Article

Saving for Tomorrow: Does the Level of Financial Literacy in the South African Working Class Matter?

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Abstract

Financial literacy has been identified in previous studies as an area that has not been researched extensively in South Africa. This is particularly true for the working class of black South Africans, who have been previously disadvantaged and were excluded from the mainstream economy and financial services under the apartheid regime. Lower savings and over-indebtedness in this group can be attributed to lower levels of financial literacy. The aim of this study is to examine financial literacy of black South Africans with a commerce tertiary qualification working in Pretoria and Johannesburg, based on descriptive research and structured questionnaires. In total, 171 participants who work in different sectors of the economy and who live in Gauteng were surveyed. The study found that although people with a commerce tertiary qualification are more financially literate than those with non-commerce tertiary qualification, black South Africans nevertheless are less financially literate than their coloured, Indian and white counterparts. Additionally, financial literacy is a significant predictor of individuals' saving habits.

Keywords: financial literacy; savings; commerce; tertiary education; South Africa; Gauteng

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Introduction

South Africa has a lower level of domestic savings compared to that of other emerging economies (Leshoro 2014, 232); this is not good for the economy as it inhibits growth, sustainability and, at times, deters foreign direct investments. Another problem with the poor saving culture in South Africa is that individuals tend to be more reliant on government social grants and support from their children upon retirement.

Previous studies have shown a positive relationship between saving patterns and financial literacy, as people with a higher level of financial literacy tend to save more than those who possess a lower level of financial literacy (Babiarz and Robb 2014, 46; Beckmann 2013, 19). Thus, the lower level of savings experienced in South Africa could be attributable to the lower level of financial literacy of many of its citizens.

Struwig, Roberts and Gordon (2013, 30) found that 44 per cent of South Africans of all races have difficulty keeping up with their financial needs. This group was reported to be less financially literate as they struggle with basic concepts, such as the effects that inflation and compound interest have on their financial wellbeing. According to StatsSA (2014, 3), black South Africans constitute 80.2 per cent of the South African population, however Struwig, Roberts and Gordon (2013, 32) found that only 48 per cent of this group are in favour of financial planning and household budgets. This compares poorly with the other race groups: coloureds (55%), Indians (68%) and whites (77%).

There has been no investigation of financial literacy and saving habits focusing on working black South Africans, despite the group's majority in the country's population size. However, other studies have focused on students and people who are likely to lack experience in financial products. Therefore, even though financial literacy was measured in the previous studies, a key factor affecting the variable of experience with financial products has been ignored since students, and not the working class, were largely the units of analysis. The current study aims to bridge this gap in three ways: firstly, by measuring and describing the financial literacy levels of black South Africans who are no longer students and have work experience; secondly, by evaluating the saving habits of this population group in relation to their financial literacy scores; and thirdly, by determining whether the level of savings is influenced by financial literacy and/or other sociodemographic factors.

Since black South Africans form the majority of the South African population, understanding their financial literacy levels, by incorporating their education levels and their experience with financial products which are likely to influence saving habits, can help policymakers and authorities investigate and implement possible ways of increasing this group's financial literacy. This is particularly important because black South Africans are likelier to be less financially literate than other population groups, as a result of previous exclusion from the mainstream economy and financial activities during the apartheid era.

The likelihood of lower financial literacy levels among black South Africans is further exacerbated by the fact that black South Africans were also subjected to poor education ("bantu education") during the apartheid regime. Increasing financial literacy levels among black South Africans, and consequently their savings, would impact on the lower overall savings in the country currently experienced by this population group. The resultant increase in financial literacy among black South Africans could not only improve the savings levels of the country, but could also help reduce reliance on government social grants and children's financial support upon retirement.

The rest of the paper first presents the literature and the theoretical foundation underpinning the study. Thereafter, the study's design and methodology are discussed, followed by results and discussion. Finally, conclusions and recommendations for future studies are made.

Literature Review

Research on financial literacy is abundant and has mainly focused on defining the concept, its measurement and the consequences of lower financial literacy levels. Additionally, there has been some scholarly research that has begun to examine the relationship between financial literacy and sociodemographic factors, albeit mostly focusing on students and those that have not yet attained some experience in financial products.

Theoretical Framework and Definition

Certain terms and concepts have been and are still being used to refer to financial literacy; such terms are sometimes used interchangeably with financial literacy. The terms include "responsibilisation," financial capability, credit literacy and economic literacy (Johnson and

Sherraden 2007, 121–122; Lyons, Rachlis and Scherpf 2007, 225; Stone, Wier and Bryant 2008, 1; Vitt et al. 2000, 2; Williams 2007, 241). As this study uses the term financial literacy, it is necessary to consider how the term is defined.

Looking at previous studies, financial literacy has been given many definitions. All these definitions focus on the possession of skills, knowledge and understanding of concepts related to spending, saving, investing and borrowing money in a way that can improve one's well-being (Beal and Delpachitra 2003, 1; Cude et al. 2006, 103; INFE 2011, 3; Kim 2001, 2; Servon and Kaestner 2008, 273; Vitt et al. 2000, 2).

