

Financial Literacy of African American College Students: Evidence and Implications from One Historically Black Institution

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Abstract

This study examines the level and determinants of financial literacy among African American college students of a historically black college. The results from this study show that financial literacy is very low among African-American college students: less than 4% of respondents could answer all five financial literacy questions designed to test basic economics and financial concepts used in everyday lives. While determining factors that influence financial literacy of African American college students, the study finds that being in higher-class ranks and older in age have significant effects on students' financial literacy levels. The findings of this study support the need for financial literacy education for African American college students of a historically black college to effectively promote their financial literacy levels.

Keywords: financial literacy, financial education, financial decision-making, college students, African-American college students, historically black college

1. Introduction

The President's Advisory Council on Financial Literacy (2008) defines financial literacy as the "ability to use knowledge and skills to manage financial resources effectively for a lifetime of financial well-being". Today, every individual needs financial literacy because he or she is responsible for making many financial decisions, such as developing and balancing a personal budget, managing debt, purchasing insurance, saving for emergencies, and planning and investing for retirement. Moreover, today's financial marketplace has become more complex. The financial marketplace offers individuals numerous products, services, and providers to spend, borrow, save and invest. If individuals possess the knowledge, skills, and information to navigate the complex financial marketplace, then they can choose the right financial option that meets their financial needs, goals, and circumstances (US Financial Literacy and Education Commission, 2006). However, if they lack financial literacy to compare costs and benefits of numerous financial options in the financial marketplace, then they may choose a financial option that may have negative effects on their financial well beings. Hence, financial literacy is important for all individuals, but it is particularly important for African-American college students of a historically black college because historically black college often have students who are low-income, first-generation and underprepared – all student characteristics that indicate a greater risk for possessing low financial literacy levels.

This study assesses financial knowledge of African American college students on five basic financial literacy questions that have been used to assess and establish a baseline measure of the financial knowledge of American adults in many financial literacy studies, such as the National Financial Capability Studies of 2009, 2012, and 2015. Second, it examines factors that affect the financial literacy of African American college students. Third, it addresses the shortage of African American participants in the financial literacy research by using a sample that consists of a large percentage of African-American respondents. Fourth, as historically black colleges are likely to have a greater risk for possessing low financial literacy levels and studies that focus on the financial literacy of historically black college students are under-researched, this study adds to the financial literacy research by examining financial knowledge of college students from a historically black college.

Based on data collected from a historically black college in the Spring and the Fall of 2016, this study documents that African American college students of a historically black college have a very low level of financial literacy: less than 4 percent of respondents could answer all the five basic financial literacy questions. Furthermore, when

analyzing factors that determine financial literacy of African-American college students, this study finds that being in higher-class ranks and older in age have significant positive influences on African American college students' financial literacy levels. The results of this study support for a need of financial literacy education programs for African-American college students of a historically black college. One-size-fits-all programs may not work to address low financial literacy levels among African American college students of a historically black college. Instead, financial literacy programs such as personal finance courses, workshops, and seminars targeted to African American college students from their freshmen year to senior year of college education may be effective to promote their financial literacy levels.

The remainder of the paper is organized as follows. Section 2 provides a background of African American college students, and Section 3 gives a review of previous research. Section 4 discusses methodology. Section 5 explains the data analysis. Section 6 presents descriptive statistics and empirical findings. Section 7 concludes the paper, and Section 8 examines areas for future research.

2. Background

African-American college students make many financial decisions at college. One of the important decisions is deciding whether to take student loans to finance their college degrees. In the academic year 2015-2016, the historically black college that I consider in this study had 87% of students with federal grant loans. On average, students of this college received about \$8,992 federal student loans to pursue their college education in 2015-2016 (National Center for Education Statistics). Student loans are loans that students need to pay after graduation. If students fail to pay their student loans, it can damage their personal credit scores and affect them negatively in financial decisions that they would make later in their lives, such as buying a house or investing for retirement. Therefore, it is critical that students understand all their responsibilities and obligations while deciding to take student loans to finance their college degrees. Besides student loan decisions, African-American college students also make many other financial decisions in college, often for the first time, such as opening bank accounts, managing a personal budget, paying monthly bills and using credit cards. Since any financial mistake that they make in college can affect their educational attainment and financial well-being both during and after college, it is important that they make wise financial choices. One way how college students can make wise financial choices is by learning financial knowledge from their parents (Shim, Barber, Card, Xiao, & Serido, 2010). Previous study shows that children whose parents have college education tend to have higher financial knowledge (Lusardi, Mitchell, & Curto, 2010). However, many African-American college students of a historically black college considered in this study does not have college educated parents, and thus, when they make many important financial decisions in college, they have few role models to guide them.

