

AN EMPIRICAL ANALYSIS OF FINANCIAL LITERACY OF UNIVERSITY STUDENTS IN CAPE TOWN

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ABSTRACT

With approximately two-thirds of the global population considered financially illiterate, enhancing financial literacy to foster greater financial well-being and security has become increasingly urgent. This study investigated the relationship between financial literacy and socio-demographic factors, financial behaviours, and sources of financial knowledge among university students at a major tertiary institution in Cape Town (“the University”). Using a cross-sectional survey and quantitative analysis, the research aimed to assess students' financial literacy levels and identify significant predictors of financial literacy. A structured questionnaire was administered to 355 students, and the data were analysed using multiple linear regression. Key findings indicated that gender, age, self-assessed financial knowledge, and faculty affiliation significantly influenced financial literacy. Moreover, experiential learning emerged as a crucial source of financial knowledge, whereas financial behaviour did not correlate significantly with financial literacy. The results highlight the need for targeted financial education initiatives, particularly for female students, those aged 18 to 20, and those in non-commerce faculties, to address gaps in financial literacy and improve students' overall financial well-being. Universities should consider integrating financial literacy programs into the broader curriculum, targeting younger, non-commerce students who may have less exposure to financial concepts.

Keywords: Financial literacy; financial behaviour; financial knowledge

INTRODUCTION

Financial literacy is critical to individual and societal well-being, particularly in an increasingly complex global financial environment. It is defined as the combination of financial knowledge, skills, and behaviours that enable sound financial decision-making and

is essential for effective financial management and long-term prosperity (OECD, 2023). Numerous global studies have identified significant gaps in financial literacy, particularly among vulnerable groups, including women and low-income individuals. In South Africa, these disparities are exacerbated by socio-economic inequalities, making financial literacy a critical issue for the nation's youth. As such, university students constitute a key demographic for financial literacy research, as their financial knowledge and behaviours are likely to influence their future financial stability and economic contribution. Therefore, assessing the financial literacy levels of university students is essential, given their need for adequate financial knowledge to navigate increasingly complex financial environments, manage personal finances independently, and secure long-term financial well-being. Although existing studies have explored financial literacy among South African university students, there remains a notable gap in understanding how socio-demographic factors, financial behaviours, and sources of financial knowledge influence students' financial literacy at the University.

LITERATURE REVIEW

This section examines the definition and importance of financial literacy and reviews international and South African studies on its relationship with socio-demographic factors, financial behaviour, and sources of financial knowledge.

Definition and Importance of Financial Literacy

Financial literacy is a multidimensional concept, encompassing financial knowledge, education, and capabilities. Fundamentally, financial literacy is regarded as the utilisation of information, guidance, and advice to enhance one's understanding of finances (OECD, 2016). Furthermore, once the inherent knowledge, skills, attitudes, and behaviours of financial literacy are grasped, the likelihood of attaining one's financial goals and achieving favourable financial outcomes increases.

The development of financial literacy fosters greater well-being and prosperity. Damayanti et al. (2018) acknowledge the importance of financial literacy as a foundation for making intelligent financial decisions and managing financial opportunities. Jayanthi & Rau (2019) found a strong correlation between financial illiteracy and adverse financial outcomes, including debt accumulation. This was further confirmed by Garman et al. (1996), who found that overspending, excessive credit card usage and emergency funding deficits arise when financial literacy is inadequate. Additionally, insufficient financial literacy leads to further disadvantages, including unfamiliarity with interest rates and the risk allocation associated with financial products (Adamkovic & Martoncik, 2017). Therefore, basic financial literacy is essential for successful financial management and prosperity. Moreover, the rapidly evolving and increasingly complex financial landscape emphasises the importance of

individuals remaining informed and adaptable to changes in financial systems. Staying informed about the growing variety of financial products is an essential element of financial literacy that must be sustained and regularly revisited to allow continued participation in the global economy (Smit, 2021). This growing complexity further highlights the critical importance of fostering financial inclusion and staying informed about new financial developments.

Ansar et al. (2021) strengthened this argument by revealing that nearly one-quarter of the global adult population was unbanked, highlighting the persistent need for greater financial inclusion. More than half of individuals with low financial literacy report lacking sufficient knowledge to manage a bank account independently without institutional assistance (Lusardi & Messy, 2023). Moreover, an analysis of 25 countries in Sub-Saharan Africa found that 31 percent of individuals using mobile money accounts could not do so independently and relied on assistance to navigate these digital financial tools (Lusardi & Messy, 2023). This lack of financial proficiency amplifies financial exclusion, hindering their ability to achieve financial autonomy and freedom.

In a South African context, the consequences of low financial literacy are particularly pronounced. Citizens with limited financial knowledge exhibit inadequate saving habits, accumulate significant debt, lack sufficient retirement planning, and experience mental health challenges resulting from the stress of financial instability (Oseifuah & Gyeke, 2014). This situation highlights the severe consequences of insufficient financial literacy on an individual's well-being. Given these challenges, assessing the current level of financial literacy among the youth is critical.

Global Financial Literacy

The importance of financial literacy has been recognised globally, prompting increased research to measure financial literacy levels and identify influential variables.

The Organisation for Economic Co-operation and Development (OECD, 2023) conducted a major study assessing financial literacy among adults in 40 countries, including both advanced and emerging economies. The results revealed an average financial literacy score of 60 percent across all participating countries. However, the OECD contended that the complexity of contemporary financial products and systems requires a higher threshold for financial literacy. As a result, the organisation set a minimum target score of 70 percent to be deemed financially literate. When this benchmark is applied, only 34 percent of adults across the participating nations met the standard (OECD, 2023). This finding indicates that just over one-third of the global population demonstrates adequate financial literacy. In a South African context, a study by Roberts et al. (2018) found that only 51 percent of the population is financially literate. The results showed that the majority of South Africans could answer

basic arithmetic questions. However, when asked inflation-linked questions, only 16 percent responded correctly, and just under 50 percent of the population answered the interest and compound interest-related questions correctly. These findings highlight significant gaps in financial knowledge among the South African population, particularly in areas essential for long-term financial planning and security.

