

THE SAVING BEHAVIOUR OF UNIVERSITY STUDENTS IN SOUTH AFRICA

by

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ABSTRACT

This study was necessitated by the fact that, thus far, no prior research on the saving behaviour of young adults, particularly university students, had been undertaken in a South African context. The primary objective of this study was to investigate and identify the saving behaviour of university students in South Africa. To meet this objective, the study investigated the following aspects:

- The importance of saving for households and the economy, and the role that saving motives play in encouraging positive saving behaviour.
- The economic, psychological and behavioural theories that attempt to explain the saving behaviour of individuals.
- The importance of placing young adult saving behaviour into context in order to identify gaps in people's knowledge of the development of saving behaviour in young adults.

The study was conducted using a quantitative approach by means of a survey. A structured questionnaire was developed to assess and collect data on participants' demographic information as well as their saving behaviour. A total of 248 students from University of Pretoria, Pretoria, South Africa completed the questionnaire. The data was analysed using parametric statistical techniques.

The study led to the following important findings:

- University students in South Africa do engage in positive saving behaviour.
- Male university students engage in better saving behaviour than female university students.
- With regard to ethnicity, non-white university students engaged in better saving behaviour as compared to their white counterparts.
- Having a part-time job while studying resulted in better saving behaviour compared to non-working full-time students.

This study's conclusions indicate that the saving decisions made by university students in South Africa are influenced by behavioural factors. The study has provided a solid foundation for further research into this field in an emerging economy such as South Africa.

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CHAPTER 1:

INTRODUCTION

1.1 BACKGROUND

South Africa's low savings rate is a policy concern, both in terms of the overall national savings rate and individual household savings. An increase in the level of saving is an important component of the fiscal policy outline of the South African Government (National Treasury, 2012:3). Compared with its international counterparts on a macroeconomic level, South Africa's savings rate has not performed satisfactorily. It is noted in the 2010/2011 Global Competitiveness Report that South Africa's gross savings rate equated to 16% of the gross domestic product (GDP) in 2009 compared to India's 37% and China's 52% in the same year (South African Savings Institute (SASI), 2011:1).

On a microeconomic level, the gross savings by households as a percentage of GDP is remarkably low and has declined from approximately 4.20% in the period 1990 to 1999 to a meagre 1.70% in the second quarter of 2013 (South African Reserve Bank (SARB), 2013:13). Not only is the household savings ratio remarkably low but also household debt relative to disposable income is persistently high (Kotze & Smit, 2008:156; Prinsloo, 2000:13). The debt-to-income ratio of South African households was 75.40% in the second quarter of 2013 (SARB, 2013:9).

The continuing decline in the personal savings level over the past decade, along with rapidly rising and unprecedented household debt levels, shows a change in society's financial behaviours (McKenzie, 2009:2). Braunstein and Welch (2002:445) claim that this societal modification has become a major cause of concern that has caught the attention of governments, banking associations, consumer clusters, international organisations and the academic profession. The authors further highlight that the foregoing concern has placed overwhelming attention on financial literacy and, in particular, the saving behaviour of households.

Hilgert, Hogarth and Beverley (2003:309) assert that there is a strong relationship between financial knowledge and self-beneficial saving behaviour. Van Rooij, Lusardi and Alessie (2007:3; 2011:450) suggest that financially illiterate households are less likely to engage in optimal saving behaviour such as participating in financial markets or investing in stocks. Lusardi and Mitchell (2006:2; 2007:222) have shown that households with poor financial knowledge and saving behaviour accumulate less wealth and tend not to plan or even calculate the amount of money required for retirement. A study by Mandell and Klein (2009:16) found that households with less financial knowledge lack financial sophistication and fail to make self-beneficial financial decisions, which, in turn, negatively impact a country's economy.

Despite growing interest in financial literacy and financial education programmes, research on the saving behaviour and the financial practices of young adults remains a relatively neglected area (Brown & Taylor, 2012:4). Furthermore, research on savings often overlooks young adults as economic agents who are capable of saving (Elliott, Choi, Destin & Lim, 2011a:1101). Thus, a study on the saving behaviour of young adults may offer a potentially rewarding area for research on financial literacy and financial practices.

According to Sabri and Macdonald (2010:104), narrowing the young adult population to specifically focus on university students is justifiable given that research is limited to the financial behaviours and especially saving behaviour of this particular consumer market segment. The argument in this study is that for a majority of students, university attendance is the first time they have experienced financial autonomy without a parent's guidance. It is therefore important for university students to gain financial acumen, skills and knowledge as they equip themselves to succeed as consumers in today's global economy.

1.2 THE RESEARCH PROBLEM AND ITS CONTEXT

Kotze and Smit (2008:156) posit that little is known about the subject of South African personal finances, specifically personal savings. In addition, the low levels of household savings coupled with unmanageably high debt levels in South Africa have prompted Government to place a specific focus on the saving levels and behaviours of households

(National Treasury, 2012:2). While a great deal has been written internationally on the saving behaviour of adults, households and employees, the saving behaviour of young adults such as university students has been an overlooked field (Otto, 2009:10). Conducting a research study about this specific research field in the South African environment will serve as a contribution to existing knowledge.

In light of the above, the primary objective of this study is to investigate and identify the saving behaviour of university students in South Africa. The research objective is justified given the importance of savings, the generally low household savings rate in South Africa and the limited research conducted on the saving behaviour of university students.

Hence, this study investigates the following hypotheses:

H0¹: Saving behaviour amongst university students does not exist.

A study by Atkinson and Kempson (2004:2) found that young people aged 18 to 24 in the United Kingdom (UK) are increasingly spending more than their income, resulting in poor saving behaviour and leading to financial difficulties in later life. This finding was corroborated by research conducted by Chen and Volpe (1998:121) in which their study found that college students engage in sub-optimal saving and investment behaviours such as taking out inadequate insurance, making incorrect investment choices and consuming more than their income.

HA¹: Saving behaviour amongst university students does exist.

Erskine, Kier, Leung and Sproule (2006:262), in their study of financial saving behaviour of young Canadians aged 12 to 24, reveals that students, particularly those with part-time work, engaged in sound financial behaviours, including saving for further school tuition. Furthermore, in a separate study of European young adults aged 18 to 32, Webley and Nyhus (2013:24) found – with regard to the young adults' saving behaviour – that 91% of the young adults had liquid savings to the value of approximately €7 000 each. Therefore, asset accumulation by young adults is seen as a significant predictor of saving behaviour.

H0²: Male students engage in better saving behaviour than female students.

Consistent gender differences in saving behaviour have been documented (Borden, Lee, Serido & Collins, 2008:26). Lusardi, Mitchell and Curto (2010:358) found in their study of financial literacy amongst young adults in the United States of America (USA) that a college-educated male student is 45% more likely to possess advanced financial knowledge and subsequently engage in positive saving behaviour than their female counterpart.

HA²: Female students engage in better saving behaviour than male students.

Hayhoe, Leach, Turner, Bruin and Laurence (2000:113) in their research of differences in spending habits and credit use of college students found that female students were more likely to plan their spending, retain invoices and receipts, save on a regular basis and have a formally written budget. Similarly, Henry, Weber and Yaborough (2001:244) also found that compared to male students, female students were more likely to have a budget and consequently displayed better saving behaviour.

H0³: White students engage in better saving behaviour than non-white students.

According to Fisher (2010:1), ethnic differences in household saving behaviour exist. The author argues that research conducted in the USA shows that black households hold lower levels of wealth compared to white households, and ethnic differences in financial security and financial literacy have been consistently proven by researchers. Lusardi (2005:1) confirms these findings with her research showing that white households in the USA engage in optimum saving behaviour and consequently possess wealth holdings of at least four to five times greater than those of black and Hispanic households. In another study conducted in the USA, Grable and Joo (2000:151) found that white college students report more sensible financial behaviours such as keeping track of household expenses on a monthly basis, paying outstanding credit card balances in full each month and thus avoiding exorbitant interest charges, compared to black college students.

HA³: Non-white students engage in better saving behaviour than white students.

Chien and DeVaney (2001:162) established that non-white households in the USA showed more favourable attitudes towards the use of credit cards. Furthermore, in a study on analysing the saving behaviour of poor households in South Africa, black households were found to be 35% more likely to save than other ethnicities (Esson, 2003:15).

HO⁴: University students engaging in part-time work display better saving behaviour than non-working university students.

In their study of young adults in Canada, including students engaged in part-time work, Erskine *et al.* (2006:279) found that students engaged in part-time work were more inclined to save in general than non-workers. Their study provided evidence that young workers primarily saved for the future and that part-time work was associated with interest in higher education. Thus, the study of Erskine *et al.* (2006:279) concluded that students who worked part-time were more prone to save for future schooling.

HA⁴: Non-working university students display better saving behaviour than university students engaging in part-time work.

In her study of saving behaviour of young adults, Otto (2009:149) found that students with a part-time job did not differ with regard to their general tendency to save from students without a job. Otto (2009:149) shows that having a higher income through wages does not translate into better saving behaviour. Thus, non-working university students might save more money, as they have less financial responsibilities compared to working students. In addition, non-working students relying on financial support from their parents may save more in an attempt to reduce their reliance on asking their parents for more money.

1.3 DELIMITATIONS

This study has four main delimitations related to the context and application of the research, which are as follows:

- The study examines the saving behaviour of young adults in South Africa enrolled and studying in various faculties at one public South African university only. The geographical composition of the students enrolled at the selected university is the same as in other higher education institutions in South Africa, and thus it is justifiable to investigate only one South African university.
- In view of the context of the study, which was limited to only one public traditional South African university, the following higher education institutions in South Africa were excluded from the study:
 - all other traditional universities;
 - universities of technology;
 - comprehensive universities;
 - private colleges and universities;
 - local campuses of foreign universities;
 - public Further Education and Training (FET) colleges;
 - private FET colleges; and
 - Adult Basic Education and Training (ABET) centres.
- The study focused solely on young adults who are enrolled students at the selected South African university and thus excluded young adults who are non-students, enrolled at another university, employed or self-employed.
- In order to identify the saving behaviour of young adults in South Africa, the study investigated only the existence thereof and the saving behaviour of male versus female, non-white versus white, and part-time working versus non-working students.

1.4 LIMITATIONS

This study has the following limitations:

- The study is limited to the Republic of South Africa.
- The study is limited to full-time students enrolled at one public South African university.
- The respondents' age range between 17 and 25, thus indicating that the study only considers respondents from a student environment, which means that the results are not necessarily applicable to all age groups, particularly more mature age groups.
- The study relates to the reliance of self-report measures through the use of a questionnaire. Otto (2009:242-243) states that the use of self-report measures with young people, especially students, on a topic they might find private, could cause inaccuracies associated with social desirability, reservations about anonymity, or concerns about giving right or wrong answers.
- The questionnaire is based on limited areas of saving behaviour which are selected to the exclusion of others. However, the limitation is minimised through the use of a valid and reliable questionnaire instrument that measures at a Cronbach's alpha of 0.81 in terms of reliability.
- Age, gender, faculty of study and ethnical background are the only demographic variables considered for this study.
- Of the students targeted at the specific university, only 250 students (i.e. representative sample of students at the targeted university) were approached and not the entire student population at the university were provided with the option to complete the questionnaire.

The results were applicable to university students only. Therefore, the results should not be generalised to the saving community as a whole or any other saving-orientated industry.

1.5 DEFINITIONS OF TERMS

The terms listed below are important in the context of the study and are therefore succinctly described for the purposes of the study.

- *Economic socialisation*: The process through which young people gain knowledge, understanding, and skills in relation to the economic environment as consumers and at the workplace (Wärneryd, 1999:172).
- *Financial literacy*: A combination of awareness, knowledge, skill, attitude, and behaviour necessary to make sound financial decisions and ultimately achieve individual financial well-being (Organisation for Economic Co-operation and Development (OECD), 2011:3).
- *Saving behaviour*: Saving behaviour implies a combination of perceptions of future needs, a saving decision, and a saving action (Wärneryd, 1999:2).
- *Young adult*: In the context of this study, a young adult is defined as an individual of either gender, ethnicity, working part-time or not working at all and who is between the ages of 17 and 25.
- *University student*: For the purpose of this study, a university student refers to a young adult who is currently enrolled on a full-time basis, aged between 17 and 25 years, and registered at a selected public South African university in any faculty or campus offering tuition towards obtaining an academic qualification.

1.6 LIST OF ABBREVIATIONS AND ACRONYMS

Table 1 lists the different abbreviations and acronyms that will be used throughout the study.

Table 1: List of abbreviations and acronyms used in this document

Abbreviation	Meaning
ABET	Adult Basic Education and Training
ANOVA	Analysis of Variance
AIH	Absolute Income Hypothesis
FET	Further Education and Training
GDP	Gross Domestic Product
HDI	Household Disposable Income
LCH	Life-Cycle Hypothesis
MPS	Marginal Propensity to Save
PDI	Personal Disposable Income
PIH	Permanent Income Hypothesis
SASI	South African Savings Institute
SARB	South African Reserve Bank
SPSS	Statistical Package for the Social Sciences
OECD	Organisation for Economic Co-operation and Development
TES	The Theory of Economic Socialisation
TPB	The Theory of Planned Behaviour
USA	United States of America

1.7 ASSUMPTIONS

The following assumptions were made for purposes of this study:

- University students receive some form of personal income (i.e. pocket money, allowances, salary, stipend, grant, bursary fund, scholarship money or gifts) in which they may elect to spend, invest or save the amount.
- University students act as individuals, and the decision to spend, invest or to save their personal income remains their sole responsibility.

- University students have a basic command of the English language, and thus the questions and statements on the questionnaire can be easily read, understood and answered.
- Gender, ethnicity and part-time work were the only aspects investigated in order to investigate the saving behaviour of young adults. These aspects have been researched and tested, which validate the results of the study.
- The data presented applied for the 2014 year only.

1.8 SIGNIFICANCE OF THE STUDY

The main purpose of this study was to investigate the saving behaviour of university students in South Africa. The study will help to gain a better understanding of the development of financial behaviours (both desirable and undesirable) in university students. The study will provide research on saving behaviour on an individual household level.

Moreover, the economic, psychological and behavioural theories of saving based on empirical studies and their implication on saving behaviour of young adults will be discussed. Over and above that, the study will provide a better understanding of the economic socialisation and saving behaviour of young adults within the constraints applicable in a developing economy as opposed to developed countries.

From an academic perspective, this study will provide insight and assist in filling the gap on the limited research of the saving behaviour of university students in South Africa. Although the study is of limited scope, this study will:

- add to the existing body of literature and further people's understanding of the development of specific economic behaviours of young adults in relation to the existing saving theories; and
- advance knowledge on household saving and saving behaviour of young adults in an emerging market context.

1.9 OUTLINE OF THE STUDY

The study consists of four parts as outlined below.

The first part (Chapter 1) introduces the topic and indicates the main research problem with the hypotheses to be tested and the problem statement. It also provides definitions of key terms, the assumptions, limitations and scope of the study. Furthermore, this chapter provides the academic value and contribution of the study.

The second part (Chapters 2 and 3) deals with the literature review, which forms the theoretical foundation for the empirical research. Chapter 2 begins with a review of saving definitions as found in the relevant literature in an attempt to explain the concept of saving behaviour in general. The chapter then critically discusses the background and importance of saving for households and the economy in general.

This is followed by a discussion of saving motives in relation to explaining saving behaviour. Chapter 2 concludes with a section specifically focusing on the traditional and more modern theories of saving. These theories have been subdivided into three categories, namely, economic, psychological and behavioural theories of saving.

In Chapter 3, the literature review focuses on research conducted that specifically focuses on the saving behaviour of young adults. Two theories that attempt to explain the saving behaviour of young adults are reviewed, namely, the Theory of Economic Socialisation (TES) and the Theory of Planned Behaviour (TPB). The role of economic socialisation and parental influence in predicting and explaining the development of saving behaviour in young adults is explored. Specific attention is paid to the demographic factors which influence young adults to engage in desirable or undesirable saving behaviour.

The third part of the study deals with the empirical analysis of the data and consists of two sections (Chapters 4 and 5). Chapter 4 discusses the research methodology applied in this study as well as explains the processes, research instrument and statistical techniques used in analysing the data. Chapter 5 focuses on the presentation and analysis of the research findings.

The fourth and final part of this study is presented in Chapter 6 and contains a summary of the study and the presentation of conclusions. This part concludes with a number of recommendations made, including possible areas for future research.

CHAPTER 2:

THE BACKGROUND AND IMPORTANCE OF HOUSEHOLD SAVING

2.1 INTRODUCTION

Improving the levels of household savings in South Africa is important, both in terms of increasing the national savings rate and to enhance the financial well-being of households in South African (National Treasury, 2012:20). Given the dualistic importance of personal saving for the well-being of households and the economy in general, economists and psychologists have investigated the saving behaviour of individuals with great interest. However, Ashby, Schoon and Webley (2011:227) note that despite the growing interest in saving behaviour in general, the literature on saving behaviour is mainly focused on research about adults, followed by children through experimental studies, and almost none about young adults.

