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SOCIOLOGY | RESEARCH ARTICLE

Exploring racial differences in financial socialization and related financial behaviors among Ohio college students

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Abstract: This study examined how White and Black college students, particularly Black students, gain financial knowledge and skills. Recognizing that training in money management begins in childhood and adolescence, it is important to study the ways that college students adopt financial behaviors prior to pursuing higher education. Since, the availability of formal financial education is inconsistent across the American education system, parental education, and modeling may be a more important influence on the financial education of college students. The results of this study suggested parental money discussions and attending personal finance classes had the biggest overall influence on college students in each money management category.

Subjects: Race Education; Parents; Family Communication; Adult Education and Lifelong Learning; Higher Education; MiddleSchool Education; Secondary Education; Education Policy & Politics

Keywords: well-being; socialization; education; race

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Martha Fulk is a Ph.D. student in the Department of Financial Planning, Housing and Consumer Economics at the University of Georgia. Kenneth J. White Jr., Ph.D., is an assistant professor in the Department of Financial Planning, Housing and Consumer Economics at the University of Georgia. He received his Ph.D. from The Ohio State University. Their research interests are in the area of financial behaviors and attitudes of individuals and households. In particular, they are interested in less affluent populations, which tend to include minority and lower socioeconomic households. Their research also extends to areas of financial socialization, financial stress, financial well-being, and financial education. The research in this reporting paves the way to explore financial stress among college students, especially Black college students. Addressing financial problems using interventions such as early financial socialization and education have the potential to decrease financial stress among college students, as well as improve financial well-being and academic achievement.

PUBLIC INTEREST STATEMENT

Training in money management begins in childhood and adolescence. In particular, parental teaching and modeling may be a more important influence on the financial behavior of Black college students when compared to other factors such as personal finance classes offered both at the college and high school levels. Parents of Black youth should have discussions about money with their children prior to college to increase the odds of Black students having positive financial behaviors once they enter college. Nevertheless, personal finance classes in high school may still offer some benefit to Black students who enroll in college. Hence, promoting and establishing financial education prior to college may lead to behaviors and habits that put Black students on the road to developing lasting financial well-being. The creation of youth employment opportunities combined with formal financial education may be a way to train Black students in healthy money management skills and habits.

1. Introduction

Economic inequality is rising in the United States, and the disparity is increasingly along racial lines. According to White and Heckman (2016), a wide income gap and an even larger wealth gap exists between different racial groups. Black households are more likely to have lower net worth and fewer financial assets compared to White and Asian households (White & Heckman, 2016). Overall, Blacks earn less income than similar White households. But the most pressing issue is the inequality in savings from income that accumulates into wealth over time. Wealth inequality means that Black families are less equipped to absorb shocks and handle emergencies, have a comfortable retirement, send their children to college, and leave inheritances for the next generation.

Educational gaps—in the form of financial literacy and conventional schooling—are a main factor in contributing to income and wealth inequality because education increases an individual's ability to earn an income. Those earning lower incomes have a much more difficult time converting income into lasting wealth. Even individuals who advance their income may not understand how to manage it, therefore failing to convert their increased salaries into wealth. Some even believe that financial literacy is more important than conventional schooling in explaining variations in household prosperity (Behrman, Mitchell, Soo, & Bravo, 2012). Better education is a partial solution for ending economic inequality, hence financial literacy paired with higher education may be instrumental in improving wealth acquisition.

Financial literacy is a product of financial socialization. Financial socialization is the process of acquiring knowledge, skills, attitudes, and beliefs about money (Fox, Bartholomae, & Gutter, 2000), and occurs in the household when children are included in family financial discussions and observe how parents handle financial matters (Cohen, 1994). Saving and spending behaviors begin to form at an early age and start within the family (Cohen, 1994), and include formal and informal methods. Intergenerational transfers of knowledge, which occur through observation, modeling, informal discussions, and direct teaching, all can help adolescents and youth develop behaviors that lead to financial well-being over their life-cycle (Shim, Barber, Card, Xiao, & Serido, 2010). However, many parents lack the knowledge, comfort, or experience to teach their children about personal finance (Berman, 2015). Since obvious disparities exist in household socialization, policy makers often strive to fill in the gaps through formal education.

