Investment Literacy of University Students in South Africa

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Abstract: There is a lack of evidence on the levels of investment literacy among South African university students in business-related courses. Being an investment literate is pivotal in making informed financial decisions that affect long term financial well-being. This study surveyed 344 students studying business degrees at a South African university to assess their investment literacy and the relationship between their investment literacy and their gender, age, discipline, major field of study, race and monthly allowance. The 2012 Financial Services Board survey revealed poor levels of financial literacy among South Africans, especially in areas of savings and investments. This study utilised ANOVA and a logistic regression model to analyse and explore relationships between the students' mean percentage scores for each investment literacy question vis-à-vis their socio-demographic diversities. The findings suggest that business students are investment literate. However, it was found that female business students are less knowledgeable than male business students and finance-related students are more knowledgeable than non-finance related students. The differences between these groups are statistically significant and imply that not all business students and eventual business graduates are investment literate. Hence, this study advocate for the inclusion of personal investment modules in the students' curriculum.

Keywords: Investment literacy; Financial literacy; Personal finance; South Africa; Logistic regression model

JEL Classification: D14; G51; G53

1. Introduction

Being able to choose an appropriate financial product is a life skill that enables an individual to make advantageous financial investment choices and avoid losing money through uninformed choices. This life skill is necessary for making

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fundamental or far-reaching life decisions such as retirement planning, having savings for unexpected life occurrences, accumulating funds towards key life events savings such as buying a house, saving for higher education etc. Often referred to as investment decision- making, Shaari et al. (2013) defined an investment decision as the commitment of funds or capital in investment securities or financial assets with the objective of generating profitable returns in the form of interest yields, capital appreciation, or other forms of income generated by such investment securities or financial assets. Recent predictions have shown that millennials worldwide are not saving and investing enough for the future (Alwi et al., 2015; Helman et al., 2015; West and Friedline, 2016; Kim et al., 2019).

In South Africa, the Financial Services Board (FSB) framework in its 2012 baseline study considered a financially literate person as someone who exhibits financial control, makes personal financial plans, has knowledge and understanding of basic financial concepts and is capable of choosing the right financial product (Struwig et al., 2012). In terms of this definitive criteria, analysis of the FSB survey results showed that numerous South Africans are financially illiterate and most deficient in the area of choosing suitable financial products. For instance, the study found that 72% of South Africans do not save, 51% keep cash/savings at home, 48% are aware of fixed deposit bank account, 38% know about shares on stock exchange, 33% have heard about unit trusts and 24% do not own any investment or savings products (Struwig et al., 2012).

This study surveyed South African university students to determine whether they are knowledgeable about basic investment concepts and products. Within this context, the purposes of this study were to: (1) determine the level of investment literacy among university students, (2) determine whether finance-related students are more investment literate than non-finance-related students, (3) explore the relationship between investment literacy and students'sociodemographic characteristics and, (4) provide empirical evidence that will assist and facilitate the development of strategies to improve investment literacy among university students. This article is structured in the following order: The second section briefly explains relevant pieces of literature on investment literacy. The third section provides insights into the data structure and research methodology employed in the analysis. The fourth section discusses the findings and results of the analysis. The final section contains concluding remarks based on the study findings.

2. Literature Review

2.1. Investment literacy: The global context

Investment literacy can be conceptualised as the understanding of the risk-return dynamics of financial investment products and financial markets as well as the

enabling financial intermediaries that ensure the functioning of the financial system. Investment literacy is pivotal to subsequent investment decisions; this has been evidenced in several global studies (Volpe et al., 1996; Volpe et al., 2002; Lusardi and Mitchell, 2011; Van Rooij et al., 2011; Ali, 2015).

Lusardi and Mitchell (2011) conclude that Americans make poor investment decisions due to lack of investment literacy. This conclusion was further substantiated in an online survey conducted by Van Rooij et al. (2011) in the Netherlands. The study, which was conducted among 1508 household participants, showed a strong relationship between financial literacy and stock market investments. For example, the survey found that less than 30% of the respondents had a grasp of how bonds work, while less than 50% understood that mutual funds are safer options than company shares. Similarly, studies by Hassan Al-Tamimi and Anood Bin Kalli (2009) and Ali (2015) found that the investment literacy of investors does impact their investment decisions. While Hassan Al-Tamimi and Anood Bin Kalli (2009) understood that the most influential factor affecting the investment decision is religion and the least influential factor is rumours, this was found in a survey conducted among 290 United Arab Emirates (UAE) investors that sought to know how financial literacy and socio-demographic factors impact investment decisions.