The previous chapter gave an introduction and background to the study. The primary aim of Chapter 2 is to introduce the general concept of saving behaviour from relevant literature. This literature forms the starting point for the investigation of the saving behaviour of young adults, which will be discussed in Chapter 3. This section will explore and further elaborate on the reasons for the importance of high saving rates for both the economy and households. A review of saving motives and different theories on saving follows in order to establish a theoretical foundation on the literature of saving behaviour in general, as this will lay a foundation for the saving behaviour of young adults that follow in Chapter 3.

To achieve the aim of this chapter, the following aspects will be addressed:

- Section 2.2 will review the general concept of saving and explore saving definitions as described in the relevant literature.
- Section 2.3 will describe the importance of saving for the economy and households, followed by saving motives in relation to explaining adult saving behaviour.

- Section 2.4 will review the various theories of saving, as these theories form the theoretical base of the current study.

The theories of saving are classified into three primary categories:

- Economic theories in section 2.4.1 that relate to income and consumption models.
- Psychological theories in section 2.4.2 that relate to psychological constructs such as self-control and willingness to save in predicting saving behaviour.
- Behavioural theories in section 2.4.3 that attempt to bridge the saving behaviour literature gap through a combination of both economic and psychological theories.

Section 2.4 will review the economic theories of saving highlighted above and address the psychological theories of saving which attempt to provide solutions by investigating psychological factors such as self-control and willingness to save in conjunction with economic factors such as ability to save. Section 2.4 will conclude with a review of behavioural theories of saving which endeavour to bridge the saving behaviour literature gap through an amalgamation of both economic and psychological theories.

Section 2.5 will summarise and conclude this chapter, and will provide a brief introduction into the next chapter, which will specifically address the saving behaviour of young adults. This discussion will enhance the understanding of these theories, which is essential for explaining the general concept and development of saving behaviour.

2.2 DEFINING HOUSEHOLD SAVING

The definition of household saving provided by the OECD (2013:39) states, “household saving is measured as the difference between household disposable income and consumption”. Disposable income comprises earned and passive income **less** compulsory contributions towards tax, interest and pension funds. Consumption, according to the definition, is expenditure on goods or services.

Similarly, Prinsloo (2000:3) defines saving by the household sector or personal saving as current income after the compulsory contribution towards taxes that is not spent by

households. In his study, the author further extends this definition by stating that personal saving **includes**:

- existing payments made in the form of a reduction in household obligations (i.e. settlement of capital on mortgage financing and consumer durables);
- consistent and recurrent employer and employee retirement and insurance fund contributions and the interest received on those funds; and
- the retained earnings of autonomous business institutions and non-profit organisations serving households.

However, Prinsloo (2000:4) further comments that personal saving **excludes**:

- any household expenditure not financed by existing income but rather by the use of debt, represents an increase in the financial obligations of households and is treated as dissaving; and
- any capital gains and losses.

Wärneryd (1999:271) makes a distinction between two types of precautionary saving: the first type is aimed at making a provision for an unexpected temporary change in income for emergencies, and the second type is aimed at covering long-term changes in income throughout an individual's lifetime (i.e. making provision for retirement or old age).

Katona (1975:31) proposed three categories of personal saving, namely, discretionary, contractual and residual saving, which differ based on the underlying decision processes. Discretionary saving is a result of decisions made in the present period with regard to saving money. Contractual saving is a result of decisions made in the past such as paying a down payment on a mortgage or engaging in a savings contract.

Residual saving in contrast is the result of money that is left over available for saving purposes due to no explicit financial decisions regarding that money made in the accounting period. Katona (1975:31) further argues that discretionary saving requires special attention, as this form of saving varies according to different periods and thus affects business cycles.

In addition, Lunt and Livingstone (1991:621) distinguish between recurrent and total saving. Recurrent saving refers to saving done on a regular basis (i.e. recurrent commitments to discretionary saving), while total saving amounts to liquid assets held in financial institutions and building associations as protection against future uncertainties or to save up for specific commodities and services.

The definitions provided above are not an exhaustive list but do however provide a foundation against which saving has been conceptualised and defined in the available literature. The interest in the development of saving behaviour in adults leads people to research on the importance and motives people have for saving.

2.3 THE IMPORTANCE AND MOTIVES OF SAVING

The importance of maintaining a high level of savings has relevance on two levels. On a national level, an increase in cumulative domestic savings will reduce dependence on unstable international capital inflows, provide support in financing higher rates of investment and assist in the creation of new jobs (National Treasury, 2012:3). On a household level, savings allow individuals to protect themselves against unforeseen events, purchase consumer durables without relying on credit and fund new entrepreneurial activities (SASI, 2011:3; Kotze & Smit, 2008:158).

At a national economic level, the level of gross national income is dependent on the ability of the country's economy to yield good returns. Prinsloo (2000:1-3) confirms that on a macroeconomic level, high levels of gross national savings:

- provide the resources for the creation of capital which, in turn, is crucial for economic growth, higher rates of investment, productivity and the creation of new jobs;
- are an imperative prerequisite for macroeconomic stability and the preservation of financial and price balances; and
- reduce an economy's reliance and exposure to the vagaries of the global capital markets which are volatile and unpredictable and thus curtail the availability of sustained cross-border capital inflows.

It is stated that at the household (or personal) level, higher levels of personal saving assist in several ways such as (SASI, 2011:3):

- reducing the financial vulnerability of households – especially amongst the poor;
- strengthening the resistance of households to income and expenditure uncertainties;
- allowing individuals to remain protected against unforeseen events (i.e. car accidents, disability, health care needs or death);
- reducing the reliance on excessive consumer debt; and
- providing individuals with a decent retirement without having to rely on the Government or others for support.

Kotze and Smit (2008:158) further add that high levels of personal saving are an important prerequisite for assisting in the funding of new venture creation in South Africa. This is especially so because entrepreneurs are heavily dependent on their own personal savings for starting a new business.

The importance of personal saving as mentioned above leads to an important aspect in the literature which is the saving motives of individuals and households. Xiao and Noring (1994:25) note that despite the increasing interest in personal saving rates, few researchers have explicitly investigated saving motives and their impact on saving behaviour.

According to Fisher and Montalto (2010:93-94), it is important to analyse household motives for saving for two prime reasons. The first primary reason emphasises that research on saving motives provides a more nuanced understanding of the saving behaviour of households and the factors affecting the level of household saving. Secondly, analysing household saving motives provides information on the applicability of economic models on real-world challenges. Additionally, Nyhus (2002:31) comments that understanding individuals' motives for saving might be useful for segmenting the population in order to apply different saving models appropriately.

Callen and Thimann (1997:5) assert that after a thorough investigation of the theoretical literature on saving motives, the primary motives for household saving can be grouped into four broad categories, namely, to:

- smooth out the accessibility of financial wealth over time so as to maintain a more consistent expenditure profile;
- provide income for retirement, old age and inheritances;
- finance projected and significant lifetime expenditure (including residential properties and tuition); and
- finance unanticipated reductions in income (precautionary saving).

A noteworthy list of saving motives was provided by Keynes (1936:108) which comprises eight primary reasons that may cause households to refrain from consumption. The saving motives are described in Table 2 with the reclassification and designation of Browning and Lusardi (1996:1797) of these saving motives being included.

Table 2: Keynesian saving motives and reclassification by Browning and Lusardi

	Keynesian Motives	Browning and Lusardi Reclassification
1	“To build up a reserve against unforeseen contingencies”	“The precautionary motive”
2	“To provide for an anticipated future relationship between the income and the needs of the individual ...”	“The life-cycle motive”
3	“To enjoy interest and appreciation ...”	“The intertemporal substitution motive”
4	“To enjoy a gradually increasing expenditure ...”	“The improvement motive”
5	“To enjoy a sense of independence and the power to do things, though without a clear idea or definite intention of specific action”	“The independence motive”
6	“To secure a masse de manoeuvre to carry out speculative or business projects”	“The enterprise motive”
7	“To bequeath a fortune”	“The bequest motive”
8	“To satisfy pure miserliness, i.e., unreasonable but insistent inhibitions against acts of expenditure as such”	“The avarice motive”

Source: Browning and Lusardi (1996:1797)

Browning and Lusardi (1996:1797) added the down payment motive to the list in Table 2. The down payment motive refers to the motive to save and accumulate money in order for

households to use the money for a deposit towards buying a house, car and other consumer durables. The authors further point out four distinct features of the list in Table 2. These features are as follows:

- The list is complete and comprehensive, with only the down payment motive being added since 1936.
- The list recognises considerable variety in saving motives; however, it is improbable that a single motive will be adequate for all individuals of a population at a specific time or for the same individual over a long established time period.
- Many of the saving motives are complementary and not necessarily equally exclusive (i.e. households may save for precautionary purposes but with a realistic expectancy that any remaining balances will be used for bequest purposes onto children).
- Some of the motives do not conform to traditional economic theories but rather to psychological theories of behaviour.

The various theories on saving will be discussed in the next section.

The review of saving behaviour in general reveals that several motives for saving including retirement, bequests and precautionary saving have been identified by theoretical economic models with regard to saving in relation to income and consumption. Some of these theoretical economic models make specific reference to young adults and their saving behaviour including the Life-Cycle Hypothesis and Buffer Stock Model. The next section will provide a succinct description of the theories, models and hypotheses that have been developed and empirically tested in an attempt to explain saving behaviour in general.

2.4 THEORIES OF SAVING

Several theories exist that endeavour to describe and – in some cases – predict saving behaviour (Baker, 2009:68). The most prominently known economic theory is the Life-Cycle Hypothesis, which endeavours to explain saving behaviour in conjunction to age, predicting saving to be the highest during the middle ages and lowest amongst the young and elderly cohorts. Other economic theories that will be reviewed in the next section include the much more recent Buffer Stock Model, which makes specific reference to the saving behaviour of young adults.

2.4.1 Economic Theories of Saving

According to Van Rooij (2008:3), economics theories of saving are primarily concerned with the study of the saving behaviour of groups of agents and markets. The author adds that traditionally, economic models of saving are based on the assumption that individuals have consistent preferences and that these preferences follow the principle of utility maximisation.

The main premise of the economic theories is that income is the main independent variable in most economic analysis of saving behaviour. Keynes (1936:96) produced an early theory on saving named the **Absolute Income Hypothesis (AIH)** and introduces the notion of marginal propensity to save (MPS). Otto (2009:17) contends that the MPS refers to the increase in savings as a result of an increase in income. The AIH model is based on the premise that income and consumption levels are important features to saving and raises the argument that as real income increases, consumption does not increase at the same level, and therefore, a greater amount is saved. Baker (2009:41) explains that saving is therefore the variance between income earned and expenses paid and, thus, households with the largest variance should save the most.

Nyhus (2002:30) concludes that the AIH received much criticism from macro and micro economists, psychologists and sociologists for being too simplistic with respect to

predicting saving behaviour. A more recent model, the **Residual Income Hypothesis (RIH)**, was developed; it offered a similar explanation to saving as the AIH.

The RIH is also based on the premise of income and consumption. However, the model postulates that with the exception of the down payment motive to purchase a house, household saving is not the outcome of an intentional choice to save but rather the residual of income after consumption (Baker, 2009:41). Considering the above hypothesis, it is predicted that poor households will save less than affluent households, as they have less disposable income.

The RIH model has been criticised on two main premises, namely, the saving behaviour of poor households and young adults. Esson (2003:2) challenges the above proposition that the poor do not save. The research of Esson (2003:2) conducted in South Africa shows that poorer households do often save as much as 25% of their income, however, through small, irregular lump sums which are drawn for immediate or short-term purposes. In addition, the author found that saving by the poor is mostly through informal mechanisms such as stokvels (i.e. saving group) and burial societies and not through the formal banking sector. Thus, such informal saving cannot be computed and included in saving rates.

Baker (2009:41-42) also challenges the notion that the RIH model predicts that young adults with low incomes are expected to be worse savers. Nevertheless, in contrast to the RIH model, Baker (2009:41-42) argues that young adults may have more disposable income due to lower financial responsibilities and thus save more.

The **Relative Income Hypothesis (RIH)** is considered as an alternative approach to the Keynesian AIH and includes notions of habit formation and social comparisons in consumption choices relative to reference groups (Ravina, 2007:1) The main argument of the model is that household consumption patterns are strongly influenced by social factors such as the consumption levels (i.e. standard of living) of other households, especially those households which are considered superior to other households in terms of economic and social rank in the reference group (Pietrykowski, 2009:48). Pietrykowski (2009:48) explains that the term “demonstration effect” means that households emulate the

consumption patterns of other relevant households that share commonalities, for example, neighbours or colleagues.

A study by Kapteyn (2000:15) found that the income in an individual's reference group has an unambiguously negative effect on savings. The author's work suggests that if a household feels worse off relative to other households in the reference group, the savings of that household are likely to be lower.

Similarly, Schor (1998:4), using a sample of middle and upper-middle-class individuals in the USA, found that interpersonal social comparisons had a significant impact on saving behaviour. Individuals from the study reported lower expected savings when the perception of their own financial situation seemed worse when compared to the reference group. Thus, Otto (2009:17) concludes, "the idea that social comparison mechanisms are important for saving behaviour is justified".

The **Life-Cycle Hypothesis (LCH)** is considered as one of the most important economic income theories of saving and forms the foundation of most modern research on saving behaviour (Canova, Rattazzi & Webley, 2005:22). According to Shefrin and Thaler (1988:625), the LCH is based on "income smoothing", which assumes that individuals smooth their lifetime consumption uniformly over their lifespan.

Baker (2009:42) elaborates that initially, young adults will have negative savings as a result of their minimal earning capacity and financial liabilities (i.e. from schooling and tuition, the purchase of a property, or the needs of their offspring), which results in borrowing to meet their high consumption needs. As young adults move into middle age, their earning capacity has increased and their need to borrow has decreased, which allows for saving specifically for retirement. Afterwards during retirement, when income drops below consumption levels and savings are utilised, negative saving occurs over again. The capability to save is perceived to be age-related, and the primary motive for saving is to acquire wealth for usage in retirement. The theory predicts that young adults do not put money aside specifically for retirement purposes.

The LCH has come under increased scrutiny from at least two perspectives for predicting the saving behaviour of young adults:

- In terms of expenditure, young adults might predict increased expenditure levels due to an increase in the household and thus save for the rising expenditure profile (Nyhus, 2002:44).
- Growing evidence suggests that young adults save a significant portion of their income (Friedline, Elliott & Chowa, 2013:31).

The **Permanent Income Hypothesis (PIH)** is considered as an extension of the LCH. In advancing the theory, Friedman (1957:21) draws a distinction between permanent income, which is the present value of lifetime income, and transitory income, which is the variance between actual income and permanent income. Saving transpires when an upsurge in income is perceived to be transient as opposed to permanent, which results in increased consumption patterns (Nyhus, 2002:46). The PIH also recognises the bequest motive as a reason for saving.

Both the LCH and PIH were criticised for failing to thoroughly explain the saving behaviour of young adults who were assumed to dissave throughout the life-cycle stages, which led to the development of the **Buffer Stock Model (BSM)**. The much more recent BSM of saving is relevant in explaining the saving behaviour of young adults (Baker, 2009:43).

Carroll (1997:1-2) explains that buffer stock behaviour occurs if individuals with important income insecurity are amply impulsive and impatient. In addition, the author argues that individuals who engage in buffer stock saving have a predetermined wealth-to-permanent-income ratio. The author explains that if wealth is below the threshold, the precautionary saving motive will dictate impatience and the individual will save, while if wealth is above the threshold, impatience will dominate caution, and the individual will have negative savings.

Nyhus (2002:45) explains that buffer stock models emphasise precautionary saving motives particularly for young adults facing greater income uncertainty. The more uncertainty that is associated with future income for the individual, the higher the buffer

stock saving. Thus, young adults are motivated to save for smoothing consumption during temporary earnings variations and liquidity restraints. Further, due to stringent mortgage finance terms, young adults will save for down payments (for investments in apartments or to purchase a home) and to qualify for better mortgage terms.

Carroll (1992:63) concedes that the main limitation to the theory is the assumption that young adults do not save for retirement, as the model predicts that wealth remains fairly constant and saving for retirement starts at the age of 50 years. Instead, young adults are more prone to amass reserve emergency funds especially during periods when fears of unemployment are high or rising.

Van Rooij (2008:3) concurs that the economic theories discussed in this section highlight that a number of different theories are based on the “false” assumptions that individuals have consistent preferences and are rational economic agents who collect and process all applicable information in order to maximise their lifetime utility. The author further adds that the psychology fraternity has questioned the validity of these assumptions, as research conducted by psychologists has shown that individuals are heuristic and prone to behavioural biases.