Formal financial education therefore becomes a source to help create financial literacy. Many states in the US either require or have guidelines for high school students to acquire financial literacy. However, similar to some parents, there are schools that may not be trusted sources for financial education either. According to the 2016 Survey of the States produced by the Council for Economic Education, only five states require a semester course in personal finance and only 20% of teachers feel comfortable teaching personal finance topics. In the state of Ohio, high school students are required to receive instruction in financial literacy as a graduation requirement but not necessarily as a stand-alone course. The Ohio Core, state law 3313.603(C)(7) which passed in February 2016 by the Ohio State Board of Education, simply requires economics and financial literacy to be integrated within either the social studies class or any other class. Specific courses and concepts are left to local districts to determine. The only requirement for a Social Studies teacher to teach personal finance? That they be certified to teach Social Studies. In other words, teachers are not required to have any training whatsoever prior to giving financial education to impressionable youth. Lack of teacher expertise negatively impacts the quality and effectiveness of the financial education on behalf of the student.

Although challenges exist for both parental teaching and formal financial education, the need to build financial responsibility in young adults makes it important to discover which mechanism is most strongly associated with positive financial behaviors and explore differences by race. This study uses a reflective approach to explore two purposes. The first purpose is to increase understanding of components of parental teaching and formal financial education associated with financial behaviors among college students. The second purpose is to fill a gap in the literature by comparing racial differences that may exist in financial socialization. To address the second purpose, we look specifically at a sample of Black students at predominately White institutions.

2. Review of literature

Financial socialization in the home and at school has lasting effects on the money management habits of young adults. Kim and Chatterjee (2013) examined youth aged 17–21 and the relationships between childhood socialization and debt management, money management, and financial attitudes. They found that childhood socialization was positively associated with credit card debt. In particular, children that received an allowance and had a savings account were more likely to pay their credit card balance in full each month. In contrast, Cho, Gutter, Kim, and Mauldin (2012) examined the relationship of parental influence on financial management behaviors of people in their working years, aged 24–66, with household income less than \$80,000 (US) and found none of the parental variables were significant in explaining the respondents spending less than their income. While formal and informal channels compete with each other for the greatest level of influence, there does seem to be an understanding of what kinds of formal and informal training works best for youth.

Preparing a child to become financially responsible works best when parents allow their children to make autonomous decisions with appropriate lessons in budgeting, saving, and spending. Receiving an allowance as a child, having a savings account as a child and learning from parents were each positively associated with taking full responsibility for managing finances in adulthood (Danes, 1994; Kim & Chatterjee, 2013). However, youth whose parents monitored—rather than coached—their spending in childhood, still did not have full responsibility for managing their finances even as young adults. For example, Crites, Behal, Haldeman, and Bennett (2001) found the two factors most significant in changing financial management behaviors were helping children to understand the difference between wants and needs and encouraging children to use a spending plan. However, there are challenges and inconsistencies in parental teaching, which can create obstacles to financial understanding among young adults.

Mixed messages from parents can create barriers to learning effective fiscal behavior. Solheim, Zuiker, and Levchenko (2011) conducted a qualitative study of 217 college students over three semesters and found that although students learned saving from parental modeling and coaching, parental coaching was not always beneficial because of mixed messages (particularly parents with different approaches) received at times about savings. As such, observation trumped conversation in socialization about money management. Nevertheless, students who grew up in families where money was discussed openly still developed sound money management and saving behaviors. Better financial education methodology can result from study of these impediments, however there are certain populations that do not always benefit, and may be increasingly left behind.

Although financial socialization has been studied extensively, to our knowledge, there have been very few studies that consider the impact of financial socialization on Blacks. In an examination of the financial socialization of African Americans who earned at least a bachelors' degree or higher, parents were their most influential socialization agents (Hudson, Young, Anong, Hudson, & Davis, 2017). Our study adds to the existing literature by examining the racial differences in formal and informal financial socialization components related to financial behaviors of college students.

