

FINANCIAL LITERACY AMONG YOUNG ADULTS: AN EMPIRICAL ANALYSIS OF NIGERIAN UNIVERSITY STUDENTS

Mohammed Aminu Bello, Ph. D. ACA, CNA

Department of Business Administration, Bayero University Kano

Email: mabello.bus@buk.edu.ng

Abstract

This article examines the ability of learning sources associated with financial literacy among university students. The survey consists of 500 university undergraduate students attending classes where principles of finance are taught. The survey consists of a class test on financial literacy to determine the state of the participants' current financial knowledge. Moreover, socio-demographic data were collected in three areas - family and background, formal learning activities, and experiential learning activities. The model of the study examines financial literacy as a function of these three sources of learning. Unexpectedly, the results show that respondent's background and family affiliation impacted less. In addition, whereas some types of formal learning activities enhance literacy, the most significant impact is associated with experiential learning.

Keywords: Financial literacy test, money management, undergraduate students, survey research, experiential learning

Introduction

Participants within an environment must adjust to changes in the environment otherwise, they suffer disgusting consequences. This adjustment often involves the learning of new rules and the utilization of new tools.

The end of the 20th century has witnessed renewed importance in the area of information literacy. Several aspects of information literacy are already available in academia, such as health literacy (e.g., Ayre et al., 2020; Balmer et al., 2020; Meyers et al., 2020), digital literacy (e.g., Lazonder et al., 2020; Porat, Blau and Barak, 2018), financial information literacy (e.g., Acheampong, 2015; Sarigul, 2014), credit card literacy (e.g., Limbu and Sato, 2019), and mobile literacy (e.g., Jere-Folotiya et al.,

2014). Financial information literacy (FIL), highlighted as a potential research area by Faulkner (2015), is increasingly becoming a grave concern to cope with today's complicated financial environment (Arceo-Gómez and Villagómez, 2017; Belousova et al., 2019; Rodrigues et al., 2019).

The strong need for FIL arose after the US financial crisis in 2008 (Miller et al., 2014), despite that, financial literacy is still a poorly understood phenomenon. Most of the existing related literature focuses on either the level of financial literacy or the relationship between financial literacy and decision making. Unfortunately, little is known about how individuals actually acquire financial literacy. The goal of this article is to directly address the issue of how young adults acquire financial literacy.

The term financial literacy was first coined in 1787 in the USA (Garg and Singh, 2018) and was proposed in academic literature during a survey conducted by JumpStart Coalition in 1997. Financial literacy refers to one's capability to use skills for managing financial resources efficiently and effectively (Hastings, Madrian, and Skimmyhorn, 2013). Financial literacy is the requisite skills and abilities that individuals possess to utilize financial resources in an efficient way, which ultimately aims at economic welfare (PACF, 2008). To date, there is no consensus on a single definition of financial literacy due to its broader scope.

There has been a remarkable change in the financial service industry and as a result, personal investors now have wide range of investment alternatives. While these changes provide great opportunities for a well-informed saver, they can also have extremely damaging effects for the uninformed saver. Consumers that are not furnished with sufficient knowledge of financial investment cannot make optimum decisions (Mandell & Klein, 2009). According to a survey by the Institute of Certified Financial Planners (1993), many individual investors have trouble making personal financial decisions because of insufficient knowledge (Chen & Volpe, 1998). Inexperienced investors, regardless of whether they are rich, poor, or in between require sufficient financial literacy in order to benefit from enhanced investment decisions. Employees contribute an average of only 5% of their income to their retirement plans (KPMG, 1995). In another study by Emmanuel, Usman and Adebayo (2007) roughly 50% of workers who actually save for retirement have less than \$25,000 in liquid investments. This mixture

of low savings rates and poor decision making is a bad portent for the society. There are increased level of stakes in financial education. In 2016, 77% of employees in Nigeria reported a defined benefit (DB) as their primary retirement plan. By 2021, this had shrunk to only 37%. Correspondingly, there has been an increase in the prevalence of defined contribution (DC) plans. In 2016, only 26% of employees reported a DC plan as their primary retirement plan. By 2021, the figure had grown to 77% (NBS, 2022). This change creates an environment where financial wellbeing is more directly linked to financial literacy (Bello & Ramalan, 2023). Of course, the dramatic increase in DC participation between 1988 and 2006 might explain the relatively low level of savings reported by Emmanuel, Usman and Adebayo in their 2007 study. New DC participants will naturally have less total savings than those with longer tenure in the savings programs. Society is not responding well to the increased level of personal responsibility for retirement planning. Due to financial illiteracy, people make excessively conservative investment decisions (Christine, 1992; Philip; Cardona, 1994; Ugochukwu, 2010; Rahman, 2020 and Bamidele, 2022), cannot recognize scams (Schultz, 1992; Simon, 1992; Philip, 2020, Ramosa, 2021), choose not to contribute to retirement plans (Philip & Cardona, 1994; Schultz, 1992; Braimoh, 2021), and withdraw retirement-plan funds early (Schultz, 1995; Willette, 1995; Abdallah, 2020, David, 2021). The increased usage of DC plans combined with a populous possessing limited financial knowledge creates a situation in which poor choices are common, and more bad outcomes are inevitable.

