in Hungary, and 37% in Australia (Redonda and Axelson, 2021). In South Africa, the advantage is as high as R350 000 or 27.5% of remuneration or taxable income (whichever is higher) per annum. These advantages given to the contributors by the government contribute to budget deficits. In the United States of America (USA), the fiscal cost of these allowances amounted to almost 190 billion United States dollars (USD), which equates to about 13% of overall tax benefits in 2023 (United States Department of the Treasury, 2023). In Canada, the projected cost of these measures was nearly 45 billion Canadian dollars (CAD) in 2018 (Department of Finance Canada, 2019). The cost of more than 37 billion Australian dollars (AUD) in 2018 was approximately 9% of Australia's total tax revenue (Australian Department of the Treasury, 2018).

As seen from the fiscal cost weighting of PTEs above, forgoing taxation on income paid to retirement funds has a high fiscal cost and has not proved effective in encouraging pension savings. Research has highlighted concerns about the distributive effects of these legislative provisions. The provisions are found to be highly regressive (Farys et al., 2022; Redonda and Axelson, 2021). The majority who are unemployed do not benefit from these provisions as they do not have income to contribute to these funds. Lower-income earners are either in informal employment or earning below the tax threshold, so they do not benefit from these provisions. The middle-income earners are in lower tax brackets compared to the higher-income earners, who are in higher tax brackets, and therefore, the higher-income earners get the lion's share of the PTEs. For example, a person on a tax rate of 18% will get a benefit of R180 on a R1 000 contribution, whereas a higher income earner on a 45% tax rate will get R450 per thousand rand contributed. For this reason, Harris et al. (2016) found that more than 70% of the benefits for work-based pension saving and 65% of support for personal retirement saving go to high-income earners.

In the policy design, the South African National Treasury must ensure that whilst the policy encourages savings, it must not perpetuate the past inequity in the tax system. Redonda and Axelson (2021) found the provisions susceptible to abuse by higher income-earning individuals

who make more considerable retirement fund contributions to avoid paying higher taxes. Such is typically the case in South Africa, where such benefits are often not used by the unemployed people and the people in informal sector. Thus, the PTEs end up having a regressive impact on the government's equity reform agenda. Hence, the South African National Treasury must guard against this in the new reforms.

#### **2.4 Provisions before 1 March 2015**

Several issues arose before the 1 March 2015 tax reforms, leading to the need to change the Income Tax Act. The Act allowed for deductions of contributions to retirement funds from income by individuals and employers (Lotter and Andrew, 2017; South African National Treasury, 1962; Stiglingh et al., 2023). The deductions were allowed in terms of Sections 11(k) for pension fund contributions and 11(n) for RAF contributions made by an individual (Coetzee et al., 2023; South African National Treasury, 1962). In terms of Section 11(k), an individual was allowed a deduction of up to 7.5% of pensionable remuneration for a pension fund (South African National Treasury, 1962). In terms of Section 11(n), a member of a RAF was allowed a deduction limited to a maximum of 15% of non-retirement funding employment income after certain deductions (Stiglingh et al., 2023). No section in the Income Tax Act made provision for deducting contributions made to a provident fund by an employee (Coetzee et al., 2023).

The above provisions of the Income Tax Act (before changes) presented three problems for individuals, practitioners, fund managers and academics. The first problem identified was that these provisions contributed to the fragmentation of the retirement tax system as they provided different ways of treating each fund's contributions (South Africa National Treasury, 2023a). This differentiated tax treatment complicated the administration of tax benefits. Moreover, the provisions created a misalignment of benefits between the members of different funds. Members of the pension funds and RAFs had a higher post-tax income as they qualified for deductions (South Africa National Treasury, 2023a). In contrast, provident fund members had a lower post-tax income since they were not allowed deductions on contributions they made.

The second one was that Sections 11(k) and 11(n) did not provide limits on pensionable remuneration and non-retirement funding employment income. According to De la Feria and Redonda (2020) and Redonda and Axelson (2021), the lack of limits made the system regressive and unjust as it drastically favoured the higher-income earners who could afford substantial contributions compared to contributions by low and middle-income earners. This

flaw in legislation perpetuated the inequality in South Africa, and the cost of PTEs to the fiscus was regressive as they favoured the higher-income earners over the lower and middle-income earners who could not make these substantial contributions (Groenewald, 2018). The absence of limits rendered these provisions susceptible to abuse by those who had more money and could hire experts for tax planning and take advantage (Redonda and Axelson, 2021). Limiting deductions on contributors would help mitigate the erosion of the tax base by those who make significant contributions (Redonda and Axelson, 2021). Limits would ensure that higher-income earners do not avoid paying taxes by making substantial contributions to the funds. Such limits will ensure they pay their fair share of taxes based on their income, at the very least (Redonda and Axelson, 2021).

While the first two problems focused on contributions, the third is on the benefit side. The provident fund members could receive all their retirement benefits as a once-off tax-free cash lump sum. The members of a pension fund and RAF could only take up to one-third as a once-off cash lump sum, and the balance had to be used to buy annuities (Stiglingh et al., 2023). Of this lump sum benefit, the first R500 000<sup>3</sup> was tax-free for the pension and RAF members (Groenewald, 2018; Stiglingh et al., 2023). This different treatment of lump sum benefits also contributed to the misalignment, complication, and fragmentation of the retirement tax system, as mentioned above. The following section details how the government responded to the above deficiencies.

## **2.5 Provisions after 1 March 2015**

In response to the deficiencies detailed in Section 2.4, the South African Government amended the Income Tax Act by deleting Sections 11(k) and (n), replacing them with a new section 11F (Coetzee et al., 2023; Du Plessis, 2015; Groenewald, 2018). This change addressed the first problem of fragmented contributions that came with Sections 11(k) and 11(n). It harmonised the deductions allowed, thus providing the same treatment for all retirement funds. As a result, the system was simplified and became more straightforward for practitioners, fund managers and academics to apply. However, on the second problem stated in Section 2.4, the changes only somewhat addressed the system's inequity in that the new Section 11F introduced limits. It now allows individuals to deduct payments to retirement funds limited to the lesser of R350 000, or 27.5% of the higher of remuneration or taxable income, or taxable income of that person

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<sup>3</sup> It is noted that the R500 000 relates to pre-1 March 2015. At the time of writing, the tax-free portion is R550 000.

before including any taxable capital gain (Groenewald, 2018; Stiglingh et al., 2023). Such is much better than the deduction of 7.5% of pensionable remuneration and 15% non-retirement funding employment income, which did not contain limits. Refer to Appendix A for examples illustrating the impact of the changes from the old sections to the new Section 11F.

On the contrary, some scholars like Redonda and Axelson (2021) argue that the new Section 11F is inadequate in addressing the inequity problem. Such may be the case because whilst Section 11F sets the limits, the limits (the lesser of 27.5% of remuneration/income or R350 000) remain high. Most poor, unemployed, and low and middle-income earners have no income near this limit, yet some high-income earners may be allowed to deduct this amount and contribute less to the fiscus, refer to Appendix A.

For the third problem on the benefit side, the new changes aligned the payment of benefits at retirement for provident fund members to that of the pension fund and RAF. Such a change consolidates the government's efforts to ensure that retirement fund members rely on their annuities rather than overstressing the fiscus.

## **2.6 Previous studies on retirement savings and reform**

This section reviews the extent global literature on the effect of the tax reforms on investment in pensions. After the international literature is discussed, the section focuses specifically on the limited South Africa literature.

### **2.6.1 Tax reforms in other countries**

In 2005, the Brazilian government amended tax legislation to promote pension savings, introducing two types of private pension plans: Plano Gerador de Benefício Livre (PGBL) and Vida Gerador de Beneficia (VGBL). The legislation provides an incentive of deductible payments up to 12% of taxable income, resulting in tax deferral until withdrawal or retirement. In the case of VGBL, contributions are non-deductible; however, the income generated from investments is exempt upon withdrawal or retirement. Due to the tax benefits relative to traditional investments, contributions to voluntary pension plans have significantly increased in the economy (Martins and Campani, 2021).

Like their Brazilian counterparts, the Irish government utilised the taxation system to promote retirement savings, characterised by low contribution levels. The tax legislation supports

pension contributions to promote participation by individuals and employers in occupational pensions and voluntary private pensions. This addresses anticipated demographic pressures and the expectations of unsustainable demands on state funded pillar 1 pensions. The state offers tax relief for supplementary pensions to aid individuals in sustaining their living standards during retirement. The tax legislation provides provisions for self-employed individuals to contribute to a Retirement Annuity Contract, as well as for those not enrolled in an occupational pension scheme to contribute to a Personal Retirement Savings Account. Contributions to a fund are deductible, investment income in the fund and capital gains are exempt, while withdrawals are partially taxed and subject to a lower marginal tax rate (Collins and Hughes, 2017).

In Canada, the government provides incentives via tax legislation to promote workplace registered plans and private savings for retirement. Workplace registered plans are afforded preferential tax treatment, allowing workers to deduct their contributions from taxable income, thereby decreasing their tax liability. At retirement the amount becomes subject to taxation, typically at a reduced rate compared to the individual's earnings during employment. Registered Retirement Savings Plans (RRSPs) are provided by financial institutions, allowing contributions to decrease the income tax liability. Investment income or interest accrued within the RRSP is not subject to taxation, provided that the funds remain within the plan (Blackshaw and Cahill, 2021).

Federal tax law in the United States of America allocates significant resources, approximately 1.5% of U.S. GDP, to promote retirement savings through contributions to plans like 401(k) and 403(b) accounts (Choukhmane, Colmenares, O'Dea, Rothbaum and Schmidt, 2023). These accounts provide a beneficial means for long-term savings, allowing for the deferral of taxes on contributions made by employers, employees, and self-employed individuals, as well as on the earnings from these contributions until withdrawal during retirement (Martins and Campani, 2021). Income taxes are postponed until retirement, at which point they will be subject to lower rates (Blackshaw and Cahill, 2021). Research shows that the reforms indeed help individuals and employers contribute to private pensions and thereby reducing their dependency on public pensions.

In the USA, research indicates that a significant number of individuals do not contribute to private pensions and the tax benefits are more advantageous for upper-middle income taxpayers compared to other groups (Toder, Khittrakun and Boddupalli, 2020). This is due to

their greater access to employer-sponsored plans, higher contribution levels, and increased benefits per dollar contributed, as they typically face higher marginal tax rates on their exempt or deferred income (Toder, Khitatrakun and Boddupalli, 2020).

These findings from the USA corroborate the results of Collins and Hughes (2017) in Ireland, indicating that the existing taxation system is predominantly focused on individuals with the highest earnings and those at the upper end of the income distribution. Blackshaw and Cahill (2021) found that in Canada, higher-income families disproportionately benefited from tax expenditures promoting retirement savings, particularly evident in the case of RRSPs. Families in the top quintile represented more than two-thirds of total RRSP contributions (Blackshaw and Cahill, 2021). Individuals from high-income families exhibit a greater propensity to contribute to an RRSP and tend to make larger contributions (Blackshaw and Cahill, 2021).

These concerns have prompted proposals for stricter limits on contributions to these plans and the substitution of deductions and exemptions with tax credits, which would offer greater savings incentives for lower- and middle-income earners (Toder, Khitatrakun and Boddupalli, 2020).

### **2.6.2 Retirement savings and reform in South Africa**

Despite the many studies about retirement planning and pensions in South Africa, few studies have taken interest in the effect of the tax reforms on investment in pensions. To the researcher's best knowledge, only two studies have examined the impact of retirement tax reforms on retirement savings, average contributions, and reduction in disposable income in South Africa, which are presented in Table 2.2 below. These studies highlight the same concerns experienced internationally that the tax legislation benefits high-income earners and is disadvantageous to low-income earners. Furthermore, there seems to be no studies that have investigated the effect of awareness, knowledge, and attitudes on the intention to invest in retirement annuity funds post tax reforms in South Africa. Therefore, this study seeks to bridge this gap.

**Table 2.2:** Previous studies on retirement tax reforms in South Africa

<b>Author(s)</b>	<b>Focus</b>	<b>Methodology</b>	<b>Findings</b>
Lotter and Andrew (2017)	The study established that the objectives of the 2016 tax reform have been met by conducting a critical analysis of the impact of the new regime on disposable income and tax incentives.	The research used a critical analysis of documentary (secondary data) with particular attention to the Income Tax Act and South African National Treasury releases.	The new provision is unclear and requires clarity, as it affects calculations based on taxable income. Retirement fund members can maintain or increase their contributions; the incentive to save more may only be in theory, as the reduction in tax payable does not outweigh the reduction in disposable income.
Redonda and Axelson, (2021)	The study assessed the impact of the 2016 reform if it triggered a positive effect on the number of people contributing to pension funds and a less sharp yet positive impact on the average value of contributions.	A critical analysis of administrative tax micro-data using secondary data.	The reform was ineffective at limiting the regressive impact of the retirement system as the contributions to retirement funds increased more from top earners. As such, it exacerbated the gap between low- and high-income individuals. More resources were allocated to PTEs, which has been proven to benefit wealthy earners both before and after the reform.

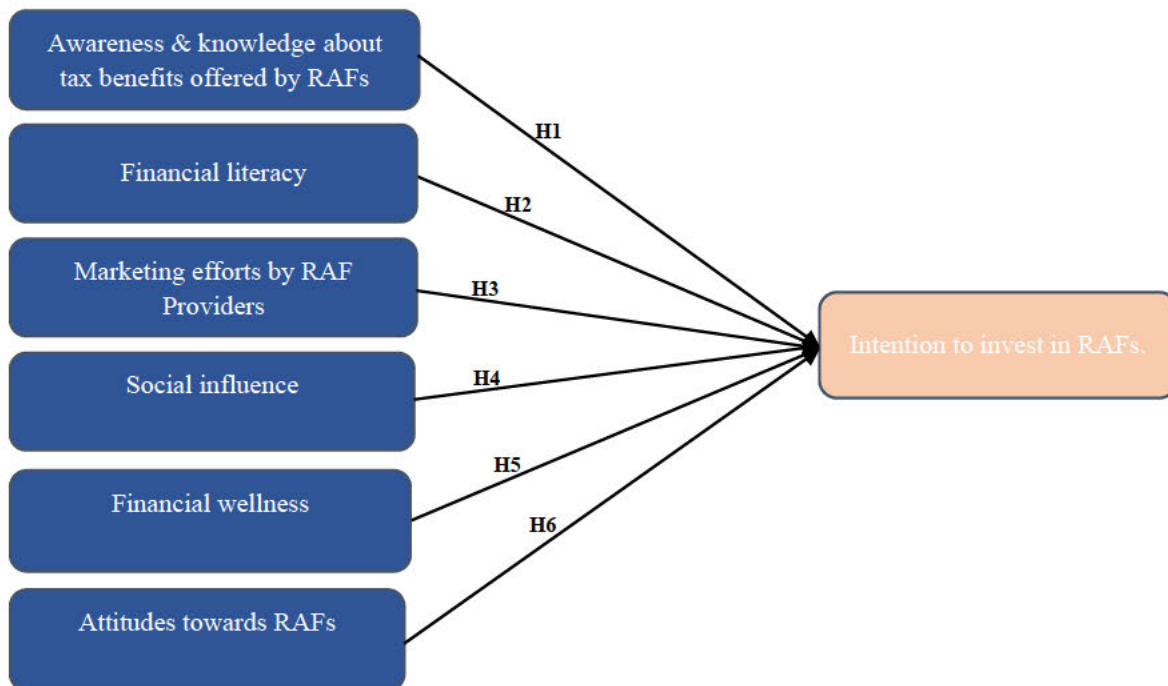
*Source: Own table*

As indicated in the problem statement in Section 1.3 and the studies presented in Table 2.2, multiple knowledge gaps exist in South Africa which this study aims to address. That is, the knowledge, methodological, theoretical, and empirical gaps in awareness, knowledge and attitudes influencing the intentions of persons to invest in RAFs. Methodologically, existing studies show a bias towards a qualitative approach (critical discourse analysis), leaving the quantitative approach unexplored. Thus, this study will contribute with an objective methodological framework. As much as critical discourse analysis is a good approach, its overuse leaves a gap for other theoretical views. Also, the current study offers a different pathway by collecting primary data from individual employees of a UoT to address the empirical gap (Miles, 2017; Muller-Bloch and Kranz, 2014). The next section presents a theoretical framework discussion.

## **2.7 Conceptual model and hypothesis development**

Several factors in the literature influence the intention to invest in RAFs. For example, Nosi et al. (2017) modified the Theory of Planned Behaviour (TPB) (Ajzen, 1991) to predict the intention to invest in private pensions, known as *Piani Individuali Pensionistici* (PIPs) in Italy. They added a fourth predictor – Anticipated Inaction Regret (AIR) to evaluate individuals' emotional state after failing to act. The study found that all the original TPB constructs (subjective norm, perceived behavioural control and attitudes towards a behaviour) and the added AIR construct significantly predicted intention to invest in the PIPs. In another study, Dragos et al. (2020) found that other than the socio-demographic variables (age, education, and marital status), only the fear of the unknown or ambiguity had a negative significant effect on the inclination to contribute to private pensions.

Awareness and knowledge of RAFs, financial literacy, marketing efforts of RAF providers, social influence, financial wellness, and attitudes towards RAFs was hypothesised to influence people's intention to invest in RAFs. The hypothetical relationship between these variables is depicted in Figure 2.1.



**Figure 2.1:** Conceptual Model (*Source: own figure*)

### **2.7.1 The influence of awareness and knowledge about tax benefits offered by RAFs on intention to invest.**

Awareness alone is not helpful; it must be escalated to knowledge, which is the degree of understanding individuals have about something (Dragos et al., 2020). Awareness and knowledge are popular concepts in marketing, especially consumer behaviour. They are the first two steps of consumer-marketer interaction (Belch and Belch, 2020; Clow and Baack, 2021), and their importance is codified and demonstrated in various consumer response models such as the Hierarchy of Effects Model (Lavidge and Steiner, 1961). This present study uses the same conception that awareness and knowledge of tax incentive associated with RAF contribution influence consumer attitudes and predict an individual's intention to invest in RAFs.

The effect of product awareness and knowledge on attitudes (Hong et al., 2023), intention to invest/purchase (Bongini and Cucinelli, 2019; Morgan and Long, 2020; Nurhayati and Hendar, 2020) and investing/purchasing (Alamsyah et al., 2020; Vizano et al., 2021) is positive. These studies found awareness and knowledge to have a positive effect on attitudes towards the products. Focusing on retirement saving, studies found that knowledge about pension plans

increases an individual's likelihood of investing in that plan (Hauff et al., 2020). After considering this discussion, hypothesis 1 (H1) is formulated as follows:

H1: Awareness and knowledge about tax benefits offered by RAFs positively influence an individual's intention to invest in RAFs.

### **2.7.2 The Influence of financial literacy on intention to invest.**

Financial literacy is a person's proficiency in making significant decisions concerning the effective and efficient use of their financial resources (Kumari, 2020; Rai et al., 2019). It displays an individual's knowledge about financial decisions. Numerous studies have propounded the concept of financial literacy in South Africa. Recently, a report on financial literacy (Roberts et al., 2021) by the Financial Sector Conduct Authority (FSCA) in collaboration with the Human Sciences Research Council (HSRC) indicates that 52% of South Africans are financially illiterate. In an earlier study by Sibanda and Sibanda (2016) involving a separate sample of South Africans, drawn from community-based organisations, regulators, financial service providers, associations, and capacity-building institutions, had found the financially illiterate rate at 54%. Wentzel (2016) highlights that despite financial literacy being a topical concept in South Africa and more effort and emphasis placed on improving it, the country still fares poorly in international surveys measuring financial literacy. Other empirical studies (such as Nanziri and Olckers (2019), Shambare and Rugimbana (2012), and Willows (2019)) support this grim picture.

Such is worrisome considering financial literacy's importance in managing personal financial resources and wealth accumulation (Hastings and Mitchell, 2020). It is even worse when considering post-retirement saving investments which have been acclaimed as an outcome of financial literacy (Dhlembeu et al., 2022). Numerous studies have tested the effect of financial literacy on intention to invest or purchase financial products such as retirement annuities. For example, studies by Hauff et al. (2020), Morgan and Long (2020) and Rai et al. (2019) found that financial literacy positively impacts an individual's intention to make savings and investments. In their respective studies, Bongini and Cucinelli (2019) and Ndhlovu (2021) discovered that financial literacy has a favourable impact on individuals' intention to acquire insurance products. Based on this premise, hypothesis 2 (H2) is formulated as follows:

H2: Financial literacy positively influences the intention to invest in RAFs.