3. Conceptual model

We combine two financial socialization models to form the basis of the theoretical framework for this study. First, Gudmunson and Danes (2011) proposed the family financial socialization (FFS) model which includes two parts, the socialization process and the socialization outcomes. The FFS process is driven by family interactions that provide financial education and communication of financial norms to one another whether intentionally or unintentionally. The process influences financial behaviors, attitudes, knowledge, capabilities, and well-being, which collectively are coined financial socialization outcomes by Gudmunson and Danes (2011).

Prior to Gudmunson and Danes' (2011) FFS model, Shim et al. (2010) built on their Student Financial Well-being Model to propose a financial socialization model. Guided by the theory of consumer socialization (Moschis, 1987) and the theory of planned behavior (Ajzen, 1991), Shim et al. developed an

anticipatory financial socialization model involving observational learning and formal learning. Observational learning is done through informal means such as role modeling and discussions with family and friends. Formal learning is gained through structured educational channels and work experiences.

The financial socialization model by Shim et al. is the primary guide for this research, along with contributions from the FFS model by Gudmunson and Danes. Based on the Gudmunson and Danes model, financial socialization in this study is attributed to have a two part construct with unintentional and intentional financial education by parents that influences financial behaviors and capabilities of their children. The Shim et al. model also provides the basis for including formal financial education and work experience in the theoretical construct. Formal financial learning is defined as working for pay while in high school, attending a personal finance class in high school or attending a personal finance class while in college. Taken together, the theoretical framework provides a conceptual model of financial socialization which includes two categories: parental teaching and formal financial education.

4. Hypotheses

In this study, we test the following two hypotheses in an effort to find effective ways of closing the racial wealth gap between Black and White students, as well as determine best practices in developing financial literacy:

H1: Positive parental teaching will have positive effects on how college students at Ohio colleges and universities manage money.

H2: Exposure to formal financial education will have positive effects on how college students at Ohio colleges and universities manage money.

The hypotheses are based on the literature findings and the model in use which suggest financial socialization outcomes are influenced by both formal and informal forms of financial education.

5. Data

We used the 2010 Ohio Student Financial Wellness Study (OSFWS) conducted by the Center for the Study of Student Life at The Ohio State University. The State Treasurer of Ohio sent letters to all 88 postsecondary schools in Ohio requesting participation in the study. Nineteen institutions of higher education in the state of Ohio participated. The institutions included 5 two-year colleges, 8 four-year private, and 6 four-year public colleges and universities.

A 99-item web survey was sent via e-mail to a random sample of the 33,500 undergraduate students in the total population from the 19 schools. The response rate was 17.1%. The result was 5,729 students in the 2010 OSFWS, of which 69% were women and 83% were White. In general, OSFWS was representative of US college students by gender and racial/ethnic background.

To get a view of potential ethnic/racial differences, the data were segmented into 431 Black students and 4,721 White students, while the remaining 577 responses from other racial/ethnic backgrounds were excluded for the purposes of this study. Multivariate regression analyses estimate the relationship of financial socialization prior to college separately on financial behaviors of Black and White college students within the 2010 OSFWS. In the analyses, cases with missing data were dropped and only complete cases were included in each analysis.

6. Methods

Dependent variables: The outcomes of interest were six specific behaviors under the broad category of money management. Students were asked the following six money management questions. The questions were answered using a four point Likert scale of strongly agree, agree, disagree, and strongly disagree. Responses “strongly agree” and “agree” were coded 1. Responses “disagree” and “strongly disagree” were coded 0.

- I have a weekly budget that I follow.
- I add to my savings on a regular basis.
- I track all debit card transactions/checks to balance my account.
- I have a financial plan that will serve my needs until I graduate.
- I know where my money goes.
- I regularly pay credit card bills in full and avoid any finance charges.

The above questions were selected based on normative financial behaviors that indicate the optimal management of financial resources by setting financial goals to save, invest, track spending, and use credit properly in order to meet the financial goals.