Huston (2010) further expands on the definition as he posits that the concept of financial literacy is two-fold: knowledge dimension and application dimension. The two dimensions can be illustrated schematically in Figure 1 below:

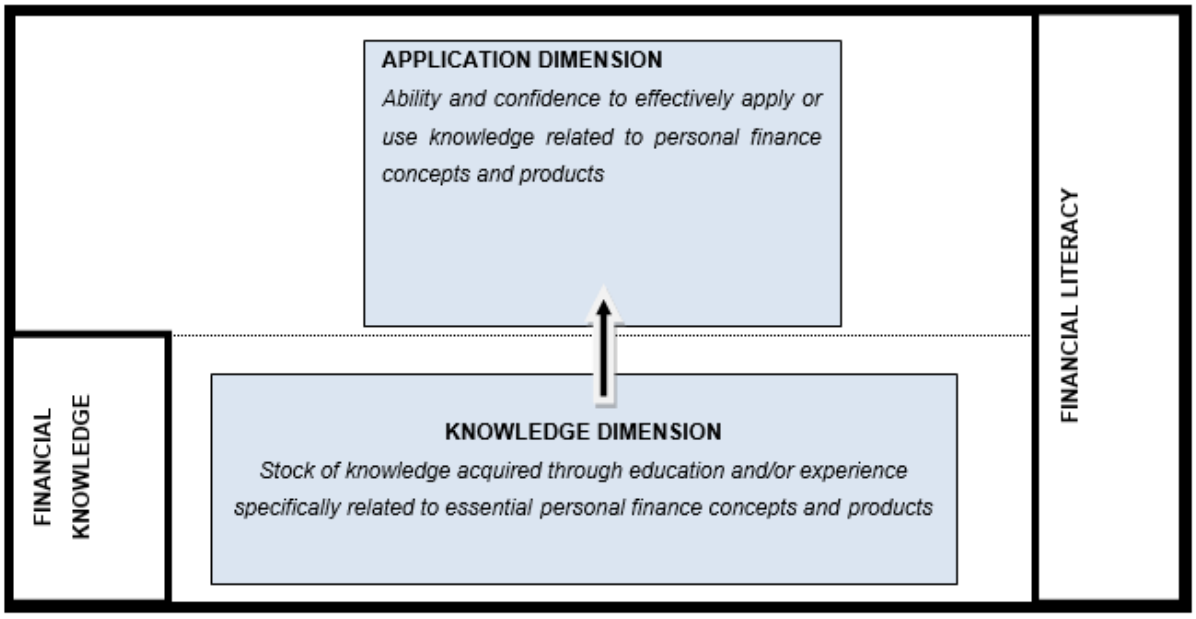

Figure 1: Concept of financial literacy
Source: Huston (2010, 307)

Because the current study assesses, through financial literacy questions, whether the participants comprehend financial concepts and whether they are able to put into practice what they know, the definition used by Servon and Kaestner (2008), which is in line with that of Huston (2010), is adopted. Servon and Kaestner (2008) define financial literacy as the ability

to comprehend and utilise financial concepts. It is necessary to look into how the concept is measured and the ensuing paragraph discusses the measurement of financial literacy.

Measurement of Financial Literacy

In its measurement, one needs to consider both the input and the output of financial literacy. Input refers to knowledge, skills and expertise whilst output is attitudes and behaviours following from the knowledge, skills and expertise acquired (Holzmann 2010, 4).

The measurement of financial literacy is important since it helps one to understand the impact of the input and financial education on people's behaviour (output). Huston (2010, 303) conducted a study in which he looked at the broad range of financial literacy measures used in previous studies. The author considered 71 studies in total and he found that in terms of content, four areas had been covered in measuring financial literacy: basic money terms (time value of money, inflation and basic personal finance concepts); debt (use of credit cards, loans and mortgages); investments (savings accounts, shares, bonds and mutual funds); and resources protection (use of insurance and other risk management techniques).

In assessing the body of economic research on financial literacy, Lusardi and Mitchell (2013, 10) suggest that fundamental concepts underpinning the measurement of financial literacy are the ability to perform calculations relating to interest rates, understanding how inflation works, and the concept of diversification. This is also what has been covered in questionnaires used to assess individuals' levels of financial literacy. A few other studies (Lusardi and Mitchell 2008, 413; Lusardi and Mitchell 2009b, 7–8; Lusardi and Mitchell 2011b, 3–4; Lusardi and Mitchell 2011c, 4–5) also used measurement tools or questionnaires based on the aforementioned fundamental principles of interest, inflation and risk diversification.

In order to measure the respondents' financial literacy, questionnaires first developed by Lusardi and Mitchell (2008) were adopted in this study due to their simplicity, the fact that they are widely used, and their adaptability to the South African environment.[1]

[1] A copy of the questionnaire can be obtained from the corresponding author.