Many African American students of a historically black college come from low-income families and are vulnerable to financial challenges while pursuing their college degrees. Many of them work part-time or full-time while pursuing their college education. The amount of work that they decide to do during college affects not only their academic performances and the number of courses they take in a semester but also the time they require to graduate, start their careers and earn steady income. Moreover, for some students, their weak financial situations may make them choose work over college degrees and may cause them to drop out of college. If students drop out of college, they are likely to lose an opportunity to get college degrees, stable employment and overall better quality of life. Hence, it is critical for many African-American college students, particularly who come from low-income families, to understand how to manage their limited incomes and how to make wise financial choices to successfully complete their college degrees.

Today individuals make more financial decisions than in the past. For example, many employees in their firms now face a defined contribution plan for retirement. In this retirement plan, employees are responsible for making their investment choices for their retirement funds by choosing either one of a small number of pre-determined mutual funds or/and selecting individual securities and stocks. As today's economic environment continues to change, individuals are likely to make more financial decisions in the future than today. Hence, when African-American college students would transition into adulthood, they are likely to make more financial decisions – some more complex and different- than those made by their parents.

In summary, financial literacy is important for African American college students, particularly from a historically black college, because whether or not they are ready to make financial decisions, they face many financial choices while pursuing their college degrees, they are vulnerable to economic and financial challenges, and they are likely to face more complex financial decisions than those encountered by their parents.

3. Literature Review

Previous studies on financial literacy fall into two broad categories: implications of lower financial literacy level

and assessment of financial literacy level.

3.1 Implications of Lower Financial Literacy Level

There are many studies that have looked at whether lower financial literacy levels have negative effects on individuals' financial decisions. For example, using data from the 2004 Health Retirement Study, Lusardi and Mitchell (2006 and 2011) found that individuals who displayed lower financial literacy were less likely to save and plan for the retirement. van Rooij, Annamaria Lusardi, and Rob Alessie (2011) revealed that individuals with low financial literacy were less likely to invest in stocks. Campbell (2006) reported that people with lower education (characteristics that are positively related to financial literacy) made significant financial mistakes on portfolio diversification and mortgage refinancing. Lusardi and Tufano (2015) and de Bassa Scheresberg (2013) concluded that individuals who displayed lower financial literacy tended to transact in high-cost manners, incurring higher fees and using high-cost borrowing methods. Mottola (2013) showed that individuals with low financial literacy were more likely to engage in costly credit card behaviors. Hilgert, Hogarth, and Beverly (2003) demonstrated that financial literacy was positively correlated with credit management, saving and investment.

Since these previous studies show drawbacks of possessing lower financial knowledge on financial decisions, it is critical that African American college students possess high financial literacy levels to make wise financial decisions during and after their college lives.

3.2 Level of Financial Literacy

Several researchers have examined the financial literacy level of the US population. For example, the Rand American Life Panel (Lusardi & Mitchell, 2009), the 2009 National Financial Capability Survey (Lusardi & Mitchell, 2011), the 2012 National Financial Capability Survey (Lusardi & Mitchell, 2011) and the 2015 National Financial Capability Survey (The FINRA Investor Education Foundation, 2016) assessed financial literacy of the US population by asking questions related to basic economics and financial concepts used in everyday life, such as simple calculations about interest rates, the effects of inflation and the workings of risk diversification. These studies found that financial illiteracy was widespread among the US population and was particularly severe among young, women, African Americans, Hispanics and those with less education.

The findings of low levels of financial literacy in the U.S. population were also documented in other studies that used different types of financial literacy questions. For example, Hilgert, Hogarth, and Beverly (2003) asked questions related to credit, saving patterns, mortgages and general financial management, and found financial literacy was widespread among Americans. Lusardi and Tufano (2015) reported similar findings of Americans when they assessed financial literacy by asking questions related to debt.