Poor FL has been identified as one of the major problems facing Nigerians (Kolade, et. Al., 2022). According to the Nigeria Financial Literacy Baseline Survey Report (2015), citizens' knowledge and awareness of financial products and services are extremely low. The survey revealed that 70.7 percent, 25.9 percent and 33.3 percent of the 13,286 respondents have not heard of mobilemoney, savings account or the term 'interest' respectively. Many organisations have been committed to improving FL among targeted consumers, comprising university students. Such commitment among others, include the FL week organized by The Nigerian Ministry of Finance, in collaboration with some other governmental and commercial organisations. Another intervention to boost the level of FL is the federal Government's policy for compulsory teaching of entrepreneurship to all students of tertiary institutions, regardless of discipline (NUC, 2014).

In another similar development, the CBN in January 2013 developed a Financial Literacy Framework (FLF) that aimed at giving strategic guidelines for financial education initiatives delivery across diverse target groups in Nigeria. More recently, the Nigerian financial system is experiencing increasing creation of complex financial products, technological improvements in the way services are delivered and strict regulations by appropriate regulatory authorities such as Central Bank of Nigeria (CBN) and Securities and Exchange Commission.

As a result, consumers are faced with so many investment options, products and strategies to adopt which may be complicated when the required financial knowledge to choose the right strategy and

invest in the right product in a timely manner is lacking.

The absence of financial knowledge is financial illiteracy and this has been cited in literature as the major reason for falling savings rate (Hilgert, Hogarth and Beverly, 2003), mounting consumer debt (Stango and Zinman, 2007); the cause of emotional stress, depression and lower self-esteem (Wolcott and Hughes, 1999); costly borrowing and high debt (Lusardi and Tufano, 2009) and low participation in the stock and financial market (Cole, Sampson and Zia, 2008).

Also, some past studies have been conducted on FL, with only very few focusing on students (See Rasoaisi & Kalebe, 2015; and Beal & Delpachitra, 2003). From the foregoing, it is apparent that FL is an understudied research area in Nigeria and only few studies have focused on undergraduate students who are a large part of the active youth population. In Nigeria, to the best of the researcher's knowledge, research is yet to be conducted to examine the ability of learning sources associated with financial literacy among university students in Nigeria. Therefore, this study is aimed at examining the ability of learning sources associated with financial literacy among university students in the Nigerian context.

Based on the literature review, no study has yet been found to focus on examining the ability of learning sources associated with financial literacy among university students in Nigeria who constitutes a lively part of the youthful population in Nigeria. Therefore, this paper contributes to the growing literature on financial literacy.

Therefore, the aim of this research is to identify the successful sources of financial learning for young adults. The empirical analysis separates the disparate learning opportunities available to young adults into three areas including formal learning activities, experiential learning activities, and family and background factors. Several key avenues of knowledge enhancement were identified from the data.

Literature Review

The end of the 20th century has witnessed renewed importance in the area of information literacy. Several aspects of information literacy are already available in academia, such as health literacy (e.g., Ayre et al., 2020; Balmer et al., 2020; Meyers et al., 2020), digital literacy (e.g., Lazonder et al., 2020; Porat, Blau and Barak, 2018), financial information literacy (e.g., Acheampong, 2015; Sarigul, 2014), credit card literacy (e.g., Limbu and Sato, 2019), and mobile literacy (e.g., Jere-Folotiya et al., 2014). Financial information literacy (FIL), highlighted as a potential research area by Faulkner (2015), is increasingly becoming a grave concern to cope with today's complicated financial environment (Arceo-Gómez and Villagómez, 2017; Belousova et al., 2019; Rodrigues et al., 2019).

The strong need for FIL arose after the US financial crisis in 2008 (Miller et al., 2014), despite that, financial literacy is still a poorly understood phenomenon. Most of the existing related literature focuses on either the level of financial literacy or the relationship between financial literacy and decision making and a considerable number of these studies were conducted in the advanced countries. Unfortunately, little or no attention is given to such studies in

Nigeria. Furthermore, little is known about how individuals actually acquire financial literacy. The goal of this article is to directly address the issue of how young adults acquire financial literacy in Nigeria.

The term financial literacy was first coined in 1787 in the USA (Garg and Singh, 2018) and was proposed in academic literature during a survey conducted by JumpStart Coalition in 1997. Financial literacy refers to one's capability to use skills for managing financial resources efficiently and effectively (Hastings, Madrian, and Skimmyhorn, 2013). Financial literacy is the requisite skills and abilities that individuals possess to utilize financial resources in an efficient way, which ultimately aims at economic welfare (PACF, 2008). To date, there is no consensus on a single definition of financial literacy due to its broader scope.