Consequences of Lack of Financial Literacy

One of the ramifications of not being financially literate is financial behaviour that is not congruent with one's overall welfare (Agarwalla, Barua, Jacob and Varma 2012, 1). Several studies conducted in South Africa and overseas confirm this, as many people who exhibit lower levels of financial literacy take decisions that are not always recommended and are detrimental to their financial wellbeing (Oseifuah 2010, 171; Van Rooij, Lusardi and Alessie, 2011, 13). The inability to act in one's best financial interest, lack of planning, saving and investing for the future and burgeoning debt levels are some of the other consequences highlighted in previous studies (Hilgert, Horgarth and Beverly 2003, 311–312; Klapper, Lusardi and Panos 2013, 7–9).

Policies that lead to higher savings rates which should, in turn, enhance economic growth have long been advocated by policymakers around the globe (Anoruo and Ahmad 2001, 213). Policymakers encourage saving because it has a positive impact on the micro- and the macro-economy. On the macro-economic level, higher savings result in increased economic growth, whilst on a micro-economic level, increased savings result in wealth accumulation and preservation (GAO 2001, 27). Previous studies have shown that financial literacy correlates to savings whilst the countries that exhibit higher levels of financial literacy also have higher levels of savings (Jappelli and Padula, 2013, 2782). It then follows that countries such as South Africa can use financial literacy as a mechanism for influencing the poor saving culture positively, thereby improving individuals' wealth accumulation and preservation.

Sociodemographic Factors and Financial Literacy

Financial literacy can be influenced by many factors, including level of education, field of study, gender, urbanisation, ethnicity/race, age, marital status, and family background. These factors have been identified as possible predictors of financial literacy levels (Bernheim, Garrett and Maki 2001, 437; Li 2014, 18–19; Lusardi and Mitchell 2009a, 5; Lusardi and Mitchell, 2013, 17–20; Lusardi, Mitchell and Curto 2010, 372–373; Mahdavi and Horton 2014, 415–416). The following categories of people have been found to be more financially literate than their opposite contemporaries: those who are highly-educated; those whose education is in finance-related fields; men; city dwellers; whites; the elderly; married people; and those who come from a wealthy family background. An important factor to be considered is the issue of ethnicity and its impact on financial literacy.

Ethnicity and Financial Literacy

Previous research has shown that the people who are found to be less financially literate are those who have been previously disadvantaged. For example, in the case of research done in the US, Lusardi and Mitchell (2011a, 516–517) found that African-Americans and Hispanics are less financially literate than whites.

The same phenomenon of blacks being less financially literate than other groups has also been found in South African studies (De Clercq and Venter 2009, 57; Shambare and Rugimbana 2012, 587; Struwig, Roberts and Gordon 2013, 93–98). With the exception of Struwig, Roberts and Gordon (2013), the aforesaid extant literature only assessed financial literacy levels of students. The problem with students is that most of them, especially the previously disadvantaged, do not have financial experience or experience in financial products, which has been cited as one of the most significant factors affecting the level of financial literacy (Frijns, Gilbert and Tourani-Rad 2014, 148–149). The current study bridges this gap by looking at the people who are currently working and therefore more likely to have experience in financial products. Although Struwig, Roberts and Gordon did not only look at students, their study also suffers the same challenge because it includes the adults from 16 years and above, of which some might not have worked before nor had experience in financial products.

In the South African environment, sociodemographic dynamics are different from those in the more developed economies, and this could be adding to the lower levels of financial literacy amongst black people. In fact, in the apartheid era, black South Africans were subjected to poor quality education and were excluded from financial activities and the mainstream economy. The result is that black South Africans have had fewer opportunities to gain financial literacy not only through formal education and employment, but also from social sources (Barac 2015, 76–78; Hammond, Clayton and Arnold 2012, 335–336). As a result, even those black people who have finance-related qualifications could still exhibit lower levels of financial literacy and savings.

The latest average annual household consumption expenditure as reported by StatsSA (2011, 4) reflected that black African-headed households had the second largest percentage real growth of 35 per cent from 2005/2006 to 2010/2011 after the Indians who had 40.7 per cent

growth. This compares favourably to the whites and coloureds who achieved 16.1 per cent and 21.8 per cent respectively. The same report also indicated similar trends regarding income. The percentages of real growth in income from 2005/2006 to 2010/2011 are 34.5 per cent, 27.7 per cent, 36.8 per cent, and 0.4 per cent for black Africans, coloureds, Indians and whites respectively. This indicates that the real growth in household income was channelled to consumption instead of savings. Prices over that period also increased as indicated by inflation (headline CPI year on year rates): from 4.05 per cent in 2005/2006 to 4.6 per cent in 2010/2011 (StatsSA 2017).