Similarly, Ali (2015) in a pioneer study assessed the financial literacy and behavioural attitudes of 214 Tunisian investors with stock market participation. The survey found age and income as key influences on their financial literacy. In addition, it was found that education impacts investment literacy, as well-educated investors exhibited good investment literacy and made better investment decisions. Although these studies were conducted in the UAE and Tunisia by different researchers, they confirmed earlier findings by Volpe et al. (2002), who researched investment literacy among online investors in the United States of America (USA).

Relevant studies have found poor levels of literacy among students and young adults in financial investment decisions (Volpe et al., 1996; Lusardi et al., 2010; Lam, 2015).

Volpe et al. (1996) held that the necessity for investment literacy among individuals could not be overemphasised as the effects thereof affect the quality of life of an individual. In their landmark survey of 454 American college students, it was found that the overall personal investment literacy of the students was 44%. Their findings further indicated that female and non-business major students were least literate about personal investment decisions. Subsequent studies conducted by Chen and Volpe (1998) on the personal financial literacy of 924 American college students reiterated prior findings, as the students were least literate in investment-related areas of personal finance. Volpe et al. (2002) in another survey on the investment literacy level of online investors in America via a logistic regression model, found poor

investment literacy level among the 530 online investors that participated in the study. It was further revealed that individual investors under 30 had the lowest investment literacy across several investment literacy parameters tested on and, female investors had less knowledge about personal investment (Volpe et al., 2002).

Ansong and Gyensare (2012), in an assessment of 250 working students at the University of Cape Coast in Ghana, found age and work experience as variables that impact financial literacy. They showed that a low level of financial knowledge could be attributed to a lack of a finance-related curriculum or of prior knowledge of personal finance. Scholars such as Coville (2013) have suggested a review of the American college curriculum, recommending the inclusion of seven key personal finance subjects. Amongst these are savings and investing subjects as well as risk management and insurance-related subjects.

Özdemir et al. (2015) investigated the awareness of financial products among students in the faculty of Economics and Administrative Sciences at a Turkish University. It was found that the exposure to financial concepts has a significant impact on the students' understanding of pension funds, investment accounts, unsecured debts and mobile payments. Also, Chmelíková (2016) investigated financial decision making in personal finance matters among 575 undergraduate and graduate finance students of Masaryk University in the Czech Republic. The study found that students' financial decisions were not significantly influenced by their socio-demographic characteristics —the opinions of friends or relatives who work with financial service organisations were taken into account.

2.2. Investment literacy: The South African case

While there is currently no specific study on students' investment literacy within the South African context, several studies, such as Kotzé and Smit (2008), Struwig et al. (2012) and Fatoki (2014), have researched this issue in relative terms of financial literacy, behaviour and financial related decisions among South African university students. A 10-year review of relevant empirical studies is discussed below.

Kotzé and Smit (2008) considered whether adequate financial knowledge is a determinant of reliable personal investment decisions. Their quantitative survey among 286 business management students at the University of the Free State found that there is a strong association between personal financial knowledge and control over personal finance, as well as confidence in making personal investment decisions. It was further found that the students exhibited inadequate personal financial knowledge resulting in lack of financial confidence in their investment decisions. This was also believed to be a possible explanation for the low incidence of entrepreneurial activities in South Africa.

Van Nieuwenhuyzen (2009) in his doctoral thesis investigated the development of a valid and reliable financial literacy measurement instrument that is scientifically and socially contextual for the South African environment. This measurement tool was further used to assess the literacy of 134 South African Military Academy students on financially related issues including personal investment decisions. The study found that the average literacy of the respondents was 50.17%, as against their perceived literacy of 60.80%. While the students found two retirement questions to be the easiest (72%), their lowest performance was recorded in the eight investment-related questions (39%). These questions tested respondents' knowledge of personal investing, insurance and inflation.

Rugimbana and Kojo Oseifuah (2010) conducted a survey on 39 young entrepreneurs in the Vhembe District of the Thulamela Municipality in Limpopo. The study sought to assess the financial literacy of the entrepreneurs who were conducting business within the Thohoyandou and Sibasa commercial business district. It was found that 72% of the entrepreneurs were knowledgeable about interest rates, though only 62% of them had received tertiary education. While 51% knew about the National Credit Act, 72% were keen on improving their financial knowledge. Though it was concluded that these young entrepreneurs (71.8% between the age group of 26-35 years) possessed a financial literacy level above average, 30.8% of them were ignorant about the stock exchange.