However, studies examining financial literacy among South African university students have yielded mixed results. Wingfield (2016) conducted a study at the University of Pretoria assessing students' financial literacy and found that while the average score for basic financial literacy was just above 70 percent, scores for more advanced financial concepts dropped significantly, averaging 52 percent. The most notable deficiencies were observed in questions related to compound interest, unit trusts, and the relationship between interest rates and bond prices. In contrast, Smit (2021) reported that Nelson Mandela University students exhibited higher levels of financial knowledge, with an average score exceeding 70 percent. This discrepancy suggests variability in students' financial literacy across different institutions or regions. Similarly, Nanziri and Leibbrandt (2018) found that students exhibited relatively low levels of financial literacy, underscoring the need for targeted interventions to improve financial education in this demographic.

Studies across geographies reveal a concerning trend in financial literacy levels, as noted by OECD assessments and Klapper et al. (2014). Consequently, South African university students present a valuable area for further investigation.

Socio-demographic Factors and Financial Literacy

Research on the determinants of financial literacy has revealed significant correlations with socio-demographic factors. Globally, studies have identified deficiencies in financial literacy among vulnerable groups, particularly women, low-income earners, and individuals with lower levels of education (OECD, 2024).

The global gap in financial literacy between men and women has been a consistent finding, with women generally underperforming in financial literacy assessments². Klapper et al. (2014) reported that women worldwide scored, on average, five percent lower in financial literacy and exhibited lower financial confidence. In India, where cultural norms reinforce men as the financial decision-makers, the gender gap in financial literacy widens to 7 percent (Singh & Kumar, 2017). These global findings were further supported by a study revealing men display more financial knowledge than women (Preston & Wright, 2019). Thus, suggesting that sociocultural norms are key in shaping financial literacy outcomes.

² See previous studies for further explanation (Klapper et al., 2014; Singh & Kumar, 2017; Preston & Wright, 2019).

Furthermore, income levels are consistently linked to financial literacy in the global literature. An OECD (2023) study shows that higher income levels are associated with improved financial literacy. In BRICS countries, income disparities in financial literacy are evident, with higher-income earners exhibiting greater financial knowledge than their lower-income counterparts (Klapper et al., 2014). Similarly, in South Africa, students receiving more than R5 000 (\$298) per month had higher financial literacy scores than those receiving less than R5 000 per month (Smit, 2021).

Ethnicity is another variable that influences financial literacy, especially within South Africa's unique racial context, shaped by its social inequality. Financial literacy rates remain low among the Black population, a lingering effect of restricted economic participation during Apartheid (Nanziri & Leibbrandt, 2018). In contrast, the White population exhibits the highest financial literacy levels, followed by the Indian, Coloured, and Black populations (Nanziri & Leibbrandt, 2018). Disparities were also found among racial groups in a study conducted by Roberts et al. (2018), highlighting the need for financial integration and the upliftment of the Black majority. Among students, White individuals showed the highest financial literacy scores (Smit, 2021; Wingfield, 2016). Given the country's racial and socio-economic history, examining financial literacy among university students is crucial for understanding how these disparities affect younger generations.

Globally and in South Africa, financial literacy is shaped by various socio-demographic factors. While persistent gaps are observed internationally, South Africa's historical and socio-economic context adds complexity. When focusing on university students, similar patterns emerge, with the addition of a faculty dynamic where commerce students demonstrate higher levels of financial literacy (Smit, 2021).

Financial Behaviour and Financial Literacy

Financial behaviour is defined as an individual's decisions and actions pertaining to expenditure and management of finances. It can be categorised into three distinct groups: tracking cash flows, saving and planning, and making thoughtful purchases³ (OECD, 2023). Prior research has noted the importance of financial behaviour as a major component when measuring financial literacy, with the OECD (2023) deeming it an essential determinant.

The integral role of financial behaviours in assessing financial literacy is specifically highlighted in studies conducted in India⁴. They found that financial behaviour is a major determinant of financial literacy and that encouragement of positive financial behaviour will amplify financial literacy. However, a study conducted by the OECD (2023) discovered that

³ Purchases that align with an individual's financial capacity and are carefully considered to determine their affordability.

⁴ Sharma & Anand (2021) and Rai et al. (2019) conducted these studies.

only 51 percent of individuals meet the minimum financial behaviour requirements, which involve possessing at least six out of the nine financially literate behaviours⁵.

Global financial literacy studies report a strong positive relationship between financial behaviour and financial literacy (Sharma & Anand, 2021; Rai, Dua & Yadav, 2019). Moreover, among South African university students, Smit (2021) found a positive correlation between financial behaviour and financial literacy. However, when measuring positive financial behaviour specifically, there are few recorded instances in South Africa (Nanziri & Leibbrandt, 2018).

These findings collectively highlight the importance of cultivating positive financial behaviours and the need to integrate financial behaviour assessments into future research on financial literacy.

Sources of Financial Literacy

The need for financial literacy interventions is widespread. Therefore, examining which sources of financial literacy are most effective for teaching will be highly beneficial for the implementation and promotion of financial education.

A study by Brau et al. (2019) in the United States of America (USA) examined potential areas for teaching financial literacy. The sources of learning were segmented into “family and background”, “formal learning opportunities”, and “experiential learning opportunities” (Brau et al., 2019). The results indicated that high school classes had a relatively weak impact on financial literacy compared with tertiary education. Additionally, there was a strong positive relationship between financial literacy and experiential learning opportunities, such as owning current accounts and engaging with the stock market (Brau et al., 2019). The study emphasises the importance of identifying and harnessing the most effective financial education methods to enhance financial literacy outcomes. Given the contextual variations across countries, it was necessary to study this subject in a South African context.