### **2.7.3 The influence of marketing efforts by RAF providers on intention to invest.**

In South Africa, post-retirement savings products such as RAFs are provided by insurance companies, banks, and other organisations referred to as licensed Financial Service Providers (FSP). These are insurance products described as unsought products (Kotler and Armstrong, 2017); products that consumers do not consider purchasing but are bought out of necessity, fear of risk, and without any desire to acquire them (Nasir et al., 2021). Accordingly, unsought products need intensive and strategic marketing approaches. For example, advertising, public relations, personal selling, as well as other marketing efforts (Kotler and Armstrong, 2017; Oladepo, 2019). According to Belch and Belch (2020), through targeted marketing communications, individuals become aware, knowledgeable, and interested in signing up for such products. The effect of marketing communications on consumer responses is codified through various models such as the Attention Interest Desire Action (AIDA) Model, Innovation Adoption Model, Hierarchy of Effects Model, and Information Processing Model.

This study assesses the influence of the marketing communication elements (Belch and Belch, 2018) on intentions to invest on RAFs. Dragos et al. (2020) posit that even though, theoretically, individuals are assumed to be financially literate concerning post-retirement savings, reality shows that few people have consummate knowledge about the subject. Through marketing efforts, companies create awareness and provide relevant and appropriate information that enhances consumers' literacies (knowledge and benefits) about RAFs and affinity to the brand. Hence, their propensity to invest in retirement savings. As such, hypothesis 3 (H3) was formulated as follows:

H3: Marketing efforts of RAF providers positively influence the intention to invest in RAFs.

### **2.7.4 The influence of social influence on intention to invest.**

The social influence construct is akin to the subjective norm of the TPB (Ajzen, 1991; 2020). It seeks to capture how the normative expectations of important others influence an individual's intention to invest in a RAF policy. The normative beliefs can be split into two types. The first is the belief that referent important others will approve or disapprove the performance of the considered behaviour (injunctive beliefs). The second is if the important others have performed or are performing such a behaviour (descriptive beliefs) (Ajzen, 2020; Fishbein and Ajzen, 2010).

Numerous studies have confirmed the influence of significant others such as spouses, family, friends, and colleagues on individuals' behaviours regarding retirement preparation. For example, Bongini and Cucinelli (2019) and Kerdvimaluang and Banjongprasert (2022) found subjective norms to significantly impact Gen Y's intention to invest in retirement. Also, other studies (see Ghorbanzadeh and Shabbir, 2023; Waris et al., 2022) confirm that subjective norms positively influence attitudes. With such empirical evidence, this study contends that injunctive and descriptive normative beliefs, referred to as subjective norms, can impact an individual's investment intentions. Therefore, hypothesis 4 (H4) was formulated as follows:

H4: Social influence positively influences the intention to invest in RAFs.

### **2.7.5 The influence of financial wellness on intention to invest.**

Financial wellness impacts the quality of life and general well-being, especially financial decision-making (Barrafrem et al., 2021). Barrafrem et al. (2021) define financial wellness as a sense of comfort about an individual's financial state and the absence of negative emotions caused by financial concerns. Mavlutova et al. (2021) found that individuals concerned about their financial wellness will think more about keeping funds aside for retirement. In Malaysia, women's concerns about their financial wellness, cost of living, debt, and financial difficulties influence how they spend or invest their money (Sabri et al., 2020). Individuals concerned about their financial awareness tend to plan well for the future by investing for retirement. To test this, hypothesis 5 (H5) was formulated as:

H5: Financial wellness positively influences the intention to invest in RAFs.

### **2.7.6 The influence of attitudes towards RAFs on intention to invest.**

Ajzen (1991:188) defined attitudes as "the degree to which a person has a favourable or unfavourable evaluation or appraisal of the behaviour in question". Attitudes emanate from perceptions about an object, usually influenced by culture, experiences, learning, and association with something. For this study, attitudes are assumed to be influenced by individuals' knowledge about the attributes and benefits of retirement funds. Individuals learn about retirement funds from different sources, such as social structures (Kuchler and Stroebel, 2021; Kumari, 2020). Also, they might acquire it through interacting with the marketing efforts of organisations offering these financial products. The extent of an individual's financial

literacy and financial wellness has also been found to influence individuals' attitudes towards retirement plans (Morgan and Long, 2020; Sabri et al., 2020).

Several studies have tested the impact of attitudes on behavioural intention. Other studies suggest that attitudes do influence behavioural intention. For unsought financial products such as insurance policies and retirement plans, studies (for an example, Bongini and Cucinelli, 2019; Nosi et al., 2017) have confirmed the predictive power of attitudes on an individual's inclination to contribute to a pension. To evaluate this, hypothesis 6 (H6) was formulated as follows:

H6: Attitudes towards RAFs positively influence the intention to invest in RAFs.

## **2.8 Chapter summary**

Since people in South Africa and the world over are living much longer due to life expectancy changes and healthier lifestyles, retirement savings have become critical. It is much more severe in South Africa as most people are not saving enough for retirement. This lack of savings is also a problem not only for the individual but also for the economy, as South Africa lacks a domestic pool of capital. The government sacrifices tax revenues to encourage people to save for retirement, and this causes a problem in that these costs benefit mainly the high-income earners, perpetuating inequity (De la Feria and Redonda, 2020). The retirement reform that the government embarked on from 2012 to 2016 was meant to harmonise and make the system more equitable and encourage more savings from low and low income-earners in South Africa (Groenewald, 2018).

The research shows that instead of mitigating the inequity in the system, the change in legislation exacerbated it, as the proportion of high-earning persons paying to retirement funds grew at a greater rate (Redonda and Axelson, 2021). The tax deductions that the Income Tax Act provides are a regressive form of tax expenditure because they provide no benefit for unemployed individuals and those who earn below the income tax threshold (Muobuikwu, 2020). It is telling that the beneficiaries of these provisions are individuals with high incomes as opposed to those with low taxable incomes. Thus, the more pension-related tax expenditure allocated to the system benefited the top earners even after the reform, worsening the inequity (Redonda and Axelson, 2021). After presenting a literature assessment, the following chapter outlines the research methodology employed in the practical phase of the study.

## **CHAPTER 3: RESEARCH METHODOLOGY**

### **3.1 Introduction**

The purpose of this study was to evaluate how awareness and knowledge of tax benefits provided by RAFs, financial literacy, marketing efforts by RAF providers, social interactions with influential individuals, concern for financial wellness, and attitudes towards RAFs influence individuals' intention to invest in RAFs.

This chapter outlines how the researcher systematically addressed the research questions. The chapter starts by outlining the research paradigm and methodological approach underpinning the study, followed by a concomitant research design. Saunders et al. (2019) define research design as the blueprint that guides data collection, measurement, and analysis for a study. After that, the chapter describes and justifies the target population, sampling technique and sample size employed. The chapter also details data collection procedures and instrument design, including the pilot study results and data quality issues. Finally, this chapter discusses how the data collected was analysed and the ethical considerations of the study.

### **3.2 Research paradigm and methodological approach**

Kuhn (1962) defines research paradigms as intellectual communities that develop assumptions that guide members' views of social reality. These assumptions manifest as members' ontological and epistemological views. How they view reality and their belief of the value of knowledge. Their philosophical views determine how they discover and value knowledge about reality and consequently address research problems (Kivunja and Kuyini, 2017). Methodologically, these communities manifest as the quantitative, qualitative, or mixed methods approaches.

This study employed a quantitative survey methodological approach underpinned by the positivist philosophical view. Quantitative research accepts that reality can be studied through scientific methods (Fuyane, 2021). This approach is entrenched essentially in mathematical procedures, reducing measurement to numbers (Rahman, 2017). This is advantageous due to the application of statistical tools and procedures for data analysis, resulting in time and resource efficiency (Borgstede and Scholz, 2021; Rahman, 2017). The deductive approach to research was deemed suitable because it prioritises the testing of hypotheses to clarify the links between variables being studied. The findings can be easily replicated and generalised (Borgstede and Scholz, 2021; Saunders et al., 2019). The quantitative methodology was

employed for its objectivity, replicability, testability, rigour, parsimony, precision, confidence, and generalisability in answering the research questions (Saunders et al., 2019)

### **3.3 Research design**

Research design refers to a systematic strategy that outlines how data will be collected, measured, and analysed to address specific research inquiries (Sekaran and Bougie, 2019). To answer the research questions, a cross-sectional study design was employed. This is an observational research design that analyses data from a population at a particular point in time (Sekaran and Bougie, 2019) without any follow-up that looks forward or backwards in time with this design (Wang and Chang, 2020). After the subjects have been chosen, the researcher gathers the data and evaluates the connections between the results and the factors being studied (Salyer et al., 2021; Wang and Chan, 2020).

In a cross-sectional study, the participants are selected from a pool of individuals who are potentially relevant to the research question at hand (Wang and Chang, 2020). They can serve as evidence for correlations between variables and help eliminate numerous potential alternative explanations for such relationships (Spector, 2019). Cross-sectional studies are advantageous due to their efficiency and cost-effectiveness, and hence it was chosen for this study (Sekaran and Bougie, 2019; Wang and Chang, 2020).

### **3.4 Population of the study**

The term population pertains to a group of individuals, events, or other relevant subjects the researcher intends to examine (Mishra and Alok, 2022). As much as identifying the population is critical for a research study, Saunders et al. (2019) state that it is even more critical to identify the target population, which is a subset of a population that the researcher intends to study and draw conclusions from. They state that it can be defined in terms of its constituent elements, as well as its geographical location and time. The study focused on academic and support staff members employed on a permanent and fixed-term contract basis at a UoT in KwaZulu-Natal whose annual income ranged between R1 – R625 992. The target population was chosen based on their income classes as defined by Meiring et al. (2023) of the Bureau of Market Research (BMR). They categorised income classes in South Africa as low-income earners (R1 – R73 351 per annum), middle-income earners (R73 352 – R625 992 per annum) and high-income earners (+R625 993 per annum). The categorisation of household income served as the foundation for establishing the population in this study. The permanently employed UoT personnel are all

members of the mandatory employer pension scheme, contributing 24% of their pensionable remuneration, while contract employees are excluded from the scheme. Considering the possibility of deducting a whole payment of up to 27.5% of pensionable remuneration, it was essential to include all individuals within the income identified above due to the potential for additional benefits.

### **3.4.1 Inclusion and exclusion criteria**

Since the research was a case study focusing on employees of a UoT in South Africa, the income classes defined by Meiring et al. (2023) were used to identify employees with corresponding salary grades, albeit with some insignificant overlaps. Thus, 537 employees from Grades 8 to 16 (see appendix B) were effectively incorporated as the target population. Employees in Grades 1 to 7, herein deemed as high-income earners, were excluded from the study. To support this exclusion, the researcher drew from Redonda and Axelson's (2021) argument that such employees already disproportionately enjoy PTEs. Those employees within the qualifying income range who indicated they already had a RAF policy were excluded from participation as they would not assist in achieving the study's objectives. The study sought to investigate the determinants of an individual's intentions to invest in a RAF. It also explored whether a participant had an intention to invest in a RAF in the future. Consequently, individuals who were already contributing to a RAF were excluded from the research as they were already investing in a RAF.

### **3.4.2 Sampling technique**

Sampling is defined by Onwuegbuzie and Collins (2007:281) as "a process of selecting a portion, piece, or segment that is representative of the whole." When the population being studied is too large to conduct a comprehensive census selecting a sample from it is necessary to conduct research effectively (Oribhabor and Anyanwu, 2019).

The study employed a probability sampling method sometimes referred to as random sampling. It is commonly linked to survey research methods, where every individual in the community has a known and equal probability of getting selected (Creswell and Creswell, 2018; Saunders et al., 2019; Sekaran and Bougie, 2019). Probability sampling is suitable for investigations that aim to generalise the findings. The different types of probability sampling approaches include systematic random, simple random, stratified random, multistage, and cluster sampling (Nanjundeswaraswamy and Divakar, 2021).

This study employed a simple random sampling technique, which minimises the potential for bias and enables making inferences about the target population of a study (Stratton, 2021). Probability sampling was chosen for its preciseness and rigour (Stratton, 2021). It allows all units of the target population the same chance to be in the sample. The sample was chosen from the target population (see Subsection 3.4.1) using an MS Excel spreadsheet's random function (syntax =*Rand* ()). The records of the 537 individuals identified as the target population were assigned the random numbers generated by the Excel random function to pick the sample size discussed in the following subsection.

### **3.4.3 Sample size**

Estimating the appropriate sample size is difficult for researchers at all experience levels (Fuyane, 2020). Various factors can impact the sample size of the research, such as population size, study objectives, type of statistical analysis, permissible sampling error (confidence level), variability, and level of precision should be considered when calculating the sample size (Kang, 2021). Identifying the sample size is a critical factor that impacts other aspects of a study such as model fit, the accuracy and statistical power of parameter estimations, and the appropriateness of the methods to be employed (In'nami and Koizumi, 2013; Serdar et al., 2021). Empirically, larger sample sizes are commonly linked to quantitative research, while smaller sample sizes are typically related to qualitative research (Fuyane, 2021). The sample size depends primarily on the study's objectives, hypothesis, and research strategy (Serdar et al., 2021; Singh and Masuku, 2014).

#### **3.4.3.1 Initial sample size**

The initial sample size was determined using Yamane's formula (Yamane, 1973). To ensure that the sample is as close as possible to the true characteristics of the population, a 5% margin of error was used as suggested in the literature (Creswell and Creswell, 2018; Hair et al., 2020a; Sekaran and Bougie, 2019). Below is the illustration of sample size calculation using the Yamane formula.

$$n = \frac{N}{1 + Ne^2}$$

Where:  $n$  = Sample size,  
 $N$  = Population size,  
 $e$  = Margin of error.

$$n = \frac{537}{1 + 537(0.05^2)}$$
$$n = \frac{537}{2.3425}$$
$$n = 229.24$$

As shown in the calculation illustration above, the minimum recommended sample size required for the study was 230 elements. However, to avoid the effect of a low response rate, often associated with online data surveys (de Rada, 2022), the researcher randomly drew and distributed the instrument to 300 respondents. From these, 271 respondents accepted to take part in the research and filled the online questionnaire. This was a 90,3% response rate.

There is no defined criterion for determining an acceptable response rate. However, response rate is an important consideration for surveys as it plays a vital role in evaluating potential bias in a study and the degree to which the findings may be applied to the target population (Adeniran, 2019; Booker et al., 2021). Response rates seem to be significantly influenced by the type of survey, the level of follow-up, the geographical location, and the characteristics of the participants (Meyer et al., 2022). Email survey response rates exhibit considerable variability and typically fall within the range of 25% - 68%, particularly when no follow-ups are made (Menon and Muraleedharan, 2020; Meyer et al., 2022). Adeniran (2019) and Booker et al. (2021) suggest that a 50% response rate is adequate for data analysis and reporting. However, a 60% response rate is considered better, 70% is exceptional, and 80% is excellent.

The response rate of 90.3% was excellent and can be attributed to various factors, including the well-designed questionnaire, effective language usage, diligent follow-ups, participant characteristics, and the availability of internet and computer access, as elucidated by Meyer et al. (2022). In the current study the questionnaire was easy flowing topics were arranged in a sequentially order which made easy to answer. The statements were made in short, simple English and no jargon was used. All participants had access to computers and cellular phones connected to the university network.

### 3.4.3.2 Effective sample Size

As stated in Subsection 3.4.1, those who already had taken a RAF policy were to be excluded from the study. Therefore, the first question was used to exclude or include respondents. Each participant was asked if they were contributing to a RAF at present and provided the choice to respond with either a yes or no response. One hundred and fifty-eight (158) did not have a RAF policy. Hence, they were allowed to proceed and respond to the questions. The other one hundred and fifteen (115) already had a RAF policy and were directed to submit the questionnaire and exit before seeing further questions. Henceforth, the ones who did not have a RAF policy were deemed the effective sample size for analysis. The effective sample of 158 participants results in a 52.67% response rate. This response rate is acceptable as for data analysis and reporting as stated by Adeniran (2019). The researcher had to consider the suitability of the effective sample size based on the requirements for multivariate analysis.

The technical dimension of a sample size becomes significant when employing multivariate analytic techniques. Following the recommended minimum sample size criteria ensures that statistical methods like regression analysis have sufficient statistical power (Hair et al., 2021). According to Wolf et al. (2013), statistical power plays a role in establishing the association between variables in a data collection. Confirmatory Factor Analysis (CFA), Exploratory Factor Analysis (EFA), and regression analysis are statistical techniques that commonly require large sample studies (Kyriazos, 2018). Contrary to this, Costello and Osborne (2019) argue that a smaller sample size can still yield accurate results for these methodologies if the data is more reliable and comprehensive.

There is a lack of agreement in the literature regarding the specific criteria for determining what is a small or large sample. The absence of agreement is apparent in the literature, where several guidelines for determining sample size are mentioned, each proposing a different minimum value (Kyriazos, 2019). For instance, Kline (2016) and Muthen and Muthen (2002) consider samples with fewer than 100 observations insufficient for attaining an acceptable statistical power, which Hair et al. (2021) suggest must at least be 0.80. Another guideline to follow is the frequently referenced 10-times rule (Barclay et al., 1995), also known as the ten events per variable (EPV) (de Jong et al., 2019). The 10-times rule proposes that the sample size should equal ten times the number of independent variables in the most complicated regression inside the route model (Hair et al., 2021). The present study had six independent variables for the most complicated regression. Based on these rules of thumb, the researcher

was satisfied that the final sample size of 158 respondents was adequate for multivariate analyses. See Subsection 3.6.1 and Section 3.7 for a thorough examination of the analytical techniques employed in this study.

### **3.5 Data collection**

A structured online questionnaire was used to collect data from the sample and is included in Appendix C. This data collection tool was chosen for its design, distribution and data-capturing efficiency and convenience (Nayak and Narayan, 2019). The authors also argue that online data collection reduces the levels of social desirability, which in most cases is due to the pressures exerted by the presence of the researcher at the time the respondent takes a survey. Online surveys can effectively gather data and minimise errors caused by manually copying written data into a computer (Regmi et al., 2016).

The selection of this method was based on its flexibility, which enables participants to freely finish the survey at their own discretion, spend as much time as needed to answer questions, and decide when and where to complete the survey (Nayak and Narayan, 2019). An essential benefit of online collecting is its ability to mitigate data loss and streamline the process of transferring data into a database for analysis, as this occurs automatically (Lefever et al., 2007). As such, the questionnaire was developed using Google Forms, facilitating the automatic data-capturing and subsequent data exportation to a spreadsheet for analysis.

Online surveys have inherent limitations, with a significant concern being the participation rate. Studies have indicated that the response rates for online surveys are generally lower than those for offline surveys, which could affect the sample size for the study (Wu et al., 2022). One of the reasons for the lower response rate is the freedom given to participants to complete the survey at their convenience, thus leading them forgetting about it (Lefever et al., 2007). To counter this, email reminders were sent to the mailing list of the participants every third day to encourage participation.

Another drawback of online questionnaires arises from incomplete questionnaires, wherein participants refrain from answering some questions (Nayak and Narayan, 2019). To mitigate this issue, the questionnaire was designed to prevent participants from omitting the non-optional items. Consequently, participants could not skip a question since the questionnaire would not permit them to go to the following question or submit their responses. Therefore, if a questionnaire was incomplete, it could not be submitted, ensuring that there would be no

problems related to missing information during data analysis. An additional risk associated with using online questionnaires is the potential to exclude people who are not technologically literate (Nayak and Narayan, 2019). The questionnaire was designed to be user-friendly, requiring only basic computer skills. It also has a built-in security system to guarantee both authenticity and anonymity.

### **3.6 Measurements and scales**

The measurement scales included in the questionnaire, which are related to the important variables identified in the literature as influencing intentions to invest in the RAF, are presented in Table 3.1 below.

**Table 3.1:** Questionnaire and measurement of constructs

Variable	Number of items	Type of scale	Method of analysis
Pension Fund Membership	One	Nominal scale	Descriptive statistics.
Demographic Variables	Five	Nominal scale	Descriptive statistics.
Awareness and Knowledge (AK)	Six	Likert (ordinal) scale	Descriptive statistics Multinomial logistic regression analysis.
Financial Literacy (FL) – Split into Financial Control and Knowledge	Seven (Financial knowledge)	Nominal scale	Descriptive statistics.
	Four (Financial planning and control)	Likert (ordinal) scale	Descriptive statistics Multinomial logistic regression analysis.
Marketing Efforts (ME)	Six	Likert (ordinal) scale	Descriptive statistics Multinomial logistic regression analysis.
Social Influence – Subjective Norms (SI)	Six	Likert (ordinal) scale	Descriptive statistics Multinomial logistic regression analysis.
Financial Wellness (FW)	Seven	Likert (ordinal) scale	Descriptive statistics Multinomial logistic regression analysis.
Attitudes (ATT)	Six	Likert (ordinal) scale	Descriptive statistics Multinomial logistic regression analysis.
Intentions (INT)	One	Nominal (binary) scale	Descriptive statistics Multinomial logistic regression analysis.

*Source: Own table*

As shown in the table above, all the variables used a five-point Likert scale except the demographic, financial knowledge variables and intentions. Rensis Likert developed the Likert scale to provide a scientific means of measuring the attitudes of individuals (Likert, 1932). The Likert scale is a collection of statements presented to individuals in a natural or hypothetical research scenario, requiring them to express their level of disagreement or agreement with each assertion (Joshi et al., 2015). It uses different levels of measurements from three-point to eleven-point scales. Even though Likert (1932) recommended the five-point scale, there seems to be no consensus regarding the best Likert scale.