There is extensive evidence that individuals with knowledge of business-related courses are likely to be more financially savvy than others. Personal FL among 924 students in 14 colleges in the United States was examined by Chen and Volpe (1998). A comprehensive questionnaire that covers major aspects of FL like general knowledge, savings and borrowing, insurance, and investments was used for the study. Participants were required to give responses to 52 questions comprising of 36 multiple-choice questions of their knowledge on personal finance, 8 questions of their opinions and decisions, and 8 questions on demographic profile. Findings revealed that participants' educational background has a significant impact on their knowledge as the business majors answered 60.72 percent of the survey questions correctly while the non-business majors answered only 49.94 percent of the survey questions correctly

which means that business majors are more knowledgeable than non-business majors. The finding of the study was confirmed by the studies of Beal and Delpachitra (2003) and Ansong and Gyensare (2012).

Danes and Hira (1987) observe that college students have very poor wealth management ability. They also find that college students have an extremely limited knowledge about topics such as insurance, credit cards, stocks, bonds, and retirement plans. Not surprisingly, a number of studies show that high school students are no better prepared to manage their personal finances (Bakken, 1967; CFA/AMEX, 1991; HSR, 1993; Langrehr, 1979; NAEP, 1979; Yates & Ward, 2011). Lusardi, Mitchell, and Curto (2010) report that only 27% of young adults know about inflation and are able to compute simple interest rate calculations. Even when young adults are provided with formal learning opportunities, financial literacy may not be improved. For example, Mandell and Klein (2009) conducted a study in which they identified a sample of high school graduates from the same school system. Half of the students had taken a personal finance course while the other half had not taken the course. They found that the personal financial management course “did not systematically impact [the students’] financial behavior.” If one assumes that the caretaker strategy embedded in the defined benefit plans are largely a thing of the past, our society is faced with two options. The first, which we refer to as the “Homer Simpson Strategy,” is to “hide under some coats and hope everything will work out.” The second, and we hope more strategic, approach is to discover how financially literate individuals gained their knowledge and to proactively

replicate this learning process across the population.

Henceforth, understanding the antecedents of financial literacy is a critical step in improving societal well-being. Findings reveal that parents are a primary source of financial learning.

Chen and Volpe (2002) find that, almost 70 percent of students report learning about investing from their parents. Furthermore, Li (2009) reports that students whose parents actively participate in the financial markets are 30 percent more likely to become active investors. There are other factors that also influence financial intelligence. Formal education in business related areas especially in finance and accounting improve the students’ fundamental understanding of personal finance (Volpe, Chen, & Pavlicko, 1996; Volpe & Chen, 2002). Age and progress towards graduation also tend to increase financial literacy among college students (Norvilitis, Merwin, Osberg, Roehling, Young, & Kamas, 2006). Furthermore, married students tend to have greater financial literacy than unmarried students (Chen & Volpe, 1998). Fox and Bartholomae (2008) report, “burdensome consumer debt, low savings rates, and record bankruptcies are commonly considered the result of low financial literacy levels. As a result, both public and private initiatives have called on Americans to learn the basics of saving and investing for long-term financial independence, or otherwise to improve their level of financial literacy.”

Kolade, et. al., (2022) examined gender differences in FL and assessed its influence on students’ choice of investment instrument in the University of Ibadan in Nigeria. Using a semi-structured questionnaire administered

on 300 students across faculties. The findings shows that gender, faculty, level of study, and work experience are positive determinants of FL. Conversely, student status (whether full-time student, working student or self-employed), father's educational attainment, mother's educational attainment and family's average monthly income were not statistically significant drivers of FL. Moreover, FL averagely influenced the attitudes of undergraduates towards financial investment decision making. Generally, undergraduates exhibited low FL levels.

Unfortunately, there is little objective research on the learning environment and activities that actually enhance the university students' financial literacy. Therefore, the objective of this research is to address this gap. Precisely, the study undertakes a survey of approximately 1,500 undergraduate students in order to test their level of financial literacy and further relate this financial literacy to specific learning activities and family circumstances. Enhancing young adults' financial literacy is becoming more imperative as poor saving habits, and increased personal economic ruins have become common. One in five families earning less than \$50,000 in annual income are spending more than 40% of their after-tax income on debt service (W. L. Anthes, 2004). Personal bankruptcies have increased nearly 70% since 1990, reaching record highs in the twentieth century (Anthes, 2004). The lack of financial knowledge is leading to poor financial decisions with concomitant spillover effects in society as reflected in divorce rates, disruption of educational pursuits, and lost career opportunities. States are recognizing the financial literacy

problems. In response, there has been a proliferation of high school programs targeted at producing a financially literate citizenry. However, recent findings suggest there is no significant impact on the financial literacy of high school seniors even after exposure to the formal learning opportunities in the public schools. Attitudes toward thrift, financial decision-making skills, and literacy remain unchanged by these efforts (Mandell, 2006).