The Gaps in Current Literature

The importance of financial literacy as a foundation of financial well-being has been highlighted extensively by numerous global and South African studies⁶. Moreover, disparities

⁵ These include: “Paying the bills on time”, “Not borrowing to make ends meet”, “Making considerate purchases”, “Actively saving”, “Keeping a close watch of financial affairs”, “Setting long-term financial goals”, “Comparing financial products across providers”, and “Seeking financial advice” (OECD, 2023).

⁶ The examples of global and South African studies for further explanation (Dwiastanti, 2015:101; Potrich et al., 2015:364; OECD 2016).

in financial literacy across socio-demographic groups and individuals who exhibit different financial behaviours are pronounced⁷.

A research gap exists regarding university students. This study aims to assess financial literacy across sociodemographic groups among university students. Examining students enables assessment of the effectiveness of early financial education and the role of academic institutions in shaping financial literacy. Graduates entering the workforce must possess adequate financial literacy, as this knowledge is fundamental to effective budgeting, personal finance management, and informed financial decision-making.

Additionally, there was a research gap regarding effective global financial literacy instruction, presenting an opportunity for in-depth research with students. This paper investigated which financial literacy interventions yield the greatest results, thereby informing efforts to bolster financial literacy and promote socioeconomic advancement at the University.

Based on the debates above, the following hypotheses are stated:

Hypothesis One: There is a relationship between socio-demographic factors and the financial literacy of students at the University.

Hypothesis Two: There is a relationship between financial behaviour and financial literacy of students at the University.

Hypothesis Three: There is a relationship between sources of financial learning and the financial literacy of students at the University.

METHODOLOGY

This study utilises a quantitative research design to explain relationships among variables by systematically collecting and analysing numerical data (Creswell & Creswell, 2009). The numerical data will be methodically compiled, analysed, and interpreted using deductive reasoning⁸, to derive conclusions (Salvador, 2016).

To collect the data, a non-experimental design⁹ was employed. Survey research was utilised to capture quantitative data within the sample population (Fowler, 2008). Additionally, a cross-sectional approach was used, with data collected at a single point in time to assess respondents' current state (Bell et al., 2022).

⁷ Examples of studies displaying the disparities between financial literacy and socio-demographic factors (Klapper et al., 2014; OECD 2023; Rai, Dua & Yadav, 2019; Sharma & Anand, 2021).

⁸ A logical process in which conclusions are derived from general principles or premises (Johnson-Laird, 2010).

⁹ A type of research approach that does not involve the manipulation of variables or the assignment of participants to different groups (Lobmeier, 2010).

Using a descriptive approach, a structured, non-disguised questionnaire was administered to students at the University to examine the relationship between financial literacy and socio-demographic factors, financial behaviour, and financial learning devices (Fowler, 2008). This approach ensured transparency regarding the study's purpose, thereby minimising potential confusion when answering the financial literacy sections (Zikmund et al., 2013). Thus, it allowed findings from the sample to be generalised and inferences to be made about the broader population.

The target population included all students enrolled in the 2024 academic year at the University. This included both undergraduate and postgraduate students from all the university faculties¹⁰. Therefore, the target population was 29 427 students.

In this study, a convenience sampling method was used to collect data. This method is a form of non-probability sampling in which sample members are selected based on subjective judgment or convenience, and the probability of any member of the population being selected is unknown (Etikan & Bala, 2017). Thus, the online survey was distributed via email to all students listed in the University's email database, sourced from the research department, inviting them to participate in the study.

The sample size required to draw inferences about students at the University was influenced by the population characteristics, the study's aim, the type of data analysis, financial and time constraints, and the non-response element (Struwig & Stead, 2013). Therefore, a large sample was intended to capture the population's heterogeneity.

For the statistical analysis, a multiple linear regression model was fitted, including 10 independent variables. According to Hair et al. (2014), a base of 100 responses is essential for any type of multivariate statistical analysis. Furthermore, VanVoorhis & Morgan (2007) found that 10 to 20 observations are required per independent variable to produce reliable estimates of the regression coefficients. As a result, a sample size of 100-200 is deemed sufficient for this study. However, the population's heterogeneity requires a larger sample size to account for statistical noise (Srinivasan et al., 2020). Consequently, 355 respondents were recorded.

The research questionnaire was distributed online via a Google Form to enhance participant convenience, achieve the required sample size within a limited timeframe, and guarantee respondent anonymity. It remained open for eight weeks to allow comprehensive data collection. The questionnaire comprised a cover letter and four sections. Section A included

¹⁰ Namely: The Faculty of Commerce, Faculty of Engineering and the Built Environment, Faculty of Health Sciences, Faculty of Humanities, Faculty of Law, Faculty of Science, the Centre for Higher Educational Development (CHED), and the Graduate School of Business.

socio-demographic questions on respondents' age, gender, ethnicity, nationality, average monthly income, employment status, part-time/full-time student status, source of income, and faculty affiliation. These questions were intended to facilitate analysis of the relationship between socio-demographic factors and financial literacy.

Section B assessed respondents' confidence in their financial literacy by asking them to rate their overall financial knowledge on a scale from very high to very low. Moreover, respondents were asked to identify the sources of their current financial knowledge. The purpose of this section was to explore potential relationships between various financial learning sources and respondents' financial literacy levels, and to gauge respondents' level of financial inclusion.

Section C consisted of questions designed to assess respondents' financial behaviour using a Likert scale. These questions evaluate various aspects of financial behaviour, including saving, spending, goal-setting, investing, and financial security (OECD, 2023). Respondents were presented with behavioural statements and asked to select their level of agreement from the following options: "Strongly Agree," "Agree," "Uncertain," "Disagree," and "Strongly Disagree." These responses were subsequently quantified on a scale from 5 to 1. For positively framed statements¹¹ a response of "Strongly Agree" was scored as five, while "Agree" was scored as four, and so on. Conversely, negatively worded statements¹² were reverse-coded to ensure consistent scoring direction (Zikmund et al., 2013).