Tustin (2010), in an experimental study conducted in Giyani, a rural community in Limpopo, found that the implementation of the Bubomi financial literacy flagship programme can significantly improve financial knowledge, behaviour and attitude of the residents in rural areas of South Africa. The flagship programme, which was developed by the Absa Group Limited, provides evidence of significant distinctions between the experimental group (Bubomi participants) and the control group (not-Bubomi participants). For example, the ANOVA-test results showed statistically significant differences between the two groups on all financial constructs. In addition, it was found that 70% of the Bubomi participants were more likely to read extensively about finances and money matters or to consult a financial investment advisor before making investment decisions. This is opposed to 48.2% and 12.3% respectively for the not Bubomi group.

According to Struwig et al. (2012), the reviewed literature conforms with the headline reports of 2012 FSB Baseline Survey in South Africa. The reports, which were based on a survey of 2992 South Africans across diverse socio-demographic groups, reported low financial literacy, with the investment-related domain having the lowest score. A number of the findings of the baseline study showed that 72% of South Africans do not save, 38% know about shares on the stock exchange, and 33% have heard about unit trusts.

Botha (2013) quantitatively investigated whether students studying a finance-related postgraduate diploma are more financially literate than those studying a non-finance-related postgraduate diploma. In the comparative study that questioned 163 students, the non-finance students perceived themselves to be fairly literate about financial decisions, while the finance-related students displayed a positive self-perception of literacy in financial decisions. However, the researcher found that there is a generally low financial literacy among university diploma students in both finance and non-finance related fields, with an average literacy score of 53.4%. While many of the socio-demographic variables could not be assessed due to lack of variation, the study found that parental income has a significant impact on the financial literacy of the students. In addition, the study affirmed findings from existing studies that the particular field of study does influence financial literacy. It was found that there was no statistical difference between either groups' knowledge of financial markets or instruments.

Louw et al. (2013) assessed the financial literacy needs of third-year students at North-West University. The study quantitatively surveyed 424 students across the faculties of Arts, Engineering and Business. The researchers sought to know how knowledgeable the students were about their socio-economic environment and the financial world as well as their financial literacy, using a self-developed questionnaire and a cluster analysis framework. The financial literacy of the students was studied under the four clusters of general financial literacy questions, financial planning and investments, banking and taxation, and legal and sundry financial matters. While the students have a poor average for general financial literacy, the results showed that their knowledge of investments, financial planning and banking were low. However, the researchers did not analyse the information from the perspective of the different faculties.

Fatoki (2014) conducted a study among non-business students at two South African universities that revealed that, amongst the 99 respondents, 72 students admitted that they do not save. Of the respondents, 57 were interested in financial knowledge, while 94 indicated they would be willing to take a personal finance course as an elective. However, results from the descriptive analyses found that the students had poor financial attitudes and behaviour patterns. Oseifuah and Gyekye (2014) assessed the financial attitude, knowledge and behaviour patterns of 45 final-year Bachelor of Commerce in Accounting students at the University of Limpopo. The study, which utilised a logistic regression, investigating the literacy of the students about financial products and use of bank credit and savings facilities. The results from the logistic regression found gender to be statistically significant, suggesting that male accounting students are more knowledgeable about personal finance matters than female students. Pocket income was negative, showing that students who get less than or equal to R500 per month are less likely to be financially knowledgeable. The study further suggested that a possible reason for the poor

financial literacy among students with less than or with R500 per month could be that such income is expended on consumption only.

Rousseau and Venter (2016) investigated the financial literacy of 560 consumers in Port Elizabeth with the aim of assessing their financial insight as well as their financial behaviour. The study utilised a heuristic model that consisted of socio-demographic variables, financial insights variables and financial behaviour variables. Different sub-variables were further assessed to provide an evaluation of the household under the three broad themes. The researchers utilised convenience sampling with 60 graduate students, who acted as voluntary field workers. Based on the analysis, it was found that households in Port Elizabeth were most literate in the areas of financial control and financial discipline and least literate in financial planning. The study revealed that employment level, age, gender, marital status and education have a significant influence on financial behaviour and insights. The study concluded that poor financial behaviour and lack of insight is prevalent among young unemployed single South Africans with a low level of education.