There are some studies that have only assessed the financial literacy of young population, such as young adults, college students or high school students. For instance, Lusardi, Mitchell, and Curto (2009) used data from the 1997 National Longitudinal Survey of Youth to show that fewer than one-third of young Americans aged 23 to 28 years possessed basic knowledge of interest rates, inflation and risk diversification. Using data from the 2009 National Financial Capability Study, de Bassa Scheresberg (2013) found similar results for young Americans aged 25 to 34 years. Moreover, both these studies documented that financial illiteracy was acute among African-Americans and those with low educational attainment.

Chen and Volpe (1998) assessed financial literacy of college students from multiple colleges and universities across the country. Their study had about 85 percent participants as white and only 6.6 percent participants as African Americans. They found that college students had a low level of financial literacy on general knowledge, savings, borrowing, insurance, and investments. Financial literacy was found particularly lower among African-Americans, non-business majors, women, students in the lower class ranks, under age 30, and with little work experience.

Chen and Volpe (2002) surveyed students from multiple colleges and universities of California, Florida, Kentucky, Massachusetts, Ohio and Pennsylvania to find out if there were gender differences in personal finance topics among college students. While examining college student participants' personal finance knowledge in topics such as personal finance, savings and borrowing, insurance and investments, they found that female college students had lower financial knowledge than male college students. They also found that education and experience could have a significant impact on both male and female college students.

Eitel and Martin (2009) used the 2006 Jump\$Start survey to examine the financial literacy of first-generation female college students from one university. They found that financial literacy level was low among the first-generation female college students. They also found that age, ethnicity, and student classification were predictors of higher financial literacy.

The National Council on Economic Education's report (2005) and Jump\$tart Coalition for Personal Financial Literacy (Mandell, 2008) analyzed the financial literacy level of high school students. Both these studies showed that a majority of high school American students had failing scores on financial literacy tests.

These previous studies provide important information about financial literacy level of the general population and various sub-population of the United States. This study adds to the growing research in financial literacy in four ways. First, it assesses the level of financial knowledge of African American colleges students on five basic financial literacy questions that are now widely used in many studies to assess and establish a baseline measure of the financial knowledge of American individuals, such as the National Financial Capability Studies of 2009, 2012 and 2015. Second, this study examines factors that affect financial literacy of African American college students. Third, it addresses the shortage of African American participants in the college level research on financial literacy by using a sample that consists of a large percentage of African-American college students. Fourth, as historically black colleges are likely to have a greater risk for possessing low financial literacy levels and studies on financial literacy among historically black college students are under-researched, this study adds to the existing financial literacy research by examining financial literacy of college students of a historically black college.

4. Methodology

To assess the financial knowledge of African American college students, I developed an online financial literacy survey. The online financial literacy survey consisted of students' demographic questions such as gender, class rank, race, age, work hours, marital status, family's annual income, parents' education level, and traditional or non-traditional student status. It also consisted of five financial literacy questions that were obtained from the National Financial Capability Study (NFCS). The NFCS is a large-scale, multi-year project that measures Americans' financial knowledge, resources, access and habits from a sample of over 25,000 respondents. The NFCS uses five financial literacy questions to evaluate and establish a baseline measure of an individual's financial knowledge of basic economics and financial concepts, which are important for everyday financial decisions (the FINRA Investor Education Foundation, 2016). Since college students need to be equipped with basic knowledge of financial literacy, I used these five financial literacy questions of the NFCS to evaluate financial knowledge of African American College students. To my knowledge, there have been no college-level financial literacy studies in the United States that have used five financial literacy questions of the NFCS to test undergraduate students' financial literacy levels. This would be one of the first studies to examine financial literacy of college students on financial questions that were examined on the national population of the United States in the National Financial Capability Studies of 2009, 2012 and 2015. The five financial literacy questions are as follows:

- 1). Suppose you have \$100 in a savings account earning 2 percent interest a year. After five years, how much would you have? (i) More than \$102; (ii) Exactly \$102; (iii) Less than \$102; (iv) Don't know.
- 2). Imagine that the interest rate on your savings account is 1 percent a year and inflation is 2 percent a year. After one year, would the money in the account buy more than it does today, exactly the same or less than today? (i) More; (ii) Same; (iii) Less; (iv) Don't Know.
- 3). If interest rates rise, what will typically happen to bond prices? Rise, fall, stay the same, or is there no relationship? (i) Rise; (ii) Fall; (iii) Stay the same; (iv) No Relationship; (v) Don't Know.
- 4). A 15-year mortgage typically requires higher monthly payments than a 30-year mortgage, but the total interest over the life of the loan will be less. (i) True; (ii) False; (iii) Don't Know.
- 5). Buying a single company's stock usually provides a safer return than a stock mutual fund. (i) True; (ii) False; (iii) Neither true nor false; (iv) Don't Know.