In subsequent studies, some researchers advocated for higher response possibilities such as nine to eleven-point scales (Johnson and Creech, 1983; Preston and Colman, 2000; Wu and Leung, 2017; Simms et al., 2019). However, Schrum et al. (2020) and Simms et al. (2019) contend that increasing the number of response points is insufficient to enhance a variable's measurement. Also, Lee and Paek (2014) state that increasing the number of response possibilities demands more significant mental effort from participants, leading to a potential decline in the quality of their responses. In line with this point of view, this study chose the original five-point Likert scale.

### **3.7 Piloting of the questionnaire**

Prior to distribution to the participants, the questionnaire underwent an assessment to determine the accuracy and reliability of the responses. The questionnaire's reliability and validity are crucial factors for drawing accurate conclusions of the research (Creswell and Creswell, 2018). To evaluate the instrument's validity and its suitability for the intended purpose, it was piloted by sending it to colleagues within the institution. The research community lacks consensus on the definition of a suitable sample size for conducting a pilot study of a questionnaire. However, Perneger et al. (2015) proposed a minimum default number of 30 participants. Menon et al. (2021) and Dietz (2021) proposed that the choice of a sample is a subjective determination influenced by the aims and purposes of the pilot study, limitations in time and resources, and the availability of potential participants. The pilot study sample for this study consisted of 22 participants. The researcher was content that the sample accurately represented the targeted population with regards to race, gender, age, income, and education levels. This sample did not include the participation of the four research professors who offered their expert guidance. Individuals who participated in the pilot study were excluded from the sampling frame for the main investigation. Feedback from the pilot study was received from all respondents and the results are presented in Table 3.2.

#### ***Pilot study results***

The pilot study sample comprised 12 female and 10 male respondents across three ethnic groups - Africans, Indians, and Whites. Most of the respondents fell in the 30-39 age group (59%), followed by 27% in the 18-29 age group and 14% in the 40-49 age group. Sixty-four percent of the respondents earn between R203 000 and R412 000, and 32% are from the R412 000-R707 000 income range per annum. The sample was fairly educated, with most (64%) holding either a bachelor's degree, Advanced Diploma or an Honours Degree/Postgraduate Diploma qualification.

To detect a simple scale structure and test reliability, an EFA using Principal Components as the extraction method and Promax rotation was conducted. To obtain a simple structure from the best fitting model, the researcher employed iterative rotational techniques (Costello and Osborne, 2019). Promax and Varimax are two rotating strategies devised by different researchers with the aim of achieving a simplified scale structure. Although the two come from different categories, orthogonal and oblique, there is no strict rule dictating which method to adopt (Browne, 2001; Costello and Osborne, 2019; Osborne, 2015). Promax was chosen because it provided a simple structure. The essence of this analysis was to investigate the fundamental factor structure of the pilot study data, and the results are presented in Table 3.2 below.

**Table 3.2:** Principal components and reliability results for the pilot study

Item	Loa din g	KMO (Bartlett test)	% of Variance	Scale $\alpha$	Scale $\alpha$ if deleted	Action
AK1	.826	.776 ( $\alpha < .001$ )	68%	.905	.888	Despite AK4 not loading sufficiently and AK5 being a candidate for deletion, all the items were retained into the final instrument. The reason was because the items showed good convergent validity with an average factor loading of .793. Discriminant validity was also demonstrated as there were no serious cross-loading and no correlation among items were more than .7, as suggested by Hair et al. (2020b).
AK2	.809				.891	
AK3	.777				.898	
AK4					.859	
AK5	.609				.905	
AK6	.912				.869	
AK7	.852				.881	
AK8	.769				.897	
FL1	.608	.582 ( $\alpha < .001$ )	84%	.701	.815	All the items were retained into the final instrument as they showed good convergent validity with an average factor loading of .765. Discriminant validity was also demonstrated as there were no serious cross loading and no correlation among items were more than .7 as suggested by Hair et al. (2020b).
FL2	.614				.701	
FL3	.919				.403	
FL4	.919				.345	
ME1		.661 ( $\alpha < .001$ )	86%	.918	.889	Despite ME1 and ME6 not loading sufficiently, all the items were retained into the final instrument. They showed good convergent validity with an average factor loading of .876. Discriminant validity was also demonstrated as there were no serious cross loading and no correlation among items were more than .7 as suggested by Hair et al. (2020b).
ME2	.887				.938	
ME3	.725				.918	
ME4	.968				.806	
ME5	.923				.888	
ME6						
SI1	.894	.878 ( $\alpha < .001$ )	82%	.953	.946	All the items were retained into the final instrument as they showed good convergent validity with an average factor loading of .899. Discriminant validity was also demonstrated as there were no serious cross loading and no correlation among items were more than .7 as suggested by Hair et al. (2020b).
SI2	.959				.936	
SI3	.944				.938	
SI4	.946				.938	
SI5	.692				.970	
SI6	.959				.936	
FW1	.822	.585 ( $\alpha < .001$ )	66%	.817	.766	All the items were retained into the final instrument as they showed good convergent validity with an average factor loading of .731. Discriminant validity was also demonstrated as there were no serious cross loading and no correlation among items were more than .7 as suggested by Hair et al. (2020b).
FW2	.775				.749	
FW3	.863				.711	
FW4	.731				.843	
FW5	.463				.817	
ATT1	- .766	.668 ( $\alpha < .05$ )	63%	.013	.655	This construct was problematic, with three items failing to load sufficiently and unacceptable reliability score. As a result, three new items drawn adapted from Ajzen's (1991) TPB to replace the problematic ones.

Source: Own table

As shown in Table 3.2, all the scales showed a simple structure with healthy validity and reliability indicators, save for the attitude scale. The Kaiser-Meyer-Olkin (KMO) Measure of Sampling Adequacy values conformed to Kaiser's (1974) acceptable threshold, which are values in the 0.50s as miserable, in the 0.60s as mediocre, in the 0.70s as middling, in the 80s as meritorious, and in the 0.90s as marvellous. Accordingly, the KMO values were indicative that the proportion of variance in the variables that might be caused by underlying factors, and Barlett's Test of Sphericity was significant, indicating the correlation matrix was not an identity matrix (IBM, 2021). These two statistics confirm that the data was factorable, hence suitable for structure detection using factor analysis.

The retained components from the EFA were assessed for internal consistency using Cronbach's Alpha (CA). In all the scales, except for the Attitudes variable, the CA coefficients were above 0.70, which is a good reliability indicator (Hair et al., 2021). Items with a problematic effect on scale reliability were retained in the questionnaire as their presence did not severely push the reliability scores below the 0.70 threshold. These items were flagged for close monitoring in the final analysis with a bigger sample. The problematic attitude scale (ATT) items were removed and replaced by other attitudes measurement items drawn from Ajzen's (1991, 2006, 2020) TPB Scale.

### **3.8 Validity**

Validity assesses if the instrument can measure what it is supposed to and its exactitude in doing so (Hair et al., 2020a; Surucu and Maslakci, 2020). The researcher investigated the questionnaire's content, face, and construct validity. Content validity ensures that the questionnaire incorporates an adequate and inclusive set of items to measure the targeted constructs (Almanasreh et al., 2019). Content validity was evaluated by reviewing the literature and seeking views from taxation experts, including three university professors and a tax consultant. They all concurred that the instrument items covered the breadth and depth of the research topic and issues under study.

Face validity is about the design and readability of the questionnaire (Khaleghi et al., 2021). Views about the sentence structure, clarity, and overall questionnaire design, which were deemed critical for face validity were sought from the pilot study sample and abovementioned experts. All respondents to the pilot study indicated that the instrument was easily accessible even on a mobile device, easy to navigate, read through and complete. However, five of the twenty-two respondents felt that the instrument was long, prompting the researcher to

streamline the number of items. On the other hand, the experts made few comments about clarity of questions and their suggestions were used to improve the overall questionnaire design.

In addition to face and content validity, construct validity was assessed on full-scale data analysis and the results are presented in Section 4.4 in Chapter 4. Convergent validity was measured with Average Variance Extracted (AVE) as suggested by Hair et al., (2020a) and discriminant validity was assessed using Fornell and Larcker's (1981) criterion.

### **3.9 Reliability**

Reliability relates to the credibility of the findings (Adeniran, 2019; Sekaran and Bougie, 2019). The reliability of a measuring instrument reveals the levels by which the measure is without prejudice, offers consistent measurement at different times and beyond various items in the instrument (Adeniran, 2019; Creswell and Creswell, 2018). A measuring instrument can be considered reliable if it yields consistent and stable results. Sekaran and Bougie (2019) define stability as the measure's capacity to remain unchanged over time, regardless of varying testing conditions and participants' feelings. Consistency indicates the level of similarity among the items in the measure that assesses the construct (Sekaran and Bougie, 2019).

Initially, scale reliabilities were assessed using CA's run concurrently with factor analysis and later confirmed with composite reliability (CR). While CA's is commonly used when the research instrument uses multiple-item measures of concept (Adeniran, 2019), CR is considered a more accurate approach (Hair et al., 2020a). For both the CR and CA, the closer to 1.0 the coefficient value is, the better, as this reflects greater internal consistency of the scale items (Adeniran, 2019; Hair et al., 2020a). For CA's coefficient, the rule of thumb is coefficient "< 0.60 is poor, between 0.6 to < 0.7 is acceptable for exploratory research, 0.7 to < 0.8 is good, 0.8 to < 0.9 is excellent and 0.9 to 0.95 is somewhat high, and > 0.95 is too high, possibly indicators are redundant" (Hair et al., 2020a:262). The rule of thumb for composite reliability is that the value must be at least 0.70 (Hair et al., 2020a).

### **3.10 Data analysis**

Data analysis is the systematic procedure of transforming raw data into vital information to answer research questions (Taherdoost, 2022). Before analysis, data was cleaned and coded, as Cresswell and Cresswell (2018) suggested. Shaheen et al. (2019) aver that data quality is

indispensable to answering the research questions. In line with this, the researcher assessed if the quality of the remaining data collected were free from excessive missing values, outliers, normality and disengaged or aberrant responses. The data was checked for disengaged responses, which compromise data quality (Gorgun and Bulut, 2022) by checking for cases where respondents exhibited paying no attention to the questions and answering almost all scale items on the same scale level. Finally, data were evaluated for multivariate outliers using the Mahalanobis distance test (Tabachnick and Fidell, 2013). After this, the dataset was ready for analysis.

Then, descriptive and EFAs were performed using the Statistical Product and Service Solutions Version 29 (SPSS V29). After the EFA, CFA was conducted on Amos 29 to assess the convergent and discriminant validities stated in Section 3.7. Lastly, multinomial logistic regression (MLR) analysis was employed to test the hypotheses.

MLR is a member of the logistic regression family used for categorical response variables (Abdillah et al., 2020). It uses the maximum likelihood technique used when the outcome variable is nominal and consists of multiple categories (Abdillah et al., 2020; Aroef et al., 2019). Therefore, since the response variable was dichotomous, MLR was deemed an appropriate method of analysis. Thus, the individuals' intention to invest in retirement annuities was regressed on their awareness and knowledge of RAF, financial literacy, social influence, financial wellness, and the influence of insurance companies' marketing efforts.

### **3.11 Ethical considerations**

Ethical approval was granted by the University of KwaZulu-Natal (UKZN) (see Appendix D for the Approval letter). Additionally, permission to collect data from employees was received from the case institution (see Appendix E). The participants' confidentiality and anonymity were safeguarded throughout the research process. Survey participants were not obligated to disclose their names and any personally identifying details. The anonymity provided likely influenced the participants' honesty in addressing the questions.

On page one of the questionnaire, the researcher explained the study's objectives, scope, the person(s) responsible for the study, and possible benefits to the participants. The letter of information and informed consent cautioned participants that they could withdraw or refuse to participate in the survey at any point without any repercussions (see Appendix C). All the data collected is coded. The collected data was stored in the researchers' computer, Google Drive

and was password protected and in compliance with UKZN policies and regulations. It will be kept for a minimum duration of 5 years.

### **3.12 Chapter summary**

This chapter summarised the methodology and research process. It started with a discussion of the adopted research paradigm. The core discussion of the research paradigm gave this chapter a structure as all the other aspects of the chapter flowed from it. The chapter outlined the research's onto-epistemological views to the investigation and justified them throughout the chapter in favour of a positivist view of the research methodology. A thorough discussion followed over the design and testing of the questionnaire employed throughout the data collection phase. The chapter also discussed the measurement scales in this study and their internal consistencies. The study's ethical considerations were outlined. The following chapter explores the sequential data analysis procedures employed in data processing. It also highlights the findings of the study.

## **CHAPTER 4: PRESENTATION AND INTERPRETATION OF RESULTS**

### **4.1 Introduction**

The aim of this study was to investigate how an individual's awareness and knowledge of RAF, financial literacy and wellness, social influence, attitudes, and marketing efforts by insurers offering RAF products affect the intention to invest in a RAF policy among individuals with low and moderate incomes. The previous chapter detailed the research methods, including the research design, sample selection, scope, and data collected for the investigation. This chapter outlines results of the investigation. The chapter is split into four parts. The first section presents the data cleaning results. The second is the descriptive results section, where participants' demographic profile, pension membership, financial knowledge results, and intention to invest in a RAF are presented. The third section presents the scale structure (EFA and CFA), validity, and reliability analysis. The fourth section is for the inferential (logistic regression) analysis and testing hypotheses results.

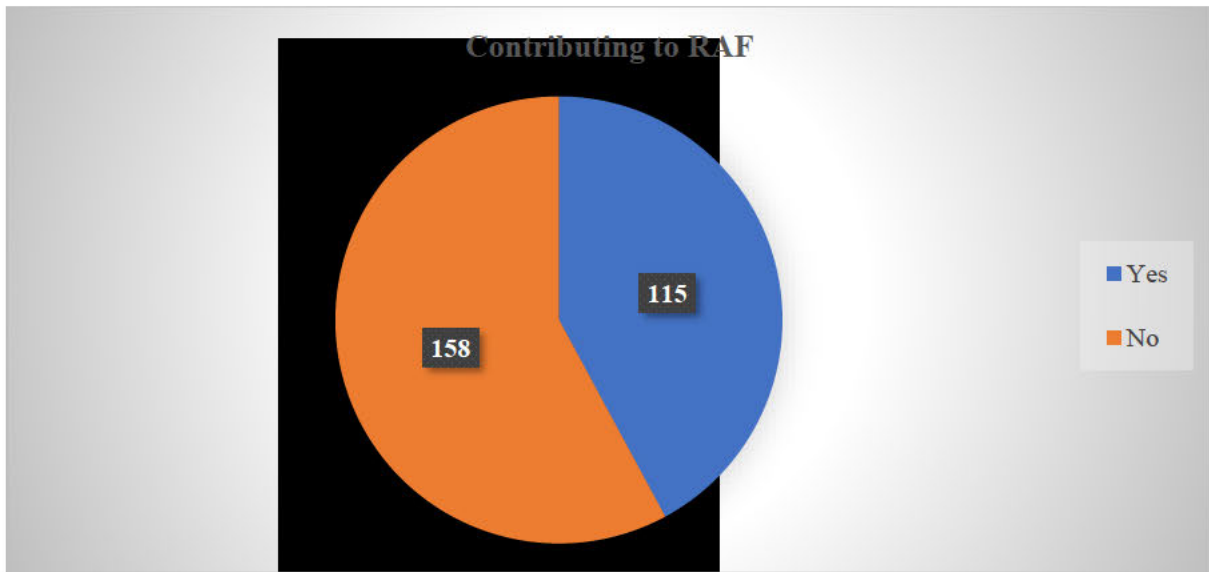
### **4.2 Data Cleaning**

There were no missing data as the questionnaire was designed to prevent respondents from skipping any item. Next, the data was checked for disengaged responses, which compromise data quality (Gorgun and Bulut, 2022). There were no signs of disengaged responses as the standard deviations of the scaled items per respondent were above 0.5, as suggested by Gaskin (2016). Data were evaluated for multivariate outliers using the Mahalanobis distance test (Tabachnick and Fidell, 2013). Two cases with a probability of Mahalanobis less than .001 were found and removed from the analysis as suggested in the literature (Ghorbani, 2019; Leys et al., 2019). After this, the dataset was ready for performing an EFA.

### **4.3 Descriptive statistics**

#### **4.3.1 Demographic characteristics**

The questionnaire was distributed to 300 employees and 271 agreed to participate. However, 113 (42%) respondents who had consented to participate indicated that they already were contributing to a RAF. Hence, they were directed to exit as the study targeted those who currently do not have any RAF policies. As a result, these cases only had the consent and RAF responses, leaving 158 valid cases to continue with the survey (see Figure 4.1).

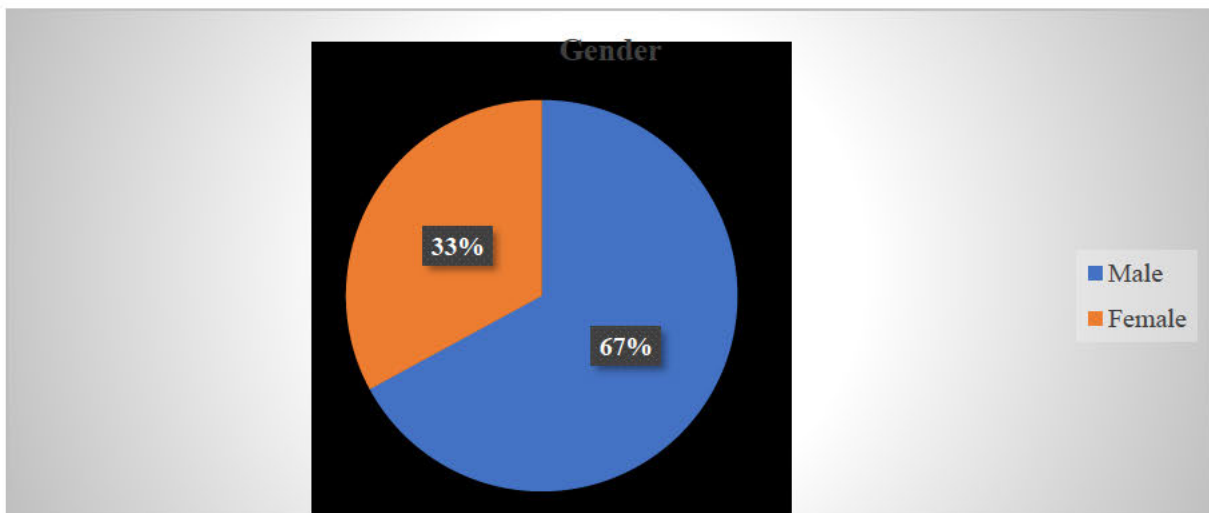


**Figure 4.1:** Valid Responses for the Study (*Source: own figure*)

The following subsections briefly presents the findings relating to the sample's demographic characteristics.

#### 4.3.1.1 Gender

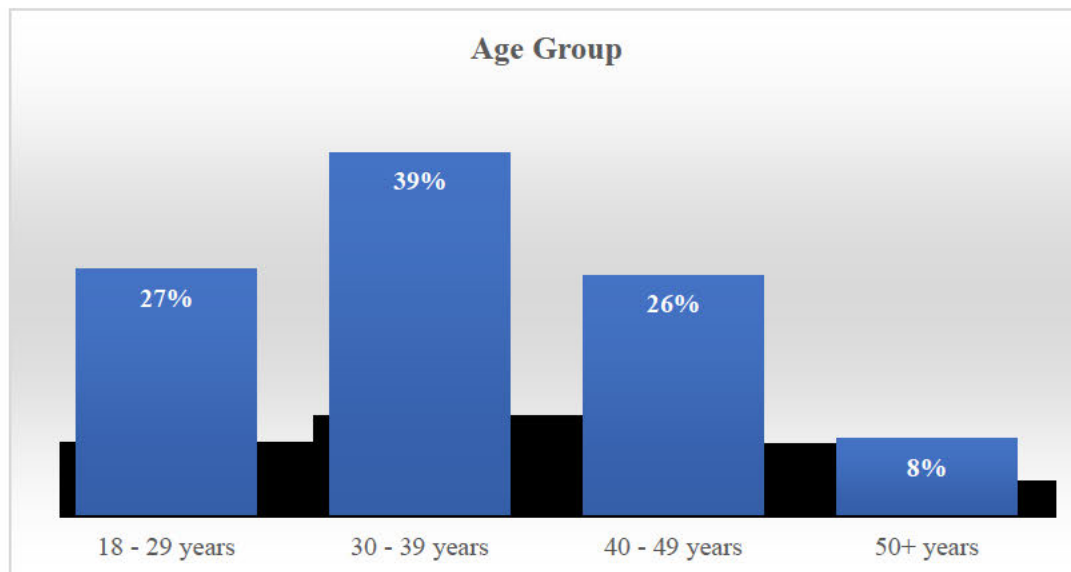
Of the respondents, the male population constituted the majority, accounting for 67%, while the female population accounted for 33%. The statistics align with the gender representation at the institution as reported in the UoT's 2022 Annual Report.