Independent variables: Seven explanatory variables represented exposure to two pre-college financial socialization categories, financial learning from parents, and financial learning from formal educational channels. One of the seven explanatory variables was a variable created from two survey questions, which was created to measure parental involvement in the college student's acquisition of a credit card prior to college. These questions were selected to reflect financial socialization in formal and informal settings.

(1) Financial learning from parents (Parental teaching):

- Using the following question, we created four dummy variables:
"While you were growing up, how often did your parents or guardians discuss money management with you?" The four variables are: (1) My parents discussed money with me often, (2) my parents discussed money with me sometimes, (3) my parents discussed money with me rarely, and (4) my parents discussed money with me never.
- Students answered either "yes" or "no" to the following question:
"Did you receive an allowance as a child or teenager?"

(2) Financial learning from formal educational channels (Formal teaching):

- The following question, "While in high school I attended personal finance classes/workshops," is answered on a four point Likert scale of strongly agree, agree, disagree, and strongly disagree. Responses "strongly agree" and "agree" are coded as 1. Responses "disagree" and "strongly disagree" are coded as 0.
- Students answered "yes" or "no" to the question,
"Did you work for pay while in high school?"

(3) Created explanatory variable:

- Using the following two questions, we created a dummy variable to measure college students that had a credit card prior to college that their parent(s) helped them secure. Students that answered "yes" to having a credit card prior to college and answered "yes" to their parents assisting in obtaining a credit card were coded as 1. An assumption was made that parents assisted students in obtaining the credit card prior to college.
Students answered either "yes," "no," or "don't have a credit card" to the following questions:
"Did you have a credit card prior to starting college?"
"Did your parents ever assist you in obtaining your own credit card?"

(4) Control variables:

- The question below was used as a control variable to indicate students that have attended a personal finance class or workshop in college. We used the same question to create a variable involving students that have attended a personal finance class or workshop in both high school and college. Other control variables included: school type, gender, rank, residential living situation, GPA, highest degree sought, employment status & location, and whether the student had a dependent.

The following question was answered on a four point Likert scale of strongly agree, agree, disagree, and strongly disagree. Responses “strongly agree” and “agree” were coded as 1. Responses “disagree” and “strongly disagree” were coded as 0.

“I have attended personal finance classes/workshops in college.”

7. Findings

7.1. Descriptive analysis

The descriptive statistics consisted of three components: demographic characteristics (Table 1), financial socialization (Table 2), and financial behaviors (Table 3). Each table showed proportions for 431 Black students and 4,721 White students. Respondents were from 19 primarily White institutions in the state of Ohio. Enrollment among Black students and White students by institution type were similar percentages: 24% of Black and 25% of White students were enrolled in two-year colleges, 41% of both Black and White students were enrolled in four-year private schools, while 35% of Black and 34% of White students attended four-year public schools. Freshman (25%), sophomores (25%), juniors (23%), and seniors (22%) were similarly represented among Black students. Among White students, freshman (27%), sophomore (24%), and (25%) seniors were similarly represented. White juniors represented 19% of the sample.

Table 1. Descriptive analysis: demographic information

	Black students	95% CI	White students	95% CI	Chi-square
	N = 431		N = 4,721		
Institution type					
Two-year	24.13%	[.20 .28]	24.61%	[.23 .26]	0.050
Four-year private	40.60%	[.36 .45]	41.18%	[.40 .43]	0.054
Four-year public	35.27%	[.31 .40]	34.21%	[.33 .36]	0.196
Gender					
Male	26.28%	[.22 .31]	31.45%	[.30 .33]	4.724*
Female	73.24%	[.69 .78]	68.38%	[.67 .70]	4.153*
Rank					
Freshman	25.35%	[.21 .29]	27.13%	[.26 .28]	0.637
Sophomore	25.35%	[.21 .29]	24.07%	[.23 .25]	0.352
Junior	23.02%	[.19 .27]	19.03%	[.18 .20]	4.033*
Senior	21.63%	[.18 .26]	25.22%	[.24 .26]	2.714
Other	4.65%	[.03 .07]	4.55%	[.04 .05]	0.009
GPA is greater than 3.0	54.20%	[.49 .59]	78.65%	[.77 .80]	127.787***
Employment status					
Full time	35.27%	[.31 .40]	39.27%	[.38 .41]	2.661
Part time	31.55%	[.27 .36]	23.03%	[.22 .24]	15.843***
Summers/breaks only	6.96%	[.05 .09]	18.32%	[.17 .19]	35.499***
Not employed	26.22%	[.22 .30]	19.38%	[.18 .21]	11.560**
Has a dependent	45.20%	[.40 .50]	25.21%	[.24 .26]	79.490***