Section D assessed respondents' fundamental financial literacy through a series of true-or-false and multiple-choice questions. These questions have been recognised by the OECD (2022) as valid measures of financial knowledge. The true-or-false questions aimed to test respondents' understanding of key financial concepts. This included the relationship between risk and return, the impact of inflation on purchasing power, the advantages of diversification, modern financial technologies, the effect of interest rates on mortgage bond values, and exchange rate dynamics. Additionally, the multiple-choice questions assessed respondents' ability to calculate simple interest on savings and their understanding of the benefits of compound interest.

Upon completion of data collection, a thorough statistical analysis was performed. This process involved data cleaning and coding, as well as conducting multiple linear regression in RStudio.

Data cleaning and coding were undertaken in Microsoft Excel, where the descriptive data collected via Google Forms were converted to a numeric format. This step was essential to

¹¹ For example: "Before making a purchase, I carefully consider whether I can afford it."

¹² For example: "I find spending money more satisfying than saving it for the long term."

ensure that RStudio could effectively interpret the dataset for subsequent analysis. Categorical variables were recoded using dummy variables (0,1,2,...,n) to represent distinct categories numerically. In addition, a normalised financial literacy score was computed by scaling each test score to the range 0-100. This was achieved by multiplying each score by 100/11, consistent with the guidelines provided by the OECD (2018, p. 40).

Additionally, the questionnaire allowed respondents to select multiple options for both their sources of income and sources of financial literacy¹³. Consequently, each source of income (e.g., parents/guardians) and each financial literacy source (e.g., university classes) was entered as a separate variable to capture all responses accurately.

Subsequently, the data were imported into RStudio, and the statistical analysis was conducted. This consisted of a descriptive analysis of the data and an inferential analysis.

A descriptive analysis was conducted to examine all the variables included in the study. Furthermore, to assess the relationships among socio-demographic factors, financial behaviour, sources of financial knowledge, and financial literacy, an inferential analysis was conducted. Previous research¹⁴ has established that multiple linear regression is a reliable and suitable method for examining the relationship between socio-demographic factors and financial literacy. Moreover, this methodology has been utilised in similar studies evaluating the impact of financial behaviour on financial literacy (Widyakto et al., 2022; Arianti, 2018). Additionally, it has been widely adopted in research examining the influence of financial learning tools on financial literacy (Brau et al., 2019).

Multiple linear regression analysis enabled exploration of how independent variables contribute to variation in financial literacy scores, clarifying which factors significantly affect financial literacy while controlling for other variables. Prior to conducting the multiple linear regression, several assumptions were verified. These assumptions included testing for linearity¹⁵, autocorrelation¹⁶, heteroscedasticity¹⁷, normality¹⁸, and multicollinearity¹⁹. Specifically, multicollinearity was identified between the variables "Employment" and

¹³ For example, respondents could choose both parents/guardians and part-time jobs as their sources of income, as well as having the choice of both parents and the media for their sources of financial literacy.

¹⁴ This research includes studies by Anshika et al. (2021), Altintas (2011), and Lusardi et al. (2009).

¹⁵ The assumption that the relationship between the independent variable(s) and the dependent variable can be accurately represented by a straight line (Poole & O'Farrell, 1971).

¹⁶ The correlation of a variable's residuals with itself over successive observations, indicating a lack of independence among errors in a regression model (Poole and O'Farrell, 1971).

¹⁷ Heteroscedasticity is a condition in regression analysis where the variance of the residuals varies across levels of the independent variable(s) (Poole and O'Farrell, 1971).

¹⁸ The assumption that the residuals (errors) of the model are normally distributed, which is essential for valid hypothesis testing and confidence interval estimation (Poole and O'Farrell, 1971).

¹⁹ Assumes that the independent variables should not be highly correlated with one another, as excessive correlation can obscure the individual effects of each variable and lead to instability in the estimated coefficients (Poole and O'Farrell, 1971).

"Income from full-time job," both of which had Generalised Variance Inflation Factors (GVIFs) exceeding the threshold of 2. Therefore, making it difficult to isolate their individual effects on the dependent variable (Sastri & Nahda, 2023). To address this issue, the variable employment was excluded from the model.

A Glejser test was employed to assess heteroscedasticity, whereby variables with a significance value greater than 0.05 meet the assumption (Sastri & Nahda, 2023). However, heteroscedasticity was observed among males, students aged 21 to 23, and participants who reported having no source of financial knowledge. To mitigate the impact of heteroscedasticity, robust standard errors were used, ensuring that the standard errors and p-values remained valid.

The assumption of no autocorrelation was validated using the Durbin-Watson test, while the normality of the residuals was confirmed with the Shapiro-Wilk test. The Shapiro-Wilk statistic (W) of 0.99346 suggests that the residuals approximate a normal distribution, given its closeness to one (Yahiaoui, 2023).