Because of the failure by economic theories to prescribe, predict and promote saving, psychological theories endeavour to provide solutions by investigating psychological factors such as self-control and willingness to save in conjunction with economic factors such as ability to save (Wärneryd, 1999:166). The next section will discuss the psychological theories of saving in more detail.

2.4.2 Psychological Theories of Saving

According to Baker (2009:43), psychologists have critiqued economic theories for the inability to provide answers to the low saving rates and poor saving behaviour by households. These criticisms have prompted the promulgation of psychological theories which attempt to remedy the gap in literature. The author further states that the theories

are based on the principle that saving behaviour are affected by preferences, motives, expectations and ambitions, which are, in turn, formed by socio-economic conditions.

Wärneryd (1999:166) highlights that psychological research has three main purposes in the study of saving behaviour, which are to:

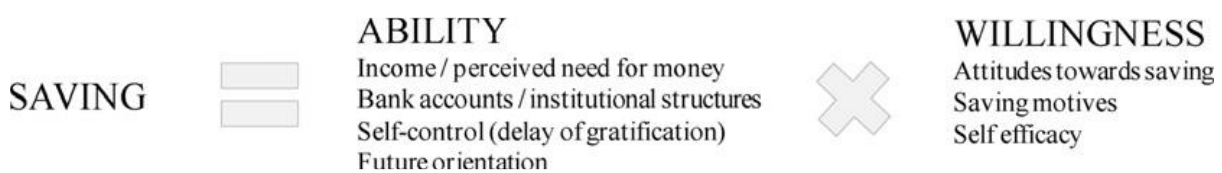
- provide procedures, methods and techniques for gathering subjective and objective data that may be difficult to attain;
- supply psychological concepts and theories for use in describing, clarifying and forecasting saving and savings; and
- develop a psychological theory of saving with a view towards studying reactions to the future.

According to Nyhus (2002:166), psychological variables frequently regarded as important predictors of saving behaviour are time preference, degree of self-control, expectations, uncertainty, time horizon, social comparison mechanisms and various saving motives. The author further augments the statement by noting that in recent years, psychologists have added attitudes and personality structure to the list of potential determinants of saving behaviour.

In an attempt to link the theories to the saving behaviour of young adults, the research will only address two psychological variables, namely, ability and willingness to save, and the psychological concept of self-control. Katona (1975:11) proposed to study the **ability and willingness** to save when studying household saving behaviour. In the study of Katona (1975:11), income is related to the ability factor, and expectations and attitudes about the future are related to the willingness to save. Otto (2013:11) explains that although income is central to the theory, which is based on a combination of economic and psychological variables, willingness to save should be considered as a predictor of saving behaviour. However, saving necessitates a degree of willpower, as individuals who are able to save still need to decide to do so. Consumer sentiment, defined as how optimistic or pessimistic an individual perceives the economic environment, influences the willingness to save and thus also influences contractual and discretionary saving decisions (Wärneryd, 1999:169).

Otto (2013:11) highlights that pocket money and allowances which are viewed as discretionary spending money for young adults should be used for saving based on the willingness to save factor. The author elaborates that willingness to save depends on saving motives, attitudes towards saving and the perceived probability of being successful at saving. On the other hand, ability to save takes into account economic and psychological variables as shown in Figure 1.

Figure 1: Saving in childhood and adolescence: demographic, social and psychological determinants



Source: Otto (2013:11)

According to Wärneryd (1999:148-149), the psychological concept of **self-control** is the basic premise of most psychological theories on saving. The author defines self-control as the ability to delay gratification. Hoch and Lowenstein (1991:492) developed a model which defines self-control based on two conflicting psychological forces, namely, “desire” and “will-power”. In the model, self-controlling strategies are divided into two categories of self-control strategies:

- those that directly decrease desire; and
- willpower strategies that seek to overcome desire.

Baker (2009:43) notes that the ability to resist the temptation to spend is found to be greater in middle class, older and more educated individuals, and thus young adults are predicted to be poor savers. Bernheim, Garrett and Maki (2001:435) contradicts this finding, as their study on the effects of consumer education policies taught to young adults in high school reveals that it is the teaching of self-controlling techniques, such as the use of a bank account to save, that is important for promoting saving behaviour in young adults. Otto (2013:11) concludes that the fact that young adults experience difficulty when

saving, the notion of self-control, locus of control and the ability to delay gratification are vital competences to possess for saving when young.

The review presented in this section shows that psychology has received attention with respect to increasing people's understanding of individual saving behaviour. However, Wärneryd (1999:15-18) submits that psychological theories have not been subjected to stringent empirical analysis such as with the economic theories and thus have been reduced to deductive theories which explain variances in saving behaviour. The more recent behavioural theories of saving attempt to bridge the saving behaviour literature gap through the combination of both economic and psychological theories and will be addressed in the next section.

2.4.3 Behavioural Theories of Saving

Traditional economic theories have in recent years been challenged and criticised by researchers in the behavioural economics field regarding the basic assumptions of household saving behaviour which hypothesise that individuals:

- embrace consumption patterns over their lifetimes which maximise utility based on anticipated incomes;
- are perfectly self-centred;
- are perfectly logical; and
- hold time-consistent preferences (National Treasury, 2012:9).

In contrast, the National Treasury (2012:9) notes that the field of behavioural economics contends that individuals tend to make decisions which are not in their long-term interest. The report asserts that individuals:

- experience problems of self-control and consequently procrastinate saving due to a strong bias towards present consumption as opposed to delayed future gratification;
- comply with the default option selected even if it is not appropriate;
- avoid altogether any decision that is considered too complex; and

- due to the array and complexity of financial products and services available and limited financial capability accept misleading or incorrect advice.

Psychological theories investigating household saving behaviour have thus garnered the attention of researchers in recent years (Xiao & Noring, 1994:28). Nyhus (2002:82) notes that the psychological theories have been criticised for the following four aspects:

- Lack of empirical testing and difficulty to compare studies and link results to any general theory of saving.
- Large number of independent variables used in the studies.
- Difficulty to conclude anything about the relationships between the different psychological variables.
- The studies vary with respect to level of analysis and focus on individual level at the exclusion of household level unit of analyses.

Given the criticism of both the economic and psychological theories, a new stream of research has been developed and draws on behavioural theories of consumer choice and provides an extensive modification of the LCH. This research led to the development of the **Behavioural Life-Cycle Hypothesis (BLCH)** which was developed by Shefrin and Thaler (1988:609) and incorporates self-control, mental accounting and framing, which seeks to determine how alternatives are perceived from a chosen point of reference.

The most prominent assumption of the BLCH theory is that household wealth is non-fungible, and thus households allocate their wealth into three different mental accounts, namely: current income, current assets (savings) and future income (Canova *et al.*, 2005:23). The marginal propensity to save or consume varies for each mental account, and the supposition is made that the temptation to spend is greatest with current income and least for future income (Graham & Isaac, 2002:393).

With the inclusion of self-control, which can be externally or self-imposed restrictions on spending and debt, the BLCH model acknowledges that refraining from consumption is challenging for individuals, which is an assumption that was lacking in the earlier version of the LCH (Shefrin & Thaler, 1988:610). Shefrin and Thaler (1988) further state that while

the LCH models the “economic man”, the BLCH models the “real man” who faces an internal conflict of deciding between delayed or immediate gratification based on consumption preferences.

According to Graham and Isaac (2002:392), the BLCH model thus presents a two-model individual with two coexisting and mutually inconsistent personalities, thus creating issues of agency within each individual. The authors comment that these individuals are described as the “farsighted planner” who saves and is concerned about the future and the “myopic doer” who is present-orientated and regarded as a consumer who is concerned with satisfying immediate needs.

2.5 SUMMARY

The aim of this chapter was to give a perspective of the general concept of saving behaviour and investigate the saving behaviour of adults from an economic, behavioural and psychological perspective. In addition, it has been clarified why research on the development of saving behaviour in young adults lends itself to this field of study. Various saving theories proposed by economists and psychologists were introduced, as well as the most important empirical studies on saving behaviour in general. Against this background, in the following chapter, the literature on young adults’ saving will be presented.

CHAPTER 3:

THE SAVING BEHAVIOUR OF YOUNG ADULTS

3.1 INTRODUCTION

In the aftermath of the recent financial crisis and subsequent global recession, there has been growing interest in the saving behaviour of young adults and in the role of financial education in preparing young adults for entry into a multifaceted economic and financial environment (Brown & Taylor, 2012:2). Brown and Taylor (2012:2) further point out that despite the general consensus amongst academics and policymakers and evidence by researchers pointing to the poor saving behaviour of households, research into the factors influencing the saving behaviour of young adults who are in the early stages of the financial life cycle remains relatively scarce.

The preceding chapter focused on the background and importance of household saving. The primary aim of Chapter 3 is to place young adult saving behaviour in context, to identify gaps in people's knowledge of the development of saving behaviour in young adults, and to demonstrate why the study of young adult saving behaviour will benefit from an approach that takes the behaviour of the parents into account.

To achieve this aim, section 3.2 will explain the role young adults play as economic agents during their tertiary education. Section 3.3 will investigate two theories, namely, the Theory of Economic Socialisation (TES) and the Theory of Planned Behaviour (TPB) which endeavour to explain the saving behaviour of young adults. Section 3.4 examines the demographic variables that influence the saving behaviour of young adults. The chapter concludes with a section which investigates the factors that have an effect on how young adults engage in saving behaviour.

3.2 YOUNG ADULTS AS ECONOMIC AGENTS DURING UNIVERSITY

According to Webley and Nyhus (2013:19), saving remains a challenging task for many people and young adults in particular. Young adults, especially university students, are at a decisive time in their lives as they move from financial dependence to actively learning the skills required to becoming financial independent (Shim, Barber, Card, Xiao & Serido, 2009:1). For a majority of students, the first year of university is viewed as a crucial transitional stage of development in which parental control and oversight are lessened, and young adults begin to achieve some degree of financial independence (Sabri, 2011:1).

Young adults attending university are met with financial responsibilities such as drawing up a budget, paying monthly expenses and obtaining debt for the first time in their lives (Sabri, 2011:1). How well they manage with these encounters depends in part on the financial comprehension and behaviours these young adults acquired prior to arriving at university (Lyons, Scherpf, & Roberts, 2006:64). The financial knowledge, attitudes, habits and behaviours, both positive and negative, acquired during and prior to this tertiary education stage may affect their lives in a profound way (Shim *et al.*, 2009:1).

Shim *et al.* (2009:1) further add that the financial behaviours of young adults may affect not only their financial and economic status but also their ongoing relations with relatives, friends and acquaintances. Lyons (2004:56) comments that while some young adults attending university may acquire positive financial habits, many others adopt risky financial behaviours. These risky financial behaviours include mismanaging their budgets, accumulating excessively high credit card debt and failing to honour debt payments in a timely manner.

Universities thus have a unique opportunity in encouraging the development of sound financial behaviours amongst students through coursework, workshops, seminars and other educational experiences (Sabri, 2011:1). However, Lawrence, Cude, Lyons, Marks and Machtmes (2006:13) argue in an earlier study that it is challenging for universities to successfully implement effective financial education programmes as very little is known

regarding the general financial well-being of university students, especially their saving behaviour and the process by which they acquire certain financial behaviours and habits.

Lawrence *et al.* (2006:14) augment their findings by stating that the research that has been concluded on university students is mostly exclusively linked to credit card usages and behaviour. Given the gap in the literature on the saving behaviour of young adults and more specifically university students, the focus of the next section will be on the development of saving behaviour of young adults.

3.3 THEORIES ON THE SAVING BEHAVIOUR OF YOUNG ADULTS

As discussed in Chapter 2, numerous theories attempting to explain saving behaviour have been hypothesised. The previous chapter included a review of the most prominent theories on saving with a few (i.e. LCH and Buffer Stock Model) making reference to the saving behaviour of young adults, however, in a limited scope. This section will begin by outlining two theories of young adult saving including the role that parents play in developing attitudes and behaviours of young adults with regard to saving.

An investigation into the literature leads to two theories explaining the saving behaviour of young adults: the **Theory of Economic Socialisation (TES)** and the **Theory of Planned Behaviour (TPB)**. The TES provides a format that outlines financial socialisation agents that influence the financial behaviours of young adults (Shim *et al.*, 2009:2). The TPB provides a format for how one's behaviour will be influenced by three attitudinal factors: attitude towards the behaviour, subjective norms, and perceived behavioural control (Ajzen, 1991:179).

The TES has been used to elucidate the economic behaviours and attitudes of young adults (Elliott, Webley & Friedline, 2011b:2). In a broad sense, **socialisation** is the process in which a person learns the values, norms and behaviours in order to become a member of a social system (Wärneryd, 1999:172). Building on this general concept, Elliott *et al.* (2011b:2) define **economic socialisation** as “the process by which young adults

acquire knowledge, skills, behaviours, attitudes and representations that are relevant in the economic world”.

The TES emphasises the role that key socialising agents such as parents, school and work play in developing a future orientation and a habit of saving amongst young adults (Shim *et al.*, 2009:3). Previous research indicates that parents are the primary providers of economic socialisation (Otto, 2013:8). Parents teach young adults about money and finances through the provision of allowances, assisting young people to open savings accounts and coaching them on the importance of saving (Friedline *et al.*, 2013:33). In their study, Friedline *et al.* (2013:33) maintain that the economic socialisation of young adults is in part determined by parents’ individual level decision-making.

Young adults usually name their parents as their main source of information with regard to money management skills and how to operate in the marketplace as consumers (Otto, 2013:8). Parents are important socialisation agents for young adults who often unintentionally (by observation and participation) or through explicit lessons delivered intentionally by parents learn and develop financial management behaviours.

Webley and Nyhus (2006:140), in their study of saving behaviour amongst young adults in Europe aged 16 to 21, found two clear components that have a weak but clear impact on the economic behaviour of young adults, namely:

- parental behaviour such as engaging with young people on financial topics; and
- parental inclinations such as conscientiousness and future orientation.

The authors conclude that parental influence on young adults’ saving behaviour leads to continuities in economic behaviour in adulthood.

The TPB was developed by Ajzen (1991:179) and focuses on an individual’s motivation and ability, both aspects that are considered to determine an individual’s actual behavioural intentions. According to comments made by Shim *et al.* (2009:711), behavioural intentions of the TPB theory are guided by three precursors:

- the positive or negative valence of attitudes about the target behaviour;

- subjective norms; and
- perceived behavioural control.

Using the TPB, Shim *et al.* (2009:720) conducted a study at a large state university in the south-western parts of the USA in order to conceptualise a model for financial well-being of young adults aged 18 to 25. The results of their study showed that all three components of the TPB were an efficient method of explaining young adults' anticipated financial behaviour. The more favourable attitudes held by young adults towards financial management, the more willing they were to meet parents' expectations. In addition, the more self-assured they were that they could follow through successfully with their financial plans, the higher the probability that they were to engage in positive financial behaviours such as saving.

The two theories described in this section explicitly show that other factors come into play when evaluating the saving behaviour of young adults. These factors include the personality characteristics or dispositions of young adults, the role of financial institutions as effective socialisers of saving and asset accumulation, and the role of peers in influencing the saving behaviour of young adults.

Personality characteristics include conscientiousness, future orientation and self-indulgence, while dispositions refer to the preference for immediate gratification over saving and the ability to manage money by young adults (Webley & Nyhus, 2013:22). Erskine *et al.* (2006:267) find that young adults who are more conscientious are able to control their impulses and thus engage in saving behaviour. Similarly, Webley and Nyhus (2006:143) discovered that the ability to delay gratification and having a future orientation are important aspects of economic socialisation through childhood that will influence saving behaviour in young adulthood.

Elliott *et al.* (2011b:3) posit that the institutional theory of saving is built on the foundation that the attainment of financial intelligence and resources are strongly influenced by structural failures related to ethnicity and social class. Thus, the authors contend that the institutional theory advocates that young adults from lower socioeconomic statuses (SES)

find it difficult to save and accumulate assets, as financial institutions fail to connect with these young adults, which places them at a competitive disadvantage as compared to high SES young adults.

According to Erskine *et al.* (2006:267), young adults who belong to peer groups that are adult achievement-orientated engage in desirable saving behaviour and are more likely to save as opposed to young adults who are less adult achievement-orientated. These adult achievement-orientated activities include engaging in extramural activities and taking additional college preparation courses for young adults who enjoy school and put a lot of effort into their school work. Therefore, the authors conclude that young adults are strongly influenced by their peers, and those who engage in youth culture activities such as spending a lot of time partying are less likely to be responsible and save money for the future.

3.4 FACTORS THAT AFFECT THE SAVING BEHAVIOUR OF YOUNG ADULTS

A great number of factors that affect the saving behaviour of young adults have been found in the available literature. According to Nkotchou and Eiselen (2012:35), these factors can be classified into three primary categories:

- factors related to the characteristics of individuals including bio- and demographic factors;
- factors related to individuals' predisposition to act or perceptions such as attitude-related factors; and
- other factors that do not fall within the previous two categories, such as practical issues related to the economic world of young adults as economic agents.