Although the previous South African studies referred to above also analysed financial literacy amongst the different racial groups, they did not focus on black South Africans who already had a tertiary qualification and were working. They focused only on high school learners and university students. Even though Struwig, Roberts and Gordon (2013) attempted to bridge this gap, their study included people aged 16 and above, thereby including people who might not have tertiary qualifications or work experience. The current study goes beyond that by assessing the financial literacy levels of South Africans who have a tertiary qualification and are working, which helps in establishing whether the financial literacy levels of black South Africans who have a tertiary qualification and are working is any better than those of the other demographic groups, and whether it makes a difference if that qualification is in commerce or not and what the impact of financial literacy is on saving habits.

Methodology

The research was conducted using a quantitative approach and a survey research design.

Sample Description

The snowball sampling technique was used in this study as family and friends who have a tertiary education and who work and reside in Pretoria and Johannesburg were asked to identify similar people to participate in the study. The respondents and the units of analysis are therefore people who work in different sectors of the economy in Gauteng. Such people must possess a post-matric qualification, i.e. a degree, a diploma or a certificate.

Originally, 209 people responded to the web-based survey platform, Qualtrics. However, some did not fall within the criteria, as they are not South African citizens, do not have a post-

matric/grade 12 qualification, or do not work in Pretoria or Johannesburg, thus they were eliminated as part of the data clean-up process. The final useable number of respondents after eliminating those who did not meet the criteria was 171, spread across different types of qualifications, gender, places of origin, race groups, age, employment types, income groups, marital status, level of parental education, and home language. After allowing for non-responses, the final sample consisted of 116 (67.8%) black South Africans, 13 (7.6%) coloureds, 15 (8.8%) Indians and 27 (15.8%) whites. In addition, 53 per cent of the respondents possess a commerce tertiary qualification, whilst the balance have a non-commerce tertiary qualification.

Validity and Reliability of the Research Instrument

The research instrument is considered to have content validity as it has been developed and used in the previous studies (Beckmann 2013, 4–5; Lusardi and Mitchell 2008, 2–3; Lusardi and Mitchell 2011b, 3–4; Lusardi and Mitchell 2011c, 3–4; Lusardi and Mitchell 2013, 10). In terms of the scale, each financial literacy question had four multiple choice options of which only one was correct. The questions were recoded, whereby 1 indicates the correct option and 0 indicates an incorrect answer. The instrument is considered reliable based on the calculated Kuder Richardson of 20 and coefficient of 0.755 which is above the acknowledged threshold of 0.700.

Measures/Variables

The most important variables that were assessed in the current study are financial literacy scores and the saving habits of the participants. Financial literacy scores of the participants were calculated and then used to assess whether the level of financial literacy was a statistically significant predictor of the saving habit. Thus, financial literacy was an independent variable whilst savings habit was a dependent variable. As they were identified as possible predictors of financial literacy in previous studies, field of study, gender, urbanisation, and ethnicity/race were also analysed in relation to financial literacy.

Procedure for Data Collection

In order to obtain the key explanatory variable, namely, a financial literacy score, the study used a structured questionnaire adopted from previous studies (Beckmann 2013, 4–5; Lusardi and Mitchell 2008, 2–3; Lusardi and Mitchell 2011b, 3–4; Lusardi and Mitchell 2011c, 3–4;

Lusardi and Mitchell 2013, 10) and tailored the same for this study. Whilst it incorporated sociodemographic questions (14 in total), the questionnaire also included basic (5 in total) and sophisticated (11 in total) financial literacy questions on interest rates, inflation and risk diversification. The last part of the questionnaire covered four savings-related questions.

Data Analysis

Descriptive statistics were used to describe the levels of financial literacy and saving habits amongst the different demographic groups. Differences were further analysed using an independent T-test. Binary logistic regression was used to establish whether the level of financial literacy, and the other sociodemographic factors, such as gender, income level, field of study, place of origin, population group, age, highest qualification of the parents, and marital status influenced the level of savings. IBM SPSS Statistics Version 21 was used to perform the descriptive statistics, independent t-test and the binary logistic regression.

According to Stock and Watson (2007, 19), the binary logistic regression model can be expressed as follows:

$$Logit(\mathrm{Y}) = \ln(odds) = b_0 + b_1 X_i + u_i$$

where odds refer to the odds of Y being equal to 1.

Results

Descriptive Statistics

In order to meet the first research objective of the study, namely, to measure and describe the financial literacy levels of black South Africans, descriptive statistics are discussed. Table 1 below provides the relevant demographic variable, the percentage of respondents for each category of demographic variable and the associated mean and standard deviation of financial literacy score thereof:

Table 1: Sample characteristics (size, mean and standard deviation)

Variable	Number of participants	FLS: Mean value	FLS: Standard deviation
Field of study (n = 171)			
Commerce	90 (53%)	68.8	23.5

Non-commerce	81 (47%)	52.6	19.8
Gender (n = 170)			
Male	78 (46%)	66.2	24.29
Female	92 (54%)	56.1	22.21
Place of origin (n =164)			
Urban area	113 (69%)	59.1	24.5
Rural area	51 (31%)	65.9	19.3
Race (n =171)			
Blacks	116 (68%)	58.9	23.2
Coloureds, Indians and whites (CIW)	55 (32%)	64.8	24.4
Have savings (168)			
Yes	131 (78%)	66.2	20.1
No	37 (22%)	53.7	20.8