In the above questions, the first two questions, which are referred as "interest rate" and "inflation," respectively, evaluate individual's knowledge of fundamental economic concepts and basic numeracy. The third question, which is referred as "bond," examines individuals' knowledge about the relationship between interest rates and bonds, a crucial understanding of how assets are priced in the financial marketplace. The fourth question, which is referred as "mortgage," tests the individual's knowledge about how mortgage interest rates work. The fifth question, which is referred as "risk diversification," evaluates individual's knowledge about the difference between stocks and mutual funds, and the concept of reducing investment risk by spreading investment dollars among many types of assets.

After receiving the Human Subject Committee's approval, I conducted the online financial literacy survey in a historically black college in the year 2016. Students were invited to participate in the online survey by using

various recruitment methods such as college's email accounts, campus media, and class announcements. Students who completed the online survey were also given an opportunity to win one of ten \$10 gift certificates.

5. Data Analysis

To examine the determinants of the financial literacy among African-American college students, I perform two types of analysis. In the first analysis, I look at factors that determine students to correctly respond each financial literacy question. Using the logit method, I estimate the following model:

$$P(Y_j = 1|x) = \Phi(\beta_0 + x\beta) \quad (1)$$

where the subscript j refers to the type of a financial literacy question such that j equals to interest rate question, inflation question, bond question, mortgage question, and risk diversification question, respectively. The variable, Y_j , is a dummy variable that equals one if a participant correctly answers j financial literacy question, and zero otherwise. The term x represents a vector of the socio-economic demographic characteristics of a participant such as class rank, gender, age, traditional student status, marital status, child status, working status, parents' education level, and family income. All explanatory variables that are included in the term x are dummy variables.

After examining the first analysis, I examine factors that determine students to give correct answers to all five financial literacy questions. Using the ordinary least squares regression method, I estimate the following model:

$$FINANCIAL_SCORE = \beta_0 + x\beta + \varepsilon \quad (2)$$

where the dependent variable, $FINANCIAL_SCORE$, represents the number of financial literacy questions that a participant answered correctly. Since there are five financial literacy questions, the maximum score one could get for this $FINANCIAL_SCORE$ variable is five, and the minimum score is zero. The explanatory variables are same as in the equation (1), and the variable ε is the unobserved variation, which is assumed to be normally distributed.

6. Results and Analysis

An online financial literacy survey was conducted in a historically black college in the year 2016. Of 918 students, 177 students participated in the survey, representing a response rate of 19.28%. Table 1 shows the demographic characteristics of the survey participants. There were more female participants than male participants in the survey: about 63% of participants were female students. In terms of class rank, there were around 35% juniors, 30% freshmen, 21% sophomores and 15% seniors. The majorities of participants were below 22 years and were traditional students. All participants were African-Americans. Around 90% of participants reported their marital status as single (Note 1), and around 68% of participants stated that they had no child. Around 75% of participants stated that they worked in addition to pursuing their college education. The majority of participants worked between 21 to 40 hours per week. Only about 27% of participants had parents with college degrees. Many participants came from families with low family incomes: about 51% of participants reported their annual family income to be less than \$30,000.

The historically black college that was used in this study had data only on selected demographic characteristics of the total college student population. Thus, based on the available demographic characteristics of the total college student population, the sample profile was similar to the total college student population, although students in this sample were more likely to be juniors and aged 30 years and older.

