EURASIAN JOURNAL OF ECONOMICS AND FINANCE

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An Analysis of Personal Financial Literacy among Adults in Vhembe District, a Rural Municipality in South Africa¹

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Received: October 19, 2020 Accepted: February 19, 2021

Abstract

Consumers in rural and low-income areas are the most financially vulnerable and are facing challenges with their finances and depend mostly on unsecured loans to finance their daily expenses. This has been exacerbated by global financial crises, which left many consumers in financial strains. The purpose of this paper is to measure the level of financial literacy focusing on the areas of day-to-day money management, financial planning, choosing appropriate financial services and products, and financial knowledge and understanding. The quantitative research approach was used to collect primary data among adults in Vhembe District Municipality (VDM), a rural and low-income municipality in South Africa. Primary data were analyzed through descriptive statistics. The results indicate that the level of financial literacy among adults in VDM is low at 38.73%. The low levels of financial literacy have serious consequences for an adult's personal financial management skills and lead to their inability to make correct financial decisions. It is apparent that an individual's level of financial literacy has become important in how individuals manage their finances in today's complicated financial world. The paper concludes by suggesting interventions that could help adults to improve their level of financial literacy, manage and sustain their financial well-being.

Keywords: Financial Literacy, Money Management, Financial Planning

JEL Classifications: G51, G53, D14

1. Introduction

Personal financial management in today's world is highly complex compared to generations ago and the ability to manage personal finances has become increasingly important (Robb and Woodyard, 2011). The majority of financial consumers today are facing challenges regarding their financial well-being due to the demands of consumer society as well as financial crises prevalent,

¹ This study is based on the master's thesis entitled "An Analysis of Personal Financial Literacy among Adults in Vhembe District Municipality" of the corresponding author.

especially in developing countries and low-income areas (Aydin and Selcuk, 2019). Financial literacy is becoming popular due to the critical economic situations globally and the important implications this has on how individuals manage their finances. Financial literacy is about empowering individuals to take better and appropriate decisions around all aspects of budgeting, use of financial products and services, and spending and saving (Huston, 2010).

An essential indicator of people's ability to make sound financial decisions is their level of financial literacy (Lusardi, 2019). Individual's level of financial literacy has therefore become even more essential (Huhmann, 2017). A study by Finmark Trust (2012) indicates that consumers in low-income and rural areas are financially vulnerable, spend more than they earn and experience financial pressure. The majority of unsecured loans are granted to vulnerable consumers, who are unable to make repayments (National Credit Regulator, 2013), despite the National Credit Act forcing lenders to do affordability assessment.

Tustin (2010) investigated the impact of financial literacy flagship program among rural residents in village areas surrounding Giyani town in Limpopo province, South Africa. The study found a low level of financial literacy. A study by Oseifuah (2010) indicated the above-average level of financial literacy on youth entrepreneurship in Vhembe District Municipality (VDM). Since studies in financial literacy in low-income areas in South Africa are scanty, this study seeks to fill a gap and extend the existing body of literature by focusing on adults in VDM, a rural and lowincome municipality in South Africa. Furthermore, the study extends the financial literacy index constructed by Nanziri and Leibbrandt (2018), who used two domains; financial knowledge and understanding and financial capability to measure financial literacy in South Africa. This study uses four domains to measure financial literacy: day-to-day money management, financial planning, choosing appropriate financial products and services, and financial knowledge and understanding. The following domains are used to measure the level of financial literacy, namely day-to-day money management, financial planning, choosing appropriate financial products and services, and financial knowledge and understanding adopted from the financial literacy measurement framework developed by Kempson (2009). Accordingly, the main contribution of this study is to investigate financial literacy among adults in VDM using four domains of financial literacy.

The remainder of this article is structured as follows: Sections 2 provides an empirical and theoretical literature review. Section 3 explores methods used to conduct the study. Section 4 covers empirical results of the study. Section 5 presents discussions and interpretation. Section 6 covers conclusions and recommendations. Section 7 provides limitations of the study.