Consequently, the multiple linear regression model was constructed below:

Financial Literacy (Y) = $\alpha + \beta_1 X_1 + \beta_2 X_2 + \dots + \beta_{24} X_{24} + \varepsilon$ Where:

- Y = Financial literacy score.
- α = Baseline financial literacy score when all predictors are zero.
- $\beta_1, \beta_2, \dots, \beta_{24}$ = Coefficients for the independent variables.
- $X_1, X_2, \dots, X_{24}$ = Independent variables. Where:
 - X_1 = Financial Behaviour
 - X_2 = Gender,
 - X_3 = Age,
 - X_4 = Ethnicity,
 - X_5 = Income,
 - X_6 = Full-time/Part-time student,
 - X_7 = Income from allowance from parent/guardian
 - X_8 = Income from allowance from sponsor/bursary
 - X_9 = Income from part-time job
 - X_{10} = Income from full-time job
 - X_{11} = Income from NSFAS/Student loan
 - X_{12} = Other income source
 - X_{13} = Faculty
 - X_{14} = Financial knowledge rating
 - X_{15} = Financial knowledge from family members/guardians

- X_{16} = Financial knowledge from friends
- X_{17} = Financial knowledge from high school
- X_{18} = Financial knowledge from university
- X_{19} = Financial knowledge from online
- X_{20} = Financial knowledge from short courses
- X_{21} = Financial knowledge from experiential learning
- X_{22} = Financial knowledge from media
- X_{23} = Financial knowledge from books
- X_{24} = No source of financial knowledge
- ϵ = the error term or residual.

The statistical significance of each independent variable in the regression model was tested using p-values. In this study, the significance level (α) is set at 0.05, implying any p-value less than 0.05 indicates a statistically significant relationship between the independent variable and financial literacy, at the 95 percent confidence level.

All necessary procedures were followed to obtain ethical clearance from the University Ethics Committee. A comprehensive research proposal, including the questionnaire and a detailed plan of the study's methodology, was submitted to the committee for review. After thorough consideration, the university granted ethical clearance. Participants provided informed consent on the online survey platform, while their anonymity and the confidentiality of their responses were guaranteed.

RESULTS

This section analyses survey data, focusing on respondents' socio-demographic characteristics, financial behaviours, sources of financial literacy, and overall financial literacy scores.

Socio-demographic Information of the Sample

Table 1 summarises the socio-demographic characteristics of the sample. The majority of respondents were female (54.93%). The age distribution showed that most respondents were aged 18–20 years (32.39%) and 21–23 years (35.49%). The ethnic composition was predominantly Black students (42.82%), followed by White (30.99%). Most participants were South African (87.89%). In terms of average monthly income, most respondents fell into the following brackets: less than R2 000 (22.54%), R2 000–R4 000 (25.35%), and more than R15 000 (13.52%). Employment status showed that most respondents were "Unemployed/Full-time students" (68.17%).

Table 1: Socio-demographic Information

	Frequency (n)	Percentage (%)
Gender		
Female	195	54.93
Male	149	41.97
Non-Binary	10	2.82
Prefer not to say	1	0.28
Age		
18-20	115	32.39
21-23	126	35.49
24-26	54	15.21
27 and above	60	16.90
Ethnicity		
Black	152	42.82
White	110	30.99
Coloured	50	14.08
Indian	29	8.17
Asian	2	0.56
Other	8	2.25
Prefer not to say	4	1.13
Nationality		
South African	312	87.89
Non-South African	43	12.11
Income Bracket		
<R2 000	80	22.54
R2 000 – R4 000	90	25.35
R4 001 – R6 000	36	10.14
R6 001 – R8 000	33	9.30
R8 001 – R10 000	20	5.63
R10 001 – R15 000	26	7.32
>R15 000	48	13.52
Prefer not to say	22	6.20

	Frequency (n)	Percentage (%)
Employment Status		
Full-time employment	35	9.86
Part-time employment	78	21.97
Unemployed/Full-time student	242	68.17

Student and Lifestyle Information

The respondents' academic information is presented in Table 2. The majority of participants were full-time students (91.27%). By faculty affiliation, most students were from the Faculty of Commerce (28.73%) and the Faculty of Humanities (26.48%). Regarding sources of income, respondents were permitted to select multiple options, resulting in a combined percentage exceeding 100 percent across responses. The predominant sources of income included parents or guardians (55.80%), part-time employment (31.30%), and sponsors or bursaries (22.30%).

Table 2: Student Information

	Frequency (n)	Percentage (%)
Student Status		
Full-time student	324	91.27
Part-time student	31	8.73
Faculty		
Faculty of Commerce	102	28.73
Faculty of Engineering and the Built Environment	51	14.37
Faculty of Health Sciences	46	12.96
Faculty of Humanities	94	26.48
Faculty of Law	9	2.54
Faculty of Science	52	14.65
Graduate School of Business	1	0.28
Centre for Higher Educational Development (CHED)	0	0
Income Source		
Allowance from parents/guardians	198	55.80
Part-time job	111	31.30
Full-time job	34	9.60

	Frequency (n)	Percentage (%)
Allowance from sponsor/bursary	79	22.30
NSFAS/Student loan	63	17.70
Other	27	7.60

Financial Literacy Sources

Table 3 highlights respondents' self-assessed financial knowledge and their source of financial literacy. Most respondents rated their financial knowledge as "Average" (43.94%) or "Above average" (31.27%). Additionally, when asked about the sources of their financial literacy, allowing multiple selections resulted in a combined percentage over 100 percent. Taking this into account, the majority of students indicated that they acquired financial literacy from family members or guardians (67.90%) and online platforms (55.02%).

Table 3: Self-Assessed Financial Literacy

	Frequency (n)	Percentage (%)
General Financial Knowledge Rating		
Very high	26	7.32
Above average	111	31.27
Average	156	43.94
Below average	47	13.24
Very low	7	1.97
Sources of Financial Literacy		
Family members/Guardians	241	67.90
Friends	144	40.60
High school	105	29.60
University	135	38.00
Online (e.g. YouTube)	196	55.02
Short courses	22	6.20
Experiential learning (e.g. owning credit cards, stock market participation, etc.)	164	46.20
Media (e.g. newspapers, financial channels, etc.)	156	43.90
Books	85	23.90
No source	7	2.00

Financial Behaviour

Table 4 categorises the responses into three groups, representing financial behaviours that are positive, indifferent or negative. The data indicate that respondents demonstrate highly

positive financial behaviour regarding the security of their funds during online transactions, suggesting that most students exercise caution when making online purchases. Additionally, positive financial behaviour was observed concerning thoughtful spending habits²⁰. These results suggest that respondents actively track their finances, make considerate purchasing decisions, and recognise the importance of investing.