**Figure 4.2:** Gender representation of sample (*Source: own figure*)

### 4.3.1.2 Age group

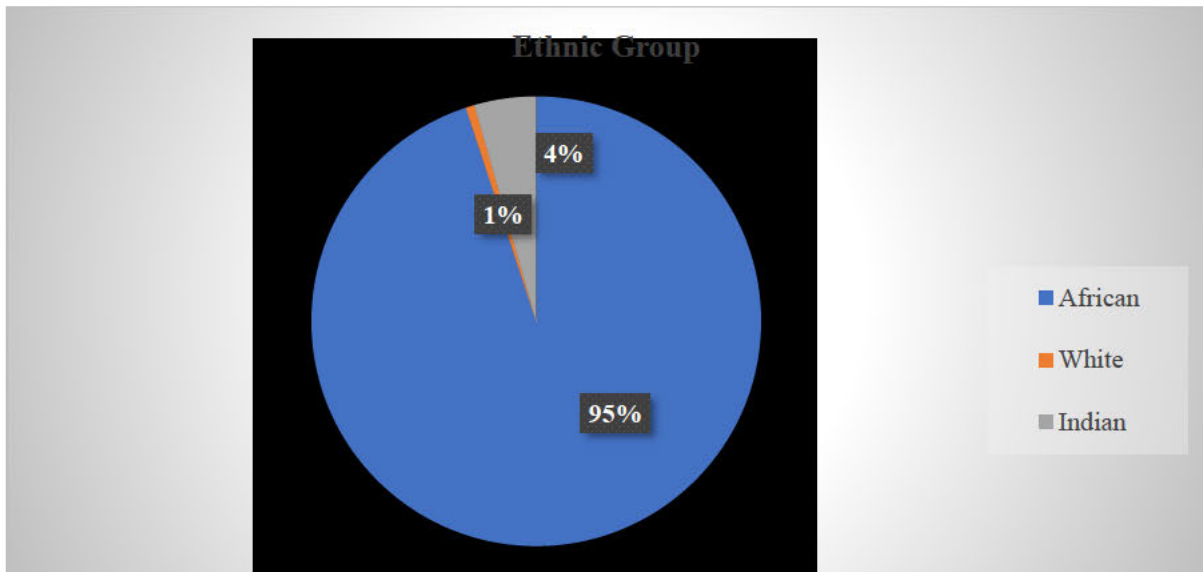
Figure 4.3 shows that the respondents' age spanned from 18 to over 50 years. Most of the respondents are within the age range of 30 to 39 years (39%), with the second largest group being between 18 to 29 years old (27%). The 40 to 49 years age group accounted for 26% of the respondents, while just 8% were older than 50. This indicates that a significant proportion of the participants were younger to middle-aged employees.



**Figure 4.3:** Age Group (*Source: own figure*)

### 4.3.1.3 Ethnic group

Ninety-five percent of the respondents were African, with Indians accounting for 4% and White respondents making up 1%. There were no responses from Coloured respondents. The results are unsurprising as, according to the UoT's 2022 Annual Report, Coloured respondents make up less than 1% (8 employees), while White employees make up 1.71% (14 employees) of the UoT's workforce. The African population comprises over 90% of the workforce, while the remaining portion comprises individuals of Indian descent.

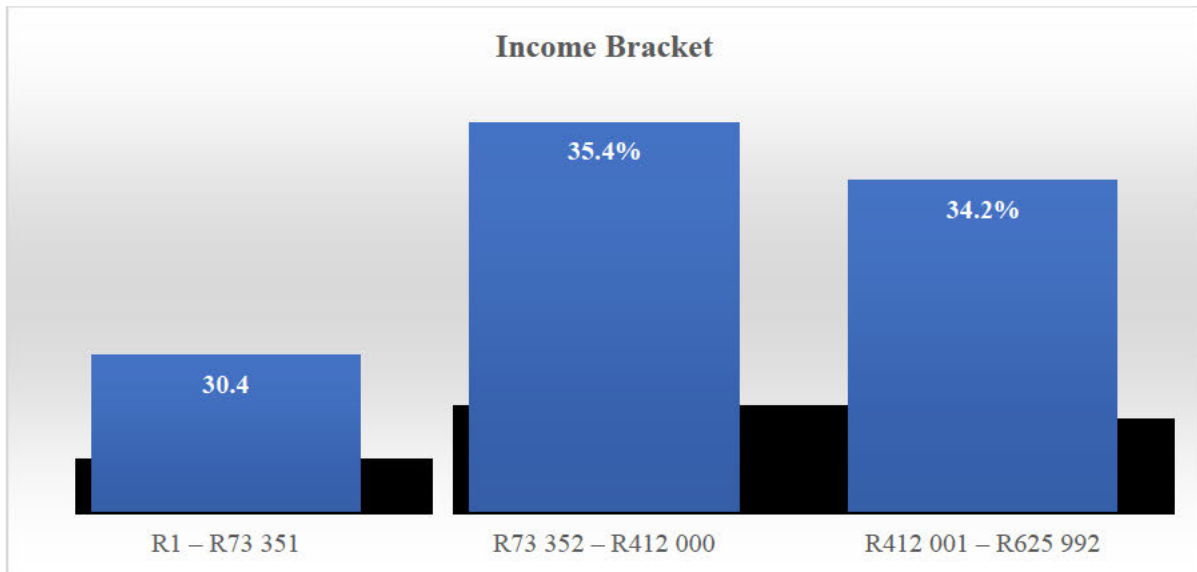


**Figure 4.4:** Ethnic Group (*Source: own figure*)

#### 4.3.1.4 Income group

According to the descriptive data, 35.4% of the respondents have a gross yearly income ranging from R73 351 to R412 000. A further 34.2% of respondents reported that their annual income fell from R412 001 to R625 992. Approximately 30.4% of the participants reported that their gross annual income fell within the range of R1 to R73 361<sup>4</sup>. The income categories provide additional evidence for the significant proportion of respondents who report having obtained university education, indicating that they belong to the academic, technical, and professional workforce and receive substantial salaries.

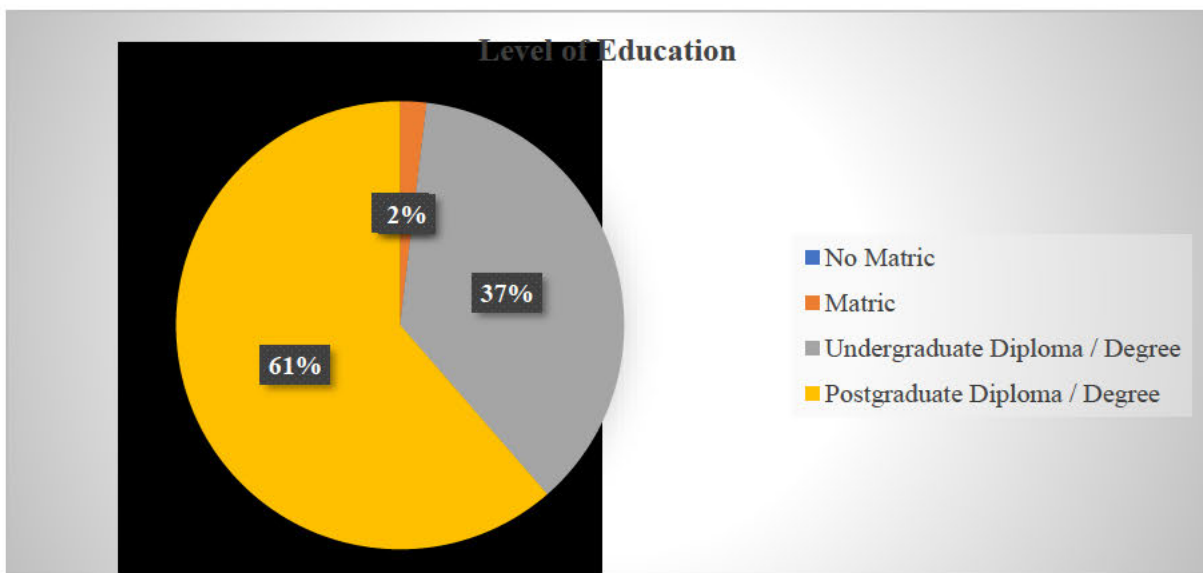
<sup>4</sup> It is noted that respondents who earn below the tax threshold of R95 750 may not be motivated to invest in an RAF as they would not receive any tax benefits. However, at the UoT at which the study took place, the lowest pay grade (grade 16) has a minimum of R120 211. Staff indicating that they earn below this is a result of not being employed for the entire year.



**Figure 4.5:** Income Group (*Source: own figure*)

#### 4.3.1.5 Level of education

About 37% of the respondents have achieved an undergraduate degree or a diploma. Approximately 61% of respondents reported obtaining a postgraduate degree or diploma. However, a small percentage of respondents (2%) mentioned having merely completed matric. Hence, the educational data substantiates that most participants have achieved a substantial level of education.



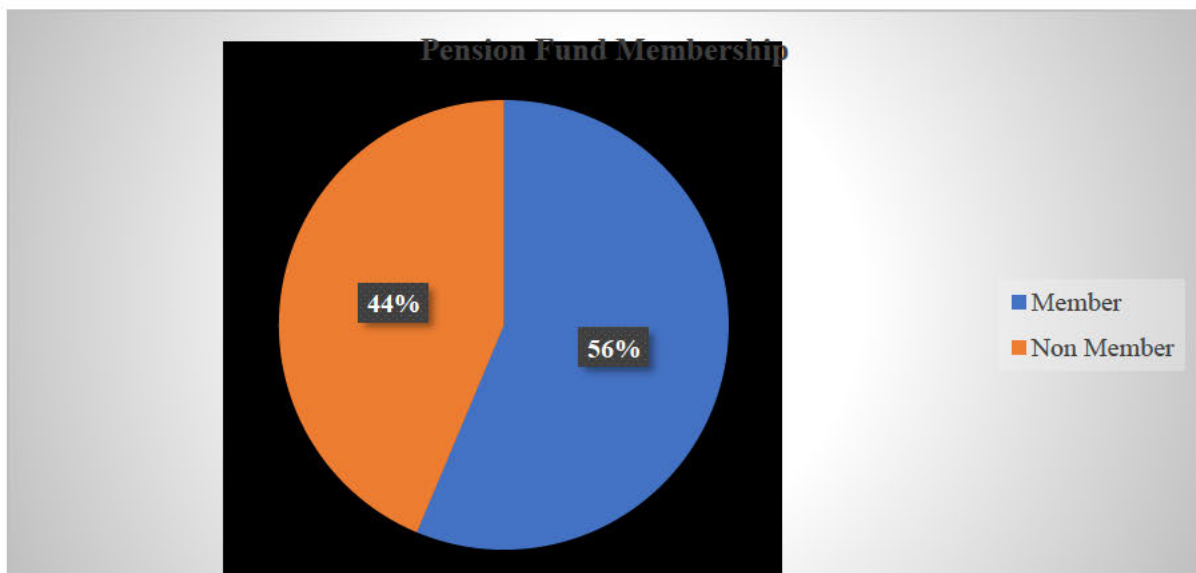
**Figure 4.6:** Level of Education (*Source: own figure*)

The following section presents the results relating to pension fund membership among the respondents. It was crucial to determine if the participants were contributing to the employer

pension fund, as this, along with the RAF, makeup what is known as retirement funds mentioned in Chapter 2.

#### 4.3.1.6 Pension scheme membership

Within the target institution, employees on short-term contracts are excluded from the employer pension fund, due to the terms and conditions of their employment contracts. In such a case, these employees may use RAFs as an option to build up financial security towards their post-retirement life. Among the many retirement-related vehicles, RAFs are a good option for such individuals, as discussed in Chapter 2. For those who are members of either employer pension scheme, RAFs become a supplementary option to boost financial security after one retires. Figure 4.7 presents the responses when participants were asked about their membership to an employer pension scheme.



**Figure 4.7:** Membership to an employer pension scheme (*Source: own figure*)

Of the 158 respondents, 56% indicated that NTRF membership was part of their employment terms and conditions, while 44% were not members of any pension scheme. Those with NTRF membership are employed on permanent contracts, and such membership is compulsory. The remaining 44% employees on fixed-term contracts.

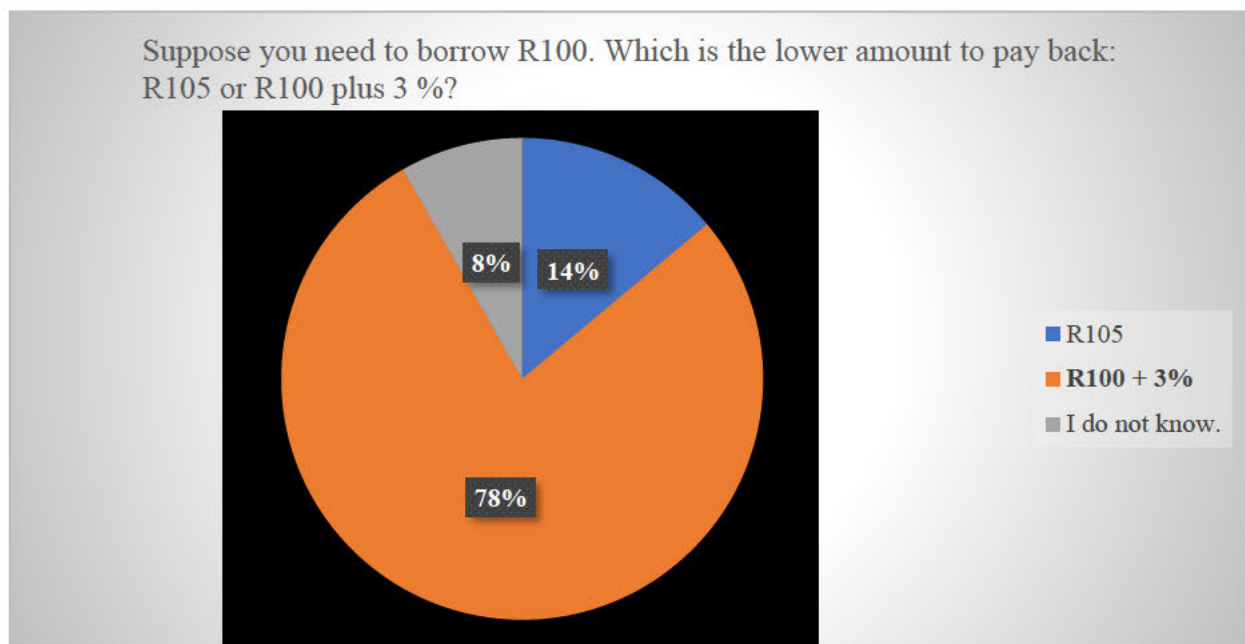
#### 4.3.2 Assessment of financial knowledge levels within the target population

The following subsections present the detailed findings of the study on the assessment of the levels of financial literacy of the selected sample. The study aimed to investigate, amongst other things, whether financial literacy impacts retirement saving intention. The seven

questions used have been utilised in global studies and surveys on financial literacy and pertain to concepts such as numeracy, simple and compound interest, time value of money, risk diversification, and inflation. The questions and answers from the sample are presented and discussed in the subsections below. The respondents' answers are contrasted with the findings of Houts and Knoll (2020), Lusardi and Mitchell (2011), Lusardi et al. (2017), Nanziri and Olckers (2019), Ndhlovu (2021), and Willows (2019). The correct responses are highlighted in bold and shown as weighted percentages to reflect the study's target population.

#### 4.3.2.1 Numeracy

First, participants demonstrated their numeracy skills by choosing the option that would result in a lesser repayment amount while borrowing R100 and being asked to pay back either R105 or R100 plus 3%.



**Figure 4.8:** Numeracy (*Source: own figure*)

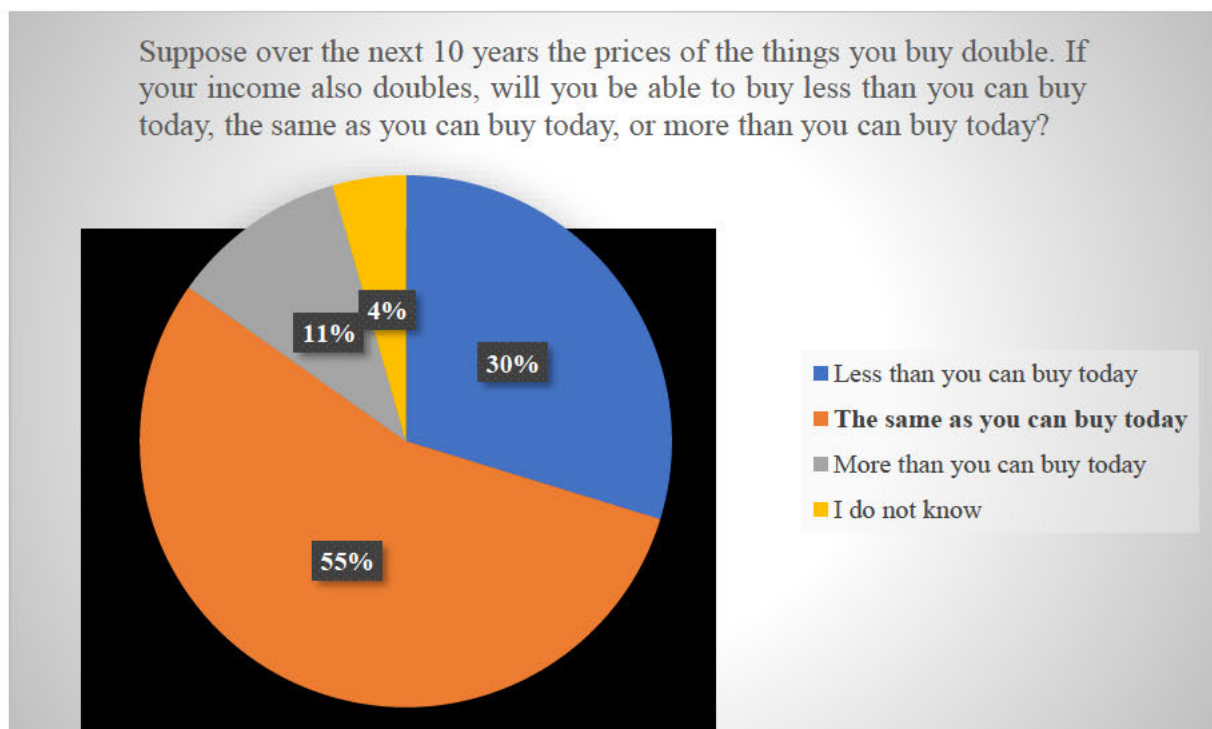
The results show that 78% of respondents answered correctly, 14% incorrectly, and 8% answered that they did not know the answer. Most participants successfully completed the basic computation and selected the correct amount of R100 plus three percent. The accuracy rate of this question exceeded the 48% achieved by participants in Nanziri and Olckers (2019).

The disparity between the results of the present study and those done by Nanziri and Olckers (2019), Ndhlovu (2021), and Willows (2019), all of which took place in South Africa, could be attributed to the educational characteristics of the participants. The current study was carried

out among the staff members of a UoT. Among the participants, 98% possessed either a university degree or a diploma, with 61% of them having completed postgraduate studies. The other three studies mentioned above were a comprehensive open study that included persons with varied educational backgrounds from various areas of life. The studies conducted by Houts and Knoll (2020), Lusardi et al. (2017), and Lusardi and Mitchell (2011) provide valuable insights from the USA which may explain the variance as contexts are different. This explanation applies to all the financial literacy questions in Section 4.3.2.

#### 4.3.2.2 Money illusion

Participants were requested to show their understanding of money illusion, an economic concept. This was a test to assess if participants understood the distinction between the nominal value of currency and its buying power. The assessment required calculating the purchasing power under conditions where both the price of products and income would double over the next ten years.