3. Data and Research Methodology

This study adopted a quantitative research design, which utilised a questionnaire to elicit required information on basic investment literacy of university students. The questionnaire measured the respondents' investment knowledge as well as required the respondents to provide information on their socio-demographics. A pilot study was conducted amongst a separate group of respondents, before finalising the questionnaire for use. Hence, the reliability and validity of the questionnaire were evaluated using Cronbach's Alpha.

3.1. Survey Questionnaire

The finalised questionnaire consisted of 19 questions, in two categories of socio-demographic questions (7) and investment literacy questions (12). The first category comprised questions such as gender, age, major field of study, monthly allowance, and race/ethnic background.

The second category of the questionnaire tested general investment literacy via a set of basic and advanced questions. This comprised of 12-multiple choice questions which tested the students' knowledge in areas of basic investment calculations, their understanding of financial markets and products, and their knowledge of risk and diversification. The questions in this section were adapted from items used in existing published studies (Volpe et al., 1996; Van Rooij et al., 2011; Glaser and Walther, 2014).

3.2. Descriptive and Frequency Distribution of Data

This study conducted on both Westville and Howard campuses, amongst final-year business students in the College of Law and Management Studies, University of KwaZulu-Natal, South Africa. This population group comprised of final year students in Accounting, Economics, Finance, Management, and Law B. Comm and LLB degrees. The student group were further categorised into finance and non-finance cohorts for the purpose of the study. The finance group (SAEF), consisted of students studying towards Accounting, Economics and Finance degrees, while the non-finance group (Non-SAEF), consisted of students studying towards Management and Law degrees.

The study utilised a random sampling technique, and total sample size of 344 questionnaires was considered valid for the study while 27 questionnaires were invalidated for reasons such as non-completion of questions, and/or omission of consent on the accompanying informed consent page. Detailed characteristics of the sample are presented in Table 1.

Table 1. The characteristics of the study's respondents

Characteristics	Number	Percentage
Age Group		
18-20	82	23.8
21+	262	76.2
Gender		
Male	151	43.9
Female	193	56.1
Racial/Ethnic Group		
African	240	69.8
Indian	93	27.0
Coloured	8	2.3
White	3	0.9
Major Field of Study		
Accounting	115	33.4
Finance	36	10.5
Economics	51	14.8
Law	82	23.8
Management	60	17.4
Discipline		
SAEF	202	58.7
Non-SAEF	142	41.3
Monthly Income		
< R1000	183	53.2
R1001-R2000	107	31.1
R2001-R3000	25	7.3

R3001-R4000	11	3.2
R4001-R5000	5	1.5
R5001-R6000	13	3.8

3.3. Research Methodology

For actual literacy, respondents who scored a mean score of ≥ 9.0 were found to have good actual literacy. The actual literacy scores were disaggregated further into high literacy (≥ 80%), moderate literacy (≥ 60% - ≤ 79%), and low literacy (≤ 59%) levels. The foremost grouping indicated a comparatively high level of investment literacy. The second range denoted a medium level of investment literacy. The last group signified a relatively low level of investment literacy. In addition, a one-way ANOVA was used to determine the differences between each of the independent variables and the aggregate investment literacy score. The F statistics were tested at ≤ 0.05 significance level.

In order to assess the impact of socio-demographic variables on the students' investment literacy, a binary logistic regression model was developed. In this study context, the dichotomous variable, based on responses obtained from the main questions in the questionnaire was used in the logistic regression model as the dependent variable, which was further illustrated by each independent variable category to test for significance with respect to investment literacy. The independent variable classes considered were socio-demographic variables such as gender, age, major field of study, race, and monthly allowance, while the dependent variable categories include each investment literacy question.

The coefficients of these variables represented the influence of the individual subgroup relative to a reference group that was chosen subjectively. For example, DISCIPLINE was coded as (1) if the respondent's discipline is non-finance related (Non-SAEF), 0 otherwise. Therefore, the reference category (0) is finance-related (SAEF). If the logistic coefficient of the variable is negative, then it implies that in comparison with finance-related (SAEF), the non-finance related (Non-SAEF) are associated with a decreased log odds ratio of being investment literate. The Maximum likelihood estimate was further utilised to obtain the coefficients of the predictors. Thus, the logistic model for this study was expressed in the following form:

$$log\ [p/(1-p)]\ IL = \beta 0 + \beta 1(GENDER) + \beta 2(AGE) + \beta 3(DISCIPLINE) + \beta 4(MAJOR1) + \beta 5(MAJOR2) + \beta 6(MAJOR3) + \beta 7(MAJOR4) + \beta 8(RACE1) + \beta 9(RACE2) + \beta 10(RACE3) + \beta 11(ALLOWANCE1) + \beta 12(ALLOWANCE2) + \beta 13(ALLOWANCE3) + \beta 14(ALLOWANCE4) + ei$$

Where:

IL= The level of investment literacy.