The discussion that follows will deal exclusively with the demographic factors influencing the saving behaviour of young adults, as these factors form the foundation for the hypotheses development, research instrument used in the form of a questionnaire and data analysis to follow in Chapters 4 and 5. The other two categories of factors, as listed above, will not be discussed, as these factors do not form part of the scope of this study.

Shim *et al.* (2009:711) argue that individual characteristics such as gender, income, ethnicity and educational status influence the financial knowledge and saving behaviour of individuals including young adults. For purposes of this study, only the most relevant **demographic factors** that are associated with the saving behaviour of young adults will be described below. These demographic factors are as follows:

- **Income:** The more income an individual has, the more likely he or she is to save, and vice versa. Young adults, just like children and adults, require money in order to save (Otto, 2013:11). Otto (2013:11) further adds that due to the fact that most of the living expenses during young adulthood are covered by parents, young adults should theoretically and according to the AIH save all of their discretionary income.

Attanasio and Székely (2000:393) insist that a higher income raises the chances of wealth accumulation. Other researchers have a different opinion. For example, Hershey, Jacobs-Lawson, McArdle and Hamagami (2008:26) note that low socio-economic groups tend not to save for retirement due to a lack of money and because of their expectancy that the public pension systems such as the State Old Age Grant offered in South Africa will ensure them a retirement income. Young adults specifically tend to be overly optimistic about their future earning capacities and tend not to save enough for retirement (Nkotchou & Eiselen, 2012:35).

- **Age:** A positive relationship exists between age and saving (Delafrooz & Paim, 2011:361). Taking into account the LCH model which states that a relationship between age and saving exists, it is noted that according to the model, young adults are predicted to be poor savers due to a combination of their lower incomes and high levels of debt to meet their consumption needs (Baker, 2009:42). In contradiction, Friedline *et al.* (2013:31) argue that the growing evidence suggests that young adults save a positive and increasing proportion of their income, which is inconsistent with the LCH model.
- **Gender:** Gender has been identified by several empirical studies to have a relationship with the level of knowledge on financial differences (Borden *et al.*, 2008:26). Furnham

(1999:677), in his study of 250 British young adults, found that males compared to females received more pocket money and consequently saved more. Other gender differences reported in the study showed that females were more economically conservative than males who were found to be more assertive and interested in economic issues.

Conversely, in terms of risk aversion, Schubert, Brown, Gysler and Brachinger (1999:381) stated that under controlled economic conditions, female participants do not generally make less risky financial choices than male participants, suggesting that risk attitudes about female investors and managers may be more biased than factual. Otto (2013:8) concludes that gender variances in financial issues such as attitude, knowledge and overall behaviour may be attributed to different economic socialisation during childhood and adolescence.

- **Educational status:** Education is a factor that is closely tied to wealth accumulation, and its influence over income is direct. Morriset and Revoredo (1995:1) found in their study of the relationship between education and savings in 74 countries using the LCH model that for each percentage point increase in education, the savings rate increases with 0.37%. Indirectly, education has the ability to modify the behaviour of households, even if the authors themselves believe it is not the best proxy for determining the savings attitude of households.

Financial education and financial literacy are also important predictors of saving behaviour. Using the De Nederlandsche Bank (DNB) Household Survey, Van Rooij, Lusardi and Alessie (2011:449) provide evidence that financial education strongly influences net worth. First, a higher degree of financial knowledge increases the possibility of having gains from the stock market. Second, financial literacy has a large impact on the creation of retirement plans which lead to an increase in savings. Overall, financial literacy has been found to influence directly as well as indirectly the wealth and savings of households, proving to be much more efficient in determining the saving behaviour of households.

- **Ethnicity:** According to Shapiro, Meschede and Osoro (2013:1), ethnic differences underpin wealth inequalities, and the expanding ethnic wealth gap has become a central debate in recent years. An earlier separate study conducted in 2007 by Shapiro, Meschede and Sullivan (2010:1) in the USA shows that white households held up to \$100 000 in average net worth in 2007 compared to black families who held up to \$7 000 or about 7% of the net worth held by white families. The authors' evidence also suggests that the wealth gap between white and black families in the USA has increased fourfold over an entire generation. Gittleman and Wolff (2004:193) find that in the USA, the personal savings rate as a proportion of household income for whites is 8% in relation to the rate for blacks, which is 4%.
- **Employment status:** According to Nkotchou and Eiselen (2012:35), young adults may be more interested in saving as a result of being engaged in formal employment with a high level of seniority or with a high occupational status or high earning capacity. With regard to university students engaging in part-time work, Erskine *et al.* (2006:279) found that in their study of young adults in Canada including students engaged in part-time work, they were more likely than non-workers to save in general.

Other demographic factors that have been shown to be associated with the saving behaviour of young adults include household composition, marital status and home ownership (Fisher, 2010:14). Browning and Lusardi (1996:1815) observe that saving differs based on the household composition and marital status, as saving rates are lowest amongst single parents, slightly higher amongst households with children and highest amongst married couples with no children in any given population. Homeowners typically save more, and a positive relationship exists between homeownership and access to liquid assets (Chien & DeVaney, 2001:173).

3.5 SUMMARY

The aim of this chapter was to bring forward the argument that the development of saving behaviour in young adults is an important topic within research on how people become economic agents, especially as students in a university environment. The review of the

saving behaviour of young adults highlighted the numerous ways in which the economic world of young adults is influenced by several factors including gender, ethnicity, employment status and educational status.

The focus was on saving as part of the economic socialisation of young adults. A review of the theories of saving behaviour was discussed and led to the demographic variables which influence the saving behaviour of young adults. This chapter tied together the existing work on general saving behaviour and advanced theoretical development on the saving behaviour of young adults.

A review of the relevant literature conducted in Chapters 2 and 3 has identified a range of issues regarding the saving behaviour of young adults. Some of these issues are as follows:

- It is evident that there is a considerable amount of literature on the saving behaviour of households. However, a clear gap remains concerning the formation of habits and attitudes and the development of important money management skills and saving behaviour during young adulthood.
- The literature discussed in Chapter 3 provides a sound theory base for an empirical investigation into the demographic variables that influence the saving behaviour of university students in a South African context.
- It also emerged from the literature that research solely focusing on university students is highly warranted given that university students may be considered a high-risk group due to their propensity to borrow in order to fund their higher education studies (Falahati, Sabri & Paim, 2012:191). However, other research provides contradictory findings which show that university students do display positive financial behaviours (Erskine *et al.*, 2006:262; Webley & Nyhus, 2013:24).

It is through the identification of these three above-mentioned central issues that this study proposed the hypotheses (see sections 1.3) that were investigated and on which data was

statistically analysed. The research methodology employed to conduct the statistical analysis on the data relating to the study's hypotheses is discussed in the next chapter.

CHAPTER 4:

RESEARCH METHODOLOGY

4.1 INTRODUCTION

In the foregoing chapter, a review of the saving behaviour of young adults was provided. From the review, a number of demographic variables including age, gender, ethnicity and employment status were found to influence behaviours towards saving. The literature review indicated that research relating to the saving behaviour of young adults in an emerging market such as South Africa remains relatively scarce. In the current study, the focus will be on university students aged 17 to 25.

The primary research objective of this study is to investigate and identify the saving behaviour of university students in South Africa. Accordingly, this study investigated the following hypotheses:

- H0¹: Saving behaviour amongst university students does not exist.
- HA¹: Saving behaviour amongst university students does exist.
- H0²: Male students engage in better saving behaviour than female students.
- HA²: Female students engage in better saving behaviour than male students.
- H0³: White students engage in better saving behaviour than non-white students.
- HA³: Non-white students engage in better saving behaviour than non-white students.
- H0⁴: University students engaging in part-time work display better saving behaviour than non-working university students.
- HA⁴: Non-working university students display better saving behaviour than university students engaging in part-time work.

In this chapter, the research design will be discussed. In order to deal with the research design, the quantitative research approach comprising a cross-sectional survey will be outlined. Subsequently, the research methodology which incorporates the research

instrument, sampling strategy and data collection and analysis procedure will be discussed. The limitations and ethical considerations of the proposed design and analysis will also be described.

4.2 RESEARCH DESIGN

The study focuses on the influence of behavioural factors on the saving decisions of young adults. It follows from the theory from Chapters 2 and 3 that research relating to the saving behaviour of young adults is relatively scarce.

A positivist research philosophy was adopted for the current study. Positivist research is modelled after the natural sciences and strives to obtain objective knowledge that can ultimately be used to establish cause-effect relationships (Ponterotto & Grieger, 2007:410).

A quantitative strategy was implemented in order to address the research problem. Quantitative research is the collection of data that involves larger, more representative respondent samples and the numerical calculation of results (Wiid & Diggines, 2009:86). Quantitative research was considered appropriate because it was sought in this study to obtain an estimate of the sample parameters or characteristics from a relatively large group of people, with the potential to generalise to a wider population (Cooper & Schindler, 2006:198-199).

According to Wiid and Diggines (2009:84-86), primary data refers to data that has not been collected before and is intentionally collected to address a specific research problem. The types of primary data that are important for academic research include:

- demographic and socio-economic characteristics;
- psychological and personal characteristics;
- attitudes, opinions, awareness, knowledge, intentions and motives; and
- the behaviour of people and/or organisations.

Primary data was considered appropriate in the current study, as data purposely collected for the study at hand was required. The collection of primary data for quantitative research

includes techniques such as surveys, observations and experiments. Hofstee (2006:122) claims that surveys are an excellent way of obtaining information about individuals' opinions, desires, attitudes and behaviours.

Consequently, a survey-based research design strategy was used, as the empirical research conducted in this study took the form of a survey aimed at students at University of Pretoria. More specifically, a cross-sectional survey was conducted. A cross-sectional survey was considered appropriate because the aim of this study was to gather data at a specific point in time (Cooper & Schindler, 2006:141). In addition, a cross-sectional survey allows various segments of the population to be sampled so that relationships amongst variables can be investigated (Zikmund, 2003:187).

The survey was conducted by means of a questionnaire that was designed to test the hypotheses set out in section 4.1, guided by the gap in the knowledge of saving behaviour of young adults in the South African context identified through the literature review. The questionnaire was obtained from a peer-reviewed article on research conducted by Varcoe, Martin, Devitto and Go (2005:68). The questionnaire was adapted to accommodate demographic variables relating to university students and wording easily understood by young adults.

Otto (2009:85-86) highlights that for the study of children's saving behaviour, researchers have made use of experiments or interviews, as well as questionnaires. She further explains that, on the other hand, research on adult saving behaviour has also made use of experiments and interviews; however, the vast majority is based on panel and survey studies.

Otto (2009:85-86) further highlights that in those studies pertaining to research on adult saving behaviour, the unit of analysis has generally been the household and not the individual. Taking the household as the unit of analysis is a simplification because individual differences are not taken into account. For the study of the saving behaviour of young adults, it is sensible to start with the individual as the unit of analysis because, primarily, the focus will be on the young adult that makes saving decisions.

The current study was survey-based and used survey-based data from which conclusions were drawn. The successful application of this technique in previous studies, together with the fact that little or no secondary data was available on the saving behaviour of young adults in the South African context, made the application of this technique a logical choice for purposes of this study.

4.3 RESEARCH METHOD

The discussion that follows will provide a detailed description of the research techniques employed to conduct the current study. The section commences with a discussion of the research instrument used to collect the data and the development of the questionnaire used in the current study. The focus then shifts to a review of the content of the questionnaire and the data, and data-gathering techniques used in the current study. Finally, the exposition reflects upon the representativity of the response, and some remarks on the data analysis are made.

4.3.1 Research instrument

The research instrument used in this study was a questionnaire. A questionnaire was considered as an appropriate research instrument in light of both the applicability of this type of instrument to gather information on human behaviour and the fact that earlier studies, as already highlighted by Otto (2009:85-86) on the study of saving behaviour in young adults, have made use of questionnaires successfully.

Research conducted using questionnaires as a research instrument offers several advantages. Leedy and Ormrod (2009:189) assert that questionnaires are less expensive to use than other research instruments and offer assurance to respondents that their responses will be anonymous and confidential, as respondents are not required to disclose any personal information. Hofstee (2006:132-133) adds that questionnaires are generally easier to analyse and turn into quantitative results, as all respondents are asked the same questions and offered the same options in answering them. It is also noted in this study that questionnaires also allow for more volume (i.e. questionnaires can be distributed to more potential respondents) and thus raise confidence levels in the sample.

The disadvantages of questionnaires should be carefully considered. Typically, questionnaires have the drawback of not permitting the researcher the opportunity to interact or even observe respondents. Furthermore, questionnaires are also limited in the depth to which the researcher can probe any particular respondent and thus do not allow for deviation from the set format (Hofstee, 2006:133). Leedy and Ormrod (2009:189) further note the following disadvantages of using questionnaires:

- The application of questionnaires is limited by the reading and writing skills of the respondents in the study and may result in a low response rate or skewed results if the questions are not understood properly or misinterpreted by the respondents.
- Furthermore, by specifying in advance all of the questions that will be asked about the issue or phenomenon in question, the researcher is apt to gain only limited and possibly distorted information.

In the current study, the purpose of the questionnaire was to:

- determine which saving behaviour (i.e. positive or negative) are displayed by young adults;
- determine how demographic variables influence the saving behaviour of young adults; and
- test the stated hypotheses statistically using the responses obtained from the questionnaires.

4.3.2 Questionnaire development

As discussed earlier, the questionnaire was obtained from Varcoe *et al.* (2005:68). Demographic questions applicable to university students were added to the questionnaire. In addition, the wording of the items listed on the saving behaviour scale were adapted to make them more reader-friendly towards South African young adults, as the original questionnaire was adapted from a USA study conducted by Varcoe *et al.* (2005:68).

A four-point Likert scale was used in order to minimise the social desirability bias through which the university students could indicate the degree to which they agreed with each saving behaviour statement (from 'strongly disagree' to 'strongly agree'). Upon finalisation of the questionnaire, a code book (see Appendix 2) was developed in order to ensure that it would be possible to process and analyse the results obtained from the survey successfully in order to achieve the objectives of the study.

4.3.3 Contents of the questionnaire

The questionnaire was divided into two sections and designed to be as brief as practically possible to complete in light of the amount of information required for the study.

The **first section** of the questionnaire required respondents to supply demographic information to be used in the final analysis. It included both open-ended and closed-ended questions in order to ascertain the gender, age, ethnicity and employment status of the respondent. The information was required to determine if demographic variables influence the saving behaviour of young adults.

The **second section** of the questionnaire consisted of nine saving behaviour statements using a four-point Likert scale ranging from strongly disagree to strongly agree whereby respondents had to tick the option that applied to them the most. The saving behaviour scale which assesses saving attitudes and behaviours was adopted from a USA study conducted by Varcoe *et al.* (2005:68) which was tested empirically for reliability using Cronbach's alpha ($\alpha = 0.81$) and can therefore be applied scientifically.

4.3.4 Data and data gathering

In qualitative and quantitative studies, sampling is often used. Sampling is the process by which a small number of units of a given population form a basis for drawing conclusions about the entire population (Zikmund, Babin, Carr & Griffin, 2011:406). In other words, a sample is a subset of the selected population and should truly to be representative of the population (Leedy & Ormrod, 2009:204).

Different sampling designs may be considered more or less appropriate in different situations and may fall into two major categories: probability sampling and non-probability sampling (Leedy & Ormrod, 2009:205). For purposes of this study, a probability sampling technique was used to select participants for the study.

This sampling technique made it possible to specify in advance each segment of the population that will be represented in the sample (Leedy & Ormrod, 2009:205). More specifically, a simple random sampling technique is employed to select participants for the study. Simple random sampling is considered the simplest and least sophisticated form of all sampling designs, as each member of the population has an equal chance of being selected. According to Cogalton and Green (2008:79), the main benefit of using a simple random probability technique is the good statistical properties that result from the random selection of samples resulting in the unbiased and fair selection of samples.

Cogalton and Green (2008:82) further point out that several disadvantages of using a simple random probability technique are evident. In essence, a simple random sampling technique:

- may be difficult to employ, as the technique may be costly especially for fieldwork;
- does not guarantee that a sufficient number of samples will be taken in each class, and therefore a representative sample may not be achieved; and
- does not provide certainty of a suitable distribution of samples across the landscape.

Despite the disadvantages, the simple random sampling technique is considered appropriate for the study, as it investigates the saving behaviour of young adults enrolled at University of Pretoria.

The target population of this study are students enrolled and registered on a full-time basis at University of Pretoria during the 2014 academic year. The students are engaged in higher educational studies aimed at obtaining an academic qualification at various faculties across the selected university. The students are aged between 17 and 25 and all genders and ethnic groups were selected to participate in the study. The sample is selected from this population. Only students from University of Pretoria were selected for the current study, as their demographic profile is similar to those in other universities in South Africa. Additionally, the geographical composition of the students enrolled at University of Pretoria is the same as in other higher education institutions in South Africa, and thus it is justifiable to investigate only one South African university.