Table 1. Demographic information

	Sample of Undergraduate College Students n=177	Population of Total Undergraduate College Students N=918
Gender		
Male	37.29%	34.75%
Female	62.71%	65.25%
Class Rank		
Freshman	29.38%	34.86%
Sophomore	20.90%	23.31%
Junior	35.03%	24.07%
Senior	14.69%	17.76%

Age		
Below 22 years	46.33%	46.13%
22 to 29 years	25.42%	34.31%
30 or older	28.25%	19.50%
Race		
Black or African-American	100%	98.26%
Traditional versus Non-traditional		
Traditional day student	63.84%	68.19%
Non-traditional students	36.16%	31.81%
Marital Status		
Single	89.83%	n.a.
Married	10.17%	n.a.
Have Children		
Yes	32.20%	n.a.
No	67.80%	n.a.
Work hours per week		
Less than 20 hours	17.51%	n.a.
21 hours to 40 hours	32.77%	n.a.
More than 40 hours	24.29%	n.a.
Do not work	25.42%	n.a.
Parents' Education		
High school or less than high school	38.42%	n.a.
Some college	35.03%	n.a.
College graduate or more than college	26.55%	n.a.
Annual Family Income		
Less than \$30,000	50.85%	n.a.
\$30,000 to \$49,999	23.16%	n.a.
\$50,000 to \$74,999	18.64%	n.a.
\$75,000 or more	7.34%	n.a.

Note. n.a. means that data was not available.

6.1 Overall Results of the Survey

Table 2 reports response patterns by financial literacy questions. Of the five financial literacy questions, most respondents (about 61%) were able to answer the interest rate question correctly. Around 53% of participants correctly answered the question about mortgage and mortgage terms. Similarly, around 30% of respondents were able to answer a question related to inflation rates, while 24% of respondents provided the correct answer to a risk diversification question. A large majority of participants had the most difficulty in answering the question about the relationship between interest rates and bond prices: only around 23% of participants could correctly answer this bond question. There was also a wide range of incorrect and “don’t know” responses, with the “don’t know” responses ranging from 18% to 45% depending on a financial literacy question.

Table 2. Percent correct by financial literacy questions

	Correct	Incorrect	Don't Know
Interest Rates	61.02	20.9	18.08
Inflation	29.38	36.72	33.9
Bond	22.6	44.07	33.33
Mortgage	52.54	13.56	33.9
Risk Diversification	23.73	31.64	44.63
Observations = 177			

Table 3 illustrates the financial literacy levels of a national sample of the United States based on the 2015 National Financial Capability Study (NFCS). While comparing African American College student respondents’ response patterns by financial literacy questions (that is, Table 2) with that of the national sample of the United States (that is, Table 3), one can notice that in all five questions, African American College student respondents performed lower than the national sample of the United States.

Table 3. Percent correct by financial literacy questions among Americans in the 2015 NFCS study

	Correct	Incorrect	Don't Know
Interest Rates	75	13	12
Inflation	59	20	20
Bond	28	33	38
Mortgage	75	8	16
Risk Diversification	46	10	44

Source: The FINRA Investor Education Foundation. <http://www.usfinancialcapability.org/>

Table 4 shows a summary of responses of the survey participants to all financial literacy questions. For the entire sample, the medium financial literacy score was 2 out of 5, and the average financial literacy score was 1.89 out of 5. About 18% of participants could not answer any question correctly. Around 25% of participants could answer only one question correctly. Similarly, another 25% of participants could answer only two questions correctly. The percentages of participants who answered only three and four questions correctly are 18% and 11% respectively. Only a very small percentage, about 3.39%, of participants could answer all five questions correctly. These results indicate that financial literacy is very low among African American college students of a historically black college.

Table 4. Summary of responses to all financial literacy questions

Number of correct answers	Percent
Zero	18.08
One	24.86
Two	24.86
Three	17.51
Four	11.3
All Five	3.39
Average number of all correct answers = 1.89	
Median number of all correct answers = 2	

Table 5 shows whether student participants' average financial literacy score varies by their demographic characteristics. Male participants have higher average financial literacy score than female participants. Juniors have the highest average financial literacy score among all the class ranks. In terms of age, participants who were 30 years and older had the highest average financial literacy score. Non-traditional students had higher average financial literacy score than traditional students. Participants who were married had on average higher financial literacy score than participants with a single status. Participants who had children had on the average higher financial score than participants who had no children. On average, participants who worked more than 40 hours per week had the highest financial scores and participants who did not work had the lowest financial literacy scores. In terms of financial literacy based on participants' parents' education level, participants whose parents had a college education had the unexpected lowest average financial literacy scores. While participants with annual family income between \$50,000 to \$74,999 had the highest average financial literacy score, participants with annual family income less than \$30,000 had the lowest average financial literacy score.