P = The probability of a student with relatively more investment literacy.

GENDER =1 if the respondent is a Male, 0 otherwise.

AGE = 1 if a respondent is in the age group of below 18-20, 0 otherwise.

DISCIPLINE = 1 if a respondent is a Non-SAEF major, 0 otherwise.

MAJOR1 = 1 if a respondent is Accounting, 0 otherwise.

MAJOR 2 =1 if a respondent is Economics, 0 otherwise.

MAJOR3 = 1 if a respondent is Law, 0 otherwise.

MAJOR4 =1 if a respondent is Management, 0 otherwise.

RACE1 = 1 if a respondent is Indian, 0 otherwise.

RACE2 = 1 if a respondent is coloured, 0 otherwise.

RACE3 = 1 if a respondent is white, 0 otherwise.

ALLOWANCE1 = 1 if a respondent's Monthly Allowance is less than R1000, 0 otherwise.

ALLOWANCE2 = 1 if a respondent's Monthly Allowance is between R1001-R2000, 0 otherwise.

ALLOWANCE3 = 1 if a respondent's Monthly Allowance is between R2001-R3000, 0 otherwise.

ALLOWANCE4 = 1 if a respondent's Monthly Allowance is between R3001-R4000, 0 otherwise.

ALLOWANCE5 = 1 if a respondent's Monthly Allowance is between R4001-R5000, 0 otherwise.

4. Results and Discussion

4.1. Descriptive Analysis

Results in Table 2 below indicate that on average, business students have a working level of personal investment literacy. It was found that the overall mean of the investment literacy score of the 344 business students was 88%. A detailed analysis of this average score revealed that out of the 344 respondents 45.1% (n=155) have high investment literacy levels; 27.3% (n=94) have moderate investment literacy, and 27.6% (n=95) have low investment literacy levels.

Additionally, an analysis of the students' literacy of each investment literacy question depicted that the majority (92.4%) of the students were most knowledgeable about shares and least (54.1%) knowledgeable about unit trusts. This breakdown is explicated in Table 2 below.

Table 2. **Percentage of the correct answer for each question and the Entire survey**

Rank	**Question**	**Question subject**	**Percentage of the correct answer**
1	6	Shares	92.4%
2	1	Simple interest	82.3%
3	5	JSE: Financial market	82.0%
4	10	Risk and Portfolio diversification	78.8%
5	4	Inflation	78.5%
6	3	inflation	74.1%
7	9	Shares	73.0%
8	11	Risk nature of financial instruments	72.4%
9	12	Unit trust	67.7%
10	8	Bond	66.0%
11	2	Compound Interest	59.6%
12	7	Unit Trust	54.1%
Mean correct percentage responses for the entire survey			88.0%
Median percentage correct responses for the entire survey			90.0%
Standard deviation correct responses for the entire survey			2.348

4.2. Analysis of Variance (ANOVA)

In order, to determine whether finance-related students are more investment literate than non-finance-related students whilst exploring the relationship between other socio-demographic variables and investment literacy, Table 3 shows the mean percentage of correct responses for each question and the entire survey by various groups of respondents, as well as the results of the analysis of variance (One-Way ANOVA).

As shown in the information contained in the Gender section of Table 3, the average means percentages of correct answers of the entire survey evidence that male students are marginally more investment literate than female students. However, the F statistic suggests that the differences between their literacy levels are not statistically significant. This finding is in accordance with studies such as (Volpe et al., 1996; Van Rooij et al., 2011; Oseifuah and Gyekye, 2014; Bucher-Koenen et al., 2017). Consistent with previous studies (Volpe et al., 2002; Shaari et al., 2013), the mean percentages of correct answers in the Age category of Table 3, indicates that older students are more investment literate than the younger students. This is further

evident as the F statistics records statistically significant disparities in 3 out of 12 questions on investment literacy. This statistical difference was evident in questions relating to JSE, Bond, and Diversification.