Further, in the JumpStart Survey (2006) administered to high school seniors, 31 questions were asked in four areas of finance: income, money management, saving and investing, and spending and credit. The findings show those who took a high school course in personal finance scored no better than those who did not. New approaches will be required to reverse this outcome. An important concomitant question is whether efficacious financial education will actually impact behavior and lead to better societal outcomes. Cole, Paulson, and Shastry (2012) show that financial literacy does impact key outcomes. Specifically, they show that improved financial acumen has a significantly positive effect on households as manifest by improved credit scores, reduced incidents of personal bankruptcy, and fewer home foreclosures. Further, Peng, Bartholomae, Fox, and Cravener (2007) demonstrate that knowledge gained by participation in effective college coursework does impact financial decision making. Hence, improved financial literacy does appear to impact decision-making at the individual/household level. Given the linkage between knowledge and behavior, a critical path emerges: identify sources of efficacious financial education, use effective tools to

promote financial literacy, reap the societal benefits of better outcomes.

Based on the literature review, no study has yet been found to focus on examining the ability of learning sources associated with financial literacy among university students in Nigeria who constitutes a lively part of the youthful population in Nigeria. Therefore, this paper contributes to the growing literature on financial literacy by identifying the successful sources of financial learning for young adults in the Nigerian University. The empirical analysis separates the disparate learning opportunities available to young adults into three areas including formal learning activities, experiential learning activities, and family and background factors. Several key avenues of knowledge enhancement were identified from the data.

DATA

Survey comprises of 493 students who entered one of three classes offered at a large Nigerian public university in which Financial management are taught. The purpose of the survey is to assess the students' understanding of personal finance before instruction commences. Personal data on family circumstances, financial learning activities, and relevant life experiences were also gathered.

Descriptive statistics are provided in Table 1. The survey methods adopted in this study are similar to those in Brau, Holmes and Israelsen (2019). A key component of the data is a class test (quiz) that measures the financial literacy of each of the respondents. The financial literacy measure is

subsequently used as the dependent variable in the empirical analysis. An extensive search of the academic and popular press was performed for any article dealing with financial literacy. Ten of such surveys were found with a total of one hundred and ninety four (194) questions. It was from this list, that the study applied the proficiency of finance specialists in the selection of forty (40) questions towards creating a subset that was clear, divergent, and at the suitable level of difficulty.

Methods

The participants were given financial literacy quiz. The goal is to understand the variability of scores among the participants. In order to analyze the data, we hypothesized that there are three broad sources from which these young people gain knowledge about personal finance:

- 1) Family and background characteristics
- 2) Formal learning activities
- 3) Experiential learning activities

In the interim step, the study uses ordinary least square (OLS) to regress the financial-literacy test scores (in percentages) against the variables used as proxy for each of the three sources of learning. We hypothesize the proxy variables as follows:

- 1) Family and background = $f(\text{mother or father graduated from college, parents' income, high school experience, high school job, and gender})$

Table 1: Descriptive Statistics

Variable	N	Mean	Median	Minimum	Maximum
Literacy Score (percent)	493	45.03	42.3	0	90
Business Major	499	0.26	0	0	1
Age (By category)	493	4.08	4	2	6
Gender (1=male)	488	0.64	1	0	1
Secondary School Finance	477	0.14	0	0	1
Secondary School Accounting	490	0.15	0	0	1
University Personal Finance Class	499	0.07	0	0	1
University Accounting Class	490	0.64	1	0	1
Read News	490	0.17	0	0	1
Watch News	485	0.07	0	0	1
Mum, Dad Graduates	488	0.85	1	0	1
Allowance	482	0.42	0	0	1
Studying with a Job	491	0.65	1	0	1
Stock Market	483	0.26	0	0	1
Period of Marriage	484	1.42	1	1	5
Parent Income	473	4.02	4	1	6

Table 1 above shows data from the survey of 493 undergraduate students from Bayero University Kano.

2) Formal learning = $f(\text{secondary school finance class, secondary school accounting class, university accounting class, university financial management class})$

class, reading news frequently, watching news on television frequently, and business major)

- 3) Experiential learning = $f(\text{receiving allowance, stock market participation, credit card, marriage, and age})$

Additionally, we estimate a grand regression including all the variables from the three models. The list of explanatory variable questions can be found in Appendix

C. Results and Discussions

The results of the regression equation estimated using the family and background variables is shown in table 2. The level of students' parents' education is marginally significant (10% level). Contrary to conventional wisdom, the results show parent income is not significant. Work experience in school, and thus the presumable requirement to manage income, is a significant and positive variable, as expected. The single largest coefficient and most significant (i.e., smallest p-value) variable is gender (male = 1). Henceforth, the data shows that male students are significantly better informed than female students about dealing with the whims of personal finance. The gender-based discrepancy in this study confirms the results of other studies such as Danes and Haberman (2007) and Brau, Holmes and Israelsen (2019). However, Danes and Haberman document other intricacies such as showing that females achieve higher scores in specific areas such as insurance and investment strategy. In a study conducted with the Myers-Briggs Type Indicator (MBTI), McGee and Phipps-Barnes (1997) categorized male and female