Source: 2010 Ohio Student Financial Wellness Study.

Note: * $p < .05$. ** $p < .01$. *** $p < .001$.

Table 2. Descriptive analysis: financial socialization information

	Black students	95% CI	White students	95% CI	Chi-square
	N = 431		N = 4,721		
Parental teaching					
Parents often discussed money with me while growing up	22.35%	[.18 .26]	24.46%	[.23 .26]	0.945
Parents sometimes discussed money with me while growing up	34.35%	[.30 .39]	43.94%	[.43 .45]	14.605***
Parents rarely discussed money with me while growing up	29.18%	[.25 .34]	22.90%	[.22 .24]	8.549**
Parents never discussed money with me while growing up	14.12%	[.11 .17]	8.69%	[.08 .09]	13.815***
Received an allowance as a child or teenager	49.77%	[.45 .55]	47.00%	[.46 .48]	1.200
Parents assisted me in getting a credit card prior to college	6.03%	[.04 .08]	13.79%	[.13 .15]	20.820***
Formal financial education					
Worked for pay while in high school	71.96%	[.68 .76]	80.69%	[.80 .82]	18.645***
Attended personal finance classes/workshops while in high school	13.23%	[.10 .16]	17.24%	[.16 .18]	4.537*
Attended personal finance classes/workshops while in college	11.60%	[.09 .15]	7.58%	[.07 .08]	8.743**
Attended personal finance classes/workshops in both	10.44%	[.08 .13]	8.35%	[.08 .09]	2.224

Source: 2010 Ohio Student Financial Wellness Study.
 Note: * $p < .05$. ** $p < .01$. *** $p < .001$.

Table 3. Descriptive analysis: financial behaviors

	Black students	95% CI	White students	95% CI	Chi-square
	N = 431		N = 4,721		
Money management					
Follows a weekly or monthly budget	67.91%	[.63 .72]	66.11%	[.65 .67]	0.571
Has a financial plan that will serve needs until graduation	54.31%	[.50 .59]	62.66%	[.61 .64]	11.613**
Tracks all debit card transactions/checks to balance account	78.17%	[.74 .82]	79.01%	[.78 .80]	0.164
Knows where money goes	90.78%	[.88 .94]	92.68%	[.92 .93]	2.016
Adds to savings on a regular basis	32.32%	[.28 .37]	39.00%	[.38 .40]	7.389**
Regularly pays credit card bills in full and avoids finance charges	20.63%	[.17 .25]	31.98%	[.31 .33]	21.52***

Source: 2010 Ohio Student Financial Wellness Study.
 Note: * $p < .05$. ** $p < .01$. *** $p < .001$.

Black students were 26% male and 73% female, while White students were 31% male and 68% female. A large gap exists between Black students and White students that had at least a 3.0 GPA. More than 78% of White students were above a 3.0 GPA, while 54% of Black students were above a 3.0 GPA. This percentage gap was significantly different indicating the percentage of students who were above a 3.0 GPA was higher for White students compared to Black students. A notable difference existed in employment status. Seven percent of Black students were employed only during summers/breaks, and 18% of White students were employed summers/breaks only. Another noteworthy difference existed between Black students with a dependent and White students with a dependent. More than 45% of Black students were responsible for someone else's care, while only 25% of White students had a dependent. All these differences were statistically significant depending on the racial background.