The One-Way ANOVA result for the entire sample suggests that students in Finance--related discipline (SAEF) are significantly more literate than those in a non-finance related discipline (Non-SAEF). This difference was statistically significant across all investment literacy knowledge areas that were tested. While a number of studies have suggested that discipline does not affect knowledgeability in financial decision-making (Botha, 2013), other studies have posited differently (Volpe et al., 1996; Kotzé and Smit, 2008; Shaari et al., 2013; Shahrabani, 2013).

This study affirmed that finance-related students are better investment literate and capable of making sound financial decisions than their non-finance peers in other business-related disciplines such as Law and Management. In addition, the mean percentage for the entire survey affirmed that finance-related students are more investment literate than their non-finance peers as explicated via the Major Field of Study category.

In Table 3, the average mean percentage of correct responses indicate that students studying finance majors are most Investment literate, followed by students majoring in Accounting, Economics, Management and Law degrees, respectively. The differences in these overall results were statistically significant, and the F statistics recorded statistical significance of 9 out of 12 questions. In this context, no statistical significance was found in respect of questions relating to simple interest, JSE and Risk, as similar responses were found across all major field of study. This finding is consistent with studies such (Volpe et al., 1996; Kotzé and Smit, 2008; Shaari et al., 2013; Shahrabani, 2013).

Except for two questions out of the 12 questions on investment literacy, the One-Way ANOVA result for the sample suggested that there is no statistical significance between investment literacy and race diversity among South African students. The F statistics showed a statistically significant difference for questions on unit trusts and diversification. Additionally, the overall result showed that Indians were the most investment literate, while Black Africans are the least investment literate. However, this is not statistically significant. This finding supports findings for studies such as (Botha, 2013), that did not find a race as a key factor in making financial decisions.

The One-Way ANOVA result for the entire sample indicates that students who received between R1001 – R 2000 as the monthly allowance is more investment literate, while students that earn between R4001 – R 5000 are the least investment literate. An analysis across the overall averages for monthly allowances suggested that students with lower incomes are more investment literate than those with incomes above R4000. While the F statistics showed a statistically significant

difference across these averages, except for questions the interest rate, none of the 12 questions was statistically significant. This finding is inconsistent with studies such as (De Bassa Scheresberg, 2013; Oseifuah and Gyekye, 2014; Soria et al., 2014).

4.3. Logistic Regression Model

Table 4 provides the results of the logistic regression analysis which illustrates marked explanatory power. Furthermore, the overall Chi-square shows are statistically significant.

Whilst the impact of the socio-demographic variables such as Discipline and Major field of study was expected, the effects of other tested socio-demographic variables based on the logistic regression for the entire survey is further discussed. Volpe et al. (1996) concluded that non-business major students exhibit poor basic personal investment knowledge, emphasising that finance undergraduates are more investment literate than non-finance undergraduates. Kotzé and Smit (2008), in a study conducted among 286 business management students at the University of the Free State, found a lack of financial confidence due to a dearth of financial knowledge. Shaari et al. (2013) found a positive relationship between the financial courses taken by university students and their knowledge of personal financial variables. Botha (2013) found a low level of financial literacy among university diploma students in both finance and non-finance related fields. In this context, it was shown that the field of study does not significantly influence students' knowledge of financial markets and instruments. This is inconsistent with findings from a survey conducted at a number of Israeli universities that showed students studying economics and business administration are more literate in financial-related decisions than students in other disciplines (Shahrabani, 2013).

In addition, the logistic regression showed that male students are more investment literate than female students. This is consistent with studies such as (Volpe et al., 1996; Van Rooij et al., 2011; Oseifuah and Gyekye, 2014; Bucher-Koenen et al., 2017). The One-way ANOVA did not find the variable gender as statistically significant. Additionally, whilst the One-way ANOVA found monthly allowance to be a significant variable, this was not reflected on the logistic regression. De Bassa Scheresberg (2013) concluded that financial literacy is particularly low among certain demographic groups and individuals, such as women, minorities, low-income earners and less-educated young adults. This was in conformity with the findings of a survey conducted across six public universities in America. The survey, which investigated financial decisions among undergraduate students from low-income and working-class social backgrounds, using logistic regression, found that students within this category are prone to making financial decisions that are detrimental in both the short and long (Soria et al., 2014).

Both the One-Way ANOVA and logistic regression analysis found age and race to be statistically insignificant in determining the investment literacy of the students. While Volpe et al. (1996) found low levels of investment literacy amongst undergraduates between the ages of 18 and 22 years, Shaari et al. (2013) explained that an acceptable explanation for the low level of financial knowledge amongst youths can be ascribed to demographic diversity and the youthful exuberance of university students. Similarly, several South African studies have revealed that a lack of variation has inhibited the effective study of university students' literacy and behaviour patterns across racial demographic constructs (Botha, 2013; Rousseau and Venter, 2016).