2. Literature review

Financial literacy is a broader concept, and various studies define it differently. There is no standard definition of financial literacy. This led to several studies defining financial literacy differently and use it interchangeably with concepts such as financial capability, economic literacy, debt literacy, financial education, and financial knowledge (Arceo-Gomez and Villagomez, 2017; Matemane, 2018). Financial literacy refers to the ability to understand and comprehend personal financial information, or financial knowledge, and the ability to apply financial knowledge typically through financial behaviors (Hudson and Palmer, 2014). Servon and Kaestner (2008) defined financial literacy as an individual's ability to understand and use financial concepts. Garman and Fourge (2011) defined financial literacy as one's knowledge of facts, concepts, principles, and technological tools that are fundamental to being smart about money. Yates and Ward (2011) emphasize that financial literacy is about enabling people to make informed confident decisions regarding all aspects of their budgeting, spending and saving, the use of financial products and services. Financial literacy should designate an individual's ability to comprehend financial information and therefore use it appropriately and confidently (Huston, 2010) and must be viewed as a difficult concept made up of a mixture of knowledge, attitude, and behavior (Atkinson et al. 2016). However, a comprehensive definition by Vitt et al. (2005) is extensively used in literature and outlines personal financial literacy as the capability to read, analyze, manage, and talk about the personal financial conditions that affect individual's financial well-being.

Personal financial literacy is an important element of individuals' ability to manage finances properly (Helppie et al. 2010). It is only through financial literacy that people improve

their understanding of financial products and services and ensure a lifetime of financial well-being (Kaur et al. 2015). People are increasingly responsible for making sound financial decisions to foster their financial satisfaction and well-being (Ramalho and Forte, 2019). The challenges facing the realization of personal financial literacy in South Africa are substantial. These involve rectifying the inequalities of South Africa's past dominated by substantial division of wealth along racial and geographical lines. The Financial Services Board (FSB) (2012) indicated the above-average level of financial literacy, however, to make ends meet, the majority (56%) of respondents said they would borrow food or money from family or friends. Peterson (2011) found a lack of financial literacy in the North West Province households. Symanowitz (2006) surveyed Grade 12 learners in different public and private schools in South Africa, the results pointed to low levels of financial literacy. Louw (2009) surveyed third-year North-West University students' financial literacy competency, the findings indicated a lack of competency. Maistry's (2010) study revealed that adults' economic and financial decisions are poor and that adults lack basic financial concepts. Gcabo (2003) found an absence of equal sharing of money management in households. Kotze and Smit (2008) revealed a lack of a comprehensive savings culture in South Africa. This was also supported by Finmark Trust (2012) which found that only 42% of adults are saving. Shuttleworth (2011) is of the opinion that adults are uncertain about their financial future. Other such studies have also been conducted. Collins (2008) sampled households in low-income areas of Langa, Diepsloot, and Lugangeni to measure debt levels. The results indicated a high level of indebtedness. This was also supported by De Clercq et al. (2010), indicating that in addition to high debt levels, consumers in rural areas tend to use more informal debt. Kibuuka (2007) found that the high exploitation of informal debt is due to a lack of financial knowledge. A study by Nanziri and Leibbrandt (2018) measured financial literacy in South Africa. The results showed an overall financial literacy score of 48.4.

The extensive literature review indicates that adults' personal financial literacy has received limited attention in South Africa and there is increasing financial vulnerability in rural and low-income areas. Therefore, there is a gap in the literature and an increasing need to examine personal financial literacy in these areas. This study did not focus on debt levels or consumer financial vulnerability, as this area has been sufficiently studied. It focused strictly on personal financial literacy among adults in VDM with specific reference to the financial literacy domains adopted from the Organization for Economic Cooperation and Development (OECD) financial literacy framework. These domains include day-to-day money management, financial planning, financial knowledge and understanding, and choosing appropriate financial products and services.

Day-to-day money management is subject to human behavior which is not always rational (Raue *et al.* 2020). It covers areas of cash management, expense management, credit management, and savings management. This necessitates that individuals need financial knowledge because they are confronted with daily complex financial decisions regarding investments, savings, borrowings and how to finances daily expenses. Kotze and Smit (2008) state that lack of financial management knowledge contributes to household indebtedness. Money management should consider the budgeting process, various aspects of credit, savings and planning for the future, as well as income tax planning. Studies have shown that financially literate individuals are more likely to make ends meet managing money on a day-to-day basis, be in control of their financial resources, monitor income and keeping some kind of record expenditure, predict future expenses, keep track of personal finances, control their attitude towards credit and spending, and are aware of their financial position (Hastings *et al.* 2011; Financial Services Authority [FSA], 2006). This study measured the extent to which adults take control of financial matters and obtained information about the respondents' attitudes and behavior towards money management.