Table 5. Average financial literacy score by demographic characteristics

	Mean	Std. Dev.	Min	Max
<i>Gender</i>				
Male	2.08	1.58	0	5
Female	1.78	1.24	0	5
<i>Class Rank</i>				
Freshman	1.12	1.04	0	4
Sophomore	1.57	1.30	0	5
Junior	2.52	1.29	0	5
Senior	2.42	1.42	0	5
<i>Age</i>				

Below 22 years	1.38	1.26	0	5
22 to 29 years	1.76	1.32	0	5
30 or older	2.86	1.11	1	5
<i>Traditional versus Non-traditional</i>				
Traditional student	1.50	1.27	0	5
Non-traditional students	2.59	1.29	0	5
<i>Marital Status</i>				
Single	1.77	1.33	0	5
Married	3.00	1.33	1	5
<i>Have Children</i>				
Yes	2.44	1.24	0	5
No	1.63	1.37	0	5
<i>Work hours per week</i>				
Less than 20 hours	1.58	1.34	0	5
21 hours to 40 hours	1.90	1.44	0	5
More than 40 hours	2.70	1.23	1	5
Do not work	1.33	1.13	0	4
<i>Parents' Education</i>				
High school or less than high school	1.97	1.38	0	5
Some college	1.98	1.36	0	5
College graduate or more than college	1.66	1.40	0	5
<i>Annual Family Income</i>				
Less than \$30,000	1.69	1.34	0	5
\$30,000 to \$49,999	1.83	1.22	0	4
\$50,000 to \$74,999	2.48	1.50	0	5
\$75,000 or more	2.00	1.53	0	4
Observations = 177				

6.2 Results of Multivariate Analysis

In this section, I report results from estimating equation (1) and equation (2) (Note 2). Table 6 shows results from estimating equation (1), which looks at factors that determine students to correctly respond each financial literacy question. This table contains five columns, corresponding to five financial literacy questions that are the interest rate, inflation, bond, mortgage, and risk diversification questions. Since the goal of estimating equation (1) is to explain the effects of participants' characteristics on the probability of responding correctly to a financial literacy question, Table 6 reports the marginal effects by setting explanatory variables to their mean values. The first column shows holding all other factors constant, senior participants are around 38% more likely to correctly answer interest rate question than freshman participants. However, holding all else same, participants with family income \$75,000 and over are less likely to give correct answer to interest rate question than participants with family income less than \$30,000. The second column shows that participants above 30 years old are more likely to answer inflation rates question correctly than participants below 22 years old. It also shows that females are about 13% less likely to answer inflation rates question correctly than male participants. The third column shows that juniors and seniors are more likely to answer the bond question correctly than freshmen participants. Similarly, the fourth column shows that sophomores, juniors and seniors are more likely to answer the mortgage question correctly than freshman participants. The fifth column shows that female participants are around 15% less likely to give the correct answer to risk diversification question than male participants. It also shows that juniors and participants above 30 years old perform better in the risk diversification question.

Table 6. Multivariate analysis of financial literacy: logit marginal effects of association with correct answers

	Interest Rate (1)	Inflation (2)	Bond (3)	Mortgage (4)	Risk Diversification (5)
Sophomore	-0.048 (0.118)	-0.072 (0.128)	0.158 (0.105)	0.244* (0.133)	0.082 (0.115)
Junior	0.092 (0.116)	0.114 (0.111)	0.308*** (0.093)	0.384*** (0.131)	0.176* (0.104)
Senior	0.375** (0.162)	0.075 (0.143)	0.274** (0.111)	0.302* (0.162)	0.163 (0.121)
Female	0.102 (0.085)	-0.129* (0.079)	-0.063 (0.064)	0.040 (0.095)	-0.153** (0.066)
AGE: 30 and over	0.248 (0.176)	0.425** (0.171)	-0.153 (0.134)	0.211 (0.185)	0.217* (0.124)
Annual Family Income: \$75,000 and over	-0.301* (0.176)	-0.164 (0.170)	-0.013 (0.130)	-0.043 (0.198)	-0.048 (0.120)
Pseudo	0.1084	0.221	0.1173	0.1954	0.2267
R-squared					

Note. Reference categories: male, freshman, age below 22 years old, non-traditional student, married, participant doesn't have child, participant is not working, participant's parents education is high school or less than high school, and participant's family income is less than \$30,000. See Table A1 in Appendix for detailed estimates and additional explanatory variables.