students into four distinct groups: creative style, conceptual capacity, executive disposition, and vocational preference. The results show females are significantly more intuitive than males and that males have greater conceptual capacity than females. Consistent with our findings, McGee and Phipps-Barnes conclude that males perform better on static instruments such as financial assessments because of their ability to master required material and their preference for "tool handling." Thus, the narrow statistical gap between males and females with respect to financial knowledge in our data is consistent with the gender-based differences demonstrated with the MBTI (McGee & Phipps-Barnes, 1997). However, the advantage associated with the heightened creativity and intuitive nature of females may be unregistered in our financial literacy test. Evidence that women may be better investors than men has received considerable attention beginning with Barber and Odean (2001) who shows that men trade more often than women, and as a result, experience a greater reduction in net return. Another example is Weidner (2011) who reports on multiple studies that provide evidence that women are better investors than men because they take less risk, hold their investments longer, and have greater financial self-control. Hence, there may be no difference in the abilities of males and females to make sound decisions in a realm with the whims of finance. Rather, it is possible that the inherent source of sound decision making stems from different cognitive attributes in males and females and that these differences are not fully captured in empirical analysis because of inadequacies in the instrument. Apparently, further research is necessary.

Table 2: Regression of Financial Literacy on Family and Background Characteristics

Variable	Parameter Estimate	Standard Error	t-value
Intercept	33.92	43.05	15.35
Mum Dad Graduate	-2.05	0.28	-1.65
Parent Income	0.34	4.10	1.14
Secondary School Expenses	1.05	0.62	1.16
Secondary School Job	2.17	0.12	2.26
Gender	10.17	0.13	11.95

Source: SPSS Data output of surveys of 493 students at Bayero University Kano

The literacy score (dependent variable) was derived from a 20-question test that was administered to the students during lectures. The questions were chosen after extensive research of existing financial literacy assessments used in both academic and Newspaper articles.

The results from the equation on formal learning activities are provided in table 3. A frequent appeal from the popular press is to include financial literacy courses in the curriculum at secondary schools. However, for the sample used in this study, it appears that secondary school classes (either finance or accounting) do not produce a significant

increase in financial literacy. In contrast, university classes (either financial management or accounting) have a very significant impact. Also significant with respect to financial literacy is reading the news, watching the news, Evidently, entry-level business students are no more financially literate than other students, as the coefficient for business major is insignificant in the partial model. The results for experiential learning are provided in Table 4. Finding experience to be the best teacher is not surprising. Only the variable on allowance is insignificant in the experiential learning regression.

Table 3: Regression of Financial Literacy on Formal Learning Activities

Variable	Parameter Estimate	Standard Error	t-value
Intercept	34.36	0.67	51.31
Secondary School Finance	0.85	1.03	0.82
Secondary School Accounting	-0.06	0.98	-0.06
University Accounting	6.5	0.83	7.83
University Personal Finance	8.05	1.10	7.32
Read News	2.59	0.90	2.89
Watch News	2.34	1.19	1.97
Business Major	1.16	0.77	1.52

Source: SPSS Data output from surveys of 493 undergraduate students in Bayero University Kano.

The literacy score (dependent variable) was derived from a 20-question test that was administered to the students during lectures. The questions were chosen after extensive research of existing financial literacy assessments used in both academic and popular press articles. Variable descriptions: All following indicator variables equal zero unless the stated condition is met. Secondary School Finance equals one if a finance (accounting) class was taken in secondary school. University Accounting equals one if an accounting class had been taken in the university. University Personal Finance Class equals one if either the business finance class was taken in the university. Read (Watch) News equals one if a business news source was regularly read (watched). Business Major equals one if the student is a business major.

Participating in the stock market, being married, and age all have a significant

impact on the financial literacy of undergraduate students. It is interesting to note that allowance (i.e., money given to a child) has no significance, while having a job while in school (i.e., money earned by the student) is significant. Evidently, the alignment of work and stewardship created by having earned income is important in the learning process. Few parents will be surprised by this result.

To link this all together, Table 5 provides the results for the full regression containing all variables. In the full regression, we are able to explain over 32% of the variability in financial literacy scores. When considering the whole of educational opportunities, family and background variables other than gender all become insignificant. We interpret the general non-efficacy of variables beyond the control of the individual to be a positive result from a policy stance. Basically, this finding

contradicts the idea that good financial judgment is largely endogenous to the biological circumstances of the individual. If financial literacy is not a result of attributes beyond the control of the individual, the fact that some individuals are financially literate

implies some non-endogenous factors must be effectual. In other words, an individual who is subjected to effective financial education opportunities can become financially intelligent.

Table 4: Regression of Financial Literacy on Experiential Learning Activities

Variable	Parameter Estimate	Standard Error	t-value
Intercept	17.11	1.79	9.55
Allowance	0.29	0.64	0.45
Stock Market	4.61	0.72	6.42
How Long Married	1.74	0.48	3.65
Age	2.91	0.48	6.02

Source: SPSS Data output from surveys of 493 undergraduate students from Bayero University Kano.

The literacy score (dependent variable) was derived from a 20-question test that was administered to the students during normal lectures. The questions were chosen after extensive research of existing financial literacy assessments used in both academic and popular press articles.