Financial planning is the extent to which people have plans in place to ensure their future financial security is another core indicator of financial literacy (Brunton, 2013). According to Gitman and Joehnk (2008), financial planning considers important elements of an individual's financial affairs in order to fulfill financial goals and provides individuals with the knowledge to acquire apply and control financial resources more effectively and efficiently. Rootman *et al.* (2014) assert that financial planning identifies not only financial goals, but also life goals and

ensures the maintenance of a person's required standard of living, managing aspects such as risk, retirement, estates, investments, budgets, and insurance. Individuals with a financial plan tend to save more money, make more appropriate decisions, spend wisely, increase investment and wealth, and are financial independent during retirement no matter what their income. This study measured whether adults plan for unexpected events, as well as planning for things they know will happen in the medium-to-long-term, such as retirement.

The ability to choose appropriate products that meet one's needs is also considered a fundamental part of financial literacy, including an awareness of the features and risks associated with different financial products, and shopping around before buying products (Fessler *et al.* 2010). According to Huston (2010) financially literate people should be able to recognize their need to look for relevant financial information, have the ability to identify the nature and extent of the financial information appropriate to their particular situation and be able to use this information to choose the appropriate financial products and services. FSA (2006) indicated that financially literate individuals are more likely to demonstrate a sound awareness of the types of financial products available, keep up to date with changes relating to terms and conditions of specific types of products, know when to seek advice when buying financial products, know when to say no to salespersons and when to switch providers. This study measured whether adults shop around before choosing financial products, considers interest, and read terms and conditions, and determined which sources they rely on when making a financial decision.

According to FSA (2006), financial knowledge and understanding is the ability to make sense of and manipulate money in its different forms, uses and functions, including the ability to deal with everyday financial matters and make the right choices for one's own needs. To make sound financial choices, individuals require not only a basic level of financial knowledge but also the skills to apply this knowledge in their financial decision-making (Helppie et al. 2010). Huston (2010) states that individuals with relevant financial knowledge and understanding are able to ensure adequate generation of income, avoid excessive debts, create a financial cushion for life emergency and crisis situations, and finally know how to assert their rights. Mitchell and Lusardi (2015) found that one-third of wealth inequality can be explained by the financial knowledge gap, splitting the well-to-do and the less so. Moreover, having lower financial knowledge was linked to higher odds of engaging in risky financial practices. Financial knowledge is more likely to have a positive effect on young adult's awareness of money, recording expenses, savings attitudes and financial behavior (Supanantaroek et al. 2017). According to Letkiewicz and Fox (2014), financial knowledge is linked with asset growth, rise in net worth and positive effect on individual's savings. It is important for adults to have the elementary knowledge and skills to ensure that there are equipped to make imperative financial decisions. This study measured basic knowledge and understanding of general financial concepts and information.

3. Research methodology

In this study, quantitative research with descriptive design was applied. Descriptive design provided information as to what variables were worth testing quantitatively and described the relationship and characteristics between the variables. The population comprised adults in four local low-income municipalities in Vhembe District Municipality (VDM) in South Africa. The four local municipalities involved were Thulamela, Makhado, Mutale, and Musina. The sample size of 300 adults was drawn from all four municipalities using both proportionate stratified sampling and systematic sampling methods. The sample size of each municipality was based on its proportion to the entire population as indicated in Table 1.

Table 1. Proportionate stratified sample size of adults in VDM

Municipality	Proportion (%)	Sample Size
Thulamela	48.6	146
Makhado	38.1	114
Mutale	8.7	26
Musina	4.6	14
Total	100	300

Source: Author's compilation based on VDM population data

Data was sourced from primary sources. The survey was conducted for a period of four months in 2016. Before collecting primary data, the researcher obtained an ethical clearance certificate from Unisa and signed an agreement with VDM. Primary data represented new data collected from respondents in all four local municipalities in VDM by means of a self-administered questionnaire adopted from the financial literacy measurement framework developed by Kempson (2009). The questionnaire was designed in line with the objective of the study and pretested specifically for this study.