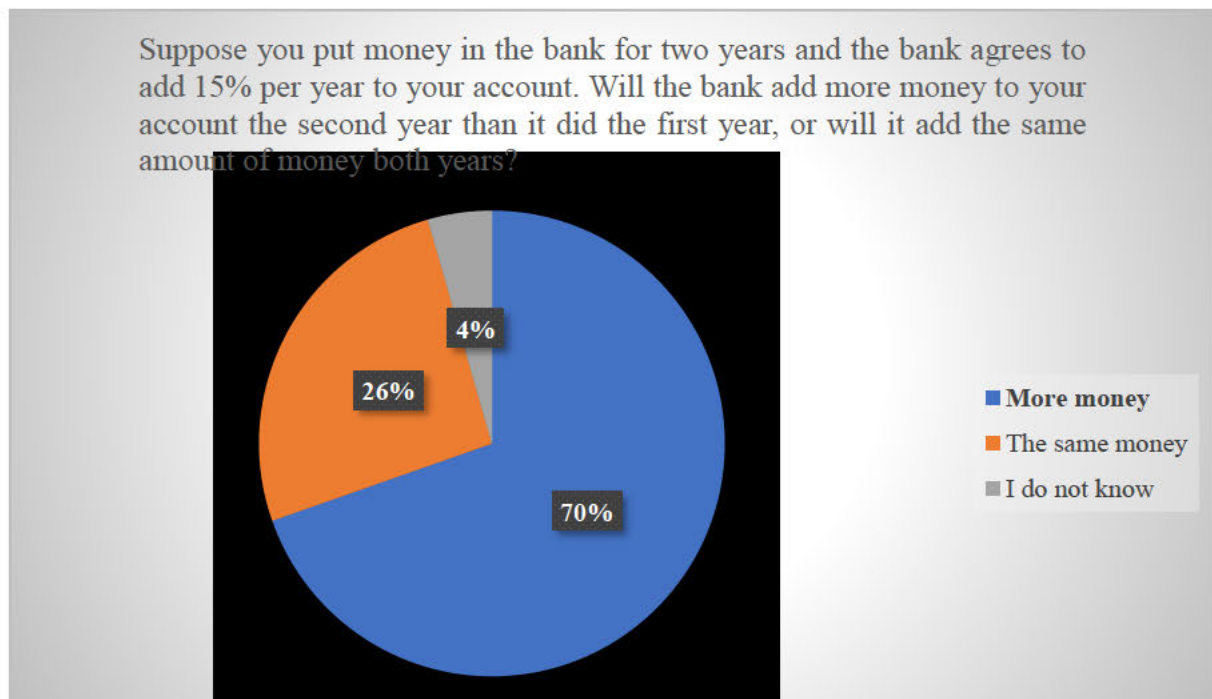
**Figure 4.9:** Money Illusion (*Source: own figure*)

Results indicate that 55% of respondents answered accurately, 41% answered inaccurately, and 4% said they did not know the answer. Most participants in the study understood that purchasing power will rise in accordance with price rises. If income increases at the same rate as the prices of products, the purchasing power of money remains constant. The accuracy rate

of the answers to this question was above the 43% achieved by participants in Nanziri and Olckers (2019) but fell short of the 62% achieved by participants in Willows (2019).

#### 4.3.2.3 Compound interest 1

Participants were asked to showcase their understanding of compound interest on funds invested in a bank. They were asked to indicate if the bank would add the same amount in both year one and year two if they deposited money in the bank for two years and the bank promised to add 15% annually.

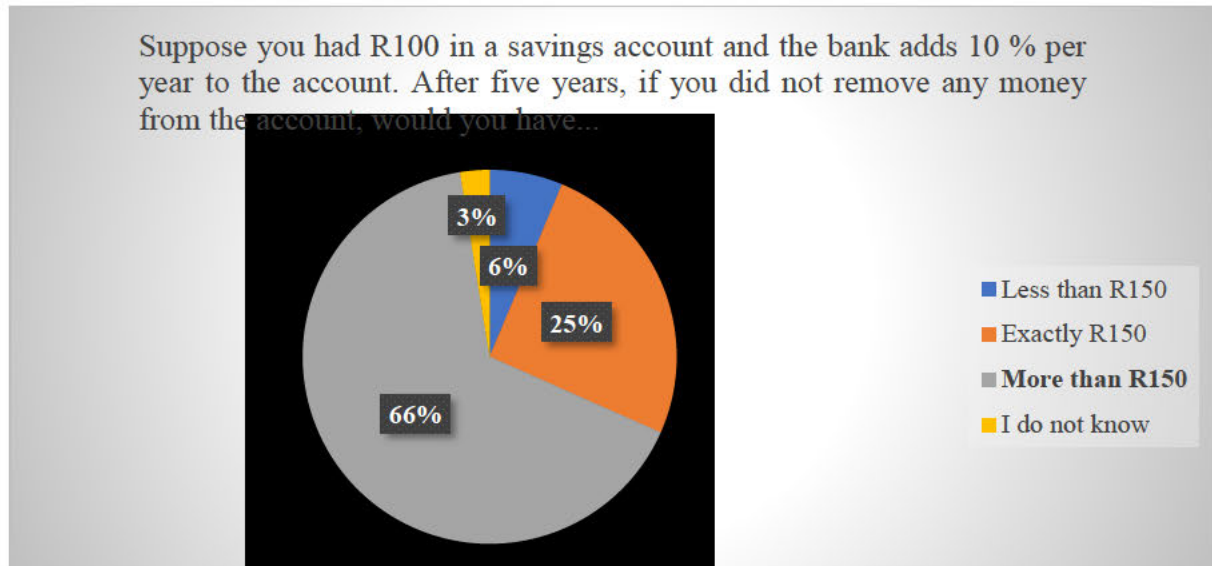


**Figure 4.10:** Compound Interest 1 (*Source: own figure*)

The results reveal that 70% of respondents responded correctly, 26% answered erroneously, and 4% did not know the answer. Most participants grasped that compounding results in an increase in interest earned in the second year because of earning interest on interest. The accuracy rate of responses to this question exceeded the 57% achieved by participants in the Nanziri and Olckers (2019) study.

#### 4.3.2.4 Compound interest 2

Participants were asked to specify the outcome of leaving their savings in their bank accounts for five years at an annual interest rate of 10%.

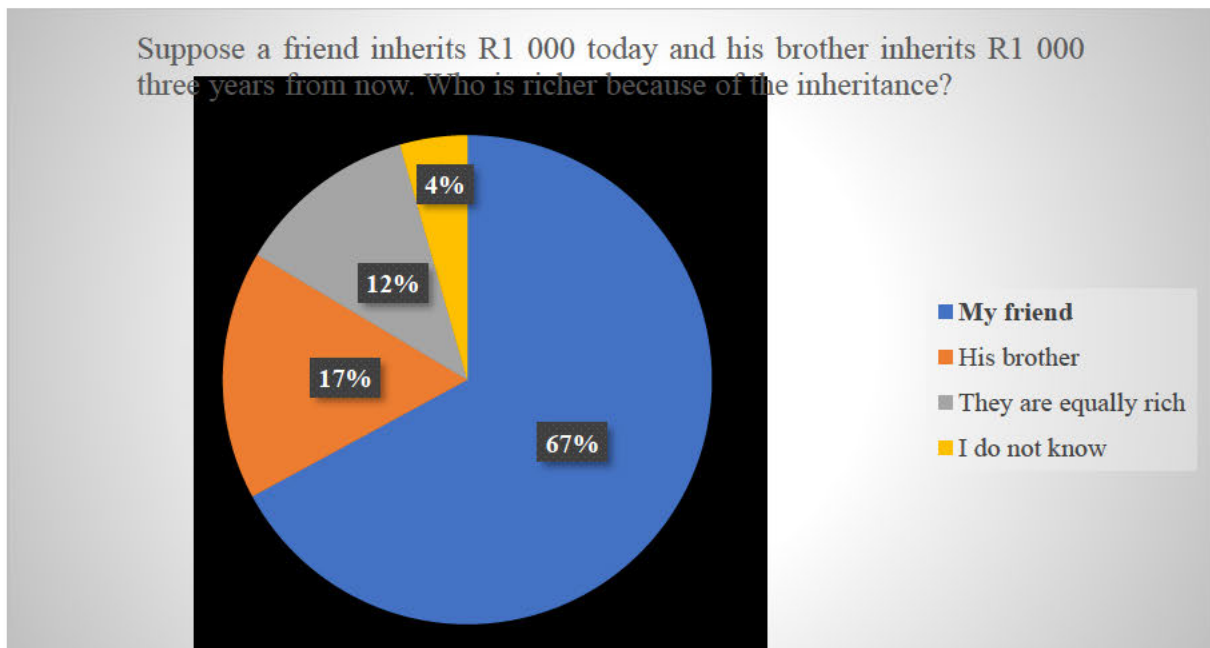


**Figure 4.11:** Compound Interest 2 (*Source: own figure*)

The results show that 66% of respondents responded right, 31% answered erroneously, and 3% did not know the answer. The majority correctly stated that their savings will increase by 10% interest year on year, compounded, for the next five year. Thus, most respondents had some understanding of numeracy and the application of interest rates to savings. The percentage of correct answers in this question is higher than the 59% scored by respondents in Nanziri and Olckers (2019). The 66% accurate rate represents a reduced percentage of participants who correctly calculated the interest compared to the 84% reported by Ndhlovu (2021) and the 87% reported by Willows (2019). The results were also lower than the 88% reported in Houts and Knoll (2020) and the 93% in Lusardi et al. (2017).

#### 4.3.2.5 Time value of money

Participants were required to demonstrate their knowledge of the concept of the time value of money. The assessment involved determining who would benefit more between an individual inheriting R1 000 today and another inheriting R1 000 in three years.

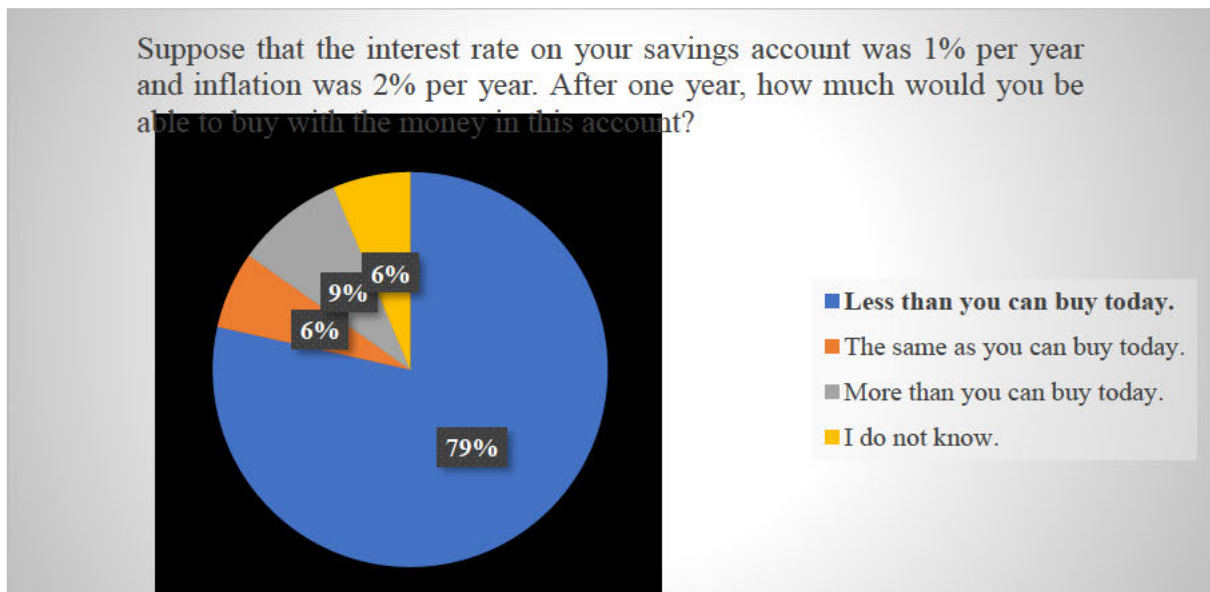


**Figure 4.12:** Time Value of Money (*Source: own figure*)

The results show that 67% of respondents answered correctly, 29% were wrong, and 4% did not know the answer. Most of the participants understood that money loses value over time. They understood that if two brothers inherit the same amount of money but three years apart, the one who inherits the money sooner will be in a significantly better financial position due to the impact of inflation and time. The accuracy rate for this question was lower than the 77% achieved by respondents in Willows (2019).

#### 4.3.2.6 Inflation

Participants were required to demonstrate their understanding of the effect of inflation on money saved in a bank account when the interest rate on the savings account is below the inflation rate. This question aimed to evaluate whether respondents understood that inflation diminishes the purchasing power of money and that money invested at a rate below inflation would lead to a decrease in purchasing power.



**Figure 4.13: Inflation** (Source: own figure)

The results show that 79% of respondents answered correctly, 15% erroneously and 6% did not know the answer. Most participants understood how inflation affects the purchasing power of money. They understood that if they kept money saved in a bank account for over a year with an interest rate lower than the inflation rate, they can only purchase fewer goods one year from today. The study's findings outperformed Ndhlovu's (2021) results, which showed 61% accuracy on the same topic. However, the participants did not perform well compared to Willow's (2019) and Lusardi et al.'s (2017) accuracy of 83% and 91%, respectively. The finding was, however, consistent with Houts and Knoll's (2020) study, in which 78% of participants responded accurately.

#### 4.3.2.7 Risk and diversification

Participants were asked to demonstrate their understanding of risk diversification by stating whether investing all their capital in one enterprise or in numerous businesses was safer.



**Figure 4.14: Risk and Diversification** (*Source: own figure*)

The results show that 87% of respondents responded correctly, 10% answered erroneously, and 3% did not know the answer. Many participants recognised that spreading investments across numerous businesses is more effective in reducing investment failure risks than investing in a single business. The percentage of accurate answers to this question was higher than the 54% recorded by participants in Nanziri and Olckers (2019) but closely matched the 83% achieved by participants in Willows (2019).

#### 4.3.2.8 Summary of financial literacy among the employees of the UoT

This section examined employees’ financial literacy levels using scales that have been widely utilised in various contexts to assess the knowledge of financial information in situations necessitating financial decision-making (Ndhlovu, 2021; Houts and Knoll, 2020). The results indicate that employees performed well on all questions in the research except for the one regarding financial illusion and the impact of inflation on the buying power of money over time. These results emphasise the necessity for increased efforts to improve financial literacy among the target population.

The following section concludes the descriptive statistics by presenting results on the sample’s intention to invest in a RAF.

### **4.3.3 Assessment of the other constructs in the Likert scale questions**

The following subsections present the detailed findings of the study on the assessment of the knowledge and awareness, financial literacy, marketing efforts, social influence, financial wellness, and attitudes. Participants were required to assess their level of agreement or disagreement with statements related to the 6 constructs using a five-point Likert scale. The values assigned were as follows:

1. Strongly disagree was 1.
2. Disagree was 2.
3. Neutral was 3.
4. Agree was 4.
5. Strongly agree was 5.

#### **4.3.3.1 Awareness and knowledge of RAFs and their associated tax benefits (AK)**

The data shown in Table 4.1 below indicates that most of the replies in AK1, AK2, AK3, and AK5 were either strongly agree or agree. Many participants in AK4 and AK6 responded neutrally, expressing uncertainty on the statement presented to them. The construct has a minimum mean of 3.27 and a maximum mean of 3.97. This indicates that a significant number of individuals agreed with the assertions regarding their awareness and knowledge of RAFs and the tax advantages that come with them. The standard deviations (SD) for all the questions exceeded 1. However, they were on the lower end of the 1 range. The variability in the responses, as indicated by the SD, can be attributed to the specialised and complicated nature of tax knowledge. It is possible that some participants may lack awareness and knowledge of some elements, save for the basic ones.

**Table 4.1:** Awareness and knowledge of RAFs and their associated tax benefits

Construct - Awareness and knowledge of RAFs and their associated tax benefits.				
	Valid responses	Mode	Mean	Std. Deviation
<b>AK1</b> - Apart from the employer's pension fund, you can also contribute to a RAF irrespective of how much you earn or your employment status.	158	5	3.97	1.15
<b>AK2</b> - Contributions to the RAF are tax deductible up to a maximum of 27.5% of taxable income or remuneration, limited to R350 000 per year.	158	4	3.82	1.05
<b>AK3</b> - As a result of the above deduction, you will pay less tax than you would have paid if you did not contribute to a RAF.	158	5	3.87	1.15
<b>AK4</b> - The returns of the RAF (i.e., interest, dividends, and capital gains) are tax-free.	158	3	3.27	1.23
<b>AK5</b> - A third of the savings in the RAF may be taken as a cash lump sum at retirement. The balance must be used to purchase an annuity (pension).	158	4	3.63	1.17
<b>AK6</b> - The first R550 000 of the retirement fund lump-sum benefit is tax-free.	158	3	3.62	1.16

Source: Own Table

#### 4.3.3.2 Financial literacy - financial planning and control (FL)

The results presented in Table 4.2 shows that most of the replies were strongly agree, as seen by the mode. The construct has a minimum mean of 3.99 and a maximum of 4.41. This indicates that almost all participants agreed with the assertions regarding financial planning and control. It shows that they put measures to plan and control their financial resources. The SD for the questions were close to 1. The variability in the responses show that that some of the responses may have been away from the mean but more likely to be neutral.

**Table 4.2:** Financial literacy (FL) - financial planning and control

Construct - financial planning and control				
	Valid responses	Mode	Mean	Std. Deviation
<b>FL1</b> -Having a budget and monitoring it helps prevent financial difficulties.	158	5	4.41	0.94
<b>FL2</b> - Before I buy something I carefully consider whether I can afford it.	158	5	4.24	0.96
<b>FL3</b> - I keep a close personal watch on my financial affairs.	158	5	4.13	0.98
<b>FL4</b> - I set long term financial goals and work hard to achieve them.	158	4&5	3.99	1.08

Source: Own Table

#### 4.3.3.3 Marketing efforts by RAF providers (ME)

The results presented in Table 4.3 shows that in four of the six questions most of the respondents disagreed with the statements about marketing efforts by RAF providers reflected by the modes. The construct has a mean below 3 with the highest being 2.96. These means

indicate that the participants were mostly neutral on the statements regarding this construct. The SD for the questions were above 1 at the lower end of 1. The variability in the responses shows that there may have been participants who agreed or disagreed with the statements. However, in the main the majority remained neutral.

**Table 4.3:** Marketing efforts by RAF providers

Construct - Marketing efforts by RAF providers.				
	Valid responses	Mode	Mean	Std. Deviation
<b>ME1</b> - I have received helpful information about RAFs from insurance companies or their agents.	158	2	2.85	1.09
<b>ME2</b> - Articles (Newspapers, magazines, blogs on the internet) influences how I view RAFs.	158	4	2.94	1.13
<b>ME3</b> - I get helpful information about RAFs from advertisements (on billboards, tv, radio and online ads).	158	2	2.62	1.12
<b>ME4</b> - Content about RAFs on various digital platforms (social media, podcasts, webinars, or interviews) influences how I view RAFs.	158	4	2.96	1.19
<b>ME5</b> - Sales promotions (discounts, wavering of normal conditions, competitions) influences my view about RAFs.	158	2	2.74	1.14
<b>ME6</b> - I have received direct mail marketing messages that influences my views about RAFs.	158	2	2.39	1.18

*Source: Own Table*

#### 4.3.3.4 Social influences (SI)

The results presented in Table 4.4 are somewhat surprising as they reveal that for half of the questions in this construct, most of the answers agreed, but for the other half, the participants expressed disagreement, as indicated by the modes of 4 and 2. The construct had means ranging from a low of 2.66 to a high of 3.23. These means indicate that the participants were mostly neutral on the statements regarding this construct. The SD for the questions were above 1 at the lower end of 1. The variability in the responses shows that there may have been participants who either agreed or disagreed with the statements, while the majority remained neutral.

**Table 4.4: Social influences**

Construct – Social influences.				
	Valid responses	Mode	Mean	Std. Deviation
<b>SI1</b> - My partner (wife/husband or girlfriend/boyfriend) contributes to a RAF; thus, I must contribute to one.	158	2	2.66	1.27
<b>SI2</b> - Some of my family members are contributing to a RAF, thus I must contribute to one too.	158	2	2.77	1.28
<b>SI3</b> - Some of my friends and colleagues contribute to a RAF, thus I must contribute too.	158	4	2.92	1.27
<b>SI4</b> - My partner (wife/husband or girlfriend/boyfriend) talks about the importance of investing in a RAF and expects me to invest in one.	158	2	2.72	1.27
<b>SI5</b> - My financial advisor always speaks about benefits of investing in a RAF and encourages me to invest in one.	158	4	3.08	1.23
<b>SI6</b> - My friends and colleagues believe I should invest in a RAF over and above the pension fund.	158	4	3.23	1.23

Source: Own Table

#### 4.3.3.5 Financial wellness (FW)

The results in Table 4.5 are surprising. According to the results, around half of the questions had most participants agreeing, while the other half had most expressing dissent, as seen by the modes of 4 and 2. The construct had means ranging from a low of 2.53 to a high of 3.29. These means indicate that most participants agreed with the statements about financial wellness. The SD for the questions were slightly above 1. The variability in the responses shows that while most agreed with the statements there were participants who may have been neutral or disagreed with the statements.