However, a notable portion of respondents exhibited negative financial behaviours²¹. While respondents displayed mindful spending habits, 31.8 percent indicated that they do not perceive saving as rewarding. Additionally, several respondents reported insufficient funds remaining at the end of the month, which may be attributed to a lack of long-term financial planning. Nearly 30 percent of respondents exhibited negative behaviours in setting and achieving long-term financial goals, suggesting that inadequate financial planning may contribute to their financial difficulties. Nevertheless, the majority of respondents exhibited positive financial behaviour for all statements in the questionnaire.

Table 4: Financial Behaviour

		Negative Financial Behaviour (%)	Indifferent Financial Behaviour (%)	Positive Financial Behaviour (%)
Question				
1.	I find it more satisfying to spend money than to save it for the long term.	31.80	12.40	55.90
2.	I keep a close personal watch on my financial affairs.	13.20	7.90	79.00
3.	Before I buy something I carefully consider whether I can afford it.	5.40	8.10	86.50
4.	I spend more than I receive.	17.40	7.60	75.00
5.	I have money left over at the end of the month.	29.80	11.50	58.70
6.	I set long-term financial goals and strive to achieve them.	28.10	15.20	56.80
7.	I understand the value of investing.	9.30	8.70	82.00
8.	I think that it is safe to shop online using public Wi-Fi networks (e.g., in cafés, airports, shopping malls).	19.10	17.10	63.80
9.	It is important to pay attention to the security of a website before making a transaction online (e.g. https sites, safety logo or certificate).	1.10	3.90	94.90

²⁰ This is reflected in responses to: “I keep a close personal watch on my financial affairs”, “Before I buy something I carefully consider whether I can afford it”, “I spend more than I receive”, and “I understand the value of investing”.

²¹ This is particularly in response to: “I find it more satisfying to spend money than to save it for the long term”, “I have money left over at the end of the month”, and “I set long-term financial goals and strive to achieve them”.

Financial Literacy Score

The results of the financial knowledge portion of the questionnaire are seen in Table 5. The results indicate that, for the risk- and return-related questions, 84.79 percent of respondents selected the correct answer. Respondents demonstrated moderate familiarity with modern financial technologies, evident in 50.42 percent and 56.62 percent of respondents answering correctly to the questions: “A digital financial contract requires a signature of a paper/hard copy contract to be considered valid” and “Cryptocurrencies have the same legal tender as banknotes and coins”, respectively. Additionally, 79.72 percent of respondents correctly answered the exchange-rate-related question, while knowledge of diversification was notably high, with 90.14 percent answering correctly.

Regarding the inflation-related questions, the majority of respondents answered the statement “High inflation means that the cost of living is increasing rapidly” correctly, with 96.06 percent correct responses. Furthermore, the statement “An increase in inflation will result in an increase in the interest rate” received 61.41 percent correct responses. However, only 45.07 percent of respondents answered “One should not invest at a rate above inflation” correctly, indicating limited comprehension of more complex inflation concepts. The question with the lowest correct response rate was: “If interest rates rise, mortgage bond prices will fall”, with only 16.34 percent of respondents answering correctly.

For the first and second multiple-choice questions, 98.59 percent and 77.46 percent of respondents selected the correct answers, respectively. These results indicate that most participants possessed adequate knowledge to calculate simple interest and understood the benefits of compound interest. Therefore, the results of the financial literacy assessment suggest that students’ primary areas of weakness were their understanding of inflation rates and the relationship between interest rates and the value of mortgage bonds. Nevertheless, strong performance was observed in other areas of the assessment, as seen above. In terms of overall performance, the average score for the sample was 68.82 percent which is slightly below the 70 percent threshold considered to indicate adequate financial literacy (OECD, 2023). Moreover, the financial literacy scores ranged from 18.18 to 100, with a median score of 72.72.

Table 5: Financial Literacy

Questions	Correct (%)	Incorrect (%)	Do not know (%)
1. An investment with a high return is likely to be high risk.	84.79	5.07	10.14
2. High inflation means that the cost of living is increasing rapidly.	96.06	3.10	0.85
3. An increase in inflation will result in an increase in the interest rate.	61.41	15.21	23.38
4. To avoid risk, investing in a diversified portfolio of stocks and shares is better than putting all your 'eggs in one basket'.	90.14	1.69	8.17
5. A digital financial contract requires signature of a paper/hard copy contract to be considered valid.	50.42	15.21	34.37
6. Cryptocurrencies have the same legal tender as banknotes and coins.	56.62	7.89	35.49
7. If interest rates rise, mortgage bond prices will fall.	16.34	57.46	26.20
8. One should not invest at a rate above inflation.	45.07	15.49	39.44
9. If the Rand strengthens against the Dollar, it favours importers in South Africa.	79.72	7.89	12.39
10. If you lend R100 to a friend one evening and he gives you R110 back the next month. How much interest has he paid on this loan?	98.59	1.13	0.28
11. If an individual has R100 in a savings account and the bank adds 10% per year to that account, after three years the individual will have (assuming no money has been withdrawn from the account):	77.46	21.13	1.41

Inferential Statistics

The inferential statistical analysis utilised multiple linear regression to explore the relationship between financial literacy and various socio-demographic factors, financial behaviour, and sources of financial knowledge. To ensure the validity and reliability of the model, several diagnostic tests were performed, including the Glejser test for heteroscedasticity, the Durbin-Watson test for autocorrelation, the Shapiro-Wilk test for normality, and tests for linearity and multicollinearity. These tests allowed evaluation of the study's hypotheses to determine whether to reject them.