Therefore, given the link between financial literacy and outcomes (Cole, Paulson, & Shastry, 2012; Peng, Bartholomae, Fox, & Cravener, 2007), the data support the notion that effective policy can impact individual and societal outcomes. If family/background issues don't explain financial literacy, what does? The data show that some formal learning opportunities enhance young adults' knowledge base. Reading the news has a marginally significant impact on financial literacy. It also appears that the typical student who has decided to seek a

business degree may be better informed when considered in the full model. As noted in previous studies, secondary school coursework doesn't appear to have a significant impact (Mandell & Klein, 2009; Mandell, 2006; "Jump\$tart Survey," 2006). However, the college coursework variables are positive and highly significant in the overall model and enter the equation with the largest coefficients of any of the explanatory variables. The significance and magnitude of the coefficient point to the efficacy of University level coursework as an important channel for formal financial literacy instruction. The design of specific curricular initiatives appears to be an important topic for future research. In addition to the formal learning activities, several of the experiential variables are significant in the full model.

Stock market participation, possessing a credit card, marriage, and age are all significant variables with anticipated positive signs. Given that University coursework and experiential learning dominate the effective channels, it is possible that the combination of the two could be particularly effective. Field studies and internships are all examples of discipline-specific experiential activities common in many business schools today. In policy and curriculum initiatives, there may be a role for more active/ experiential activity directed at financial literacy within the University domain. Given the results of our analysis, there are prescriptive initiatives for universities. First, while family and background factors are not variables that can be manipulated, there may be opportunities to identify or encourage self-selection by students most likely to be in need of financial education. For example, in our sample, younger people and females generally scored more poorly on our literacy test. Second, secondary school classes

matter in the development of financial judgment. To assist the rising generation, the infusion of sound financial planning principles into the basic curriculum will likely have a significant impact on knowledge and behaviour. Finally, the data in our study show that experiential learning is the most impactful. Business schools nationwide invest in experiential learning for a wide range of topics. Simulations, internships, student-managed investment funds, are all examples of experiential learning conducted as a part of a university education. Given the benefits of financial education, an investment in experiential learning opportunities directed at personal finance issues will likely have at least as significant of an impact on student outcomes as many other existing experiential programs. Likewise, the efficacy of financial education among college students will only be fully revealed later in life as they have a full opportunity to engage the financial realities of life.

Table 3: Regression of Financial Literacy Grand Model

Variable	Parameter Estimate	Standard Error	t-value
Intercept	17.57	3.05	5.77
Mum Dad Grad	0.71	1.17	0.61
Parent Income	0.36	0.29	1.24
Allowance	-0.66	0.80	-0.83
Secondary School Expenses	-0.09	0.85	-0.11
Secondary School Job	1.06	0.91	1.17
Gender	2.46	1.42	1.74
University Finance	1.12	0.67	7.35
University Accounting	-0.55	1.23	0.91
University Accounting	5.15	0.98	5.24
University Finance	7.74	1.44	5.36
Read News	2.23	1.19	1.87
Watch News	-0.09	1.57	-0.06
Business Major	1.97	1.09	1.81
Stock Market	3.23	0.95	3.41
How Long Married	2.97	0.59	5.00
Age	2.11	0.67	3.15

Source: SPSS Data output from surveys of 493 undergraduate students of Bayero University Kano.

The literacy score (dependent variable) was derived from a 20-question test that was administered to the students during normal lectures. The questions were chosen after extensive research of existing financial literacy assessments used in both

academic and popular newspaper articles. Variable descriptions: All following indicator variables equal zero unless the stated condition is met. Mum Dad Grad equals one if either of one's parents graduated from college. Allowance equals

one if an allowance was received “as a kid.” School Expenses is the percentage of expenses the respondent paid in school: none, shared with parents, 100%. School Finance (Accounting) equals one if a finance (accounting) class was taken in school. University Accounting equals one if an accounting class had been taken in the university. Read (Watch) News equals one if a business news source was regularly read (watched). Business Major equals one if the student is a business major. Stock Market equals one if respondent had money in the stock market. How long married had possible answers: Not married; 1 year; 2-3 years, 4-5 years, More than 5 years. Age is one of six groups: 17 or younger, 18-20, 21-23, 24-26, 27-29, over 30.