The overall financial literacy score achieved by the sample of 171 respondents is 60.8 per cent, or 61 per cent rounded off. According to Mandell (2008, 8), Jump$tart Coalition also used 60 per cent as a benchmark; thus, the financial literacy score in Table 1 can be used as a benchmark for each respondent being analysed. Those who achieved a score less than this average can be deemed less financially literate, and those who achieved more can be deemed more financially literate. Only 1.8 per cent of the entire sample got all the financial literacy questions correct, whereas 12.3 per cent got only 11 questions correct. It is also worth noting that 3.5 per cent of the sample got all the questions wrong.

Black South Africans on average scored 58.9 per cent. On the other hand, other population groups (CIW combined) scored 64.8 per cent. This finding is in line with Struwig, Roberts and Gordon (2013, 98), who found that black South Africans are less financially literate compared to other population groups in a South African context. Lusardi and Mitchell (2009a, 5) also found similar trends in America. Furthermore, the financial literacy score of black South Africans is below the 60 per cent benchmark discussed. This means that the black South Africans surveyed are not financially literate when measured according to the Jump$tart Coalition criterion.

Respondents who have a commerce tertiary qualification are more financially literate than those with a non-commerce tertiary qualification. The former scored 68.8 per cent on average in relation to 51.9 per cent scored by the latter. When the scores are compared to the 60 per cent benchmark used in the Jump$tart Coalition, it is evident that those who have a commerce tertiary qualification are financially literate while those with a non-commerce tertiary qualification are not financially literate. This finding supports that of Botha (2014, 91), who found that the students who were studying finance-related subjects are more financially literate than those who studied non-finance-related subjects.

Respondents who have savings scored higher on financial literacy (66.2%) than those who do not have savings (64.1%). This is in line with the study conducted by Jappelli and Padula (2013, 2790), who found a strong positive relationship between financial literacy and a propensity to save.

The differences above necessitated an independent t-test to confirm the statistical significance thereof, further discussed below.

Independent Sample Test (t-test)

To establish whether there are statistically significant differences between blacks and CIW, with commerce and non-commerce tertiary qualifications, as well as the respondents who have savings and those who do not have savings regarding their mean financial literacy scores, a t-test for independent samples was used. Table 2 summarises the results:

Table 2: Independent sample test (t-test)

Population group (Blacks vs CIW)				
M		t	df	sig
Blacks	CIW			
58.944	64.773	-1.511	169	0.133
Field of study (Commerce vs Non-commerce)				
M		t	df	sig
Commerce	Non-commerce			
68.819	52.578	4.838	168	0.000
Propensity to save (Saving vs Not saving)				
M		t	df	sig
Saving	Not saving			
66.221	53.704	2.924	156	0.004

With regard to the population groups, CIW on average scored higher in financial literacy (M = 64.77, SD = 3.29) than blacks (M = 58.94, SD = 2.15). The difference is, however, not statistically significant $t(169) = -1.51$, $p > .05$; the difference represents a small sized effect r = .12. On the field of study, respondents who have a commerce tertiary qualifications scored higher on financial literacy (M = 68.82, SD = 2.48) than those who have non-commerce tertiary qualifications (M = 52.58, SD = *2.21)*. The difference is statistically significant $t(168) = 4.48$, $p <.05$; the difference represents a very large size effect r = 3.06. Respondents who have savings also scored higher on financial literacy (M = 66.22, SD = 1.76) than those who do not (M = 53.70, SD = 4.01*)*. The difference is statistically significant $t(156) = 2.92$, $p <.05$; the difference, however, represents a small sized effect r = 0.23.

This indicates that although it does not make a big difference statistically whether the person is black, coloured, Indian or white, when it comes to the level of financial literacy, those who have a commerce tertiary qualification tend to score higher on financial literacy than those who do not have a commerce tertiary qualification. Furthermore, those who have savings also tend to score higher on financial literacy. Logistic regression below further explores the relationship between savings, financial literacy and other sociodemographic factors.

Logistic Regression

In order to analyse the relationship between the outcome variables, saving habits (coded as follows: 1 = the respondent had savings, and 0 = the respondent had no savings) and the predictor variables, binary logistic regression was used. The Hosmer and Lemeshow test indicated acceptable fit (P > 0.05, P = 0.87). As can be seen from Table 3 below, the p-values of all the variables (with the exception of FLS) are greater than 0.05. Thus, only the financial literacy scores have a statistically significant impact on saving habits at the 5% level of significance.