Questionnaires were hand-delivered and collected by the researcher with the assistance of fieldworkers. The number of questionnaires distributed to respondents were 300. Respondents were given a period of one week to complete the questionnaire. Follow-up visits were conducted to collect outstanding questionnaires, but not all questionnaires were collected mainly due to respondents' unavailability. Out of a total of 300 questionnaires, 246 questionnaires were returned fully completed, resulting in a response rate of 82%.

Data were analyzed by SPSS software. Descriptive statistics were used to determine the level of financial literacy by calculating the mean for each domain through computing the frequency of options that were considered to be correct for each question in a section and dividing it by the number of questions. The means of all domains were grouped to determine the overall level of financial literacy.

4. Empirical results

The majority of respondents (45.53%) were based in Thulamela local municipality and were black (83.33%), which is in line with the population distribution in Vhembe District. Most respondents (58.13%) were female, with a large number (38.2%) between the ages of 31 and 40 years. The study showed that most respondents (31.71%) were married. Regarding education level, most respondents (28.86%) had matriculated. Vhembe District has a high unemployment rate with most respondents (44.71%) being unemployed. The majority of respondents (45.53%) earned less than R5,000 mainly from a salary (45.12%) and government grants (23.17%).

To determine the level of financial literacy among adults in VDM, the descriptive mean value for each section (day-to-day money management, financial planning, choosing appropriate financial products and services, and financial knowledge and understanding) was calculated by compiling the frequency of options that were considered to be best for each question in a section and dividing it by the number of questions. Not all questions in the questionnaire were included in the day-to-day money management, financial planning, and choosing appropriate financial products and services sections because some questions were only indicators and outliners of financial behavior and responsibility. The financial knowledge and understanding section included all the questions.

4.1. Day-to-day money management

To determine the descriptive mean value of financial literacy for day-to-day money management, the frequency of the best option for each question, excluding two outliners and indicator questions, was created as indicated in Figure 1. The sum of all frequencies of best options (250.81) in this section was divided by the number of questions (n=9). The findings indicated a mean (27.7%) of respondents who chose the best options.

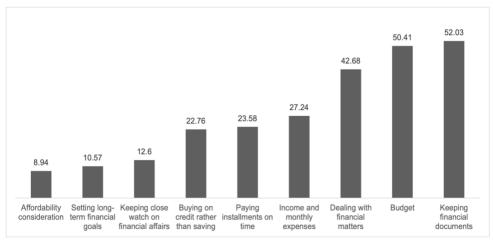


Figure 1. Frequency of best options for day-to-day money management Source: Author's own compilation from SPSS

4.2. Financial planning

The financial planning descriptive mean value for best options comprises nine questions. Three questions were not included. The frequency of best options for financial planning is depicted in Figure 2. The descriptive mean value is calculated by adding all frequencies of the best options (318.69%) indicated in Figure 2 and dividing by the number of questions (n=9). The results showed a mean (35.41%) of respondents that chose the best options.

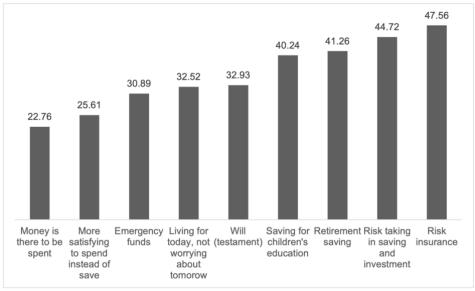


Figure 2. Frequency of best options for financial planning Source: Author's own compilation from SPSS

4.3. Choosing appropriate financial products and services

In the section of choosing appropriate financial products and services, three out of four questions were included in determining the descriptive mean value. The frequency of the best options as indicated in Figure 3 totaled (127.23) and was divided by the number of questions (n=3). The results indicated a descriptive mean (42.41%) of respondents that chose the best options. This means that 42.41% of respondents were able to choose financial products and services that were suitable for, and relevant to, their financial situation.

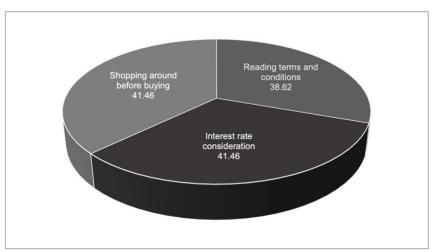


Figure 1. Frequency of best options for choosing appropriate financial services
Source: Author's own compilation from SPSS

4.4. Financial knowledge and understanding

To determine the descriptive mean value for financial knowledge and understanding, all eight questions were included. The frequency of best options as indicated in Figure 4 totaled (393.9) and was divided by the number of questions (n=Fig8). The results provided a mean (49.24%) of respondents that chose the best options.