**Table 4.5: Financial wellness**

Construct – Financial wellness.				
	Valid responses	Mode	Mean	Std. Deviation
<b>FW1</b> - I am satisfied with the state of my finances.	158	2	2.53	1.12
<b>FW2</b> - I believe my future is (financial) secure.	158	3	3.08	1.22
<b>FW3</b> - I would have saved enough money for retirement, no matter how long I live by the time I reach retirement age.	158	4	3.15	1.19
<b>FW4</b> - I get confused by the jargon used by financial experts	158	2	2.77	1.28
<b>FW5</b> - I am anxious about financial and money affairs.	158	4	3.29	1.22
<b>FW6</b> - I tend to postpone financial decisions.	158	2	3.05	1.16
<b>FW7</b> - After making a decision, I am anxious about whether I was right or wrong.	158	4	3.12	1.18

Source: Own Table

#### 4.3.3.6 Attitudes towards RAFs (ATT)

The data shown in Table 4.6 reveals that most participants agreed with the positive claims and disagreed with the negative assertions. The participants were required to indicate their level of agreement with statements ATT1, ATT2, ATT4, and ATT5, which represent a positive attitude towards RAFs. The range of means, which falls between 3.42 and 4.91, clearly indicates that most participants either agreed or strongly agreed with the statement. The SD for the questions was around 1. The variance of the responses suggests that certain individuals may have held a neutral position. Statements ATT3 and ATT6 reflect a negative attitude towards RAFs. The means of 2.08 and 2.97 indicate that most participants expressed disagreement with these two statements, which implies a positive attitude towards RAFs.

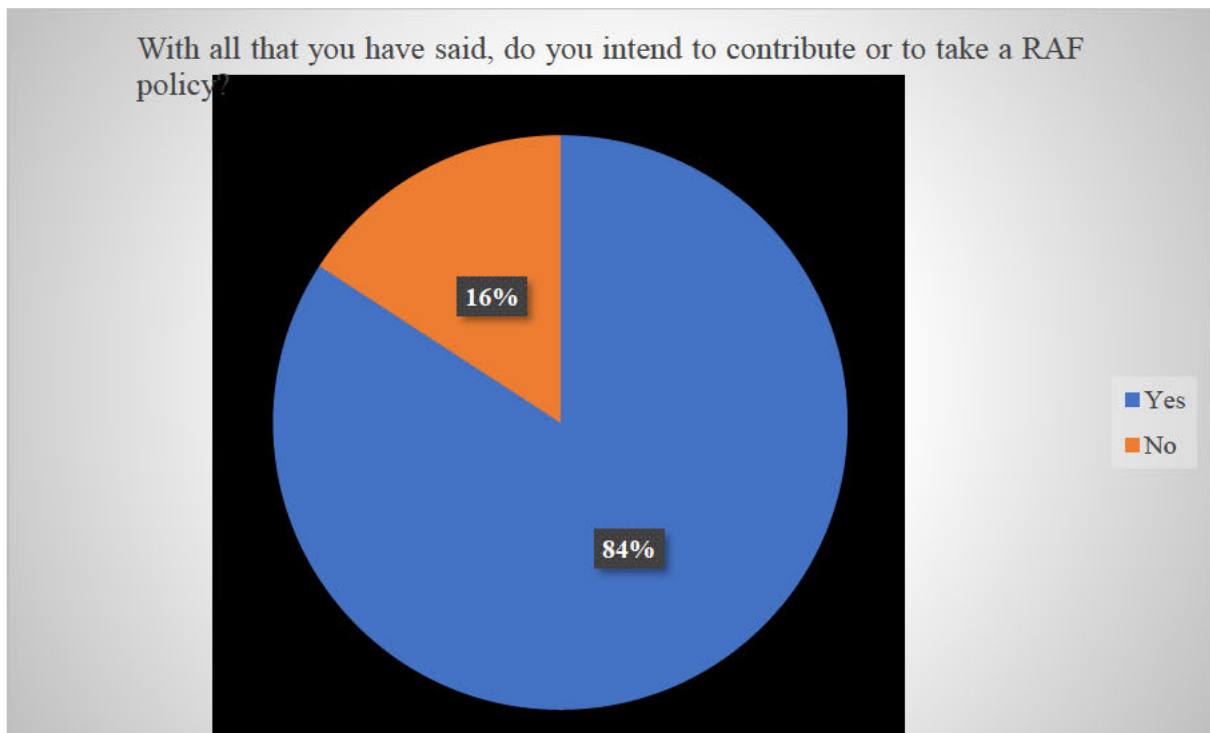
**Table 4.6:** Attitudes towards RAFs

Construct – Attitudes towards RAFs				
	Valid responses	Mode	Mean	Std. Deviation
<b>ATT1</b> - Contributing to a RAF will reduce my disposable income but will be worth it in my later days.	158	4	4.08	0.94
<b>ATT2</b> - Contributing to a RAF is like robbing myself of a good life today with a hope of living a better life tomorrow.	158	4	4.91	1.35
<b>ATT3</b> - RAF savings are meant for people who are already well off and have extra cash to save.	158	2	2.08	1.07
<b>ATT4</b> -Contributing excess income to a RAF is beneficial because of the generous deduction that reduces the tax liability.	158	4	3.49	1.12
<b>ATT5</b> - Contributing to a RAF is better than saving for a holiday.	158	4	3.42	1.19
<b>ATT6</b> - Using the excess income to pay for my debt is better than contributing to a RAF.	158	3	2.97	1.18

Source: Own Table

#### 4.3.4 Intention to invest in a RAF

Respondents were asked if they intend to invest in a RAF based on their understanding of what it is, including its benefits. The responses are presented in Figure 4.15 below.



**Figure 4.15:** Responses on intention to invest in a RAF (*Source: own figure*)

Out of the 158 respondents, a significant majority, 84%, expressed their intention to invest in a RAF policy. This may also be influenced by the necessity of guaranteeing financial security after retirement. Nevertheless, 25 participants, accounting for 16% of the sample, expressed their lack of intention to invest in a RAF.

#### 4.4 Scale structure, validity, and reliability

Thirty-five scale items were assessed for factorability and structure using a principal components extraction method with Varimax rotation. Factor loadings below 0.32 were suppressed, as Tabachnick and Fidell (2013) suggested, and there were no cross-loading issues. The KMO Measure of Sampling Adequacy value was 0.78, above the middling level suggested in the literature (Kaiser, 1974; Watkins, 2018), and the Bartlett's (1954) test of sphericity was significant, indicating the factorability of the correlation matrix (Watkins, 2018).

Seven latent factors with Eigenvalues greater than one were retained, accounting for 65% of the variance. The factors are presented in Table 4.7.

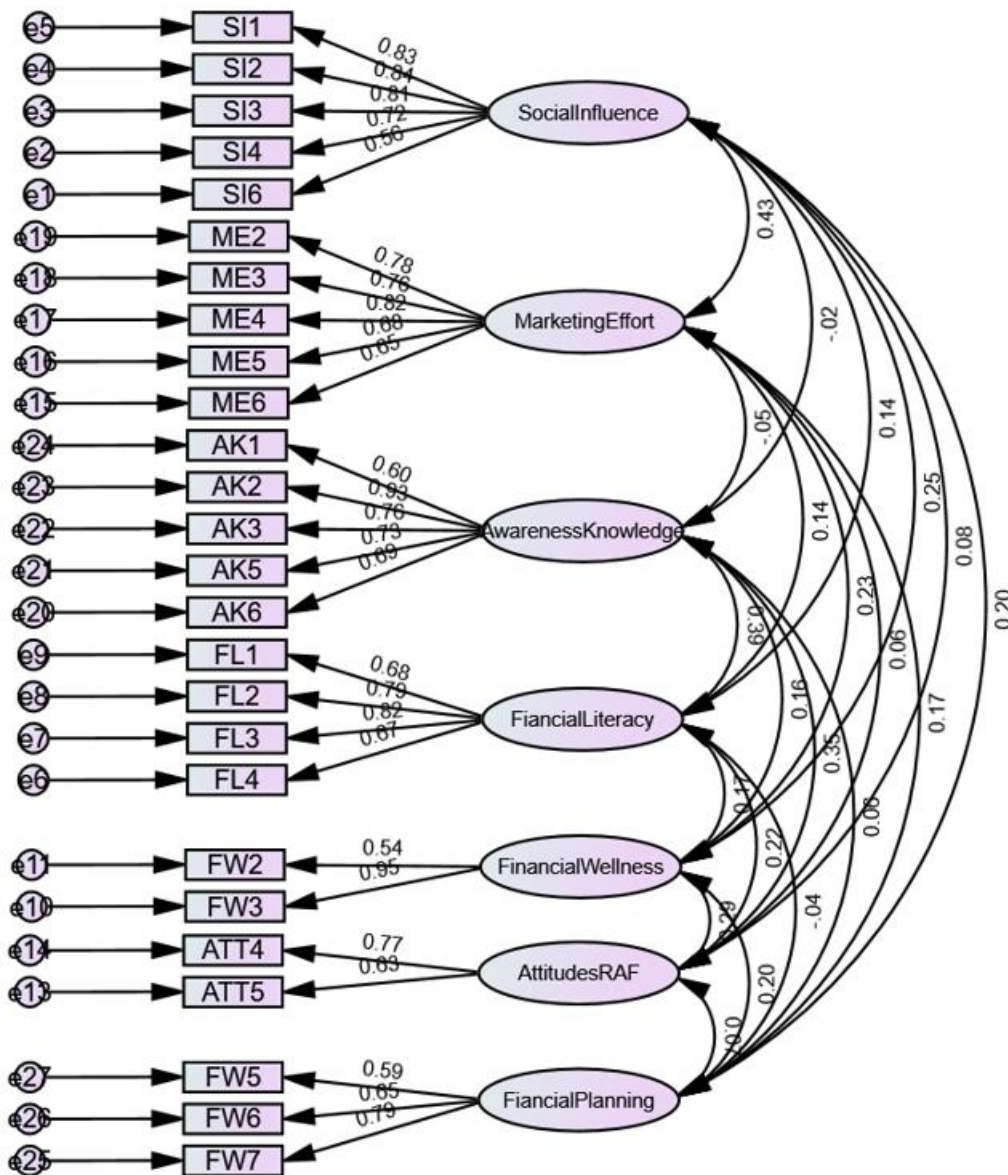
**Table 4.7: EFA results**

<b>Rotated Component Matrix<sup>a</sup></b>				
<b>Construct</b>	<b>Component</b>	<b>Loadings</b>	<b>% Variance Explained</b>	<b>Eigenvalue</b>
<b>ME</b>	<b>1</b>		<b>12.09</b>	<b>5.489</b>
ME2		0.795		
ME3		0.794		
ME4		0.793		
ME6		0.741		
ME5		0.711		
ME1		0.514		
<b>AK</b>	<b>2</b>		<b>11.68</b>	<b>4.323</b>
AK2		0.846		
AK5		0.796		
AK6		0.796		
AK3		0.727		
AK1		0.647		
AK4		0.583		
<b>SI</b>	<b>3</b>		<b>11.37</b>	<b>2.470</b>
SI2		0.869		
SI3		0.864		
SI1		0.809		
SI4		0.722		
SI6		0.595		
<b>FL</b>	<b>4</b>		<b>9.18</b>	<b>2.171</b>
FL2		0.852		
FL3		0.839		
FL1		0.724		
FL4		0.692		
<b>FW – Financial Planning</b>	<b>5</b>		<b>7.93%</b>	<b>1.881</b>
FW7		0.784		
FW5		0.730		
FW6		0.708		
FW4		0.657		
<b>FW – Financial Wellness</b>	<b>6</b>		<b>6.41%</b>	<b>1.572</b>
FW2		0.844		
FW3		0.735		
FW1		0.623		
<b>ATT</b>	<b>7</b>		<b>6.02</b>	<b>1.499</b>
ATT5		0.809		
ATT4		0.784		

a. Rotation converged in 6 iterations.

Source: Own Table

The retained latent components comprising a total of 30 items were confirmed through a CFA to estimate loadings and significance, assess convergent validity, discriminant validity and reliability (Hair et al., 2020b). The results are depicted in Figure 4.16 and Table 4.8.



**Figure 4.16:** Measurement Model (Source: own figure)

Figure 4.16 above shows the refined and best-fitting measurement models. Factor loadings less than 0.50 were deleted as recommended in the literature (Brown, 2015; Hair et al., 2020b). While there is no single rule in testing model fit (Sujati and Akhyar, 2020), the following model fitting indices confirmed the model as a good fit. The Chi-square test statistic ( $\chi^2/df = 1.436$ ,  $p < 0.001$ ) shows that the Chi-square minimum (P CMIN/DF) value was within the  $< 5$  threshold suggested in the literature (Baharum et al., 2023). Conventionally, a significant  $p$ -value of the Chi-square test statistic indicates a poor model fit (Buckley et al., 1998). However, this is attributable to the Chi-square test's vulnerability to sample size effects (Hair et al., 2020b; Sun, 2005). Hence, the null hypothesis is often rejected for large sample sizes (Bentler and Bonett, 1980).

The other indices used to evaluate model fit were the goodness of fit index (GFI), comparative fit index (CFI), Tucker-Lewis-Index (TLI) and the roots-mean-square error of approximation (RMSEA). The GFI value was 0.86. While a GFI greater than 0.90 is desirable, Joreskog and Sorbom (1998) state that GFI values between 0.85 and 0.90 are tolerable. Also, like the Chi-square test statistic, GFI is sensitive to sample size (Sun, 2005). The CFI value of 0.93 and TLI value of 0.91 are all above the 0.90 threshold suggested in the literature (Bentler, 1990; Finch, 2020). The RMSEA was 0.05 (with a not significant PClose), which is less than the 0.08 threshold and indicates that the model was parsimonious (Browne and Cudeck, 1993). Collectively, these indices suggested that the default model was reasonable, though not perfect.

Convergent validity, discriminant validity and composite reliability (Rho) were assessed using the standardised regression weights and estimates of correlations among exogenous variables. The results are presented in Table 4.8 below.

**Table 4.8:** Composite reliability, convergent and discriminant validity

	CR	AVE	MSV	MaxR (H)	1	2	3	4	5	6	7
<b>Awareness and Knowledge</b>	0.86	0.56	0.15	0.91	<b>0.75</b>						
<b>Social Influence</b>	0.87	0.58	0.18	0.89	-0.02	<b>0.76</b>					
<b>Financial Literacy</b>	0.83	0.55	0.15	0.85	0.39	0.14	<b>0.74</b>				
<b>Financial Wellness</b>	0.73	0.60	0.09	0.91	0.16	0.25	0.17	<b>0.77</b>			
<b>Attitudes_RAF</b>	<b>0.66</b>	0.51	0.12	0.68	0.35	0.08	0.22	0.30	<b>0.71</b>		
<b>Marketing Effort</b>	0.86	0.55	0.18	0.87	-0.05	0.43	0.14	0.23	0.06	<b>0.74</b>	
<b>Financial Planning</b>	0.72	<b>0.46</b>	0.04	0.74	0.06	0.20	-0.04	0.20	0.07	0.17	<b>0.68</b>

CR – Composite reliability, AVE – Average variance extracted, MSV – Maximum shared variance, and MaxR(H) – Maximal reliability.

Source: Own Table

All latent constructs exhibited good composite reliability except for the Attitudes construct with 0.66. Conventionally, composite reliability scores must not be less than 0.70 (Adeniran, 2019), but others state that composite reliability scores between 0.60 and 0.70 are acceptable (Baharum et al., 2023; Fornell and Larcker, 1981; Hair et al., 2022; Nunnally and Bernstein, 1994). Similarly, all constructs attained average variance extracted scores not less than 0.50 (Hair et al., 2022), save for the Financial Planning construct, which scored 0.46. This was cautiously accepted as per Fornell and Larcker’s (1981) indication that if the average variance extracted is less than 0.5, and CR is higher than 0.6, the convergent validity of the construct is still tolerable. Lastly, discriminant validity was exhibited as all the squared AVE values were greater than the inter-construct correlation coefficients of any two constructs (Baharum et al., 2023; Hair et al., 2022).

## 4.5 Hypotheses testing

Originally, the study had six hypotheses corresponding to the six research sub-questions. However, after doing an EFA, seven latent factors were identified and retained. The seventh factor, financial planning, emerged as a distinct component of the financial wellness scale. Subsequently, a new hypothesis (H7) was formulated for testing.

The seven constructs retained from the EFA (Table 4.7) and confirmed through the CFA were then used to test the hypotheses using the multinomial logistic regression. The analysis regressed Intention to Invest in a RAF policy (ITI) on the seven independent variables, and the results are presented in Table 4.9 below.

### 4.5.1 Hypotheses testing results.

The testing results are displayed in Table 4.9, and a concise discussion of the test results is provided.

**Table 4.9:** Summary of Multinomial Logistic Regression analysis

Model Evaluation Criteria								
Model	-2 Log				Pseudo R <sup>2</sup>			
	Likelihood	$\chi^2$	df	P value				
Intercept Only	133.949				Cox and Snell	.199		
Final model	99.304	34.645	14	.002	Nagelkerke	.346		
Pearson GoF		132.077	141	.693	McFadden	.259		
Deviance GoF		99.304	141	.997				
Parameter Estimates								
ITI <sup>a</sup>	B	Std. Error	Wald	df	P value	Exp(B)	95% Confidence Interval for	
							Lower Bound	Upper Bound
Yes	Intercept	4.221	2.548	2.744	1	.098		
	Social Influence	1.187	.359	10.945	1	<.001	3.279	1.623 6.625
	Marketing Effort	.467	.358	1.705	1	.192	.627	.311 1.264
	Awareness and Knowledge	-.482	.294	2.682	1	.101	1.619	.910 2.882
	Financial Literacy	-.828	.421	3.880	1	.049	.437	.192 .996
	Financial Wellness	-.170	.291	.340	1	.560	1.185	.670 2.095
	Attitudes	.706	.309	5.220	1	.022	2.026	1.106 3.713
	Financial Planning	-.421	.307	1.883	1	.170	1.523	.835 2.777

a. The reference category is: Yes, I intend to invest in a RAF.

Predictors: (Constant), Financial Planning, Financial Wellness, Marketing Effort, Awareness and Knowledge, Social Influence, Attitudes

Source: Own Table

Table 4.9 presents the results of a multinomial logistic regression testing the relationship between the dependent variable Intention to Invest in a RAF policy and seven independent variables: Financial Planning, Financial Literacy, Financial Wellness, Marketing Effort, Awareness and Knowledge, Social Influence and Attitudes. As shown through the model fitting information, the -2-log likelihood value of the baseline model decreased from 133.95 to 99.30, resulting in a model chi-square (34.65) and significant  $p$ -value (0.002). Hence, the null hypothesis that there is no difference between the baseline and final model is rejected, and the existence of a relationship between the dependent and independent variables is supported. The three Pseudo  $R^2$ : Cox and Snell, Nagelkerke, and McFadden values indicate a 20% to 35% improvement in the final model compared to the baseline model. Such values align with what McFadden (1979) cited in Pituch and Stevens (2016) identified as an indication of a strong improvement in fit.

The results show that only three of the independent variables significantly influenced individuals' Intention to invest in a RAF policy: Social Influence ( $\beta = 1.19$ ,  $p < 0.001$ ), Financial Literacy ( $\beta = -0.83$ ,  $p = .049$ ) and Attitudes ( $\beta = 0.71$ ,  $p = 0.022$ ). Thus, the odds ratios indicate that for every unit increase on Social Influence, the odds of individuals who intend to invest in a RAF policy was 3.28 times (95% CI 1.623, 6.625) greater than those with no plan to invest. Also, for every unit increase in Attitudes towards RAF, the odds of individuals who intend to invest in a RAF policy was 2.21 times (95% CI 1.106, 3.713) greater than those with no plan to invest. Lastly, for every unit increase in financial literacy, the odds of individuals who intend to invest in a RAF policy was .44 times (95% CI .192, .996) less than those with no plan to invest.

## 4.5.2 Hypotheses testing decisions

Based on the results above, Table 4.10 summarises the decisions in reference to the hypotheses.

**Table 4.10:** Hypotheses testing decisions

Hypothesis Tested	Unstandardised coefficient	P-value	Outcome Decision
<b>H1:</b> Awareness and knowledge about tax benefits offered by RAFs positively influence an individual's intention to invest in RAFs.	-0.482	0.101	Not supported.
<b>H2:</b> Financial literacy positively influences the intention to invest in RAFs.	-0.828	0.049	Not Supported.
<b>H3:</b> Marketing efforts of RAF providers positively influence the intention to invest in RAFs.	0.467	0.192	Not supported.
<b>H4:</b> Social influence positively influences the intention to invest in RAFs.	1.187	< 0.001	Supported.
<b>H5:</b> Financial wellness positively influences the intention to invest in RAFs.	-0.170	0.560	Not supported.
<b>H6:</b> Attitudes towards RAFs positively influence the intention to invest in RAFs.	-0.421	0.170	Not supported.
<b>H7:</b> Financial planning positively influences the intention to invest in RAFs.	0.706	0.022	Supported.

*Source: Own Table*

## 4.6 Chapter summary

This chapter provided an analysis of the results. The discussion began by examining a data set initially consisting of 271 replies which was later reduced to 158 as discussed in sections 3.4.3.2 and 4.3.1. The sample characteristics were then presented, highlighting the demographic factors. The information was conveyed using percentages, statistics in the form of pie charts, and a table to enhance understanding. Subsequently, a discussion on data cleansing followed to exclude any excessive missing values, outliers, deviations from normality, and disengaged or abnormal responses. The research involved thoroughly examining the data to identify disengaged responses that could undermine the data quality. This was done by identifying cases where respondents showed a lack of attention to the questions and consistently answered most scale items at the same level. A thorough discussion followed regarding the scale, structure and reliability using a PCA extraction method with Varimax rotation. The chapter further discussed hypothesis testing using PCA and explained why certain hypotheses were not supported, leading to the development of alternative hypotheses.