Table 3: Binary logistic regression result

Variable	**Beta coefficient (SE)**	**Wald statistic: significance**	**Odds ratio**
Gender (X_1)	-0.098 (0.641)	*P = 0*.879	0.907
Income level (X_2)	-0.233 (0.443)	*P = 0*.599	0.792
Field of study (X_3)	0.233 (0.712)	*P = 0*.744	1.262
Place of origin (X_4)	0.085 (0.334)	*P = 0*.799	1.089
Population group (X_5)	-0.338 (0.709)	*P = 0*.634	0.713
Age (X_6)	-0.131 (0.399)	*P = 0.744*	0.878
Mother's highest qualification (X_6)	0.001 (0.477)	*P = 0*.998	1.001
Father's highest qualification (X_7)	-0.325 (0.509)	*P = 0*.523	0.723
Marital status (X_8)	0.476 (0.591)	*P = 0*.421	1.609
FLS (X_9)	-0.036 (0.018)	*P = 0*.049	0.965
Constant	3.605 (2.723)	*P = 0*.185	36.80

Note: 87 (Hosmer and Lemeshow),10 (Cox and Snell), 18 (Nagelkerke). Model $x^2(1) = 13.22$, p < .05.

Specifically, when holding all other variables constant, those with lower levels of financial literacy are more likely not to have savings, that is for each one unit increase in financial literacy, the likelihood of not saving is less than one, i.e. 0.965. Gender, income level, field of study, place of origin, population group, age, mother's highest qualification, and marital status are not the significant predictors of savings.

Discussion and Conclusion

In line with the literature, the current study finds that black South Africans are less financially literate than coloureds, Indians and whites. What is peculiar in this study is that the black South Africans have a tertiary qualification and have some work experience, which should theoretically add positively to their level of financial literacy. Since the theory suggests a high/positive correlation between the level of education and financial literacy, low levels of

financial literacy in black South Africans could be due to the poor quality education received during the apartheid era. Shambare and Rugimbana (2012, 587), cited the exclusion tactics of the apartheid regime on banking and financial services as a key contributor to the lower financial literacy levels amongst black South Africans.

Previous studies have shown that there is a strong correlation between the level of financial literacy and the propensity to save. Lusardi and Mitchell (2009b, 16), for example, found that those who exhibit high levels of financial literacy tend to save more for retirement than their contemporaries with lower levels of financial literacy. This study supports existing literature in that it finds that those who have savings scored higher on financial literacy than those who do not have savings. In fact, those who do not have savings are classified as not being financially literate in terms of the 60 per cent Jump$tart Coalition benchmark and also in terms of the overall average of 61 per cent achieved by all the respondents in the entire sample, since they scored only 53.71 per cent. This is in comparison with the 66.22 per cent score achieved by those who have savings. That being the case, there is indeed a direct link between financial literacy and saving habits. Logistic regression results show that at the 5% level, financial literacy is a significant predictor of saving habits when other sociodemographic factors are controlled.

Implications and Further Research

The results show that in South Africa, black South Africans, despite their tertiary qualification and work experience, have lower levels of financial literacy compared to their coloured, Indian and white counterparts. Furthermore, financial literacy has been found to be a significant predictor of saving habits. Given the majority status of the black population group in South Africa, the finding means that policymakers should direct more efforts to improving the financial literacy levels of blacks, even amongst the working class that is likely to have experience in financial products. This will help increase the saving levels of the country, which are currently lower than those of other emerging economies.

The use of snowball sampling in the current study has resulted in some limitations: firstly, the data used only included respondents based in Johannesburg and Pretoria, and secondly, the majority of the respondents were blacks (68%) whilst coloureds, Indians and whites combined constituted the balance. Thus, future studies can improve on the current study by including

respondents from the other provinces and ensuring that the number (N) of coloureds, Indians and whites individually is large enough to allow for the individual analysis of these groups. In the current study, these population groups had to be combined for better quality results.

References

Agarwalla, S., S. Barua, J. Jacob, and J. Varma. 2012. "A Survey of Financial Literacy among Students, Young Employees and the Retired in India." Accessed April 20, 2015. http://www.iimahd.ernet.in/fls/youngemployeessandretired2012.pdf.

Anoruo, E., and Y. Ahmad. 2001. "Causal Relationship between Domestic Savings and Economic Growth: Evidence from Seven African Countries." *African Development Review* 13 (2): 238–249. https://doi.org/10.1111/1467-8268.00038.

Barac, K. 2015. "Helping Disadvantaged Students: Findings from Thuthuka Programme." *Accounting Education* 24 (2): 75–101. https://doi.org/10.1080/09639284.2015.1010171.

Babiarz, P., and C. A. Robb. 2014. "Financial Literacy and Emergency Saving." *Journal of Family and Economic Issues* 35 (1): 40–50. https://doi.org/10.1007/s10834-013-9369-9.

Beal, D. J., and S. B. Delpachitra. 2003. "Financial Literacy among Australian University Students." *Economic Papers: A Journal of Applied Economics and Policy* 22 (1): 65–78. https://doi.org/10.1111/j.1759-3441.2003.tb00337.x.