5. Conclusion

The findings of this study suggest that South African Business students at the University of KwaZulu Natal were investment literate with a literacy score of 88%, and students studying towards a finance degree were the most literate in investment related decisions. This study further shows that the student's investment literacy is largely influenced by their particular discipline and major field of study. This was found as finance-related students exhibited better investment literacy than their non-finance related peers. In addition, while gender was found significant in the logistic regression model, the one-way ANOVA for the entire survey found it to be insignificant. Consequently, the study concluded that although business students at UKZN are investment literate, their literacy levels are primarily influenced by their discipline and major fields of study.

This insight is fundamental to the provision of a viable approach to deal with the investment illiteracy in South Africa, which propagates the inculcation of basic personal financial literacy topics in curricula and specifically focus attention on individual and specifically female susceptibilities to uninformed investment decisions.

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APPENDIX

Table 3. Mean percentage of Correct Responses to Each by Socio-Demographic features of sample and Results of ANOVA

Characteristics	Simple interest	Compound interest	Interest rate	inflation	JSE	Shares	Unit Trust	Bond	Shares features	Diversification	Risk	Diversification	Entire survey
Gender													
Male	84.8%	57.6%	72.2%	80.1%	82.1%	92.7%	55.0%	73.5%	73.5%	76.2%	76.2%	66.9%	74.23%
Female	80.3%	61.1%	75.6%	77.2%	81.9%	92.2%	53.4%	60.1%	72.5%	80.8%	69.4%	68.4%	72.74%
F Statistic	1.151	0.435	0.527	0.429	0.004	0.029	0.087	6.880	0.040	1.102	1.918	0.087	1.165
Age Group													
18-20	78.0%	56.1%	72.0%	85.4%	73.2%	93.9%	52.4%	56.1%	73.2%	68.3%	68.3%	69.5%	70.53%
21+	83.6%	60.7%	74.8%	76.3%	84.7%	92.0%	54.6%	69.1%	72.9%	82.1%	73.7%	67.2%	74.31%
F Statistic	1.311	0.544	0.265	3.025	5.712**	0.327	0.115	4.730**	0.002	7.189*	0.899	0.155	0.993
Discipline													
SAEF	86.1%	69.8%	82.2%	85.1%	92.6%	94.1%	60.9%	78.7%	81.2%	94.1%	77.7%	75.7%	81.52%
Non-SAEF	76.8%	45.1%	62.7%	69.0%	66.9%	90.1%	44.4%	47.9%	61.3%	57.0%	64.8%	56.3%	61.86%
F Statistic	5.072**	22.439*	17.270*	13.278*	41.464*	1.832	9.365*	39.111*	17.532*	84.796*	7.081*	14.905*	13.802*
Major Field of Study													
Accounting	89.6%	72.2%	89.6%	89.6%	92.2%	93.9%	61.7%	77.4%	81.7%	98.3%	80.9%	76.5%	83.63%
Finance	86.1%	75.0%	69.4%	86.1%	97.2%	94.4%	72.2%	77.8%	94.4%	97.2%	77.8%	86.1%	84.48%
Economics	78.4%	60.8%	74.5%	74.5%	90.2%	94.1%	51.0%	82.4%	70.6%	82.4%	70.6%	66.7%	74.68%
Law	78.0%	39.0%	61.0%	69.5%	65.9%	93.9%	36.6%	46.3%	62.2%	61.0%	65.9%	56.1%	61.28%
Management	75.0%	53.3%	74.1%	68.3%	68.3%	85.0%	55.0%	50.0%	60.0%	51.7%	63.3%	56.7%	63.39%
F Statistic	2.082	7.080*	6.558*	4.584*	10.548*	1.447	4.628*	9.879*	6.069*	23.933*	2.266	4.706*	11.450*
Racial/Ethnic Group													
African	81.3%	57.5%	71.7%	75.4%	80.0%	91.7%	48.3%	66.7%	70.8%	76.7%	69.2%	62.9%	71.02%
Indian	84.9%	66.7%	79.6%	84.9%	88.2%	94.6%	69.9%	64.5%	78.5%	81.7%	80.6%	78.5%	79.38%
Coloured	100%	50.0%	87.5%	100%	75.0%	87.5%	50.0%	50.0%	75.0%	100.0%	62.5%	87.5%	77%
White	33.3%	33.3%	66.7%	66.7%	66.7%	100%	33.3%	100%	100.0%	100.0%	100%	66.7%	72.23%
F Statistic	2.449	1.176	1.006	2.039	1.263	0.451	4.497*	0.862	0.687	1.362	1996	3.013**	1.447
Monthly Income													
<R1000													
R1001-R2000	83.2%	61.7%	86.9%	82.2%	84.1%	96.3%	51.4%	69.2%	81.3%	81.3%	82.2%	71.0%	77.57%
R2001-R3000	84.0%	44.0%	56.0%	84.0%	92.0%	88.0%	52.0%	52.0%	76.0%	76.0%	76.0%	64.0%	70.33%
R3001-R4000	63.6%	45.5%	72.7%	72.7%	72.7%	90.9%	72.7%	72.7%	81.8%	90.9%	72.7%	81.8%	74.23%
R4001-R5000	80.0%	60.0%	80.0%	60.0%	60.0%	80.0%	60.0%	40.0%	40.0%	60.0%	60.0%	80.0%	63.33%
R5001-R6000	61.5%	61.5%	76.9%	69.2%	69.2%	100%	61.5%	53.8%	69.2%	61.5%	53.8%	46.2%	65.36%
F Statistic	1.409	0.765	3.345*	0.686	1.153	1.186	0.446	1.070	1.855	0.969	2.012	0.977	1.939**