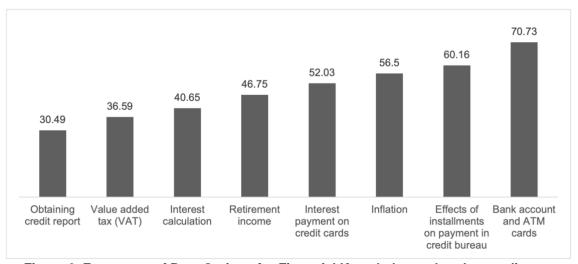


Figure 2. Frequency of Best Options for Financial Knowledge and understanding Source: Author's own compilation from SPSS

4.5. Financial literacy level of respondents

To determine the overall financial literacy level of respondents, the descriptive mean values of all financial literacy domains were summarized as indicated in Figure 5. The results indicate that respondents chose the best options (49.24%) in the financial knowledge and understanding domain, followed by 42.41% in choosing appropriate financial products and services. In the financial planning domain, 35.41% chose the best options. In day-to-day money management, respondents performed poorly with 27.87% of best options being chosen, which is the lowest in all domains as indicated in Figure 5.

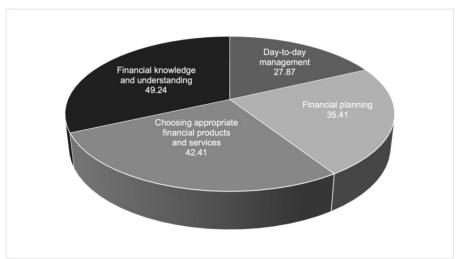


Figure 3. Summary of financial literacy domains Source: Author's own compilation from SPSS

The sum of the descriptive mean value (154.93) of all domains was divided by the number of domains (n=4) and resulted in a mean (38.73%). This indicates that the overall level of financial literacy among respondents in VDM is 38.73%. This could indicate a lack of proper day-to-day money management and financial planning, an inability to choose appropriate financial products and services, and a lack of financial knowledge and understanding, which appears to be a problem.

5. Discussion and interpretation

This study evaluated the level of financial literacy among adults in VDM in Limpopo province, South Africa. The level of financial literacy was investigated around the domains of day-to-day money management, financial planning, choosing appropriate financial products and services, and financial knowledge and understanding by determining the descriptive mean value for the best answers for each domain. The results indicated the level of financial literacy for day-to-day money management (27.87%), financial planning (35.41%), choosing appropriate financial products and services (42.41%), and financial knowledge and understanding (49.24%). These figures show low levels of financial literacy in all domains. However, it could be argued that respondents showed a better and encouraging level of financial literacy in financial knowledge and understanding domain, even though it is still low. The findings further indicate that the overall level of financial literacy in VDM is at 38.73% and is low. This supports the findings by the FSB (2012) that individuals in low-income and rural areas are struggling to manage their finances and make ends meet. This is attributed to low levels of financial literacy. This is in line with other studies: Atkinson et al. (2007) found that lower income individuals' level of financial literacy falls between the middle or lower half of the level, with Lusardi and Mitchell (2011) showing that globally low-income areas have a low level of financial literacy. Cole and Fernando (2008) noted that levels of financial literacy in developing countries remain comparatively low. Bucher-Koenen and Lusardi (2011) found that individuals in low-income areas in East Germany have low financial literacy. However, this study's results contradicted findings by Buckland (2010) who found a high level of financial literacy among low-income Canadian adults. Furthermore, this study finding does not support the findings by Nanziri and Leibbrandt (2018) who found financial literacy score of 48.4 in South Africa. However, it should be noted that Nanziri and Leibbrandt (2018) focused on all 9 provinces in South Africa and did not indicate financial literacy scores for districts. This has the potential to mislead policymakers to think that adults in South Africa are financial literate, which is not the case looking at rural and low-income areas in South Africa. The current study has contributed significantly to the literature by indicating that financial literacy in rural and lowincome areas in South Africa, especially in VDM is low.