Beckmann, E. 2013. "Financial Literacy and Household Savings in Romania." *Numeracy* 6 (2): 9. https://doi.org/10.5038/1936-4660.6.2.9.

Bernheim, B. D., D. M. Garrett, and D. M. Maki. 2001. "Education and Saving: The Long-Term Effects of High School Financial Curriculum Mandates." *Journal of Public Economics* 80 (3): 435–465. https://doi.org/10.1016/S0047-2727(00)00120-1.

Botha, M. 2014. "A Comparative Analysis of the Financial Literacy of Final Year Diploma Students in Different Fields of study at the University of Johannesburg." Masters diss., University of Johannesburg.

Cude, B., F. Lawrence, A. Lyons, K. Metzger, E. LeJeune, L. Marks, and K. Machtmes. 2006. "College Students and Financial Literacy: What They Know and What We Need to Learn." Proceedings of the thirty-third Conference of the Eastern Family Economics and Resource Management Association, Knoxville, February 23–25. www.fermascholar.org/wp-content/uploads/2013/07/22-college-students-and-fin-literacy.pdf.

De Clercq, B., and J. Venter. 2009. "Factors Influencing a Prospective Chartered Accountant's Level of Financial Literacy: An Exploratory Study." *Meditari Accountancy Research* 17 (2): 47–60. https://doi.org/10.1108/10222529200900011.

Frijns, B., A. Gilbert, and A. Tourani-Rad. 2014. "Learning by Doing: The Role of Financial Experience in Financial Literacy." *Journal of Public Policy* 34 (1): 123–154. https://doi.org/10.1017/S0143814X13000275.

General Accounting Office (GAO). 2001. "United States General Accounting Office Report 2001: National Saving: Answer to Key Questions." Accessed September 27, 2014. www.gao.gov/assets/210/201778.pdf.

Hammond, T., B. M. Clayton, and P. J. Arnold. 2012. "An 'Unofficial' History of Race Relations in the South African Accounting Industry, 1968–2000: Perspective of South Africa's first Black Chartered Accountants." *Critical Perspective on Accounting* 23 (4): 332–350. https://doi.org/10.1016/j.cpa.2011.10.005.

Hilgert, M. A., J. M. Hogarth, and S. G. Beverly. 2003. "Household Financial Management: The Connection between Knowledge and Behavior." *Federal Reserve Bulletin 89*: 309-322.

Holzmann, R. 2010. "Bringing Financial Literacy and Education to Low and Middle Income Countries: The Need to Review, Adjust, and Extend Current Wisdom." Discussion Paper Series No. 5114. Accessed December 4, 2014. http://nbn-resolving.de/urn:nbn:de:101:1-201010132699. https://doi.org/10.1596/27828.

Huston, S. J. 2010. “Measuring Financial Literacy.” *Journal of Consumer Affairs* 44 (2): 296–316. https://doi.org/10.1111/j.1745-6606.2010.01170.x.

International Network on Financial Education (INFE). 2011. “Measuring Financial Literacy: Core Questionnaire in Measuring Financial Literacy: Questionnaire and Guidance Notes for Conducting an Internationally Comparable Survey of Financial Literacy.” Accessed October 18, 2014. http://www.oecd.org/finance/financial-education/49319977.pdf.

Jappelli, T., and M. Padula. 2013. “Investment in Financial Literacy and Saving Decisions.” *Journal of Banking and Finance* 37 (8): 2779–2792. https://doi.org/10.1016/j.jbankfin.2013.03.019.

Johnson, E., and M. S. Sherraden. 2007. “From Financial Literacy to Financial Capability among Youth.” *Journal of Sociology and Social Welfare* 34: 119.

Kim, J. 2001. “Financial Knowledge and Subjective and Objective Financial Well-Being.” *Consumer Interests Annual* 47: 1–3.

Klapper, L., A. Lusardi, and G. A. Panos. 2013. “Financial Literacy and Its Consequences: Evidence from Russia during the Financial Crisis.” *Journal of Banking and Finance* 37 (10): 3904–3923. https://doi.org/10.1016/j.jbankfin.2013.07.014.

Leshoro, T. L. 2014. “The Effects of Foreign Resource Inflow and Savings on the Economic Growth of South Africa: A VAR Analysis.” *Journal of Economics and Behavioral Studies* 6 (3): 232–241.

Li, G. 2014. “Information Sharing and Stock Market Participation: Evidence from Extended Families.” *Review of Economics and Statistics* 96 (1): 151–160. https://doi.org/10.1162/REST_a_00301.

Lusardi, A., and O. S. Mitchell. 2008. “Planning and Financial Literacy: How do Women Fare?” *American Economic Review* 98 (2): 413–417. https://doi.org/10.1257/aer.98.2.413.

Lusardi, A., and O. S. Mitchell. 2009a. “Financial Literacy, Retirement Planning, and Retirement Wellbeing: Lessons and Research Gaps.” Paper presented at the Financial Literacy in Times of Turmoil and Retirement Insecurity Conference of The Brookings Institution, Washington, DC, March 20.