Standard errors are in parentheses. Observations =177. Marginal effects were calculated at the means of the independent variables. * $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$.

Table 7 reports ordinary least square regression results from estimating equation (2), which looked at factors that determine participants' score on five financial literacy questions. Holding all else same, juniors and seniors are likely to answer one more financial literacy question correctly than freshman students. Similarly, all else equal, participants who are above 30 years old have higher financial literacy scores than participants who are below 22 years old. The coefficients of all other remaining variables are insignificant. The value of adjusted R-square shows that the model explains 26.25% of the variation in financial literacy scores of African American College students.

Table 7. Multivariate analysis of financial literacy: ols regression of association with financial literacy score

	<i>FINANCIAL_SCORE</i>
Junior	0.958*** (0.277)
Senior	1.012*** (0.342)
AGE: 30 and over	0.913** (0.402)
Adjusted R-square	0.2625

Note. Reference categories: male, freshman, age below 22 years old, non-traditional student, married, participant doesn't have child, participant is not working, participant's parents education is high school or less than high school, and participant's family income is less than \$30,000. See Table A2 in Appendix for detailed estimates and additional explanatory variables.

Standard errors are in parentheses. Observations =177. * $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$.

7. Conclusion

As individuals become increasingly responsible for making important financial decisions in the complex financial marketplace, it is important that individuals are financially literate to make wise financial choices for their present and future financial well-being. This paper examines the level and determinants of financial literacy among African American college students of a historically black college.

Results from this study show that financial literacy is very low among African-American college students: less than 4% of respondents could answer all five questions based on basic financial concepts used in everyday life, such as simple calculations about interest rates, effects of inflation, understanding of the relationship between bonds and interest rates, knowledge of mortgage and mortgage terms, and understanding of stock market and

risk diversification. African American college students in this study performed poorly in all five financial literacy questions than the national sample reported in the 2015 National Financial Capability Study. While analyzing factors that influence financial literacy among African American college students of a historically black college, the study finds that being in higher-class ranks and older in age have significant positive effects on African American college students' financial literacy levels.

The findings of this study support a need for introducing and developing financial literacy programs as an important part of the college education so that African American college students of a historically black college are capable to make wise financial decisions during and after their college lives. In particular, to effectively promote financial literacy levels of African American college students at a historically black college, financial education programs such as financial literacy courses and workshops should be offered throughout their college education.

8. Suggestions for Future Research

The primary objective of this paper was to understand the level and determinants of financial literacy among African-American college students from a historically black college. The study is based on the sample size of 177. The study could be enhanced by having more participants from the same college or/and multiple other historically black colleges or universities to see if the results hold under differing conditions or if they vary by individual school or school type. This would also help to make the results more meaningful to a broader population.

Previous studies indicate that financial literacy programs and education can promote positive financial knowledge and financial behaviors. Future research can examine if financial education programs can influence financial knowledge and behaviors of African American college students. For instance, pre-and post-educational experience testing in a personal finance course, as well as workshops/seminars in general, would help to know if finance education could improve financial knowledge and behaviors of African American college students. In general, many studies document low levels of financial literacy of African Americans, but the solutions to improve the financial literacy of African-American college students, especially from a historically black college, have been under-researched and not adequately adopted.

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Notes

Note 1. Single refers to unmarried, divorced, separated or widowed.

Note 2. I report coefficients of explanatory variables that are significant at or below 10% level of significance.