Given the description above coupled with research constraints such as time and costs, the sampling frame from which the sample was drawn consisted of university students who are currently registered for the 2014 academic year, in different faculties and of different age groups. The demographic variables of the students are diverse in order to maintain a representative sample. The students were selected, as they are easily accessible on campus during off-peak periods without interrupting normal class attendance.

In order to obtain a representative sample, a minimum of 250 usable questionnaires were required to be completed. These questionnaires were collected from registered students attending lectures on the main campus of University of Pretoria.

The data was collected by means of standardised questions so that every respondent answered the same questions. The questionnaires were distributed to registered students attending lectures at the Hatfield Campus of University of Pretoria. A total of 248 questionnaires were completed, although some were partially completed. For purposes of this study, all returned and completed questionnaires were used for the data analysis to follow in Chapter 5.

The chosen data collection method made it possible for the questionnaires to be personally collected. No specific training was required for the collection of data, as it only entailed the personal distribution of survey questionnaires, as well as the personal collection and interpretation of that data. Therefore, the quality of the data was personally monitored during the study and, in some instances, respondents were asked to complete any aspects of the questionnaire which they might have missed. This process made it possible to obtain usable questionnaires that would result in quality results.

The capturing of the questionnaires was done on a spreadsheet in Microsoft Excel. Each questionnaire was numbered, and a coding system was used to capture the data on the spreadsheet (refer to Appendix 3 for the Code Book). Bryman and Bell (2007:712) define coding in quantitative research as “tags that are placed on data about people or other units of analysis”. The authors further comment that the aim of coding is to allocate the data relating to each variable to clusters, each of which is considered to be a grouping of the variable in question. Numbers are then allocated to each grouping to allow the information to be administered by a computer.

4.3.5 Representativity of the response

Of the 250 questionnaires distributed, 248 of those were returned completed – although some were only partially completed. For purposes of this study, all returned and completed questionnaires were used for the data analysis. Furthermore, each single respondent completed the same questionnaire with the exact same questions and in the same order and manner. This process ensured that the questions in the questionnaire would not cause bias in the answers received (Lowies, 2012:100). The response was therefore considered to be acceptably representative of the sample.

4.3.6 Data analysis

Given the nature of this study with its objectives, inquiry strategy and research design, the approaches, methods and techniques used to analyse the data is considered appropriate and scientifically rigorous. The sample size ($N = 248$) of the current study is normally

distributed, and therefore parametric statistical techniques can be conducted and are spread amongst three primary groups:

- descriptive statistics in the form of frequencies and percentages;
- inferential statistics in the form of a *t*-test; and
- multivariate statistics in the form of factor analysis.

For the purposes of this study, Cronbach's alpha, which is a non-parametric statistical technique, was also used to test reliability and the statistical significance of the variables and constructs identified by the exploratory factor analysis conducted.

These statistical analyses will be described subsequently in this section. SPSS (Statistical Package for the Social Sciences), a statistical analysis software available at University of Pretoria, will be used to analyse the data in order to produce the information needed.

4.3.7 Statistical techniques used to analyse the data

Descriptive statistical techniques refer to statistics that summarise and describe data in a simple, uncomplicated and easy-to-understand manner (Zikmund *et al.*, 2011:649). A common method of descriptive analysis is the use of **frequencies** which produce frequency tables showing frequency count, percentage, valid percentage and cumulative percentage of units in different categories of a variable (Bryman & Bell, 2007:570). Frequency tables will be used in this study to describe the demographic variables of the respondents as well as responses to the saving behaviour scale.

Another form of descriptive analysis is the use of **percentages**, which are calculated by dividing the frequency of each value by the total number of observation – multiplying this value by 100 converts it into a percentage (Zikmund, 2003:403). Percentages will be used in this study to address the four hypotheses by providing the percentages for each response in the questionnaire.

Inferential statistical techniques allow researchers to make inferences about large populations from relatively small samples (Leedy & Ormrod, 2009:275). Leedy and Ormrod (2009) further point out that inferential statistics have two main functions:

- to estimate a population parameter from a random sample; and
- to test statistically based hypotheses.

The ***t*-test** seeks to determine whether a statistically significant difference exists between two means (Leedy & Ormrod, 2009:282). Zikmund *et al.* (2011:534) explain that a *t*-test analysis is most appropriate when a researcher needs to compare means for a variable grouped into two independent categories measured on an interval or ratio scale. The *t*-test analysis will be used to determine whether statistically significant differences exist based on the demographic variables and the hypotheses developed for the current study. The *t*-test can be expressed using the following formula:

$$t = \frac{\bar{x}_1 - \bar{x}_2}{\sqrt{\frac{s_1^2}{n_1} + \frac{s_2^2}{n_2}}} \quad \text{(Equation 4.1)}$$

Where:

\bar{x}_1 = Mean of sample 1

\bar{x}_2 = Mean of sample 2

n_1 = Number of subjects in sample 1

n_2 = Number of subjects in sample 2

s_1^2 = Variance of sample 1 = $\frac{\sum (x_1 - \bar{x}_1)^2}{n_1}$

s_2^2 = Variance of sample 2 = $\frac{\sum (x_2 - \bar{x}_2)^2}{n_2}$

When the means of more than three groups or populations are to be compared (e.g. attitude, behaviour or characteristic), one-way **analysis of variance (ANOVA)** is the

appropriate statistical tool (Zikmund *et al.*, 2011:542). Given that the current study used *t*-test analysis to establish significant differences in the sample, ANOVA will not be used.

Multivariate statistical techniques refer to a term used to describe the examination of relationships between three or more variables (Bryman & Bell, 2007:716). The specific statistical technique to be conducted in this category is **factor analysis**. This technique will be used to determine if any clear constructs emerge for the factors identified in the saving behaviour scale and to assist in testing the current study's hypotheses. Factor analysis examines the correlations between a number of variables and identifies clusters of highly interrelated variables that reflect underlying themes, or factors, within the data (Leedy & Ormrod, 2009:282). Factor analysis can be expressed using the following formula:

$$\begin{aligned} Y_1 &= \alpha_{11}F_1 + \alpha_{12}F_2 + \dots + \alpha_{1m}F_m, \\ Y_2 &= \alpha_{21}F_1 + \alpha_{22}F_2 + \dots + \alpha_{2m}F_m, \\ Y_3 &= \alpha_{31}F_1 + \alpha_{32}F_2 + \dots + \alpha_{3m}F_m, \\ Y_n &= \alpha_{n1}F_1 + \alpha_{n2}F_2 + \dots + \alpha_{nm}F_m, \end{aligned} \quad \text{(Equation 4.2)}$$

Where:

Y = a variable with known data

α = a constant

F = a function, f () of some unknown variables

The main goal of factor analysis is to reduce the number of variables into a smaller number of factors (Bryman & Bell, 2007:170). Bryman and Bell (2007:170) further claim that factor analysis is usually used in relation to multiple-item measures such as Likert scales in order to determine the correlation between the inherent structures of the large number of items linked to such measures.

Suhr (2006:1) claims that several types of factor analysis exist, including **exploratory factor analysis** which can best be described as a procedure which attempts to discover the nature of the underlying constructs influencing a set of responses or observed variables. Suhr (2006:1) further suggests that caution should be taken when analysing the

results extracted from exploratory factor analysis, as the technique has several limitations including:

- The correlations, the foundation of factor analysis, describe relationships and thus no causal interpretations can be made from correlations only.
- The sample size should be large, and the sample selection should be representative of the population.
- The measurement instrument should have a high reliability rating.

To investigate the reliability of the measurement instrument, a **non-parametric statistical technique** in the form of **Cronbach's alpha** was conducted to measure the internal consistency of the questionnaire used in the current study. Cronbach's alpha can be expressed using the following formula:

$$\alpha = \frac{N \cdot \bar{r}}{1 + (N - 1) \cdot \bar{r}}$$

(Equation 4.3)

Where:

N = Number of items

c-bar = Average inter-item correlation

v-bar = Average variance

Lowies (2012:101) explains that Cronbach's alpha measures the internal consistency of a list of items of a specific group. Tavakol and Dennick (2011:53) note that the internal consistency of an instrument is closely associated with its validity. The authors thus conclude that Cronbach's alpha is a coefficient of reliability and validates the interrelatedness of items within a group.

Lowies (2012:101) argues that the value of Cronbach's alpha is determined by the intercorrelation of items, and thus the higher the correlation of items in a group, the higher the Cronbach's alpha and vice versa. Tavakol and Dennick (2011:54) advise that

acceptable values of Cronbach's alpha range from 0.70 to 0.95; however, acceptability may be obtained from Cronbach's alpha values close to 0.60. The authors further explain that a low Cronbach's alpha value may be attributed to heterogeneous constructs, poor interrelatedness between items or a low number of questions in the measurement instrument.

Gliem and Gliem (2003:88) recommend that when using Likert-type scales it is vital to calculate and report Cronbach's alpha coefficient for internal consistency reliability for the scales or subscales used in a study. Lowies (2012:102) confirms that the Cronbach's alpha coefficient validates the use of Likert-type scale data by measuring the reliability of the items listed in a specific group. In the current study, Likert-type scale data was used in the final data analysis, and thus the Cronbach's alpha coefficient was calculated.

4.4 LIMITATIONS

The empirical analysis conducted in the current study has three main limitations.

The first limitation relates to the reliance of self-report measures through the use of a questionnaire. Otto (2009:242-243) states that the use of self-report measures with young adults, especially university students on a private topic such as personal saving behaviour, could cause inaccuracies associated with social desirability, concerns about anonymity, or reservations about giving right or wrong answers. In order to minimise the social desirability bias, a four-point Likert scale was used in which the respondents could indicate the degree to which they agreed with each saving behaviour statement (from 'strongly disagree' to 'strongly agree').

Labaree (2014:1) also adds that self-reported data may contain several potential sources of bias that should be noted as limitations. These include:

- selective memory by respondents who may or may not recall incidents or events that occurred at some time in the past;
- telescoping which occurs when experiences are recalled at a different time as if they occurred at another time;
- attribution, which is the act of ascribing positive events and outcomes to one's own actions but assigning negative experiences and results to external circumstances; and
- exaggeration, which is the act of representing results or elaborating incidents as more significant than is actually advocated from other data.

To address the above potential limitations, the saving behaviour scale was adapted from a USA study conducted by Varcoe *et al.* (2005:68). In this current study, care was taken to introduce the study in such a way that it was clear to all participants that the interest of the study was on their opinions and experiences, and that there were no right or wrong answers on this questionnaire. In addition, care was taken to introduce the study to the participants in a way they would be interested in and recognise the importance of the subject for themselves and thus elicit honest and reliable responses.

The second limitation relates to the statistical techniques employed in this study. With descriptive statistics, the main limitation is that the data can only be summated about the people measured and not generalised to everyone. Inferential statistics, on the other hand, has two main limitations. The first limitation at hand is that data is presented about a population that has not been fully measured, and thus there is a degree of uncertainty, as values are estimated in a sample population to be measured. The second limitation in inferential statistics is the use of assumptions based on theory to run the inferential tests.

With multivariate analysis in the form of factor analytical techniques, the three most frequently cited limitations, according to Hair, Black, Babin and Anderson (2010:149), are as follows:

- Due to several techniques for performing exploratory factor analyses being available, disagreement exists over which technique is the best.

- The subjective aspects of factor analysis such as deciding how many factors to extract, which technique to use to rotate the factors, and which factor loadings are significant are subject to dissimilarities in opinions.
- Reliability is a real concern as plausibility is no guarantee of validity or stability.

Finally, the use of Cronbach's alpha coefficient is also subject to a few limitations, as the improper use of Cronbach's alpha can lead to a test or scale being discarded or criticised for generating unreliable results (Tavakol & Dennick, 2011:53). Tavakol and Dennick (2011) point out the following limitations of Cronbach's alpha coefficient:

- Internal reliability, which is concerned with the interrelatedness of a sample of test items, is an essential but not satisfactory condition for measuring similarity or unidimensionality in that given sample of test items.
- The concept of reliability is based on the notion that unidimensionality exists in a sample of test items, and if this notion is contravened, reliability may be underestimated.
- The calculation of Cronbach's alpha is only valuable if alpha is calculated for each summative examination containing heterogeneous case-based questions instead of an entire scale with a larger number of questions which may result in an incorrectly inflated alpha value.
- Cronbach's alpha coefficient is grounded in the "tau equivalent model", which assumes that each test item measures the same underlying traits on the same scale. Thus, if factor analysis reveals multiple factors or traits underlying the scale, this assumption is violated, and Cronbach's alpha miscalculates the reliability of the test.

Despite the limitations present in each statistical technique employed in this study, these techniques were considered appropriate for the analysis of data.

The third limitation of the proposed design and analysis reveal that the findings cannot be generalised to:

- all young adults in South Africa, and neither are they applicable to all university students;
- young adults who are not studying and are rather self-employed or employed; and
- all age groups, as the target population was young adults aged 17 to 25 years old.

Despite these limitations, the findings are still considered noteworthy as they will be a contribution to the existing knowledge, as little is known about the saving behaviour of young adults in a South African context.

4.5 ETHICAL CONSIDERATIONS

According to Davis (2005:472), a very important topic in the study of business research is ethics. Ethical considerations are important in research for two primary reasons, namely, ethics:

- involves the rights of individuals participating in the study; and
- has a significant influence on the quality of data obtained from the research study.

In accordance with the Ethics Application Procedure employed at University of Pretoria, approval was obtained to conduct this study from the Research Ethics Committee. The ethics committee's final approval covered the following ethical requirements pertaining to the distribution, analysis and reporting stage of the research study:

- the final draft of the questionnaire;
- the use of registered students of University of Pretoria as potential respondents of the survey; and
- the data collection process.

Accordingly, the study was planned in accordance with the relevant ethical guidelines and requirements. Potential respondents were approached in public areas on campus and not

in lecture halls so as to ensure that the data collection effort will not disrupt the normal teaching activities or functioning of University of Pretoria in any way.

Potential respondents once approached were provided a brief background on the study and requested to participate on a voluntary and anonymous basis by completing a self-administered questionnaire. All consenting respondents who completed the questionnaire were thanked verbally for their participation, as no incentive was provided to complete the questionnaire. The completed questionnaires and final research data set have been stored and will be kept by University of Pretoria in a secure room for a period of 10 years. All other ethical considerations related to the study have been considered in accordance with ethical and legal guidelines.

4.6 SUMMARY

In this chapter, the research approach adopted in the empirical study was discussed, focusing primarily on the research design, the research methodology (i.e. research instrument, sampling strategy, data collection and analysis procedure), the anticipated limitations of the proposed research design and analysis, as well as ethical considerations.

The main sets of information presented on the questionnaire as well as the statistical techniques used to test the data were explained to clarify the statistical significance of the data obtained.

It is clear that the research techniques discussed in this chapter are appropriate for answering the research problem and providing meaningful results which led to proper conclusions and recommendations being made. The results are discussed in the next chapter, i.e. Chapter 5.

CHAPTER 5:

EMPIRICAL ANALYSIS

5.1 INTRODUCTION

The research methodology discussed in Chapter 4 was followed in this study to elicit the data used in the statistical analysis discussed in this chapter. The chapter reports on the data collected as well as the results obtained from the analysis of the data.

As explained in the previous chapter, a questionnaire (see Appendix 1) was constructed consisting of questions related to the gender, age, ethnicity and employment status of the respondents. The questionnaire also included a saving behaviour scale consisting of nine items, from which respondents had to choose on a four-point Likert scale the degree to which they agreed or disagreed with a statement.

5.2 PROFILE OF THE RESPONDENTS

Two hundred and forty-eight respondents returned completed, usable questionnaires. These respondents are university students from the main campus at University of Pretoria. In the case whereby a response was not fully completed by a participant, a 999 value was allocated to the missing value in order to statistically analyse all the 248 questionnaires obtained.

The participants are aged between 17 and 45 (*Mean* = 21.55, *Std. dev.* = 4.855). The number of male participants amounts to 125, and the number of female participants amount to 123. The majority (*N* = 129) of the 248 students indicate that they are black, followed by white students (*N* = 72). The remainder state that they are either Asian (*N* = 11), coloured (*N* = 13) or Indian (*N* = 23).

The respondents' age groups have been rearranged in order to increase the participants in each age group, thus creating a smaller sample that is easier to compare. After the

rearrangement of the age groups, the participants' ages ranged between 17 and 26 as per Table 3. The age groups are combined into four age categories. This was done to increase the number of respondents in each age category and to improve the integrity and plausibility of the statistical analysis. This also facilitates the comparison between the age categories with one another.