It should be noted that low levels of financial literacy could have serious consequences for an adult's personal financial management skills and thus lead to their inability to make correct financial decisions, inadequate financial planning, and implementation of regular investment programs and their tendency to spend more than their income. Financial literacy could play a crucial role in improving money management behavior and financial knowledge and understanding by educating adults on matters related to financial control, financial planning, and appropriate financial behavior.

6. Conclusions and recommendations

This study has indicated low levels of financial literacy and poor money management behavior among sampled adults in VDM. It is strongly argued in the literature that individuals with low levels of financial literacy are affected negatively, mainly in their ability to understand matters of a financial nature, financial decision making, behavior and knowledge. This in turn affects their overall financial well-being, leading to confusion about when to save, when to spend, managing a budget, choosing appropriate financial products and services, and knowledge to attend to other initiatives such as financing their children's education and planning for retirement. Financial literacy should be prioritized to ensure that an adult's financial management skills are developed to improve their money management behavior to ensure that they manage their finances successfully and avoid overspending and indebtedness.

It is therefore recommended that adults in VDM should change their attitudes towards personal financial management and acquire the necessary financial knowledge through financial education and training in order to improve their level of financial literacy. The VDM should further encourage residents to take financial literacy seriously and initiate financial literacy wellness campaigns in all four local municipalities, aiming at addressing low levels of financial literacy. The VDM should form partnerships with non-governmental organizations (NGOs) and other financial institutions to conduct training on matters relating to financial literacy.

7. Limitations of the study

The researcher encountered a number of challenges when conducting this study. The first is that studies conducted on financial literacy in rural areas in South Africa are scanty; this created a challenge when sourcing literature pertaining to the study and integrating the results of the available studies coherently. The second limitation is that there is no standard definition of financial literacy or measurement of it in literature. The third limitation is due to the low levels of general literacy among the respondents, which negatively affected data collection; some adults did not understand the questionnaire and withdrew from participating in the study. Furthermore, even though confidentiality and anonymity were guaranteed, respondents were reluctant to participate in the study. They feared exposing their financial position and displayed a lack of trust. The high crime levels in South Africa also caused respondents to fear allowing the fieldworkers in their homes. Lastly, there were several service delivery protests in VDM at the time of data collection, which posed a serious challenge to fieldworkers who could not gain access to some of the respondents. Therefore, generalization to all adults is limited.

References

- Arceo-Gomez, E. O. and Villagomez, F.A., 2017. Financial literacy among Mexican high school teenagers. *International Review of Economics Education*, 24(C), pp. 1-17. https://doi.org/10.1016/j.iree.2016.10.001
- Atkinson, A., McKay, S., Collard, S., and Kempson, E., 2007. Levels of financial capability in the UK. *Public Money and Management*, 27(1), pp. 29-36. https://doi.org/10.1111/j.1467-9302.2007.00552.x
- Atkinson, A., Monticone, C., and Mess, F. A., 2016. OECD/INFE international survey of adult financial literacy competencies. *Technical Report*, *OECD*.