The results of the multiple linear regression analysis, using robust standard errors to account for heteroscedasticity. The model yielded a Multiple R-squared value of 0.3197 and an Adjusted R-squared of 0.2104. These results suggest that the independent variables in the model collectively explain approximately 31.97 percent of the variance in the dependent variable (Multiple R-squared) and 21.04 percent after adjusting for the number of predictors

(Adjusted R-squared). While a substantial portion of the variance remains unexplained, this outcome is consistent with findings in similar studies in the field (Angrisani et al., 2021; Wingfield, 2016).

Despite the unexplained variance, the model is statistically significant overall ($P = 1.002e-08$), well below the conventional significance threshold of 0.05. This indicates that some of the independent variables are significant predictors of the dependent variable.

The primary predictors of financial literacy identified in the study include the male gender ($P\text{-value}=0.007750$), individuals who preferred not to disclose their gender ($P\text{-value}=0.002384$), students enrolled in the Faculty of Health Sciences ($P\text{-value}=0.004554$) and the Faculty of Science ($P\text{-value}=0.008837$), as well as those who rated their financial knowledge as “very high” ($P\text{-value}=0.002911$).

In addition, several other variables exhibited significant associations with financial literacy ($P < 0.05$), albeit to a slightly lesser extent. These variables include students aged 21 to 23 ($P\text{-value}=0.026508$), Asian students ($P\text{-value}=0.019513$), and those who preferred not to disclose their income level ($P\text{-value}=0.039795$). Within the faculty classification, students from the Faculty of Humanities ($P\text{-value}=0.015983$) and the Faculty of Engineering and the Built Environment ($P\text{-value}=0.043775$) were also significant predictors of financial literacy. Furthermore, students who rated their financial knowledge as “above average” ($P\text{-value}=0.029482$) and those who gained financial knowledge through experiential learning ($P\text{-value}=0.039377$) were significant determinants of financial literacy.

These results provide insights into how socio-demographic factors and sources of financial knowledge influence financial literacy, which will be discussed in greater detail in Section 5.

DISCUSSION

This section discusses the study's findings, focusing on the relationships among socio-demographic factors, financial behaviour, sources of financial knowledge, and financial literacy among students at the University.

Socio-demographic Factors and Financial Literacy

To test *Hypothesis 1*, the relationship between socio-demographic factors and financial literacy was examined among students at the University. As mentioned, the analysis revealed that gender, age, and faculty affiliation were significant predictors of financial literacy. Conversely, variables such as nationality, enrolment status (full-time/part-time), and sources of income were not significant determinants of financial literacy in the model.

Gender and Financial Literacy

The significance of gender in the analysis was observed among both male students and those who did not disclose their gender, relative to female students, who served as the reference category. The results show that being male is associated with higher financial literacy, as indicated by a coefficient of 5.60. This suggests that male students are expected to score approximately 6 percentage points higher than female students, given that the maximum possible financial literacy score in this study is 100. These findings are consistent with global studies, which report lower financial literacy among women²². Therefore, the gender gap observed at the University reflects a broader global issue in which societal norms, traditional gender roles, and cultural expectations may discourage women from actively engaging in financial matters, thereby reinforcing this gap.

Age and Financial Literacy

Student age was a significant additional indicator of financial literacy scores. This was evident from the P-value of 0.027 for students aged 21-23, with the 18-20 age group serving as the reference category. Specifically, students aged 21 to 23 scored approximately four percent higher on the financial literacy test than their younger counterparts, as reflected in the coefficient of 4.32. These findings align with previous research indicating that older individuals tend to have higher financial literacy scores (Cameron et al., 2013; Agnew et al., 2013). This could be explained by the development of a deeper understanding of financial concepts as students' progress through university and experience greater financial independence.

Ethnicity and Financial Literacy

The analysis did not reveal any significant relationship between ethnicity and financial literacy. Although the P-value for Asian students was below the 0.05 threshold, the small sample size (two Asian respondents) limits the reliability of this result in representing the broader population. Consequently, the study concludes that no significant relationship between race and financial literacy was observed. This finding is particularly notable as it contrasts with existing literature²³, which has consistently shown that White students outperform other ethnic groups in financial literacy, suggesting that this gap has been eliminated at the University.

Income and Financial Literacy

No significant relationship was found between income levels and financial literacy, a finding that contrasts with much of the existing literature, which asserts that higher-income individuals exhibit higher financial literacy. However, a noteworthy difference was observed

²² These studies were conducted by Klapper et al. (2014), Singh & Kumar (2017), and Preston & Wright (2019).

²³ This existing literature is conducted by Nanziri & Leibbrandt (2018), Roberts et al. (2018), Smit (2021), and Wingfield (2016).

between students earning less than R2 000 (\$119) per month and those who chose not to disclose their income: the latter group scored 6% lower. While this outcome does not establish a direct effect of income on financial literacy, because students who opted not to disclose their income could belong to any income bracket, it suggests a relationship between income non-disclosure and lower financial literacy. This may indicate that individuals unwilling to disclose their income may lack financial awareness, which could contribute to low financial literacy.

University Faculty and Financial Literacy

The strong association between faculty affiliation and financial literacy, particularly the lower scores among students in Humanities, Health Sciences, Engineering & Built Environment, and Science than among Commerce faculty students, reinforces the importance of exposure to financial concepts in formal education. The model estimates that, compared to the financial literacy score of Commerce students, Humanities students scored approximately 7 percent lower, Health Science students 8 percent lower, Science students 7 percent lower, and Engineering & Built Environment students 6 percent lower. This is consistent with findings from other studies, in which students in commerce-related fields outperform their peers in financial literacy (Wingfield, 2016; Smit, 2021). Commerce students likely have greater direct engagement with financial topics in their curriculum, which may explain their higher levels of financial literacy.

The near-significant finding for Law students ($P\text{-value} = 0.058946$) suggests that, although they may receive less financial education than Commerce students, their studies may still provide relevant exposure. These findings emphasise the importance of incorporating financial literacy components into non-commerce students' education to equip all students with adequate financial knowledge to face the increasingly complex financial environment after graduation.