The following chapter will discuss the results, draw conclusions, and propose recommendations based on this investigation. The following chapter will additionally include recommendations for future research.

## **CHAPTER 5: SUMMARY, CONCLUSIONS AND RECOMMENDATIONS**

### **5.1 Introduction**

The objective was to assess the impact of awareness and knowledge of tax benefits offered by RAFs, financial literacy, marketing strategies employed by RAF providers, social interactions with influential individuals, concern for financial well-being, and attitudes towards RAFs on individuals' intention to invest in RAFs. The preceding chapter presented a comprehensive data analysis and interpretation of the study's results. The chapter further covered the process of data cleaning, details on the thorough testing conducted on the scale structure, validity, reliability of the instrument, and the hypothetical model.

This chapter discusses and draws conclusions about the study's findings against the hypothesised model, empirical results, and literature. It then summarises the study, tying together the various elements of the study to portray the golden thread holding the study intact. The chapter presents recommendations for resolving the identified issues associated with retirement investment among low and medium-income earners in South Africa. The chapter ends by suggesting potential avenues for future research.

### **5.2 Research objectives, methodology and design**

To encourage retirement savings among low and middle-income earners, the South African Government implemented reforms to the taxation of retirement benefits and contributions (South African National Treasury, 2023a). Extant literature (for example, Redonda and Axelson, 2021) indicate that those with lower to moderate incomes contribute less to retirement funds compared to those with higher incomes, resulting in them not benefiting from the tax and financial benefits. As such, the tax reforms become less progressive as they perpetuate the status quo. The objective of this study was to assess factors that influence an individual's intention to invest in RAFs. Evaluate whether an individuals' awareness and knowledge of tax advantages provided by RAFs, level of financial literacy, marketing efforts by RAF providers, social interactions with important others, a concern for financial well-being, and attitudes towards RAFs impact on an intention to invest in RAFs.

The study utilised a quantitative methodology to address the research question. The selection was motivated by the intention to gather and analyse quantitative data from the sample to address the study's research question. Moreover, this empirical approach was selected because

it emphasises hypothesis testing to explain the associations between the variables. The study population consisted of employees of a South African University of Technology with an annual income ranging from R1 to R625 992 during the 2023 academic year. These participants comprised academics and support staff employed under either a permanent or fixed-term contract. The study employed a single-stage sampling technique, as the researcher had direct access to elements in the population and could sample them directly. The sample was selected by applying a simple random sampling procedure. Initially, there were 300 people in the sample. Out of these, 271 agreed to take part in the study. One hundred and fifteen participants were already contributing a RAF and were excluded from the study, resulting in an effective sample size of one hundred and fifty-eight participants.

The data was collected using a Google Forms based questionnaire and distributed to participants via email (URL). To assess the content validity and construct validity of the research questionnaire, the researcher thoroughly reviewed the relevant literature on the issues being investigated and sought guidance from seasoned research professionals. The questionnaire had nominal scale items and five-point Likert scale probing questions. The questionnaire was evaluated for accuracy and reliability through a pilot study with twenty-two participants, in which the reliability was measured using Cronbach's Alpha. During the data analysis, the scale items were evaluated for their suitability for factor analysis and structure using a Principal Component extraction method. Additionally, a Confirmatory Factor Analysis was conducted to estimate loadings, determine their significance, and evaluate the validity and reliability of the scale. The analysis was performed using IBM® SPSS® Amos v 29.

### **5.3 Discussion of the findings and conclusions**

This section discusses the study's findings presented in Chapter 4, drawing comparisons with extant literature.

#### **5.3.1 Relationship between awareness and knowledge of tax benefits offered by RAFs on intention to invest in RAFs**

*H1: Awareness and knowledge about tax benefits offered by RAFs positively influence an individual's intention to invest in RAFs.*

This hypothesis encapsulated holistic awareness and knowledge of RAFs. That is, what they are and how they are different from employer pension schemes, including the benefits they offer derived from the retirement tax reforms. Hence, the intention to invest in RAFs was regressed on the holistic awareness and knowledge described above. The hypothesis was that if people were aware of and knowledgeable about RAFs, especially their tax benefits, they would invest in these retirement savings schemes. To the contrary, the findings suggest that having awareness and knowledge of tax and financial benefits of investing in a RAF does not significantly and positively influence the intention to invest in a RAF ( $\beta = -0.48$ ,  $p = 0.10$ ).

These findings are surprising as most studies have found awareness and knowledge to significantly influence behavioural intention in general. This study's findings contradict those of Bongini and Cucinelli (2019), who found that pension knowledge is a significant positive predictor of intention to invest in a pension scheme. Also, Subramaniam et al. (2022) investigated Generation Y's intention to invest for retirement. They found a significant and positive relationship between pension knowledge and the intention of the participants to invest for retirement. In unrelated contexts, Mohd Suki (2016) conducted a study on the impact of green brand knowledge on green product purchase intention among the public in Malaysia. Similarly, Indriani et al. (2019) studied the influence of environmental knowledge on green purchase intention by Indonesian university students. Both studies concluded that green brand knowledge has a significant and positive relationship with the purchase intention of green products. Refer to Section 5.3.7 for possible reasons for the discrepancies between these findings and those of previous studies.

However, these findings align with the results of Dragos et al. (2020), who investigated the effects of knowledge about life insurance and private pensions on purchase intention. The study found that the level of knowledge in insurance and private pensions did not influence the intention to purchase life insurance or invest in a private pension.

### **5.3.2 Relationship between financial literacy and intention to invest in RAFs**

*H2: Financial literacy positively influences the intention to invest in RAFs.*

The study examined if a person's financial literacy level is a reliable indicator of their intention to invest in RAFs. The findings presented in Chapter 4 ( $\beta = -0.83$ ,  $p = 0.049$ ) show that financial literacy significantly influences an individual's intention to invest in a RAF, albeit with a negative effect. The study's results contradict those of Bongini and Cucinelli (2019), Hastings

and Mitchell (2020) and Salleh et al. (2018). None of the mentioned studies found a statistically significant relationship between financial literacy and an intention to make retirement savings. However, Ndhlovu's (2021) results are consistent with this study's findings, indicating that financial literacy positively influences individuals' intention to purchase insurance products. The difference between the two studies is that the relationship in Ndhlovu (2021) was significant and positive, while in this study, it was significant but negative. Ndhlovu's (2021) study investigated the intention to purchase insurance products, and the findings relate specifically to health products. The two studies are in the same context as RAFs are considered insurance products. The difference in direction is influenced by the fact that in Ndhlovu's (2021) study, participants considered health insurance as critical.

The results showed that for every unit increase in financial literacy, the odds of individuals who intend to invest in a RAF policy was 0.44 times (95% CI .192, .996) less than those with no plan to invest. The participants may not have regarded a private pension as a top priority in relation to their needs, particularly given that 56% of them were already making contributions to a compulsory pension fund. Furthermore, when individuals enhance their financial literacy and knowledge, they are better equipped to understand the many investment opportunities that are available. The decrease in the intention to invest in RAF may be linked to the awareness of alternative investments that are perceived to offer more advantageous returns than RAF. Later the research recommends the launch of more initiatives aimed at educating the public about the tax benefits of contributing to RAFs.

### **5.3.3 Relationship between marketing efforts by RAF providers and intention to invest in RAFs**

*H3: Marketing efforts of RAF providers positively influence the intention to invest in RAFs.*

To determine the influence of marketing efforts undertaken by insurance companies on an individual's intention to invest in RAFs, the study conducted a regression analysis of the intention to invest in RAFs and the marketing efforts of insurance firms. The findings ( $\beta = 0.467$ ,  $p = 0.192$ ) suggest that marketing activities have no statistically significant influence on an individual's intention to invest in a RAF. Extant marketing literature (Andrews and Shimp, 2018; Belch and Belch, 2020; Clow and Baak, 2021) indicates that marketing communications are employed in the marketing strategy to differentiate, remind, inform, and persuade. Henceforth, it is expected that the marketing efforts of RAF insurers would positively influence

intention to invest in RAF policies. However, the impact of various marketing campaigns depends on the preciseness of audience targeting, positioning and implementation. Other variables such as income level and cultural background, can moderate the effect of promotional efforts on behavioural intention. Osman et al. (2016) indicate that selling unsought products such as insurance policies, including post-retirement policies, are the most difficult, as people usually do not think it is important to buy them.

Based on the above, the findings regarding this hypothesis are surprising and contradictory to previous studies. For example, Cismaru and Wuth (2019) found that financial well-being marketing campaigns that use a multichannel approach to target their audience effectively stimulate changes in behaviour and perspectives. They can influence retirement saving intention. Sugandini et al. (2020) revealed a positive and significant connection between the implementation of green marketing strategies and the intention of consumers to make environmentally friendly purchases. Also, Moslehpour et al. (2021) investigated the impact of social media marketing on the purchasing intentions of Indonesian customers on airline products and services. The researchers discovered that various elements of social media marketing have a positive and influential impact on the underlying factors that influence the likelihood of airline users making a purchase.

However, this study may be understood in the context that unsought products are the most difficult to sell (Osman et al., 2016). In support, Oladepo (2019) states that individuals did not have a proactive disposition to purchase insurance products such as insurance policies, including post-retirement policies, due to competing priorities, such as the need for food and other essentials.

#### **5.3.4 Relationship between social influence and intention to invest in RAFs**

*H4: Social influence positively influences the intention to invest in RAFs.*

H4 was formulated to investigate the relationship between interactions with important referents, and the intention to invest in RAFs. The findings suggest that social influence significantly influences individuals' intention to invest in retirement annuities ( $\beta = 1.187$ ,  $p = 0.001$ ). The results are consistent with prior studies. For example, Salleh et al. (2018) and Subramaniam et al. (2022) found that family members, friends, co-workers, and personal ideas about behaviour impact the intention to save for retirement. In their research of longevity annuity purchase intention, Nosi et al. (2014; 2017) found a positive and significant connection

between normative beliefs and the intention to purchase longevity annuities. However, in their 2019 study on investing intention in the Indian stock markets, Akhtar and Das (2019) found that subjective standards or social contacts did not have a significant favourable impact.

### **5.3.5 Relationship between financial wellness and intention to invest in RAFs**

*H5 Financial wellness positively influences the intention to invest in RAFs.*

The study examined the relationship between an individual's desire for financial wellness and their intention to invest in retirement annuities. Hence, the intention to invest in RAFs was regressed on the need for financial wellness. The hypothesis was that if people desired financial wellness in their post-work life, they would invest in RAFs. To the contrary, the findings suggest that requiring financial wellness at retirement does not have a significant and positive influence on the intention to invest in RAF ( $\beta = -0.170$ ,  $p = 0.560$ ).

These findings contradict the findings of Mavlutova et al. (2021), who discovered that persons worried about their financial wellness tend to prioritise setting aside funds for retirement. The findings were also inconsistent with those of Sabri et al. (2020), who discovered that Malaysian women's financial well-being, cost of living, debt, and financial challenges impacted their investment intentions. Refer to Section 5.3.7 for potential reasons why these findings vary from those of the other studies.

### **5.3.6 Relationship between attitudes towards RAFs and intention to invest in RAFs**

*H6: Attitudes towards RAFs positively influence the intention to invest in RAFs.*

A regression analysis was conducted to examine the association between positive attitudes towards RAFs and the intention to invest in RAFs. The results ( $\beta = 0.706$ ,  $p = 0.022$ ) indicate that attitudes towards RAFs significantly influence an individual's desire to invest in RAFs. The results are consistent with the conclusions made by Nosi et al. (2014; 2017) and Subramaniam et al. (2022). These studies confirmed that a positive attitude towards pension significantly and positively influences an individual's intention to invest for retirement and purchase longevity annuity. Ndhlovu (2021) also found that favourable attitudes towards insurance products significantly and positively impact an intention to buy insurance products.

In a different context, a study conducted by Mohd Suki (2016) and Indriani et al. (2019) assessed the impact of a consumer's attitude towards green products and the intention to purchase them. Both studies found that the consumers' attitude towards green products and the environment had a significant and positive influence on the intention to buy green products and brands.

### **5.3.7 Relationship between financial planning and intention to invest in RAFs**

*H7: Financial planning positively influences the intention to invest in RAFs.*

To determine the relationship between financial planning and the intention to invest in RAFs, a regression analysis was conducted with the intention to invest in RAFs as the dependent variable and financial planning as the independent variable. The findings suggest that financial planning does not affect an individual's intention to invest in retirement annuities ( $\beta = -0.421$ ,  $p = 0.170$ ). Again, these findings are surprising as financial planning has been found by the below studies to have a significant positive influence on the need to save, especially for retirement. These findings contradict those of Mavlutova et al. (2021) and Sabri et al. (2020), which suggest that individuals who dedicate time to financial planning budget and prioritise saving for retirement. The researchers also found that financial planning and financial challenges influenced investing intentions.

The surprising results of the current study regarding H1, H5 and H7 can be explained by that 56% of the participants (see Section 4.3.1.6) were already contributing to a compulsory employer pension fund. Consequently, they had no intention to invest in a private pension, as they may have believed that their current contributions were sufficient. The participants contribute 24% of their pensionable earnings (National Tertiary Retirement Fund, 2024). Also, the present study's findings can be explained through the African lens, which Willows and October (2023) refer to as alternative saving methods. Notably, 95% of the participants (see Section 4.3.1.3) in the present study were Africans. Bettencourt et al. (2014) and Lassou et al. (2021) express concern about the paucity of research into localised investment options.

Africans are burdened with what has become known as 'black tax' which explains why they are unable to save after catering for basics (Zeka, 2020), confirming Oladepo's (2019) findings that individuals with limited income did not have a proactive intention to purchase insurance due to competing priorities. Willows and October (2023) indicate that others are cushioned by

‘black tax’ in their retirement or old-age life. Also, Africans have their indigenous ways of preparing for retirement age. For example, many are brought up knowing that when they start working, they must invest in building their rural homes, which usually become their retirement sanctuary, and buying livestock such as cattle, goats, and sheep (Willows and October, 2023). From an African viewpoint, such is a good retirement investment as it will provide the retiree with food, draught power for agricultural purposes, income from sales, social status, and is considered a form of generational wealth. Pretorius’ (2021) validated the African lens on retirement planning. Pretorius (2021) discovered that elderly Africans were concerned about being able to afford necessities, healthcare, physical health, participation in communal events, community support base, and educate children.

#### **5.4 Recommendations**

This section outlines recommendations for effectively encouraging individuals with low and middle incomes to invest adequately for retirement and capitalise on the tax benefits provided by RAFs.

##### **5.4.1 More research on knowledge, awareness, attitudes about RAFs and their tax benefits and how it can impact an intention to save for retirement**

South African researchers and FSPs should conduct studies on the level of awareness and knowledge of tax benefits associated with RAFs, as well as the attitudes and intentions towards retirement investing among individuals with low- and middle-income levels. For researchers and scholars, this will assist in addressing the existing knowledge deficit on this issue. The acquired insights will enable FSPs to develop suitable product offerings and targeted campaigns that will appeal to and educate children attending schools, students in higher education institutions, individuals in the workplace, and self-employed individuals. This will enhance their knowledge and awareness of the tax benefits of contributing to a RAF.

##### **5.4.2 Financial literacy campaigns in schools, universities and in the workplace**

As stated in section 5.3.2, financial literacy significantly impacts an individual’s desire to save and invest. Additionally, Chapter 2 highlights that individuals with low and middle incomes do not allocate enough funds for retirement savings. This could result in a deficiency of retirement funding. Schools and institutions of higher learning should embark on concerted programmes to promote financial education and wellness. These campaigns should emphasise

the need to start saving as early as possible. Both the UoT and employers in South Africa should allocate resources towards training initiatives to enhance employees' financial literacy skills. These programmes should be tailored to cater to the diverse educational levels and employment categories of all employees in the organisation. It is crucial that they highlight the significance of saving enough money for retirement, beginning at an early age to reap the advantages of compounding interest and leveraging the favourable tax benefits of investing in RAFs.

#### **5.4.3 Financial wellness campaigns by RAF providers**

According to Oladepo (2019), retirement investments are considered unsought products and face competition from urgent demands such as food, debt repayment, education, and supporting families, among other critical expenses. The author accurately posits that individuals with limited income tend to assign lower priority to products that are not actively sought for. Nevertheless, as demonstrated by Cismaru and Wuth's (2019) and Moslehpour et al. (2021), a meticulously planned financial well-being campaign that employs multichannel strategies to efficiently reach its target population can effectively encourage behavioural changes. Providers of RAFs should utilise various channels, including social media, to effectively communicate with individuals who have low and middle-income levels. The campaigns should be customised to the target market by using their preferred language and emphasising the significance of financial well-being and a comfortable retirement.

#### **5.4.4 National Treasury and South African Revenue Services (SARS) blitz campaigns**

The National Treasury and SARS should organise and execute initiatives aimed at educating and raising awareness among students, low-income earners, self-employed individuals, and middle-income earners regarding the financial and tax advantages of investing in RAFs. To encourage younger individuals and new employees to begin saving early and secure a comfortable retirement, it is imperative for them to develop creative strategies utilising social media and other platforms. To have a significant effect, the programmes need to be customised for each specific demographic.

### **5.5 Limitations and areas of future research**

This section addresses the study limitations. As a result of time and resource constraints, a case study approach was adopted instead of a full-scale study. Thus, affecting the generalisability of the study's findings. To address national policy priorities, future research on

the level of awareness and knowledge of tax benefits of investing in RAFs, attitudes towards RAFs and the intention to invest in RAFs, among low to medium income earners in South Africa is necessary. The scope of the inquiry must be broadened to encompass individuals from all workplaces, provinces, and economic sectors in South Africa.

The majority of UoT's employees were of African descent, resulting in a sample that lacked representation from other ethnic groups. As a result, the study did not capture insights on their intentions to invest in RAFs. This offers an opportunity for further research that should be expanded to include individuals from diverse ethnic backgrounds and various socio-economic statuses, as this will enhance the knowledge and allow for the findings to be generalised to the wider population.

The study utilised a quantitative methodology, excluding open-ended questions, focus groups, and interviews. Further research could employ open-ended questions, focus groups, and interviews. This will provide a richer understanding of the responses.

## **5.6 Conclusion**

Research has shown that people in South Africa and globally are expected to live longer because of advancements in medical technology and the adoption of better lifestyles. People with inadequate retirement funds will delay their retirement to make substantial adjustments to their lifestyle. They may outlive their retirement savings and consequently depend on either government assistance or their children for financial support. This is despite the tax incentives offered by the South African government to enhance retirement savings.

The tax legislation governing retirement funds had deficiencies that required retirement tax reform, as outlined in this research. This study highlights the need of focused programmes aimed at educating individuals on the significance of saving for retirement, especially through private pension plans, starting from school and continuing through university and the workplace. It emphasises the importance of starting the saving process early. This is significant since the government was already offering PTEs, which are favouring high-income individuals disproportionately.

The study's findings indicate that an individual's intention to invest is influenced by their level of financial literacy, social interactions, and a positive attitude about RAFs. This study found that awareness and knowledge of tax benefits does not have an impact on participant's intention

to invest in a RAF. However, previous research has demonstrated that awareness and knowledge greatly influence behavioural intent in general. Therefore, it is crucial to make further efforts to educate people about the tax benefits of contributing to an RAF. The proposed focused efforts will contribute to the formation of positive attitudes and improvement of financial literacy.

This study is likely to be of interest to teachers, lecturers, policymakers, researchers, employers, FSPs, and other individuals or groups involved in the subject matter. It's contributing to the body of knowledge on factors that influence individuals' intention to invest and their knowledge of the tax benefits related with RAFs.

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## **APPENDIX A: Example showing the impact of changes in legislation.**

### **Example 1**

Nkululeko Mbambo is a member of his employer's pension fund and contributed 10% of his pensionable income of R7 500 000 for the year.

#### **Required:**

Calculate the maximum amount he can deduct for contributions made to the pension fund in terms of the old Section 11(k) compared to the new Section 11F.

#### **Answer:**

The maximum allowable deduction would have been  $7.5\% \times R7\,500\,000 = R562\,500$  in terms of Section 11(k).

Section 11F deduction is limited to the lesser of:

R350 000 or

$27.5\% \times R7\,500\,000$  (remuneration in this case) = R2 062 500.

Therefore, the highest allowable deduction under the new provision is R350 000, whereas it would have been R562 500 if the changes had not been implemented.

### **Example 2**

Nkululeko Mbambo is not a member of his employer's pension fund but a member of a RAF, and he contributed 10% of his income of R7 500 000 for the year to the fund.

#### **Required:**

Calculate the maximum amount he can deduct for contributions made to the RAF in terms of the old Section 11(n) compared to the new Section 11F.

***Answer:***

The maximum allowable deduction would have been  $15\% \times R7\,500\,000 = R1\,125\,500$ , limited to R750 000 in terms of Section 11(n).