- Aydin, A. E. and Selcuk, E. A., 2019. An investigation of financial literacy, money ethics and time preferences among college students: a structural equation model. *International Journal of Bank Marketing*, 37(3), pp. 880-900. https://doi.org/10.1108/IJBM-05-2018-0120
- Brunton, C., 2013. *Financial knowledge and behavior survey 2013*. Wellington, New Zealand: Commission for Financial Literacy and Retirement Income.
- Bucher-Koenen, T. and Lusardi, A., 2011. Financial literacy and retirement planning in Germany. Cambridge University Press, 10(4), pp. 565-584. https://doi.org/10.1017/S1474747211000485
- Buckland, J., 2010. Are low-income Canadians financially literate? Financial literacy in the context of personal and structural constraints. *Adult Education Quarterly*, 60(4), pp. 357-376. https://doi.org/10.1177/0741713609358449
- Cole, S. and Fernando, N., 2008. Assessing the importance of financial literacy. *Asian Development Bank Finance for the Poor*, 9(2), pp. 1-6.
- Collins, D., 2008. Financial instruments of the poor: initial findings from South African financial diaries study. *Development Southern Africa*, 22(5), pp. 717-728. https://doi.org/10.1080/03768350500364125
- De Clercq, B., Van Aardt, C., and Venter, J. M. P., 2010. Analyzing the consumer market microstructure in South Africa by means of a consumer financial vulnerability survey: uncovering the predictors of financial vulnerability. *African Journal of Business Management*, 5(26), pp. 10314-10330. https://doi.org/10.5897/AJBM10.901
- Fessler, P., Schurz, M., and Wagner, B., 2010. Financial capability of Austrian households. *Monetary Policy and the Economy*, 3(11), pp. 50-67.
- Financial Services Authority (FSA), 2006. Levels of financial capability in the UK: results of a baseline survey. *FINCAP*, [online] Available at: https://financialhealthexchange.org.uk/wp-content/uploads/2015/11/Levels-of-financial-capability-in-the-UK-Results-of-a-basline-survey.pdf [Accessed on 10 March 2021].
- Financial Services Board (FSB), 2012. Financial literacy in South Africa: Results of a national baseline survey. *BrightRock*, [online] Available at: http://www.brightrock.co.za/content/downloads/fsbfinancialliteracyinsa.pdf [Accessed on 10 March 2021].
- Finmark Trust, 2012. Consumer financial vulnerability index. *Lucid Clear Credit*, [online] Available at: https://www.lucidliving.co.za/money-management/consumer-financial-vulnerability-index-q2-2012 [Accessed on 10 March 2021].
- Garman, E. and Fourge, R., 2011. Personal finance. 11th ed. Boston: Houghton Mifflin.
- Gcabo, R. P. E., 2003. Money and power in household management: experiences of black South African women [Unpublished master's thesis]. Pretoria: University of Pretoria.
- Gitman, L. and Joehnk, M., 2008. Personal financial planning. 5th ed. Orlando: Dryden Press.
- Hastings, J., Mitchell, O., and Chyn, E., 2011. Fees, framing and financial literacy in the choice of pension managers. In: O.S. Mitchell and A. Lusardi, eds. 2011. Financial Literacy: Implications for Retirement Security and the Financial Marketplace. Oxford: Oxford University Press, pp. 101-115. https://doi.org/10.1093/acprof:oso/9780199696819.003.0006
- Helppie, B., Kapinos, K. A., and Wills, R. J., 2010. Occupational learning, financial knowledge and the accumulation of retirement wealth. *MRRC Working Paper*. 2010-237. https://doi.org/10.2139/ssrn.1710725
- Hudson, C. R. and Palmer, L., 2014. Low-income employees: the relationship between information from formal advisors and financial behaviors. *Financial Services Review*, 23(1), pp. 25-43.
- Huhmann, B. A., 2017. Literacy matters in marketing. *International Journal of Bank Marketing*, 35(5), pp. 750-760. https://doi.org/10.1108/IJBM-12-2016-0188
- Huston, S., 2010. Measuring financial literacy. *The Journal of Consumer Affairs*, 44(2), pp. 296-316. https://doi.org/10.1111/j.1745-6606.2010.01170.x
- Kaur, M., Vohra, T. and Arora, A., 2015. Financial literacy among university students: a study of Guru Nanak Dev university, Amritsar, Punjab. *Asia-Pacific Journal of Management*