The lack of significance pertaining to the variables nationality, student status, and sources of income in this study suggests that these factors do not influence financial literacy.

However, given the presence of multiple other significant socio-demographic factors, *Hypothesis One*²⁴ is supported. This conclusion is supported by observed associations among gender, age, faculty affiliation, and financial literacy levels.

²⁴ There is a relationship between socio-demographic factors and the financial literacy of students at the University.

Financial Behaviour and Financial Literacy

Contrary to the findings of the literature²⁵ linking financial behaviour to financial literacy, this study found no significant relationship between the two. This unexpected result raises questions about the specific financial behaviours measured and their relevance to students' financial literacy. It is possible that the financial behaviours examined in this study, such as saving, financial goal-setting, investing, and financial security, are less developed among students, making it difficult to detect a significant relationship. Furthermore, students may not yet have had sufficient opportunities to engage in complex financial decision-making, thereby limiting the observable impact of financial behaviour on their financial literacy.

Therefore, the study does not support *Hypothesis Two*²⁶, concluding that there is no significant relationship between financial behaviour and financial literacy.

Sources of Financial Literacy

A significant positive relationship was identified between students' self-assessed financial literacy and their financial literacy scores. This is evidenced by the coefficients for students who rated their financial knowledge as "Above Average" (8.34) and "Very High" (13.86), suggesting that students who perceived themselves as having higher levels of financial knowledge scored significantly higher than those who were uncertain about their knowledge. This finding supports the self-efficacy theory, which posits that individuals' confidence in their abilities can influence their performance (Arofah, 2019). Additionally, these results align with existing research that indicates a correlation between self-perceived financial literacy and objective measures of financial knowledge (Wingfield, 2016).

Additionally, a significant relationship is observed between experiential learning and financial literacy, underscoring the value of practical financial education. It also contributes to research on the importance of financial inclusion in developing financial literacy. This finding is consistent with the literature suggesting that practical financial experiences can lead to higher levels of financial literacy (Brau et al., 2019). Given that other sources of financial knowledge, such as formal education or family teachings, did not show significant relationships, this suggests that passive learning may not be as effective. Experiential learning provides students with a deeper understanding of financial concepts and how financial systems work. Therefore, encouraging experiential learning opportunities could be a key strategy for improving financial literacy. Given the significant relationship identified between sources of financial knowledge and financial literacy, *Hypothesis Three*²⁷ is supported.

²⁵ The existing literature includes studies done by Smit (2021), Sharma & Anand (2021), Rai, Dua & Yadav (2019).

²⁶ There is a relationship between financial behaviour and financial literacy of students at the University.

²⁷ There is a relationship between sources of financial learning and financial literacy of students at the University.

Overall Financial Literacy

In evaluating the overall financial literacy of students at the University, the 70 percent threshold was applied to classify individuals as financially literate (OECD, 2023). Therefore, it was revealed that only 51.83 percent of students meet this benchmark. Furthermore, the overall average score of 68.82 percent for respondents was marginally below the threshold. Consequently, these results indicate that slightly more than half of the students at the University are financially literate.

A major area of difficulty, which significantly contributed to lower scores, was understanding the relationship between interest rates and bond prices, with only 16.34 percent of students answering this question correctly. This challenge aligns with findings by Wingfield (2016), who similarly reported that students at the University of Pretoria struggled with this concept. The limited experiential learning opportunities available to students in areas like bond investments and mortgage acquisitions may explain this finding, further emphasising the essential role of practical experience in improving financial literacy.

Recommendations for Future Research

Given the strong relationship identified between experiential learning and financial literacy, future research should examine which experiential learning methods are most effective and develop strategies for integrating these approaches into educational frameworks. Additionally, longitudinal studies tracking changes in financial literacy and behaviour as students transition into the workforce could offer a deeper understanding of how financial behaviour evolves with practical experience. Such research would help assess the long-term effects of financial literacy on decision-making in adulthood.

Limitations of the Study

A key limitation is the potential for self-selection bias from using a convenience sampling method, which tends to select individuals who share similar characteristics, motivations, or opinions (Zikmund et al., 2013). Additionally, it must be acknowledged that no random selection was used in data collection, so the target population did not have an equal probability of being included in the sample. The study also relied on self-reported data, which may have introduced bias or inaccuracies in the responses, further constraining the interpretation of the results.

CONCLUSIONS

This study evaluated the key factors influencing students' financial literacy at the University. By examining socio-demographic characteristics, financial behaviours, and sources of financial knowledge, the research provides a comprehensive understanding of the dynamics that shape financial literacy among a diverse student population. The findings underscore the

importance of gender, age, self-assessed financial knowledge, sources of financial knowledge, and faculty affiliation as significant determinants of financial literacy.

Specifically, male students, those in commerce-related faculties, and older students demonstrated higher levels of financial literacy. Moreover, experiential learning emerged as a crucial driver of financial literacy, emphasising the role of real-world financial experiences in fostering practical financial understanding. This, in turn, highlights the importance of financial inclusion in promoting financial empowerment.

The recommendations of this study are for a multi-faceted approach to financial education. Universities should consider integrating financial literacy programs into the broader curriculum, targeting younger, non-commerce students who may have less exposure to financial concepts. Additionally, financial education should move beyond theoretical instruction to include practical components that enable students to engage directly in financial decision-making beyond the tertiary level and in the corporate world.

Overall, this study determined that 51.83 percent of students at the University met the adequate standard of financial literacy, indicating a pressing need to encourage experiential learning, identified as the most effective method for teaching financial literacy. Moreover, disparities in financial literacy among student groups provide crucial insights into areas for targeted intervention, thereby enhancing individual financial aptitude and improving societal financial awareness.

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