****P<0.05, *P<0.01**

Table 4: Logistic Regression Results on Investment Literacy

Characteristics	Simple interest	Compound interest	Interest rate	inflation	JSE	Shares	Unit Trust	Bond	Shares features	Diversification	Risk	Diversification	Entire survey
Gender	-0.478	0.064	-0.071	-0.380	-0.084	-0.165	-0.085	-0.802*	-0.183	0.120	-0.517	-0.022	-0.531**
Age Group	0.496	-0.237	-0.276	-1.044*	0.542	-0.163	-0.324	0.435	-0.259	0.850**	0.228	-0.313	-0.58
Discipline	-0.632**	-1.036*	-1.010*	-0.946*	-1.819*	-0.549	-0.669*	-1.392*	-1.004*	-2.479*	-0.640*	0.884*	-2.353*
Accounting	-1.049**	-0.852**	-1.679*	-1.433*	-1.932*	-1.175**	-0.417	-1.408*	-1.230*	-4.060*	-1.140*	-0.956*	-2.467*
Economics	-0.726	-0.931	-0.056	-0.812	-2.852*	-0.946	-0.582	-1.499*	-2.451*	-3.724*	-0.709	-1.439**	--2.284*
Law	-0.353	-0.305	-0.379	-0.296	-1.736*	-1.012	0.054	-1.414*	-0.440	-1.542*	-0.290	-0.403	-1.732*
Management	-0.497	0.676	0.146	0.222	-0.297	--1.114	0.713	0.062	-0.086	-0.836**	-0.461	-0.057	0.257
Indian	-1.752	-1.258	-0.655	-0.054	-0.777	15.847**	-0.798	19.003	-0.150	19.091*	19.559*	1.041	-0.239
Coloured	-2.041	-1.363	-1.247	-0.649	-1.214	15.206**	-1.459	19.372	-0.348	18.974*	18.791*	0.341	-0.655
White	-20.773	-0.450	-1.476	-18.983	0.346	16.454**	-0.587	20.189*	0.115	1.720	20.164*	-0.018	-0.425
< R1000	-0.980	0.670	1.043	0.197	-0.468	18.060	0.742	-0.680	0.396	-1.015	-1.043	-0.814	-0.461
R1001-R2000	-1.025	0.590	-0.272	-0.379	0.693	17.002	0.737	-0.791	-0.483	-1.278	-2.007*	-1.157	-0.702
R2001-R3000	-0.906	1.243	1.518	-0.522	-1.701	18.258	0.739	-0.129	-0.154	-1.076	-1.460	-0.802	-0.493
R3001-R4000	-0.006	1.259	0.617	0.197	0.013	17.928	-0.194	-0.971	-0.589	-2.525	-1.443	-1.844	-0.743
R4001-R5000	-0.768	0.318	0.024	0.374	0.553	18.811	0.087	0.416	1.169	-0.229	-0.872	-1.944	-0.927

****P<0.05, *P**