Table 3: Age group allocation after rearrangement

Age	Category	Frequency	Percentage
17 to 19	1	109	44
20 to 22	2	76	30.60
23 to 25	3	28	11.30
26 and older	4	33	13.30
999	Missing data	2	.80
Total		248	100%

Table 4 indicates the gender distribution of the 248 respondents in the study. It is evident that there is an almost equal amount of male (50.40%) and female (49.60%) respondents who have returned usable questionnaires.

Table 4: Gender distribution of participants

Gender	Frequency	Percentage
Female	123	49.60
Male	125	50.40
Total	248	100%

The ethnic groups are also consolidated into two groups: white and non-white. Table 5 depicts the number of respondents in different ethnical groups who have returned completed and usable questionnaires.

Table 5: Ethnic group distribution before consolidation

Ethnic Group	Frequency	Percentage
Asian	11	4.40
Black	129	52
Coloured	13	5.20
Indian	23	9.30
White	72	29.10
Total	248	100%

Despite the black ethnic group being the largest response group, this group has been amalgamated with three other ethnic groups, as the sample size of the Asian, coloured and Indian ethnic groups were too small for statistical testing of differences between these ethnic groups. These ethnic groups are grouped accordingly and renamed “non-white” as shown in Table 6.

Table 6: Ethnic group distribution after consolidation

Ethnic Group	Frequency	Percentage
White	72	29.10
Non-white	176	70.90
Total	248	100%

With respect to the employment status of the respondents, Table 7 shows that the percentage distribution indicates that only 19.80% of university students engage in some form of part-time work, while the majority (79.80%) do not.

Table 7: Employment status of the respondents

Employment Status:	Frequency	Percentage
Part-time work		
Yes	49	19.80
No	198	79.80
999 (Missing data)	1	.40
Total	248	100%

5.3 THE SAVING BEHAVIOUR SCALE: EXPLORATORY FACTOR ANALYSIS

Exploratory factor analysis was performed using principal component extraction and varimax rotation with Kaiser Normalisation to assess the underlying structure for the nine items of the saving behaviour scale. According to Leech, Barrett and Morgan (2011:65), there are two main conditions for exploratory factor analysis:

- there needs to be a relationship amongst the variables; and
- the larger the sample size, especially in relation to the number of variables, the more reliable the results.

Both conditions were met for the exploratory factor analysis conducted in the current study. The Kaiser-Meyer-Oklin value was 0.64, which is in line with the recommended value of 0.60, and Bartlett's Test of Sphericity ($p = 0.000 < 0.05$) indicated statistical significance, supporting the factorability of the correlation matrix (Pallant, 2007:197).

The factor analysis identified three factors based on the eigenvalue criterion, which represents the amount of variance explained by each factor with eigenvalues greater than 1.00 being a common criterion for the usefulness of a factor (Leech *et al.*, 2011:72). These three factors explain 56.76% of the variance for the saving behaviour scale. The factor loadings for each statement and after rotation are shown in Table 8.

Table 8: Factor loadings for the rotated factors

	Factors		
	1: Short-term saving	2: Medium- term saving	3: Long-term saving
SB1_A: I am likely to save money by packing my lunch instead of buying it out.	0.47		
SB2_B: I am likely to save money by going to movies offered at discount instead of prime-time shows.	0.75		
SB3_C: I am likely to save money by buying clothes off-season or on sale for lower prices.	0.72		
SB4_D: I am likely to save money by sharing a magazine subscription with a friend.	0.73		
SB5_E: I am likely to save money by shopping for the best cellphone packages and rates offered by mobile providers.		0.74	
SB6_F: I am likely to save money by depositing a gift of money (e.g. Mzansi account, pocket money and cash redeemable vouchers) into a savings account.			0.46
SB7_G: Saving money for the future is something I think about.			0.79
SB8_H: When I get money, I save some of it regardless.			0.84
SB9_I: I do a good job of budgeting my money.			0.62

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalisation.

The second factor labelled medium-term saving consisted of only one variable, and as this item loaded low on the other factors, it was thus not used in subsequent analysis. The other two factors were labelled **short-term saving** and **long-term saving**. The first factor which seems to index short-term saving behaviour had strong positive loadings on the first four items. The third factor which seemed to index the long-term saving behaviour of university students loaded highly on the last four items in Table 8.

5.4 THE RELIABILITY OF THE CONSTRUCTS

According to Leech *et al.* (2011:52), and as discussed in section 4.3.7 of this study, Cronbach's coefficient alpha measures the internal reliability of a multiple item scale.

The factor analysis that was just discussed revealed that the saving behaviour scale could be divided into two sub-constructs, namely:

- **Short-term saving** with four items comprising the first four statements on the saving behaviour scale. Short-term saving comprised immediate actions such as packing lunch, watching discounted movies, buying clothes on sale and sharing a magazine subscription with a friend, which could result in saving on a short-term basis.
- **Long-term saving** with four items comprising the last four statements on the saving behaviour scale. Long-term saving comprised having a future orientation such as thinking about saving money for the future and the ability to delay gratification by saving money irrespective of circumstances in order to save money in the long term.

Using Cronbach's alpha, the internal consistency for the two factors was found to be 0.60 and 0.61 respectively. These values were deemed satisfactory due to the exploratory nature of this study (Tavakol & Dennick, 2011:54).

Although the alphas were considerably lower than the alpha of 0.81 reported in the study by Varcoe *et al.* (2005:68), the current study indicate that the items form a scale that has reasonably acceptable internal consistency reliability. Tavakol and Dennick (2011:54) argue that the values acceptable for Cronbach's alpha lie between 0.70 and 0.95, but acceptability may be obtained from alphas close to 0.60. Thus, the alphas obtained in the current study show that there is reliability within the items of a specific group, and therefore these items are valid for statistical interpretation (Lowies, 2012:102).

5.5 THE EXISTENCE OF SAVING BEHAVIOUR AND SAVING BEHAVIOUR DIFFERENCES BETWEEN DEMOGRAPHIC PROFILE GROUPS

In order to establish whether there are any statistically significant differences between the various groups of respondents in terms of saving behaviour, the *t*-test was conducted as a test of statistical association. The null hypothesis of no difference was tested against the alternative hypothesis that there is a difference. A statistical significance level of 5% was assumed throughout.

Since the exploratory factor analysis described revealed two main factors named short-term saving and long-term saving, the *t*-test analysis was also conducted on these two factors.

For the saving behaviour scale, respondents indicate their agreement using a four-point Likert scale from strongly disagree to strongly agree. As far as the saving behaviour score is concerned, the minimum is nine and maximum is 36. These scores are based on the saving behaviour scale from which each response can elicit a score of between one for strongly disagree to four for strongly agree multiplied by the number of items on the scale. For the short-term saving behaviour sub-factor, the minimum score is four and maximum score is 16. Finally, the long-term saving behaviour sub-factor has a minimum score of four and a maximum of 16. These scores are in line with the study conducted by Varcoe *et al.* (2005:68).

To determine whether statistical differences exist with reference to the existence of saving behaviour and saving behaviour gender, ethnicity and employment status, the student *t*-test for independent groups was used to test the hypotheses. The results are tabled in the section that follows in the order of the hypotheses.

5.5.1 THE EXISTENCE OF SAVING BEHAVIOUR

The existence of saving behaviour amongst university students relates to the hypotheses defined below which are stated as follows:

- H₀¹: Saving behaviour amongst university students does not exist.
- H_A¹: Saving behaviour amongst university students does exist.

Although exploratory factor analysis was conducted and revealed two sub-factors, namely, short-term saving behaviour and long-term saving behaviour, the above-mentioned hypotheses are not part of the two sub-constructs based on the overall sample. However, it was noted that overall saving behaviour was tested by the original authors (Varcoe *et al.*, 2005:68) based on the nine items on the saving behaviour scale; hence, the existence of saving behaviour was also tested in the current study. A one-sample *t*-test was conducted to evaluate whether the total saving behaviour scores of university students was statistically different from zero, the acceptable mean for non-existent saving behaviour amongst university student. The assumptions of normal distribution, independent data, no significant outliers and the dependent variable that should be measured at the interval or ratio levels were met. The results are shown in Tables 9 and 10.

Table 9: One-sample statistics for saving behaviour

	N	Mean	Std. Deviation	Std. Error Mean
sav_beh	240	19.12	4.10	.26

Table 10: One-sample test for saving behaviour

	Test Value = 0					
	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
sav_beh	72.24	239	.00	19.12	18.60	19.64

Table 9 shows that the sample mean of 19.12 (*SD* = 4.09) was significantly different from 0, with $t(239) = 72.24$ and $p = 0.000$. The 95% confidence interval for the saving behaviour mean ranged from 18.60 to 19.64 as seen in Table 10. The results indicate that there was

a statistically significant difference between the means ($p < 0.05$), and therefore the null hypothesis can be rejected.

It can therefore be safely deduced that saving behaviour amongst university students in South Africa does exist based on the first hypothesis which was grounded on a tested and proven study and the scale by Varcoe *et al.* (2005:68).

5.5.2 GENDER

To determine whether significant statistical differences exist between the saving behaviour of male and female university students, the following hypotheses were defined:

- H0²: Male students engage in better saving behaviour than female students.
- HA²: Female students engage in better saving behaviour than male students.

An independent samples *t*-test was conducted to assess the saving behaviour scores between females and males. The results are shown in Tables 11 and 12.

Table 11: Independent samples test for gender

	SEX	N	Mean	Std. Deviation	Std. Error Mean
sav_beh	1	121	19.32	4.26	.39
	2	119	18.91	3.94	.237.08
sav_short_term	1	122	8.83	2.45	.22
	2	122	8.80	2.53	.23
sav_long_term	1	122	8.34	2.50	.23
	2	122	7.94	2.54	.23

Table 12: Levene's test for equality of variances for gender

		Levene's Test for Equality of Variances		t-test for Equality of Means		
		F	Sig.	t	df	Sig. (2-tailed)
sav_beh	Equal variances assumed	.49	.49	.78	238	.43
	Equal variances not assumed			.78	237.08	.43
sav_short_term	Equal variances assumed	.19	.67	.08	242	.94
	Equal variances not assumed			.08	241.37	.94
sav_long_term	Equal variances assumed	.13	.72	1.24	242	.22
	Equal variances not assumed			1.24	241.94	.22

- **Total saving behaviour**

The female ($N = 121$) respondents had an average total saving behaviour score of 19.32 and the male ($N = 119$) respondents had an average total saving behaviour score of 18.91. There was no significant difference in scores for females ($M = 19.32$, $SD = 4.26$) and males ($M = 18.91$, $SD = 3.94$). The significance level of the Levene's test is 0.49, and thus equal variances can be assumed ($p > 0.05$). The t -test results show a significance level of 0.44 and indicate that no statistical differences exist between female and male university students respecting their saving behaviour at the 5% level of significance ($p > 0.05$). Therefore, the null hypothesis cannot be rejected, but the alternative hypothesis is rejected.

- **Short-term saving behaviour**

The female ($N = 122$) respondents had an average short-term saving behaviour score of 8.83 and the male ($N = 122$) respondents had an average short-term saving behaviour score of 8.80. The statistical significance level of the Levene's test ($p = 0.67$) indicated that equal variances can be assumed ($p > 0.05$). There was no statistically significant difference ($p = 0.94$) as regards the short-term saving behaviour between female ($M = 8.83$, $SD = 2.45$) and male ($M = 8.80$, $SD = 2.53$) students at the 5% level of significance ($p > 0.05$). Therefore, the null hypothesis cannot be rejected, but the alternative hypothesis is rejected.

- **Long-term saving behaviour**

The female ($N = 122$) respondents had an average long-term saving behaviour score of 8.34 and the male ($N = 122$) respondents had an average long-term saving behaviour score of 7.94. There was no significant difference in scores for females ($M = 8.34$, $SD = 4.26$) and males ($M = 7.94$, $SD = 3.94$). The significance level of the Levene's test is 0.72, and thus equal variances can be assumed ($p > 0.05$). The t -test results show a significance level of 0.22 and indicate that no statistical differences exist between female and male university students with regard to their financial literacy at the 5% level of significance ($p > 0.05$). Therefore, the null hypothesis cannot be rejected, but the alternative hypothesis is rejected.

The aforementioned results indicate that consistently across all three types of saving behaviour, namely, total, short-term and long-term saving behaviour, the null hypothesis could not be rejected, but the alternative hypothesis was rejected. The results indicate that male students engage in better saving behaviour than female students despite female students obtaining slightly higher scores in all three saving behaviour categories, thus rejecting the alternative hypothesis.

5.5.3 ETHNICITY

With reference to ethnicity, to test whether significant statistical differences exist between white and non-white respondents exist, the following hypotheses were defined:

- H_0^3 : white students engage in better saving behaviour than non-white students.
- H_A^3 : Non-white students engage in better saving behaviour than non-white students.

The student t -test for independent groups was used to test the hypotheses. The results are shown in Tables 13 and 14. The mean performance values per group are also indicated in the tables.

Table 13: Independent samples test for ethnicity

	Ethnicity	N	Mean	Std. Deviation	Std. Error Mean
sav_beh	1.00 (Other)	169	19.53	4.22	.32
	2.00 (White)	71	18.14	3.63	.43
sav_short_term	1.00	172	8.90	2.66	.20
	2.00	72	8.63	2.00	.24
sav_long_term	1.00	173	8.34	2.54	.19
	2.00	71	7.66	2.44	.29

Table 14: Levene's test for equality of variances for ethnicity

		Levene's Test for Equality of Variances		t-test for Equality of Means		
		F	Sig.	t	df	Sig. (2-tailed)
sav_beh	Equal variances assumed	.69	.41	2.41	238	.02
	Equal variances not assumed			2.57	151.61	.01
sav_short_term	Equal variances assumed	5.69	.02	.78	242	.44
	Equal variances not assumed			.87	174.81	.34
sav_long_term	Equal variances assumed	.01	.92	1.92	242	.06
	Equal variances not assumed			1.95	135.42	.05

The results as obtained from Tables 13 and 14 are described below into three categories, namely, total saving behaviour and the two sub-constructs identified by the factor analysis, i.e. short-term saving behaviour and long-term saving behaviour.

- **Total saving behaviour**

As already stated for total saving behaviour, the minimum score is nine and maximum score is 36. The non-white ($N = 169$) respondents had an average total saving behaviour score of 19.53. The white ($N = 71$) respondents had an average total saving behaviour score of 18.14. There was no significant difference in scores for non-whites ($M = 19.53$, $SD = 4.22$) and whites ($M = 18.14$, $SD = 3.63$). The significance level of the Levene's test is 0.41, and thus equal variances can be assumed ($p > 0.05$). The t -test results show a

significance level of 0.02 and indicate that there is a statistically significant difference between the saving behaviour of non-white and white university students at the 5% level of significance ($p < 0.05$). Therefore, the null hypothesis is rejected, but the alternative hypothesis is accepted.

- **Short-term saving behaviour**

For current spending behaviour, the minimum score is four and maximum score is 16. The non-white ($N = 172$) respondents had an average short-term saving behaviour score of 8.89, and the white ($N = 72$) respondents had an average short-term saving behaviour score of 8.63. There was no significant difference in scores for non-whites ($M = 8.89$, $SD = 2.66$) and whites ($M = 8.63$, $SD = 2.00$). The significance level of the Levene's test is 0.02, and thus equal variances cannot be assumed ($p < 0.05$). The t -test results show a significance level of 0.34 and indicate that no statistical differences exist between the short-term saving behaviour between non-white and white university students at the 5% level of significance ($p < 0.05$). Therefore, the null hypothesis cannot be rejected, but the alternative hypothesis is rejected.

- **Long-term saving behaviour**

For long-term saving, the minimum score is four and maximum score is 16. The non-white ($N = 173$) respondents had an average long-term saving behaviour score of 8.34, and the white ($N = 73$) respondents had an average long-term saving behaviour score of 7.66. There was no significant difference in scores for non-whites ($M = 8.34$, $SD = 2.54$) and whites ($M = 7.66$, $SD = 2.44$). The significance level of the Levene's test is 0.92, and thus equal variances can be assumed ($p > 0.05$). The t -test results show a significance level of 0.06 and indicate that no statistical differences exist between the long-term saving behaviour between non-white and white university students at the 5% level of significance ($p > 0.05$). Therefore, the null hypothesis cannot be rejected, but the alternative hypothesis is rejected.

The aforementioned results report mixed findings for ethnicity and its relationship to saving behaviour. Across all three categories of saving, the non-white respondents scored slightly

higher saving behaviour scores than the white respondents. However, for total saving behaviour, the null hypothesis was rejected in favour of the alternative hypothesis. With regard to the short- and long-term saving behaviour categories, the null hypothesis could not be rejected, but the alternative hypothesis was rejected. Because of the mixed findings, the null hypothesis is rejected, but the alternative hypothesis is accepted as it is in line with the results of the total saving behaviour category. This result reflects this study's primary aim, being the total saving behaviour of university students.