Conclusion

Financial literacy will be more significant for the growing generation than for elder generations. The transfer of responsibility and risk from employers to employees places a significant learning burden on those currently preparing to enter the work force. This article surveyed nearly 500 undergraduate students in an attempt to uncover effective means of gaining financial literacy. The data for the study was segmented into three probable learning areas: family and background, formal learning opportunities, and experiential learning opportunities. Considering the family and background variables alone, it was recognized that gender (which cannot be controlled) and working for an income early in life have the highest effect. In the formal learning equation, several variables are significant. Most significantly, the data proposes that the impact of secondary school classes on

financial literacy is very little. On the other hand, University classes have shown positive significant impact on financial literacy. Similarly, regular reading or watching the news also has a positive and significant impact on financial literacy. Furthermore, when experiential learning was remotely considered, except for allowance (money given to children by parents) all variables appeared to be positive and significant. Stock market participation, marriage, and age all prove to be highly significant and positive. In the overall model, it is not unanticipated that experiential activities have the strongest impact. To be assured, University classes that provide rigorous learning opportunities have a very significant impact and go into the equation with the biggest coefficients. Students that spend most of their time in reading the news are ahead of their peers as well. Nevertheless, the data also show that experience is a significant source through which students gain financial literacy. Age, marriage, and stock market participation all have a positive and significant impact on financial literacy. The article addresses the variation in financial literacy among University undergraduates to ascertain how students truly acquire an understanding of basic financial principles. University classes dealing with personal finance issues, experiential learning, and age or maturity proved to be the most valuable tools in promoting financial literacy, while combined with prior studies showing that greater knowledge leads to enhanced financial decisions, advancement of opportunities for young people to acquire financial intelligence has great prospective benefit to the individuals as well as the society.

References

- Abdallah, M.A. (2020). Entrepreneurship Development and Financial Literacy in Africa. *World Journal of Entrepreneurship, Management and Sustainable Development*, 11(4), 281-294.
- Anthes, W. L. (2004). Financial Illiteracy in America: A Perfect storm, a Perfect Opportunity. *Journal of Financial Service Professionals*, 58(6), 49–57.
- Bamidele (2022). How family communication and use of mass media affect the learning of adolescent. *Journal of business studies*, 31, 42-51.
- Beal, D. J., and S. Delpachitra. (2003). Financial Literacy among Australian University Students, *Economics Papers*, 22(1), 65-78.
- Bello and Ramalan (2023). Financial literacy among students in federal colleges of education. *Journal of business education*, 7(1), 51-66
- Bakken, M. R. (1967). Money Management Understandings of Tenth Grade Students. *National Business Education Quarterly*, 36, 6.
- Barber, B. M., & Terrance, O. (2001). Boys Will be Boys: Gender, Overconfidence, and Common Stock, Investment. *Quarterly Journal of Economics*, 116(1): 261-292.
- Brau, J. C., Brau, R.I., Rowley, T., & Swenson, M.J. (2017) An Empirical Analysis of the Success Factors in an Introductory Financial Management Class. *Journal of the Academy of Business Education*, 18: 231-284.
- Brau, J. C., Brau, R.I., Owen, S., & Swenson, M.J. (2016) The Determinants of Student Performance in a University Marketing Class. *Business Education Innovation Journal*, 8(2): 21-31.
- Brau, Holmes and Israelsen (2019). Financial literacy among college students: An empirical analysis. *Journal of financial education*.
- Chen, H., & Volpe, R. P. (1998). An Analysis of Personal Financial Literacy among College Students. *Financial Services Review*, 7(2): 107–128.
- Chen, H., & Volpe, R.P. (2002). Gender Differences in Personal Financial Literacy Among College Students. *Financial Services Review*, 11(3): 289–307.
- Christine, Brian. (1992). Helping Direct Self-Directed Plans. *Risk Management*, 39(9): 78–79.
- Cole, S. A., Paulson, A. L., & Shastry, G. K (2012). Smart Money? The Effect of Education on Financial Behavior. *The Review of Financial Studies*, 27(7): 2022-2051.
- Cole, S., T. Sampson, and B. Zia. (2008). Money or Knowledge? What Drives the Demand for Financial Services in Developing Countries. *Harvard School Working Paper*, 9(117).
- Consumer Federation of America and American Express Company (CFA/AMEX). 1991. Student