The study included 10 financial socialization variables. In terms of parental communication, 43% of Black students and 32% of White students reported having parents that rarely or never discussed money with them while growing up. Almost 50% of Black students and 47% of White students said they received an allowance as a child or teenager. The percentage of White students (14%) whose parents assisted them in getting a credit card prior to college was more than double that of Black students (6%). A larger percentage of White students (81%) than Black students (72%) reported working for pay in high school. Among Black students, 13% attended personal finance classes/workshops in high school only, 12% attended in college only, and 10% attended in both high school and college. Seventeen percent of White students attended personal finance classes/workshops in high school only, with a much smaller proportion of White students having attended in college (8%) and both high school and college (8%).

The six financial behaviors in this study fell under the broad category of money management. Similar percentages of Black students (68%) and White students (66%) reported following a weekly or monthly budget. However, a larger proportion of White students (63%) than Black students (54%) had a financial plan that will serve their needs until graduation. The percentages were close between Black students and White students that track all transactions and were aware where their money goes. Seventy-eight percent of Black students and 79% of White students track all transactions, while 91% of Black students and 93% of White students said they know where their money goes. A smaller percentage of Black students (32%) than White students (39%) regularly added to their savings. An even larger difference existed between Black students (21%) and White students (32%) that regularly pay credit card bills in full to avoid finance charges.

7.2. Logistic regression analysis

Six separate logistic regressions were estimated utilizing financial behavior as dependent variables, financial socialization as explanatory variables, and demographic characteristics as control variables. The purpose of the logistic regression analysis was to explore relationships between pre-college financial socialization and financial behaviors of the students. Wald statistics established statistical significance of the coefficients of the independent variables. Table 4 (Black Students) and Table 5 (White Students) presented the odds ratios with significance indicators of the logistic regressions.

As previously mentioned, six money management variables were analyzed in this study:

- I have a weekly or monthly budget that I follow.
- I have a financial plan that will serve my needs until I graduate.
- I track all debit card transactions/checks to balance my account.
- I know where my money goes.
- I add to my savings on a regular basis.
- I regularly pay credit card bills in full and avoid any finance charges.

Table 4. Correlates of financial behaviors by selected characteristics for black students

Black students	Budget	Fin plan	Track	Aware	Savings	Pay CC
Odds ratios	N = 388	N = 388	N = 386	N = 359	N = 387	N = 349
Gender (Male)						
Female	0.675	0.551*	1.133	0.920	1.164	0.642
Rank (Freshman)						
Sophomore	0.676	0.918	1.480	0.692	0.662	0.791
Junior	1.010	1.544	1.095	1.233	0.767	1.498
Senior	1.114	1.206	1.195	1.497	0.703	1.440
Other	0.697	1.110	1.907	1.625	0.742	2.742
GPA is greater than 3.0	1.361	1.717*	1.297	1.306	1.149	1.644
Institution type (Two-Year)						
Four-year private	0.575	1.076	1.344	0.979	1.412	0.942
Four-year public	0.514	1.343	1.102	0.720	1.367	1.840
Employment status (Unemployed)						
Full-time	1.032	0.686	0.840	0.785	1.457	0.710
Part-time	1.565	1.469	0.753	1.512	2.136*	1.003
Summers & breaks only	1.213	0.761	1.084	1.000	0.628	1.114
Has a dependent	1.786*	0.960	0.838	0.803	0.670	0.780
Parental teaching						
Parental discussions (Never)						
Parents rarely discussed money with me	1.684	1.419	0.960	0.805	0.957	2.463
Parents sometimes discussed money with me	1.896	2.870**	1.701	5.194*	1.783	3.367*
Parents often discussed money with me	2.370*	3.699**	4.024**	1.385	1.773	2.717
Received an allowance as a child or teen	0.694	0.832	0.765	0.944	1.099	0.914
Parents assisted me in obtaining my own credit card prior to college	0.882	2.087	1.194	0.712	1.544	11.220***
Formal financial education						
Financial education (None)						
Attended personal finance classes/ workshops in high school	3.034**	1.071	1.196	0.527	0.937	0.760
Attended personal finance classes/ workshops in college	1.912	0.750	2.853*	0.927	0.682	0.905

(Continued)

Table 4. (Continued)

Black students	Budget	Fin plan	Track	Aware	Savings	Pay CC
Attended personal finance classes/ workshops in both	3.378*	1.673	1.024	0.421	3.093**	0.645
Worked for pay while in high school	1.712*	1.032	0.708	1.634	1.618	0.750

Source: 2010 Ohio Student Financial Wellness Study.