5.5.4 EMPLOYMENT STATUS

To test whether significant statistical differences exist between part-time working university students and non-working university students, the following hypotheses were defined:

- HO⁴: University students engaging in part-time work display better saving behaviour than non-working university students.
- HA⁴: Non-working university students display better saving behaviour than university students engaging in part-time work.

An independent samples *t*-test was conducted to assess the saving behaviour scores between part-time and non-working university students. The results are shown in Tables 15 and 16.

Table 15: Independent samples test for employment status

	EMP	N	Mean	Std. Deviation	Std. Error Mean
sav_beh	1	48	18.50	3.21	.46
	2	191	19.23	4.26	.31
sav_short_term	1	48	8.72	2.09	.30
	2	195	8.84	2.58	.18
sav_long_term	1	49	7.55	1.92	.27
	2	194	8.26	2.61	.19

Table 16: Levene's test for equality of variances for employment status

	Levene's Test for Equality of Variances	t-test for Equality of Means

		F	Sig.	t	df	Sig. (2-tailed)
sav_beh	Equal variances assumed	4.05	.05	-1.11	237	.27
	Equal variances not assumed			-1.31	93.35	.19
sav_short_term	Equal variances assumed	1.37	.24	-.27	241	.79
	Equal variances not assumed			-.30	85.89	.76
sav_long_term	Equal variances assumed	5.58	.02	-1.79	241	.08
	Equal variances not assumed			-2.15	98.40	.03

- **Total saving behaviour**

The part-time working ($N = 48$) respondents had an average total saving behaviour score of 18.50, and the non-part time ($N = 191$) respondents had an average total saving behaviour score of 19.23. There was no significant difference in scores for part-time ($M = 18.50$, $SD = 3.21$) and non-part time ($M = 19.23$, $SD = 4.26$) working university students. The significance level of the Levene's test is 0.05, and thus equal variances cannot be assumed ($p < 0.05$). The t -test results show a significance level of 0.19 and indicate that no statistical differences exist between part-time and non-working university students with respect to their total saving behaviour at the 5% level of significance ($p > 0.05$). Therefore, the null hypothesis cannot be rejected, but the alternative hypothesis is rejected.

- **Short-term saving behaviour**

The part-time working ($N = 48$) respondents had an average short-term saving behaviour score of 8.73, and the non-working ($N = 195$) respondents had an average short-term saving behaviour score of 8.84. There was no significant difference in scores for part-time working ($M = 8.73$, $SD = 2.09$) and non-working ($M = 8.84$, $SD = 2.56$) respondents. The significance level of the Levene's test is 0.24, and thus equal variances can be assumed ($p > 0.05$). The t -test results show a significance level of 0.72 and indicate that no statistical differences exist between part-time working and non-working university students regarding their short-term saving behaviour at the 5% level of significance ($p > 0.05$). Therefore, the null hypothesis cannot be rejected, whereas the alternative hypothesis is rejected.

- **Long-term saving behaviour**

The part-time working ($N = 49$) respondents had an average long-term saving behaviour score of 7.55, and the non-working ($N = 194$) respondents had an average long-term saving behaviour score of 8.26. There was no significant difference in scores for part-time working ($M = 7.55$, $SD = 1.92$) and non-working ($M = 8.26$, $SD = 2.61$) university students. The significance level of the Levene's test is 0.02, and thus equal variances cannot be assumed ($p < 0.05$). The t -test results show a significance level of 0.03 and indicate that statistical differences exist between part-time working and non-working university students with regard to their long-term saving behaviour at the 5% level of significance ($p < 0.05$). Therefore, the null hypothesis is rejected, but the alternative hypothesis is accepted.

The aforementioned results indicate mixed findings concerning employment status and the saving behaviour of university students. For total and short-term saving behaviour, the null hypothesis cannot be rejected, but the alternative hypothesis is accepted. This indicates that university students engaging in part-time work display better optimal saving behaviour than non-working university students. For long-term saving behaviour, the null hypothesis was rejected in favour of the alternative hypothesis; however, ultimately the final result was based on the total saving behaviour category, which is the acceptance of the null hypothesis. The results show that university students engaging in part-time work displayed better saving behaviour than non-working university students. However, this finding must be interpreted with caution, as the distinction between being a full-time student and engaging in part-time work in this study was a self-reported perception of the respondents and not actual hours of work performed.

5.6 SUMMARY

The empirical analysis discussed in the preceding section was based on a normally distributed sample size ($N = 248$) which rendered parametric statistical techniques possible. Three parametric statistical tests were conducted, namely, descriptive statistics in the form of frequencies and percentages, inferential statistics in the form of t -tests in

order to analyse the relationships between two groups of variables statistically, and multivariate data analysis in the form of exploratory factor analysis. The exploratory factor analysis conducted led to the revelation of two sub-constructs, namely, short-term and long-term saving behaviour.

Cronbach's alpha coefficient, which is a non-parametric statistical technique, was also carried out to test for reliability between the variables for the saving behaviour scale used in this study. Cronbach's alpha was also used to examine the relationships between the constructs or factors revealed by the exploratory factor analysis conducted in this study.

The first null hypothesis, namely that saving behaviour amongst university students does not exist was rejected, but the alternative hypothesis was accepted.

The second hypothesis related to gender and its relationship to saving behaviour. The results showed that across the three categories of saving behaviour, the null hypothesis could not be rejected, but the alternative hypothesis was rejected.

The third hypothesis related to ethnicity and its relationship to the saving behaviour of university students. Mixed results were found whereby the null hypothesis was rejected, but the alternative hypothesis was accepted for the total saving behaviour category. In contrast, the null hypothesis could not be rejected, but the alternative hypothesis was rejected for the short-term and long-term saving behaviour categories. Given that the current study focused on total saving behaviour, a decision was taken to reject the null hypothesis but to accept the alternative hypothesis.

The fourth hypothesis related to employment status and whether it had a significant relationship with saving behaviour. Mixed results were found whereby the null hypothesis could not be rejected, but the alternative hypothesis was rejected for total and short-term saving behaviour. For long-term saving behaviour, the null hypothesis was rejected, whereas the alternative hypothesis was accepted. Given that this study focused on total saving behaviour, the null hypothesis was accepted, but the alternative hypothesis was rejected.

This chapter presented the results of this study. Having analysed and reported the empirical research, the next and final chapter presents a summary of the research reported in this study as well as conclusions on the statistical analysis that was performed, recommendations based on the findings, and areas for further and future research.

CHAPTER 6:

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

6.1 INTRODUCTION

The penultimate chapter discussed the empirical analysis of data used in this study. The concluding chapter contains a brief summary of what the study set out to achieve, how the research was conducted, and what the major findings of the survey are. Conclusions are then drawn and recommendations on future research presented.

6.2 CONCLUSIONS

The main objective of this study was to investigate and identify the saving behaviour of university students in South Africa. The hypotheses to achieve this objective are set out below.

- H_0^1 : Saving behaviour amongst university students does not exist.
- H_A^1 : Saving behaviour amongst university students does exist.
- H_0^2 : Male students engage in better saving behaviour than female students.
- H_A^2 : Female students engage in better saving behaviour than male students.
- H_0^3 : White students engage in better saving behaviour than non-white students.
- H_A^3 : Non-white students engage in better saving behaviour than non-white students.
- H_0^4 : University students engaging in part-time work display better saving behaviour than non-working university students.
- H_A^4 : Non-working university students display better saving behaviour than university students engaging in part-time work.

A literature study consisting of two chapters investigated aspects of the literature that the hypotheses address. Chapter 2 covered traditional finance theories with specific reference to economic, psychological and behavioural theories on saving. The aim of the chapter

was to introduce the general concept of saving behaviour from the relevant literature. Various definitions of saving were defined and explained in order to provide a foundation on the importance of saving for the economy and households. In addition, saving motives were described in relation to their influence on saving behaviour.

This was followed by a comprehensive discussion on the various saving theories proposed by economists and psychologists, as well as the most important empirical studies on saving behaviour in general. The relation of these models and theories to the saving behaviour of both adults in general and young adults, specifically, were therefore highlighted.

The main aim of Chapter 3 was to place young adult saving behaviour in context, to identify gaps in the knowledge of the development of saving behaviour in young adults, and to demonstrate why the study of young adult saving behaviour will benefit from an approach that takes the behaviour of the parents into account. To achieve this aim, Chapter 3 reviewed available literature in an attempt to explain the role young adults play as economic agents during their tertiary education. The literature review led to an investigation of two theories, namely, the TES and the TPB, which attempt to explain the saving behaviour of young adults. Chapter 3 concluded with an examination of the demographic variables that influence the saving behaviour of young adults.

Chapter 4 set out the methodology followed in the empirical research. The research design was described as survey-based, with survey data used to draw conclusions. An explanation of the research method was provided, indicating the selected research instrument, the data and data-gathering process, the representativity of the response, as well as the data analysis process.

As this study was survey-based, a questionnaire was used as the research instrument. The questionnaire was selected from a USA study conducted by Varcoe *et al.* (2005:68) and was found appropriate for the current study given its successful application in the authors' study. The development, as well as the contents of the questionnaire, was also discussed.

The data and data-gathering process explained that university students were approached on campus and requested to complete the questionnaire. A total of 248 questionnaires were completed, although some were only partially completed. The information that was obtained was reasonably accurate, and the response was considered to be acceptably representative of the sample.

Given that the sample size ($N = 248$) of this study was normally distributed, parametric statistical techniques could be applied to conduct the data analysis. This was performed through the use of descriptive statistics in the form of frequencies and percentages, inferential statistics in the form of t -tests in order to statistically analyse the relationships between two groups of variables, and multivariate data analysis in the form of exploratory factor analysis. Cronbach's alpha coefficient, which is a non-parametric statistical technique, was carried out to test for reliability between the variables for the saving behaviour scale used in this study. Cronbach's alpha was also used to examine the relationships between the constructs or factors revealed by the exploratory factor analysis conducted.

Finally, the anticipated limitations of the research design and method, as well as the ethical considerations and clearance, were considered prior to a presentation on the analysis and discussion of results in Chapter 5. The main limitations of the study related to the use of self-reported data, which could potentially result in biased results due to the nature of the study, which investigated a private and sensitive topic such as saving behaviour.

The analysis and discussion of results in Chapter 5 showed that with reference to the first hypothesis, the alternative hypothesis was accepted, and thus it was found that saving behaviour does exist amongst university students. The findings showed that university students do engage in saving behaviour. This finding was supported by an overwhelming majority (88.30%) of the respondents being in agreement with the statement, "Saving money for the future is something I think about." The majority of the respondents indicated that they had a future orientation towards saving and recognised its importance.

The finding just discussed was consistent with Furnham (1999:694), who found that of his sample of 250 UK young adults, 90% saved money, two-thirds reported saving regularly, and nearly half reported to save between 50 and 75% of their income. Furthermore, Webley and Nyhus (2013:24) in a separate study of the saving behaviour of European young adults aged 18 to 32 find that 91% of the young adults had liquid savings to the value of approximately €7 000 each. Thus, it was safely deducted that university students in South Africa do engage in positive saving behaviour.

The analysis also showed consistently across the three saving behaviour categories that there was no statistically significant difference in means between the scores in saving behaviour with regard to male and female respondents. Thus, the second null hypothesis was accepted, and it was concluded that male university students display better optimal saving behaviour than their female counterparts.

These findings are consistent with a USA study conducted by Lusardi *et al.* (2010:358), which found that a college-educated male student is 45% more likely to possess advanced financial knowledge and subsequently engage in positive saving behaviour than their female counterpart. Furnham (1999:677), in his study of 250 British young adults, found that males compared to females received more pocket money and consequently saved more. Lyons (2004:56) examined 2 650 university students in the USA and concluded that males were less likely to engage in risky credit card behaviour as compared to their female counterparts. Finally, researchers including Borden *et al.* (2008:26) have shown that males generally are more interested in economic activities and thus are more confident, risk-taking and able to engage in good financial behaviours as compared to females.

In contrast to the above, the results also showed that female respondents obtained higher average saving behaviour scores across all three saving behaviour categories than male respondents; however, the alternative hypothesis was rejected in all three categories. These findings do however contradict the study conducted by Sabri and McDonald (2010:108) on Malaysian university students. It was found in that study that female students were more likely to engage in saving behaviour than male students. Davies and Lea (1995:675) also found in their research in the USA that female university students

were less at ease with credit usage and superior money managers than a comparable group of males.

Based on the foregoing statistical analysis and results as regards the second hypothesis, it was concluded that male university students engage in better saving behaviour than female university students.

Mixed statistical evidence was found respecting the third null hypothesis relating to ethnicity, which was rejected under the total saving behaviour category but accepted under the short- and long-term saving behaviour categories. A final decision was made to reject the null hypothesis, as this study focused on total saving behaviour. Thus, it was deduced that non-white respondents displayed better saving behaviour than white respondents.

These findings are corroborated by research conducted by Chien and DeVaney (2001:162) who conclude that non-white households in the USA showed more favourable attitudes towards credit card use. Friedline and Elliott (2011:112) also report that black young adults are more likely to engage in positive saving behaviour when they have higher academic achievement scores and live in a household with fewer members.

This deduction was however made with caution given that African, coloured, Indian and Asian participants were amalgamated into the non-white category, and this results could have been interpreted differently had each ethnic group been statistically analysed individually. For example, Sabri and Macdonald (2010:108) found that Chinese students were substantially less likely to engage in effective saving behaviour compared to other ethnicities in the reference group.

However, it was also noted that the results were inconsistent and contradicted findings by other studies mostly in the USA (i.e. Fisher (2010:14), Gittleman and Wolff (2004:193), and Lusardi (2005:1)) that showed that white households engaged in positive saving behaviour as depicted by the amount of savings held, home and asset ownership as well as participation in the stock market. A panel study conducted by Friedline and Elliott (2011:99) of white and black young adults aged 17 to 23 also showed that white young adults saved significantly more than their black counterparts. Their study showed that

white young adults were mostly likely to participate in the formal financial sector through a savings account 1.5 times more often than their black counterparts. In addition, white young adults accumulated average savings of approximately \$800 which is 40 times more compared with black young adults who saved on average only \$20.

Nonetheless, this conclusion that non-white university students engage in better saving behaviour than white students is also corroborated by studies in the USA by Friedline and Elliott (2011:112) and in South Africa by Esson (2003:15) which show that non-white households display positive saving behaviour.

Through an investigation of the relationship between employment status and saving behaviour as stated in the fourth null hypothesis, mixed evidence was found. The null hypothesis was accepted for the total and short-term saving behaviour categories. This was due to there being no statistically significant differences in means between part-time and non-working university students in respect of their saving behaviour. In contrast, the null hypothesis was rejected under the long-term saving behaviour category.

Overall, it was deduced that university students engaging in part-time work have better saving behaviour than non-working university students. This deduction was safely made in relation to studies such as the one conducted by Erskine *et al.* (2006:279) in Canada, which found that young adults engaged in part-time work saved more money particularly for future tuition than non-working young adults. Erskine *et al.* (2006:279), in their study, found that students engaging in work (whether full-time or part-time) were more likely to save money in general than non-working students. The authors further found that students who worked part-time were likely to save money for future school tuition. This evidence points more to young working university students saving money for the future rather than spending it all immediately. This concurs with the findings of the current study that university students believe that saving money for the future is very important, with a total of 88.30% of the respondents agreeing (27%) or strongly agreeing (61.30%) with the statement.

These findings argued that engaging in some form of part-time work resulted in sound financial behaviours for students. This was in line with the study of Erskine *et al.*

(2006:279), where it was found that students engaging in work (whether full-time or part-time) were more likely to save money in general than non-working students. Thus, it was concluded that part-time working university students engage in better saving behaviour than non-working university students.

The results of the study, what the study set out to do and the method followed to achieve the objective have been discussed and concluded. With that said, the next section will discuss the major findings of this study.

6.3 MAJOR FINDINGS

The main objective of this study was to investigate whether behavioural factors influence the saving decisions of university students in South Africa. In light of the conclusions above, the study has four major findings that address the research problem.

The first major finding was that university students in South Africa do engage in positive saving behaviour. This was highlighted by the fact that respondents recognised the need and importance to save across all three categories of saving behaviour.

The second major finding was that male students display better optimal saving behaviour than female students. Gender and its relationship to saving decisions were therefore strongly influenced by behavioural factors.

The third major finding was that ethnicity played a role in determining saving behaviour. This was the case in that non-white university students engaged in more positive saving behaviour than white university students.

The fourth major finding was that being a student while engaging in some form of part-time work activities that could bring in additional income resulted in better saving behaviour than being a full-time student.

The findings above have to some extent addressed the research problem and provided a sound foundation for further research into this emerging field.