Section 11F deduction is limited to the lesser of:

R350 000 or

$27.5\% \times R7\,500\,000$  (remuneration in this case) = R2 062 500.

Therefore, the highest allowable deduction under the new provision is R350 000, whereas it would have been R1 125 500 if the changes had not been implemented.

The changes to Section 11F clearly reduced the allowable deduction from those contributors with high pre-tax income to contribute to reduce taxes payable. While the new Section 11F reduced the impact of Section 11(k) and (n) on taxable income, a limit of R350 000 is still high. The government may still reduce it so that more taxes may be collected from high-income earners for redistribution to the poor and low-income earners. Doing so will reduce the costs of PTEs for high-income earners.

**APPENDIX B: The UoT's salary scales**

<b>NEW SCALES 2023</b>					
<b>Scale Cycle</b>	<b>Scale Code</b>	<b>Prior Code</b>	<b>Start of Scale<sup>3</sup></b>	<b>Increment<sup>4</sup></b>	<b>End of Scale<sup>5</sup></b>
<b>Grade 8 2023</b>					
13,	801,	-	451 340	22 151	473 491
13,	802,	801,00	473 491	22 150	495 641
13,	803,	802,00	495 641	24 800	520 441
13,	804,	803,00	520 441	24 803	545 244
13,	805,	804,00	545 244	24 803	570 047
13,	806,	805,00	570 047	24 801	594 848
13,	807,	806,00	594 848	24 804	619 652
13,	808,	807,00	619 652	25 763	645 415
13,	809,	808,00	645 415	25 763	671 178
13,	810,	809,00	671 178	25 766	696 944
<b>Grade 9 2023</b>					
13,	901,	-	377 964	19 561	397 525
13,	902,	901,00	397 525	19 569	417 094
13,	903,	902,00	417 094	21 356	438 450
13,	904,	903,00	438 450	21 353	459 803
13,	905,	904,00	459 803	21 359	481 162
13,	906,	905,00	481 162	21 353	502 515
13,	907,	906,00	502 515	23 911	526 426
<b>Grade 10 2023</b>					
13,	1001,	-	300 414	16 532	316 946
13,	1002,	1 001,00	316 946	19 746	336 692
13,	1003,	1 002,00	336 692	19 745	356 437
13,	1004,	1 003,00	356 437	19 747	376 184
13,	1005,	1 004,00	376 184	19 747	395 931
13,	1006,	1 005,00	395 931	21 549	417 480
<b>Grade 11 2023</b>					
13,	1101,	-	250 811	16 532	267 343
13,	1102,	1 101,00	267 343	16 533	283 876
13,	1103,	1 102,00	283 876	16 533	300 409
13,	1104,	1 103,00	300 409	16 532	316 941
13,	1105,	1 104,00	316 941	19 745	336 686
13,	1106,	1 105,00	336 686	19 746	356 432

NEW SCALES 2023					
Scale Cycle	Scale Code	Prior Code	Start of Scale <sup>5</sup>	Increment <sup>6</sup>	End of Scale <sup>7</sup>
<b><sup>8</sup>Grade 12 2023</b>					
13,	<sup>9</sup> 1201,	-	220 389	13 633	234 022
13,	1202,	1 201,00	234 022	13 633	247 655
13,	1203,	1 202,00	247 655	13 633	261 288
13,	1204,	1 203,00	261 288	13 636	274 924
13,	<sup>10</sup> 1205,	1 204,00	274 924	13 633	288 557
<b>Grade 13 2023</b>					
13,	1301,	-	181 116	13 759	194 875
13,	1302,	1 301,00	194 875	13 755	208 630
13,	1303,	1 302,00	208 630	13 761	222 391
13,	1304,	1 303,00	222 391	13 757	236 148
13,	1305,	1 304,00	236 148	11 506	247 654
<b>Grade 14 2023</b>					
13,	1401,	-	153 601	13 758	167 359
13,	1402,	1 401,00	167 359	13 757	181 116
13,	1403,	1 402,00	181 116	13 759	194 875
13,	1404,	1 403,00	194 875	13 755	208 630
<b>Grade 15 2023</b>					
13,	1501,	-	146 442	7 076	153 518
13,	1502,	1 501,00	153 518	6 920	160 438
13,	1503,	1 502,00	160 438	6 920	167 358
<b>Grade 16 2023</b>					
13,	1601,	-	120 211	5 466	125 677
13,	1602,	1 601,00	125 677	6 600	132 277
13,	1603,	1 602,00	132 277	7 077	139 354
13,	1604,	1 603,00	139 354	7 084	146 438
13,	1605,	1 604,00	146 438	7 077	153 515
13,	9999,	-			

<sup>5</sup> Represents minimum pay in rands in that scale during 2022 before salary adjustment.

<sup>6</sup> Represents increase in earnings from 2022 to 2023 after labour and management negotiations.

<sup>7</sup> Represents minimum pay in rands in that scale for 2023 after the increase.

<sup>8</sup> Grades represent level of pay based on the employee's job profile, description and level of education. The higher the grade number the lower the pay in this UoT.

<sup>9</sup> This represent a notch within a scale this is based on level of service. A person moves up annually until they reach top of the scale, 1201 represents the start of the scale the lowest paid.

<sup>10</sup> 1205 represents the end the scale the highest paid.

Contracts staff are paid on a variable basis including hourly, weekly or monthly determined income. In some circumstances they are paid based on these scales and in other circumstances they paid on fixed amounts negotiated with the UoT. The result of this is that their remuneration may be lower than Grade 16.

## **APPENDIX C: Research questionnaire**

Dear Respondent,

I, Bonginkosi Keith Zwane, am a Master of Accountancy - Taxation student, at the School of Accounting, Economics and Finance at the University of KwaZulu-Natal (UKZN). You are invited to participate in a research project entitled: *An analysis of intention to invest in a retirement annuity fund at a South African University of Technology*. The aim of this study is to investigate the level of awareness and attitudes about the tax benefits of investing in retirement annuity funds, and the effect these have on the intention to invest in them among low and middle-income earners. Through your participation I hope to understand your awareness of benefits of investing in these products and your attitudes and intention in investing in them. The results of the survey are intended to contribute to the body of knowledge that will help our policy makers in their decisions.

Your participation in this project is *voluntary*. You may refuse to participate or withdraw from the project at any time with no negative consequence. There will be no monetary gain from participating in this survey. *Confidentiality* and *anonymity* of records identifying you as a participant will be maintained by the School of Accounting, Economics and Finance, UKZN. If you have any questions or concerns about completing the questionnaire or about participating in this study, you may contact me or my supervisor at the numbers listed below.

**Researcher:** Zwane Bonginkosi Keith ([207522782@stu.ukzn.ac.za](mailto:207522782@stu.ukzn.ac.za) or [REDACTED] or [REDACTED])

**Supervisor:** Alastair Marais ([Maraisa@ukzn.ac.za](mailto:Maraisa@ukzn.ac.za))

**Co-supervisor:** Qondeni Khumalo ([KhumaloQ1@ukzn.ac.za](mailto:KhumaloQ1@ukzn.ac.za))

**Research Office:** M Snyman 031-2608350

The survey should take you about 20 minutes to complete. I hope you will take the time to complete this survey.

Sincerely

Zwane Bonginkosi Keith

## INFORMED CONSENT

I hereby confirm that I have read and understood the information above which spells out the nature of the research project, and

- I have read and understood the above-written information and Research Ethics Approval regarding the study.
- Hence, I confirm that the researchers have informed me about this study's nature, conduct, benefits and risks.
- In view of the research requirements, I agree that the data collected during this study can be processed in a computerised system by the researchers.
- I know that the data collected during this study, including demographic details (without any personally identifying data), will be processed, stored and published in accredited journals, academic conferences or book chapters by the researcher(s).
- I have sufficient opportunity to ask questions and (of my own free will) declare myself prepared to participate in the study.
- I understand that significant new findings developed during the course of this research relating to my participation will be made available to me as academic material.
- I know that I may withdraw my consent and participation in the study without prejudice or retribution at any stage.

\* Indicates required question

Based on the above, I \*

- Consent to participate in the study
- Do not consent to participate in the study

## SECTION A

Retirement annuity fund is an insurance policy that any person can take with an insurance company or bank to save for retirement. It is different from a pension fund but helps provide for retirement. \*

Are you currently contributing to a retirement annuity fund?

- Yes
- No

## SECTION B

Gender \*

- Male
- Female

## SECTION C

Demographic details

Age group \*

- 18 - 29 years
- 30 - 39 years
- 40 - 49 years
- 50+ years

---

Racial group \*

- African
- Coloured
- Indian
- White

---

Income bracket \*

- R1 – R73 351
  - R73 352 – R412 000
  - R412 001 – R625 992
-

Education (highest qualification) \*

- No Matric
- Matric
- Undergraduate Diploma / Degree
- Postgraduate Diploma / Degree

## SECTION D

### Awareness and knowledge of retirement annuity funds (RAF) and tax benefits

A retirement annuity fund is an investment that helps individuals save for their retirement. The following statements describe your awareness and knowledge of RAFs.

Please indicate your (dis)agreement using the scale provided. \*

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
Apart from the employer's pension fund, you can also contribute to a RAF irrespective of how much you earn or your employment status.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Contributions to the RAF are tax deductible up to a maximum of 27.5% of taxable income or remuneration, limited to R350 000 per year.

As a result of the above deduction, you will pay less tax than you would have paid if you did not contribute to a RAF.

The returns of the RAF (i.e., interest, dividends, and capital gains) are tax-free.

A third of the savings in the RAF may be taken as a cash lump sum at retirement. The balance must be used to purchase an annuity (pension).

The first R550 000 of the retirement fund lump-sum benefit is tax-free.

## SECTION E

### Financial knowledge

Financial literacy is the ability to understand and effectively use various financial knowledge (skills) to make informed financial decision. (This section assesses numeracy, inflation, compound interest and risk diversification).

Suppose you need to borrow R100. Which is the lower amount to pay back: R105 \* or R100 plus three percent?

- R105
- R100 + 3%
- I do not know.

Suppose over the next 10 years the prices of the things you buy double. If your income also doubles, will you be able to buy less than you can buy today, the same as you can buy today, or more than you can buy today? \*

- Less than you can buy today
- The same as you can buy today
- More than you can buy today
- I do not know

Suppose you put money in the bank for two years and the bank agrees to add 15% per year to your account. Will the bank add more money to your account the second year than it did the first year, or will it add the same amount of money both years? \*

- More money
- The same money
- I do not know

Suppose you had R100 in a savings account and the bank adds 10 % per year to the account. After five years, if you did not remove any money from the account, would you have... \*

- Less than R150
- Exactly R150
- More than R150
- I do not know

Suppose a friend inherits R1 000 today and his brother inherits R1 000 three years from now. Who is richer because of the inheritance? \*

- My friend
- His brother
- They are equally rich
- I do not know

Suppose that the interest rate on your savings account was 1% per year and inflation was 2% per year. After one year, how much would you be able to buy with the money in this account? \*

- Less than you can buy today.
- The same as you can buy today.
- More than you can buy today.
- I do not know.

Suppose you have some money. Is it safer to put your money into one business or investment, or to put your money into multiple businesses or investments? \*

- One business or investment
- Multiple businesses or investments
- I do not know

## SECTION F

## Financial planning and control

Financial literacy is the ability to understand and effectively use various financial skills to make informed financial decision. The following statements describe your financial planning and control.

Please indicate your (dis)agreement using the scale provided. \*

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
Having a budget and monitoring it helps prevent financial difficulties.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Before I buy something I carefully consider whether I can afford it.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I keep a close personal watch on my financial affairs.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I set long term financial goals and work hard to achieve them.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

## SECTION G

### Marketing efforts on RAF

#### Marketing

effort relates to all the different methods providers of RAFs employ to create awareness about their products to attract investors. The following statements indicates the different marketing efforts by the providers that has given you awareness and knowledge about the RAFs.

Please indicate your (dis)agreement using the scale provided \*

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
I have received helpful information about RAF from insurance companies or their agents.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Articles (Newspapers, magazines, blogs on the internet) influences how I view RAFs.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I get helpful information about RAFs from advertisements (on billboards, tv, radio and online ads).	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Content about  
RAFs on various  
digital platforms  
(social media,  
podcasts,  
webinars, or  
interviews)  
influences how I  
view RAFs.

Sales  
promotions  
(discounts,  
waving of  
normal  
conditions,  
competitions)  
influences my  
view about RAFs

I have received  
direct mail  
marketing  
messages that  
influences my  
views about  
RAFs.

## SECTION H

### Social interactions (subjective norms)

Social interaction is about the beliefs, influence and expectations of our family, members, and important people to us. The following statements describe their influence and expectations on you about investing in a RAF.

Please indicate your (dis)agreement using the scale provided. \*

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
My partner (wife/husband or girl friend/boy friend) contributes to a RAF, thus I must contribute to one.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Some of my family members are contributing to a RAF, thus I must contribute to one too.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Some of my friends and colleagues contribute to a RAF, thus I must contribute too.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

My partner (wife/husband or girl friend/boy friend) talks about the importance of investing in a RAF and expects me to invest in one.

My financial advisor always speak about benefits of investing in a RAF and encourages me to invest in one.

My friends and colleagues believe I should invest in a RAF over and above the pension fund.

## SECTION I

### Financial wellbeing

Financial wellbeing is a sense of comfort about an ones' own financial state and the absence of challenges by financial concerns. The following statements indicate your level of comfort with the state of your finances, from now to the future.

Please indicate your (dis)agreement using the scale provided. \*

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
I am satisfied with the state of my finances.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I believe my future is (financial) secure.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I would have saved enough money for retirement, no matter how long I live by the time I reach retirement age.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I get confused by the jargon used by financial experts	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

I am anxious about financial and money affairs.

I tend to postpone financial decisions.

After making a decision, I am anxious about whether I was right or wrong.

## SECTION J

### Attitudes towards investing in RAFs.

The following statements indicate your attitudes towards investing in RAFs.

Please indicate your (dis)agreement using the scale provided. \*

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
Contributing to a RAF will reduce my disposable income but will be worth it in my later days.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Contributing to a RAF is like robbing myself of a good life today with a hope of living a better life tomorrow.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
RAF savings are meant for people who are already well off and have extra cash to save.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Contributing excess income to a RAF is beneficial because of the generous deduction that reduces the tax liability.

Contributing to a RAF is better than saving for a holiday.

Using the excess income to pay for my debt is better than contributing to a RAF.

## SECTION K

### Intention to invest in a RAF.

The following statements indicate your intention about investing in RAFs.

With all that you have said, do you intend to contribute or to take a RAF policy? \*

Yes

No

## APPENDIX D: Ethical clearance letter



11 November 2023

Bonginkosi Zwane (207522782)  
School of Acc Economics & Fin  
Westville Campus

Dear B Zwane,

Protocol reference number: HSSREC/00006073/2023

Project title: An analysis of intention to invest in a retirement annuity fund at a South African University of Technology

Degree: Masters

### Approval Notification – Expedited Application

This letter serves to notify you that your application received on 29 August 2023 in connection with the above, was reviewed by the Humanities and Social Sciences Research Ethics Committee (HSSREC) and the protocol has been granted FULL APPROVAL.

Any alteration/s to the approved research protocol i.e. Questionnaire/Interview Schedule, Informed Consent Form, Title of the Project, Location of the Study, Research Approach and Methods must be reviewed and approved through the amendment/modification prior to its implementation. In case you have further queries, please quote the above reference number. PLEASE NOTE: Research data should be securely stored in the discipline/department for a period of 5 years.

This approval is valid until 11 November 2024.

To ensure uninterrupted approval of this study beyond the approval expiry date, a progress report must be submitted to the Research Office on the appropriate form 2 - 3 months before the expiry date. A close-out report to be submitted when study is finished.

HSSREC is registered with the South African National Health Research Ethics Council (REC-040414-040).

Yours sincerely,







Professor Dipane Hlalele (Chair)

/dd

### Humanities and Social Sciences Research Ethics Committee

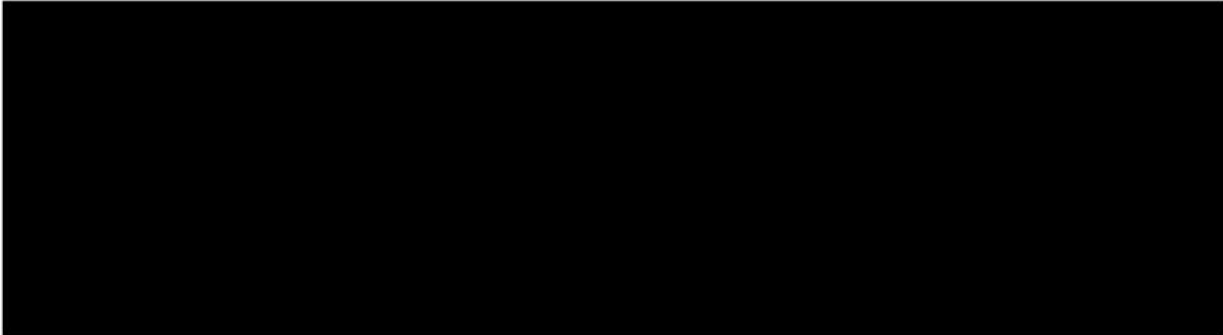
Postal Address: Private Bag X54001, Durban, 4000, South Africa

Telephone: +27 (0)31 260 8350/4557/3587 Email: [hssrec@ukzn.ac.za](mailto:hssrec@ukzn.ac.za) Website: <http://research.ukzn.ac.za/Research-Ethics>

Founding Campuses:  Edgewood  Howard College  Medical School  Pietermaritzburg  Westville

INSPIRING GREATNESS

**APPENDIX E: Gatekeepers' letter**



10 October 2023

REF: RD1/17/2023

Dr Bonginkosi Keith Zwane  
[Redacted]

Dear Dr Zwane

**PROTOCOL: 'An analysis of intention to invest in a retirement annuity fund at a South African University of Technology.'**

The [Redacted] Research Ethics Committee considered your application at their meeting held on 18 September 2023. It is my pleasure to inform you that permission to conduct the research project above was granted.

The approval is valid for two years from 18 September 2023. Any changes to the project must immediately be brought to the attention of the [Redacted] Research Ethics Committee.

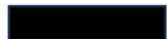
Your acceptance of this approval denotes your compliance with South African National Research Ethics guidelines (2004) and the [Redacted] Research Ethics Policy, Procedures and Guidelines.

Good luck with your research.

Yours sincerely,

[Redacted Signature]

[Redacted]  
Director: Research



## APPENDIX F: Turnitin report summary

### An analysis of intention to invest in a retirement annuity fund at a South African University of Technology

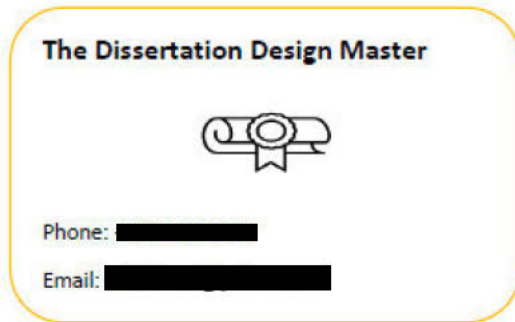
#### ORIGINALITY REPORT

<b>7</b> %	<b>6</b> %	<b>2</b> %	<b>3</b> %
SIMILARITY INDEX	INTERNET SOURCES	PUBLICATIONS	STUDENT PAPERS

#### PRIMARY SOURCES

<b>1</b>	<a href="http://wiredspace.wits.ac.za">wiredspace.wits.ac.za</a> Internet Source	<1 %
<b>2</b>	Submitted to University of Northumbria at Newcastle Student Paper	<1 %
<b>3</b>	Submitted to Durban University of Technology Student Paper	<1 %
<b>4</b>	<a href="http://commons.ru.ac.za">commons.ru.ac.za</a> Internet Source	<1 %
<b>5</b>	<a href="http://www.emerald.com">www.emerald.com</a> Internet Source	<1 %
<b>6</b>	<a href="http://hdl.handle.net">hdl.handle.net</a> Internet Source	<1 %
<b>7</b>	<a href="http://www-emerald-com-443.webvpn.sxu.edu.cn">www-emerald-com-443.webvpn.sxu.edu.cn</a> Internet Source	<1 %
<b>8</b>	<a href="http://api.research-repository.uwa.edu.au">api.research-repository.uwa.edu.au</a> Internet Source	<1 %

## APPENDIX G: Editor's letter



This is to confirm that the literature review for the thesis entitled  
**An analysis of intention to invest in a retirement annuity  
fund at a South African University of Technology.**

Authored by  
**Zwane Bonginkosi Keith**  
Student Number: 207522782

was edited as per UKZN approved guidelines. The student received a detailed thesis with suggested changes that must be implemented before submission. The thesis will be fit for submission when the student attends to all suggested changes and obtains permission to submit from the supervisor.

Report prepared by

Elizabeth Mnyandu



signature over printed name

Date: 11 June 2024



Certificate in Copy-editing  
Qualification

Contact Number