- Consumer Knowledge: Results of a National Test, Washington, D.C.
- Copeland, C. (2009). Retirement Plan Participation: Survey of Income and Program Participation (SIPP) Data, 2006. Employee Benefits Research Institute Notes, 30(2): 2–12.
- Danes, S. M., & Haberman, H. R. (2007). Teen Financial Knowledge, Self-Efficacy, and Behavior: A Gendered View. *Financial Counseling and Planning*, 18(2): 48-60.
- Danes, S. M., & Tahira, K. H. (1987). Money Management Knowledge of College Students. *Journal of Student Financial Aid*, 17(1): 4–16.
- E. (1992, July 7). Passing the Buck: In New Pension Plans, Companies are Putting the Onus on Workers. *Wall Street Journal*, pp. 1A.
- Emmanuel, Usman and Adebayo (2007). Financial literacy: A conceptual review. *Quarterly Journal of Economics*, 106, 407-443
- Harris/Scholastic Research (HSR). (1993). *Liberty Financial Young Investor Survey*, New York, NY.
- Helman, R., VanDerhei, J., & Copeland, C. (2007). The Retirement System in Transition: The 2007 Retirement Confidence Survey. *Employee Benefit Retirement Institute*. 304: 1–24.
- Hastings, J.S., B.C. Madrian, and W.L. Skimmyhorn (2012). Financial Literacy, Financial Education and Economic Outcomes. National Bureau of Economic Research, Cambridge
- Hilgert, M.A., J.M. Hogarth, and S.G. Beverly. (2003). Household Financial Management: The Connection between Knowledge and Behavior. *Federal Reserve Bulletin*, 89, 309-322.
- Institute of Certified Financial Planners (ICFP). (1993). Planners say financial illiteracy plagues Americans: Inability to plan and poor understanding of investments cited. Denver, CO.
- Jump\$Start 2006 Financial Literacy Quiz. (2006) SavingAdvice.com. Retrieved from www.savingadvice.com/tools/quizzes/jumpstart-financial-literacy.html
- Kolade, T., Orekoya, S. and Adeniyi, O. (2022). Determinants of financial literacy and its effects on the financial behaviour of undergraduates in a Nigerian university. *Ife Social Sciences Review*, 30 (1), 11-26.
- KPMG Peat Marwick LLP (KPMG). (1995). Retirement benefits in the 1990s: 1995 survey data. New York, NY.
- Langrehr, F. W. (1979). Consumer Education: Does It Change Students' Competencies and Attitudes? *Journal of Consumer Affairs*, 13(1): 41–53.
- Li, G. (2014). Information Sharing and Stock Market Participation: Evidence from Extended Families. *The Review of Economics and statistics*, 96(1):151-160.
- Lusardi, A., and P. Tufano. (2009). Debt Literacy, Financial Experience, and Over Indebtedness. NBER Working Paper 14808
- Lusardi, A., Mitchell, O. S., & Curto, V. (2010). Financial Literacy among

- the Young. *Journal of Consumer Affairs*, 44(2): 358–380.
- Mandell, Lewis (2006). Financial Literacy: If It's so Important, Why isn't It Improving? Networks Financial Institute Policy Brief No. 2006-PB-08. <http://ssrn.com/abstract=923557>
- Mandell, L., & Klein, L. S. (2009). The Impact of Financial Literacy Education on Subsequent Financial Behavior. *Journal of Financial Counseling and Planning*, 20(1): 15–24.
- McGee, M. L., & Phipps-Barnes, Phyllis (1997). Leveraging Gender Differences in Executive-Level Leaders: A Woman's Road Map to Competitive Advantage. *Minerva* 15(3): 31–46. GenderWatch; GenderWatch. Web. 17 July 2012.
- National Assessment of Educational Progress (NAEP). (1979). Teenage Consumers: A Profile. Denver, CO.
- National University Commission (2014). Entrepreneurship Studies for Distant Learners in the Nigerian University System
- Nigerian Bureau of Statistics (2022).
- Norvilitis, J. M., Merwin, M. M., Osberg, T. M., Roehling, P.V., Young, P., & Kamas, M. M. (2006). Personality Factors, Money Attitudes, Financial Knowledge, and Credit-Card Debt in College Students. *Journal of Applied Social Psychology*, 36(6): 1395–1413.
- Peng, T. M., Bartholomae, S., Fox, J. J., & Cravener, G. (2007). The Impact of Personal Finance Education Delivered in High School and College Courses. *Journal of Family and Economic Issues*, 28(2), 265–284.
- Philip, C., & Cardona, M. M. (1994). Education Is Major DC Plan Challenge Participation, Allocation Issues Tackled. *Pension and Investments*, 4(38).
- Rahman (2020). Financial attitudes, beliefs and behaviors. *Journal of Consumer Studies and Home Economics*, 21, 271- 290
- Rasoaisi, L., and K.M. Kalebe. (2015). Determinants of Financial Literacy among the National University of Lesotho Students. *Asian Economic and Financial Review*, 5(9), 1050-1060.
- Schultz, E. E. (1995, July 31). Frittered Away: Offered a Lump Sum, Many Retirees Blow It and Risk Their Future. *Wall Street Journal*. Retrieved from <https://www.wsj.com/articles/SB10000872396390443720204578004292957113104> Schultz, E.
- Simon, R. (1992). The Broken Promise of Financial Planning. *Money*, 21(11): 133–149.
- Ugochukwu (2010). Financial knowledge of teen-agers and investment behaviour. *Journal of financial counseling*, 2(2), 110 -124
- Volpe, R P., Chen, H., & Pavlicko, J. J. (1996). Personal Investment Literacy Among College Students: A Survey. *Financial Practice & Education*, 6(2): 86–94.
- Willette, A. (1995, September 11). Payouts Aren't Being Invested for Retirement. *USA Today*, pp. 1B,2B.
- Weidner, D. (2011, June 14). Why Women are Better Investors than Men. *Wall*

Street Journal Online. Retrieved
from
<https://www.wsj.com/articles/SB70001424052702303714704576385581336206062?mobile=y&mg=reno64-wsj>

Xiao, J. J. (2008). Handbook of Consumer Finance Research. New York, NY. Springer Science+Business Media LLC.

Yates, D., & Ward, C. (2011). Financial Literacy: Examining the Knowledge Transfer of Personal Finance from High School to College to Adulthood. American Journal of Business Education 4(1):65–78.