- Research and Innovation, 11(2), pp. 143-152. https://doi.org/10.1177/2319510X15576178
- Kempson, E., 2009. Framework for the development of financial literacy baseline surveys: a first international comparative analysis. OECD Working Papers on Finance, Insurance and Private Pensions, No. 1. Paris: OECD Publishing.
- Kibuuka, L. E., 2007. Informal finance for the middle and high income individuals in South Africa: a case study of high budget "stokvels" in Pretoria [Unpublished master's thesis]. Pretoria: University of Pretoria.
- Kotze, L. and Smit, A. V. A., 2008. Personal finances: What is the possible impact on entrepreneurial activity in South Africa? *South African Business Review*, 12(3), pp. 156-172.
- Letkiewicz, J. C. and Fox, J., 2014. Conscientiousness, financial literacy, and asset accumulation of young adults. *The Journal of Consumer Affairs*, 48(2), pp. 274-300. https://doi.org/10.1111/joca.12040
- Louw, J. J., 2009. Financial literacy competencies of third-year university students: a case study [Unpublished master's thesis]. Potchefstroom: North-West University.
- Lusardi, A. and Mitchell, O. S., 2011. Financial literacy and retirement planning in the United States. *Journal of Pension Economics and Finance*, 10(4), pp. 509-525. https://doi.org/10.1017/S147474721100045X
- Lusardi, A., 2019. Financial literacy and the need for financial education: evidence and implications. Swiss Journal of Economics and Statistics, 155(1), pp. 1-8. https://doi.org/10.1186/s41937-019-0027-5
- Maistry, S., 2010. Breaking the back of economic and financial (il)literacy in South Africa: a critical reflection of the role of economic education. *Unisa Press*, 24(3), pp. 432-442. https://doi.org/10.4314/sajhe.v24i3.63447
- Matemane, M. R., 2018. Saving for tomorrow: does the level of financial literacy in the South African working class matter? *Southern African Business Review*, 22, pp. 1-21. https://doi.org/10.25159/1998-8125/4443
- Mitchell, O. S. and Lusardi, A., 2015. Financial literacy and economic outcomes: evidence and policy implications. *The Journal of Retirement*, 3(1), pp. 107-114. https://doi.org/10.3905/jor.2015.3.1.107
- Nanziri, E. L. and Leibbrandt, M., 2018. Measuring and profiling financial literacy in South Africa. South African Journal of Economic and Management Sciences, 21(1), pp. 1-17. https://doi.org/10.4102/sajems.v21i1.1645
- National Credit Regulator, 2013. *Consumer credit continues to grow.* Johannesburg: National Credit Regulator.
- Oseifuah, E., 2010. Financial literacy and youth entrepreneurship in South Africa. *African Journal of Economic and Management Studies*, 1(2), pp. 164-182. https://doi.org/10.1108/20400701011073473
- Peterson, D. D., 2011. An analysis of financial literacy in the target market of a state-owned bank [Unpublished master's thesis]. Potchefstroom: North-West University.
- Ramalho, B. and Forte, D., 2019. Financial literacy in Brazil do knowledge and self-confidence relate with behavior? *RAUSP Management Journal*, 54(1), pp. 77-95. https://doi.org/10.1108/RAUSP-04-2018-0008
- Raue, M., D'Ambrosio, L. A., and Coughlin, J. F., 2020. The power of peers: prompting savings behavior through social comparison. *Journal of Behavioral Finance*, 21(1), pp. 1-13. https://doi.org/10.1080/15427560.2019.1587762
- Robb, C. A. and Woodyard, A. S., 2011. Financial knowledge and best practice behavior. *Journal of Financial Counselling and Planning*, 22(1), pp. 60-70. https://doi.org/10.4148/jft.v3i1.1453
- Rootman, C., Kruger, J., Bakhuis, S., and Fourie, J., 2014. Perceptions of financial planning: a comparison between two age groups. *Journal of Contemporary Management*, 11(1), pp. 141-163.

- Servon, L. J. and Kaestner, R., 2008. Consumer financial literacy and the impact of online banking on the financial behavior of lower-income bank customers. *Journal of Consumer Affairs*, 42(2), pp. 271-305. https://doi.org/10.1111/j.1745-6606.2008.00108.x
- Shuttleworth, C. C., 2011. A financial literacy education framework for non-financial individuals in organisations. *Unisa Press*, 33(1), pp. 94-115.
- Supanantaroek, S., Lensink, R., and Hansen, N., 2017. The impact of social and financial education on savings attitudes and behavior among primary school children in Uganda. *Evaluation Review*, 41(6), pp. 511-541. https://doi.org/10.1177/0193841X16665719
- Symanowitz, C., 2006. The relationship between financial literacy, economic measures and delayed gratification in South Africa high school learners [unpublished master's thesis]. Pretoria: University of Pretoria.
- Tustin, D., 2010. An impact assessment of a prototype financial literacy flagship programme in a rural South African setting. *African Journal of Business Management*, 4(9), pp. 1894-1902.
- Vitt, L., Reichbach, G., Kent, J., and Siegenthaler, J., 2005. Goodbye to complacency financial literacy education in the U.S 2000-2005. Middleburg VA: Institute of Socio Financial Studies.
- Yates, D. and Ward, C., 2011. Financial literacy: Examining the knowledge transfer of personal finance from high school to college to adulthood. *American Journal of Business Education*, 4(1), pp. 65-78. https://doi.org/10.19030/ajbe.v4i1.1274