Lusardi, A., and O. S. Mitchell. 2009b. “How Ordinary Consumers Make Complex Economic Decisions: Financial Literacy and Retirement Readiness.” National Bureau of Economic Research Working Paper Series. Accessed November 22, 2014. http://www/nber.org/papers/w15350.

Lusardi, A., and O. S. Mitchell. 2011a. “Financial Literacy and Retirement Planning in the United States.” *Journal of Pension Economics and Finance* 10 (4): 509–525. https://doi.org/10.1017/S147474721100045X.

Lusardi, A., and O. S. Mitchell. 2011b. “Financial Literacy Around the World: An Overview.” *Journal of Pension Economics and Finance* 10 (4): 497–508. https://doi.org/10.1017/S1474747211000448.

Lusardi, A., and O. S. Mitchell. 2011c. “Financial Literacy and Planning: Implications for Retirement Wellbeing.” National Bureau of Economic Research Working Paper Series. Accessed November 20, 2014. http://www/nber.org/papers/w17078.

Lusardi, A., and O. S. Mitchell. 2013. “The Economic Importance of Financial Literacy: Theory and Evidence.” *Journal of Economic Literature* 52 (1): 5–44. https://doi.org/10.1257/jel.52.1.5.

Lusardi, A., O. S. Mitchell, and V. Curto. 2010. “Financial Literacy Among the Young.” *Journal of Consumer Affairs* 44 (2): 358–380. https://doi.org/10.1111/j.1745-6606.2010.01173.x.

Lyons, A. C., M. Rachlis, and E, Scherpf. 2007. “What’s in a Score? Differences in Consumers’ Credit Knowledge Using OLS and Quantile Regressions.” *Journal of Consumer Affairs* 41 (2): 223–249. https://doi.org/10.1111/j.1745-6606.2007.00079.x.

Mahdavi, M., and N. J. Horton. 2014. “Financial Knowledge Among Educated Women: Room for Improvement.” *Journal of Consumer Affairs* 48 (1): 403–417. https://doi.org/10.1111/joca.12032.

Mandell, L. 2008. “The Financial Literacy of Young American Adults. Results of the 2008 National Jump$tart Coalition Survey of High School Seniors and College Students.” Accessed January 22, 2015. http://www.jumpstart.org/assets/files/2008SurveyBook.pdf.

Oseifuah, E. K. 2010. “Financial Literacy and Youth Entrepreneurship in South Africa.” *African Journal of Economic and Management Studies* 1 (2): 164–182. https://doi.org/10.1108/20400701011073473.

Servon, L. J., and R. Kaestner. 2008. “Consumer Financial Literacy and the Impact of Online Banking on the Financial Behavior of Lower-Income Bank Customers.” *Journal of Consumer Affairs* 42 (2): 271–305. https://doi.org/10.1111/j.1745-6606.2008.00108.x.

Shambare, R., and R. Rugimbana. 2012. “Financial Literacy among the Educated: An Exploratory Study of Selected University Students in South Africa.” *Thunderbird International Business Review* 54 (4): 581–590. https://doi.org/10.1002/tie.21485.

StatsSA. 2011. “Statistics South Africa: Income and Expenditure of Households 2010/2011.” Accessed November 22, 2017. http://www.statssa.gov.za/publications/P0100/P01002011.pdf.

StatsSA. 2014. “Statistics South Africa: Mid-Year Population Estimates.” Accessed January 26, 2015. http://beta2.statssa.gov.za/publications/P0302/P03022014.pdf.

StatsSA. 2017. “Statistics South Africa: Consumer Price Index 2017.” Accessed November 22, 2017. http://www.statssa.gov.za/publications/P0141/CPIHistory.pdf?.

Stock, J. H., and M. W. Watson. 2007. *Introduction to Econometrics.* Wesley: Pearson Addison.

Stone, D. N., B. Wier, and S. M. Bryant. 2008. “Reducing Materialism through Financial Literacy.” *The CPA Journal* 78 (2): 12–14.

Struwig, J., B. Roberts, and S. Gordon. 2013. *Financial Literacy in South Africa 2013 Report.* Pretoria: Human Sciences Research Council.

Van Rooij, M., A. Lusardi, and R. J. Alessie. 2011. “Financial Literacy and Stock Market Participation.” *Journal of Financial Economics* 101 (2): 449–472. https://doi.org/10.1016/j.jfineco.2011.03.006.

Vitt, L. A., C. Anderson, J. Kent, D. M. Lyter, J. K. Siegenthaler, and J. Ward. 2000. *Personal Finance and the Rush to Competence: Personal Financial Literacy in the US.* Middleburg: The Fannie Mae Foundation.

Williams, T. 2007. “Empowerment of Whom and for What? Financial Literacy Education and the New Regulation of Consumer Financial Services.” *Law and Policy* 29 (2): 226–256. https://doi.org/10.1111/j.1467-9930.2007.00254.x.