Appendix

Table A1. Multivariate analysis of financial literacy: logit marginal effects of association with correct answers

	Interest Rate (1)	Inflation (2)	Bond (3)	Mortgage (4)	Risk Diversification (5)
Sophomore	-0.048 (0.118)	-0.072 (0.128)	0.158 (0.105)	0.244* (0.133)	0.082 (0.115)
Junior	0.092 (0.116)	0.114 (0.111)	0.308*** (0.093)	0.384*** (0.131)	0.176* (0.104)
Senior	0.375** (0.162)	0.075 (0.143)	0.274** (0.111)	0.302* (0.162)	0.163 (0.121)
Female	0.102 (0.085)	-0.129* (0.079)	-0.063 (0.064)	0.040 (0.095)	-0.153** (0.066)

AGE: 22 to 29	0.049 (0.123)	0.012 (0.119)	-0.132 (0.094)	-0.085 (0.129)	0.038 (0.098)
AGE: 30 and over	0.248 (0.176)	0.425** (0.171)	-0.153 (0.134)	0.211 (0.185)	0.217* (0.124)
Traditional student	0.106 (0.144)	0.046 (0.137)	-0.048 (0.110)	-0.002 (0.148)	-0.128 (0.098)
Single	0.153 (0.167)	-0.230 (0.153)	0.057 (0.119)	-0.253 (0.237)	0.038 (0.102)
Have Child	-0.040 (0.137)	-0.144 (0.134)	-0.082 (0.102)	-0.002 (0.142)	-0.054 (0.092)
Work: less than 20 hours	0.036 (0.116)	0.073 (0.122)	0.010 (0.095)	-0.051 (0.135)	0.042 (0.107)
WORK: 21 to 40 hours	0.168 (0.108)	0.063 (0.110)	-0.066 (0.090)	0.103 (0.118)	0.037 (0.095)
WORK: over 40 hours	0.262 (0.145)	0.034 (0.135)	0.095 (0.105)	0.132 (0.151)	0.046 (0.107)
Parents' education: Some college	0.108 (0.098)	0.120 (0.092)	-0.079 (0.074)	-0.162 (0.111)	0.048 (0.070)
Parents' education: College	0.001 (0.106)	0.078 (0.104)	-0.023 (0.083)	-0.073 (0.119)	0.032 (0.088)
Annual Family Income: \$30,000 to \$49,999	-0.102 (0.103)	-0.106 (0.102)	-0.070 (0.087)	0.125 (0.114)	-0.001 (0.077)
Annual Family Income: \$50,000 to \$74,999	-0.112 (0.117)	0.146 (0.102)	0.073 (0.084)	0.130 (0.130)	-0.031 (0.093)
Annual Family Income: \$75,000 and over	-0.301* (0.176)	-0.164 (0.170)	-0.013 (0.130)	-0.043 (0.198)	-0.048 (0.120)
Pseudo R-squared	0.1084	0.221	0.1173	0.1954	0.2267

Note. Reference categories: male, freshman, age below 22 years old, non-traditional student, married, participant doesn't have child, participant is not working, participant's parents education is high school or less than high school, and participant's family income is less than \$30,000.

Standard errors are in parentheses. Observations = 177. Marginal effects were calculated at the means of the independent variables. * $p < 0.1$;

** $p < 0.05$; *** $p < 0.01$.

Table A2. Multivariate analysis of financial literacy: ols regression of association with financial literacy score

	<i>FINANCIAL_SCORE</i>
Sophomore	0.291 (0.285)
Junior	0.958*** (0.277)
Senior	1.012*** (0.342)
Female	-0.216 (0.197)
AGE: 22 to 29	-0.113 (0.285)
AGE: 30 and over	0.913** (0.402)
Traditional student	-0.100 (0.322)
Single	-0.135 (0.380)
Have Child	-0.292 (0.299)
Work: less than 20 hours	0.078 (0.285)

WORK: 21 to 40 hours	0.226 (0.256)
WORK: over 40 hours	0.462 (0.322)
Parents' education: Some college	0.050 (0.222)
Parents' education: College	0.044 (0.250)
Annual Family Income: \$30,000 to \$49,999	-0.183 (0.238)
Annual Family Income: \$50,000 to \$74,999	0.199 (0.270)
Annual Family Income: \$75,000 and over	-0.510 (0.404)
Constant	1.346 (0.538)
Adjusted R-square	0.2625

Note. Reference categories: male, freshman, age below 22 years old, non-traditional student, married, participant doesn't have child, participant is not working, participant's parents education is high school or less than high school, and participant's family income is less than \$30,000.

Standard errors are in parentheses. Observations =177. * $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$.

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