6.4 RECOMMENDATIONS

The recommendations made based on the findings of the study focus on three issues:

- Academic institutions should place a stronger emphasis on educating university students in areas of personal financial management, saving and investing. This will also enhance their understanding and add to the growing body of research of this subject field.
- Government should provide a targeted, holistic policy response to encourage and facilitate savings especially amongst young adults as they enter their earning years. These policies should be combined with tax incentives to encourage saving coupled with saving vehicles with low cost structures offered at financial institutions and specifically aimed at encouraging and rewarding saving for young adults.
- Given that the literature review identified parents as important economic socialisation agents for young adults, parents should be encouraged to acquire knowledge regarding saving and promote young adults to earn money as an indirect approach to fostering positive saving behaviour.

It is recommended that further research be undertaken in the following areas:

- The study can be replicated into a longitudinal study and extended amongst other universities in South Africa and possibly other emerging countries in the African continent in order to establish the reliability of the current study's results.
- The study can be conducted using a mixed method approach of combining quantitative and qualitative research components. This can be carried out through using panel data or interviews from focus groups in which more in-depth questions can be asked to participants and possibly provide better understanding of the development and actual saving behaviour of young adults.

- Future research should attempt to conduct the same study amongst other young adults who may not be studying but rather are employed or self-employed to assess whether there are differences in saving behaviour.

The main aim of this study was to increase the understanding of the saving behaviour of young adults. The research presented in this study not only advances academic knowledge but has practical implications for financial and academic institutions, public policy, parents and young adults.

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APPENDICES

APPENDIX 1: THE QUESTIONNAIRE

QUESTIONNAIRE

1. I hereby give consent to participate in this survey

<input type="checkbox"/>	Yes
<input type="checkbox"/>	No

PART 1: DEMOGRAPHICAL INFORMATION

Please mark the appropriate block with an X.

2. What is your gender?

<input type="checkbox"/>	Female
<input type="checkbox"/>	Male

3. What is your age: _____ years

4. Which ethnic group do you belong to?

<input type="checkbox"/>	Asian
<input type="checkbox"/>	Black
<input type="checkbox"/>	Coloured
<input type="checkbox"/>	Indian
<input type="checkbox"/>	White

5. Do you have a part-time job?

<input type="checkbox"/>	Yes
<input type="checkbox"/>	No

PART 2: SAVING BEHAVIOUR SCALE

STATEMENT	STRONGLY DISAGREE	DISAGREE	AGREE	STRONGLY AGREE
I am likely to save money by packing my lunch instead of buying it out.				
I am likely to save money by going to movies offered at discount instead of prime-time shows.				
I am likely to save money by buying clothes off-season or on sale for lower prices.				
I am likely to save money by sharing a magazine subscription with a friend.				
I am likely to save money by shopping for the best cellphone packages and rates offered by mobile providers.				
I am likely to save money by depositing a gift of money (e.g. Mzansi account, pocket money and cash redeemable vouchers) into a savings account.				
Saving money for the future is something I think about.				
When I get money, I save some of it no matter what.				
I do a good job of budgeting my money.				

APPENDIX 2: THE QUESTIONNAIRE CODE BOOK

QUESTION	CODE NAME	ANSWER
2. Gender?	SEX	1 = Female 2 = Male
3. Age?	AGE	Numeric value
4. Ethnic group?	RACE	1 = Asian 2 = Black 3 = Coloured 4 = Indian 5 = White
5. Part-time employment?	EMP	1 = Yes 2 = No
6(a) to 6(i) Saving behaviour Scale 1	SB1_A SB1_B SB1_C SB1_D SB1_E SB1_F SB1_G SB1_H SB1_I	1 = Strongly Agree 2 = Agree 3 = Disagree 4 = Strongly Disagree

999 if no answer was given.

APPENDIX 3: THE QUESTIONNAIRE DATA FREQUENCIES

GENDER					
		Frequency	Percentage	Valid Percentage	Cumulative Percentage
Valid	1	123	49.60	49.60	49.60
	2	125	50.40	50.40	100
	Total	248	100	100	

AGE					
		Frequency	Percentage	Valid Percentage	Cumulative Percentage
Valid	17	1	.40	.40	.40
	18	50	20.20	20.20	20.60
	19	58	23.40	23.40	44
	20	35	14.10	14.10	58.10
	21	28	11.30	11.30	69.40
	22	13	5.20	5.20	74.60
	23	15	6	6	80.60
	24	4	1.60	1.60	82.30
	25	9	3.60	3.60	85.90
	26	5	2	2	87.90
	27	4	1.60	1.60	89.50
	28	6	2.40	2.40	91.90
	29	4	1.60	1.60	93.50
	30	3	1.20	1.20	94.80
	31	1	.40	.40	95.20
	33	1	.40	.40	95.60
	36	1	.40	.40	96
	38	1	.40	.40	96.40
	39	1	.40	.40	96.80
	40	3	1.20	1.20	98
43	1	.40	.40	98.40	
45	2	.80	.80	99.20	
999	2	.80	.80	100	
Total		248	100	100	

ETHNICITY					
		Frequency	Percentage	Valid Percentage	Cumulative Percentage
Valid	1	11	4.40	4.40	4.40
	2	129	52	52	56.50
	3	13	5.20	5.20	61.70
	4	23	9.30	9.30	71
	5	72	29	29	100
	Total	248	100	100	

EMPLOYMENT STATUS					
		Frequency	Percentage	Valid Percentage	Cumulative Percentage
Valid	1	49	19.80	19.80	19.80
	2	198	79.80	79.80	99.60
	999	1	.40	.40	100
	Total	248	100	100	

SB1_A					
		Frequency	Percentage	Valid Percentage	Cumulative Percentage
Valid	1	84	33.90	33.90	33.90
	2	102	41.10	41.10	75
	3	36	14.50	14.50	89.50
	4	26	10.50	10.50	100
	Total	248	100	100	

SB1_B					
		Frequency	Percentage	Valid Percentage	Cumulative Percentage
Valid	1	52	21	21	21
	2	102	41.10	41.10	62.10
	3	69	27.80	27.80	89.90
	4	24	9.70	9.70	99.60
	999.0	1	.40	.40	100
	Total	248	100	100	

SB1_C					
		Frequency	Percentage	Valid Percentage	Cumulative Percentage
Valid	1	95	38.30	38.30	38.30
	2	108	43.50	43.50	81.90
	3	32	12.90	12.90	94.80
	4	11	4.40	4.40	99.20
	999	2	.80	.80	100
	Total	248	100	100	

SB1_D					
		Frequency	Percentage	Valid Percentage	Cumulative Percentage
Valid	1	31	12.50	12.50	12.50
	2	72	29	29	41.50
	3	82	33.10	33.10	74.60
	4	61	24.60	24.60	99.20
	999	2	.80	.80	100
	Total	248	100	100	

SB1_E					
		Frequency	Percentage	Valid Percentage	Cumulative Percentage
Valid	1	70	28.20	28.20	28.20
	2	99	39.90	39.90	68.10
	3	45	18.10	18.10	86.30
	4	32	12.90	12.90	99.20
	999	2	.80	.80	100
	Total	248	100	100	

SB1_F					
		Frequency	Percentage	Valid Percentage	Cumulative Percentage
Valid	1	58	23.40	23.40	23.40
	2	89	35.90	35.90	59.30
	3	74	29.80	29.80	89.10
	4	26	10.50	10.50	99.60
	999	1	.40	.40	100
	Total	248	100	100	

SB1_G					
		Frequency	Percentage	Valid Percentage	Cumulative Percentage
Valid	1	152	61.30	61.30	61.30
	2	67	27	27	88.30
	3	23	9.30	9.30	97.60
	4	5	2	2	99.60
	999	1	.40	.40	100
	Total	248	100	100	

SB1_H					
		Frequency	Percentage	Valid Percentage	Cumulative Percentage
Valid	1	73	29.40	29.40	29.40
	2	107	43.10	43.10	72.60
	3	51	20.60	20.60	93.10
	4	14	5.60	5.60	98.80
	999	3	1.20	1.20	100
	Total	248	100	100	

SB1_I					
		Frequency	Percentage	Valid Percentage	Cumulative Percentage
Valid	1	52	21	21	21
	2	99	39.90	39.90	60.90
	3	63	25.40	25.40	86.30
	4	32	12.90	12.90	99.20
	12	1	.40	.40	99.60
	999	1	.40	.40	100
	Total	248	100	100	

APPENDIX 4: THE FACTOR ANALYSIS RESULTS

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.64
Bartlett's Test of Sphericity	Approx. Chi-Square	311.01
	df	36
	Sig.	.00

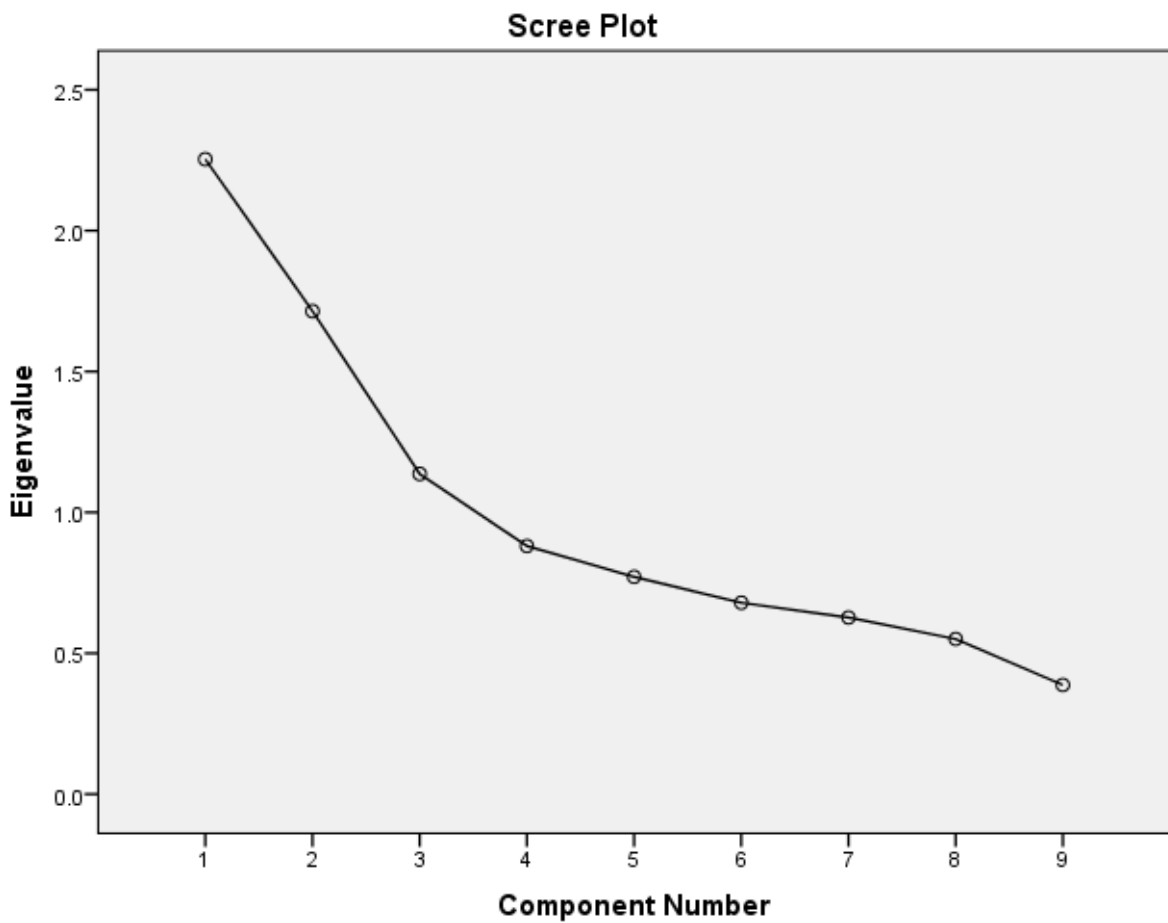
Communalities		
	Initial	Extraction
SMEAN(SB1_A)	1.00	.62
SMEAN(SB1_B)	1.00	.57
SMEAN(SB1_C)	1.00	.52
SMEAN(SB1_D)	1.00	.59
SMEAN(SB1_E)	1.00	.65
SMEAN(SB1_F)	1.00	.42
SMEAN(SB1_G)	1.00	.62
SMEAN(SB1_H)	1.00	.71
SMEAN(SB1_I)	1.00	.41

Extraction Method: Principal Component Analysis.

Total Variance Explained					
Component	Initial Eigenvalues			Extraction Sums of Squared Loadings	
	Total	% of Variance	Cumulative %	Total	% of Variance
1	2.25	25.04	25.04	2.25	25.04
2	1.71	19.05	44.08	1.71	19.05
3	1.14	12.63	56.71	1.14	12.63
4	.88	9.79	66.50		
5	.77	8.57	75.06		
6	.68	7.55	82.61		
7	.62	6.97	89.58		
8	.55	6.12	95.70		
9	.39	4.31	100		

Total Variance Explained				
Component	Extraction Sums of Squared	Rotation Sums of Squared Loadings		
	Loadings	Total	% of Variance	Cumulative %
	Cumulative %			
1	25.04	1.97	21.94	21.94
2	44.08	1.95	21.69	43.63
3	56.71	1.18	13.09	56.71
4				
5				
6				
7				
8				
9				

Extraction Method: Principal Component Analysis.



Component Matrix ^a			
	Component		
	1	2	3
SMEAN(SB1_A)	.28	.19	.71
SMEAN(SB1_B)	.65	.38	.13
SMEAN(SB1_C)	.52	.46	.18
SMEAN(SB1_D)	.58	.50	-.05
SMEAN(SB1_E)	.29	.34	-.67
SMEAN(SB1_F)	.52	-.14	-.36
SMEAN(SB1_G)	.47	-.63	.06
SMEAN(SB1_H)	.59	-.60	.04
SMEAN(SB1_I)	.48	-.42	-.02

Extraction Method: Principal Component Analysis.^a

a. Three components extracted.

Rotated Component Matrix ^a			
	Component		
	1	2	3
SMEAN(SB1_A)	.48	.04	-.62
SMEAN(SB1_B)	.74	.15	.04
SMEAN(SB1_C)	.72	.00	-.02
SMEAN(SB1_D)	.73	.01	.22
SMEAN(SB1_E)	.29	-.06	.75
SMEAN(SB1_F)	.21	.45	.42
SMEAN(SB1_G)	-.05	.79	-.08
SMEAN(SB1_H)	.04	.84	-.03
SMEAN(SB1_I)	.08	.63	.04

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalisation.^a

a. Rotation converged in four iterations.

Component Transformation Matrix			
Component	1	2	3
1	.73	.66	.16
2	.65	-.75	.14
3	.22	-.00	-.98

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalisation.

APPENDIX 5: THE SAVING BEHAVIOUR SCALE RESPONSES

Statement	Strongly Disagree		Disagree		Agree		Strongly Agree		Missing Data		Total
	Freq		Freq		Freq		Freq		Freq		
SB1_A: I am likely to save money by packing my lunch instead of buying it out.	Freq	26	Freq	36	Freq	102	Freq	84	Freq	0	248
	%	10.50	%	14.50	%	41.10	%	33.90	%	0	100
SB2_B: I am likely to save money by going to movies offered at discount instead of prime-time shows.	Freq	24	Freq	69	Freq	102	Freq	52	Freq	1	248
	%	9.70	%	27.80	%	41.10	%	21.0	%	0.40	100
SB3_C: I am likely to save money by buying clothes off-season or on sale for lower prices.	Freq	11	Freq	32	Freq	108	Freq	95	Freq	2	248
	%	4.50	%	12.90	%	43.50	%	38.30	%	0.80	100.0
SB4_D: I am likely to save money by sharing a magazine subscription with a friend.	Freq	61	Freq	82	Freq	72	Freq	31	Freq	2	248
	%	24.60	%	33.10	%	29	%	12.50	%	0.80	100
SB5_E: I am likely to save money by shopping for the best cellphone packages and rates offered by mobile providers.	Freq	32	Freq	45	Freq	99	Freq	76	Freq	2	248
	%	16.90	%	18.10	%	39.90	%	28.30	%	0.80	100
SB6_F: I am likely to save money by depositing a gift of money (e.g. Mzansi account, pocket money and cash redeemable vouchers) into a savings	Freq	26	Freq	74	Freq	89	Freq	58	Freq	1	248
	%	10.50	%	29.80	%	35.90	%	23.40	%	0.40	100

Statement	Strongly Disagree		Disagree		Agree		Strongly Agree		Missing Data		Total
account.											
SB7_G: Saving money for the future is something I think about.	Freq	5	Freq	23	Freq	67	Freq	152	Freq	1	248
	%	2	%	9.30	%	27	%	61.30	%	0.40	100
SB8_H: When I get money, I save some of it regardless.	Freq	14	Freq	51	Freq	107	Freq	73	Freq	3	248
	%	5.60	%	20.60	%	43.20	%	29.40	%	1.20	100
SB9_I: I do a good job of budgeting my money.	Freq	32	Freq	63	Freq	99	Freq	52	Freq	1	248
	%	12.90	%	25.40	%	39.90	%	21.40	%	0.40	100