Note: * $p < .05$. ** $p < .01$. *** $p < .001$.

The findings for each of the above variables are discussed below:

7.3. Student has a weekly or monthly budget

Parental learning and conventional learning were each significantly related to Black and White students having a budget. Black students with parents who often discussed money with them were significantly more likely to have a budget than Black students whose parents never discussed money with them. The odds of having a budget were 137% higher when Black students had often engaged in money discussions with their parents ($p < .05$). White students with parents that rarely discussed money with them were significantly less likely to have a budget than White students whose parents never discussed money with them.

Attending personal finance classes and/or workshops in high school was significantly related to having a budget for both Black students and White students. The odds of having a budget were three times greater for Black students that attended personal finance classes in high school than for Black students that did not attend personal finance classes in high school ($p < .001$). For White students, the odds were 37% higher between students that attended personal finance classes in high school and students that did not attend personal finance classes in high school ($p < .0001$). Among Black students and White students, working for pay in high school was significantly related to having and following a budget. The odds of having a budget were 71% higher for Black students who work for pay in high school than Black students who did not work in high school ($p < .05$). For White students, the odds of working for pay were 33% higher than those who did not work for pay ($p < .001$).

Both Black students and White students with a dependent were significantly more likely than those without a dependent to follow a budget. Among White students, institution type, rank, and employment status were also significantly related to following a budget. White students at four-year schools of either type were significantly less likely than White students at two-year schools to follow a budget. Part-time and full-time workers were significantly more likely than unemployed White students to follow a budget.

7.4. Student has a financial plan

Black students whose parents discussed money with them either sometimes or often were significantly more likely than Black students whose parents never discussed money with them to have a financial plan. The odds that they have a financial plan were 187% ($p < .001$) and 270% ($p < .001$) higher respectively for Black students that have sometimes or often had money discussions with their parents. Among White students, a wider range of socialization measures were significantly related. White students whose parents discussed money with them either sometimes (odds ratio = 1.628, $p < .0001$) or often (odds ratio = 2.262, $p < .0001$) were significantly more likely than White students whose parents never discussed money with them to have a financial plan.

White students who received an allowance or attended personal finance classes in high school were significantly more likely to have a financial plan than White students that did not receive an

Table 5. Correlates of financial behaviors by selected characteristics for white students

White students	Budget	Fin plan	Track	Aware	Savings	Pay CC
Odds ratios	N = 4,437	N = 4,432	N = 4,422	N = 4,407	N = 4,430	N = 3,712
Gender (Male)						
Female	1.095	0.857*	1.032	0.868	0.892	0.713***
Rank (Freshman)						
Sophomore	1.067	1.105	0.965	1.317	0.947	1.795***
Junior	1.083	1.211	0.996	1.054	0.799*	2.180***
Senior	1.052	1.467***	0.793*	1.005	0.653***	3.335***
Other	1.448*	1.161	0.878	1.570	0.830	1.948***
GPA is greater than 3.0	1.074	1.552***	1.141	1.534**	1.583***	1.501***
Institution type (Two-Year)						
Four-year private	0.592***	0.806*	0.816	0.916	1.248*	1.005
Four-year public	0.635***	0.770**	0.808	0.807	1.138	1.052
Employment status (Unemployed)						
Full-time	1.226*	1.114	1.166	0.867	3.186***	1.584***
Part-time	1.341**	1.315**	1.302*	0.970	3.406***	1.599***
Summers & breaks only	0.878	1.141	0.976	0.820	1.767***	1.168
Has a dependent	2.250***	1.129	1.287*	0.933	0.619***	1.000
Parental teaching						
Parental discussions (Never)						
Parents rarely discussed money with me	0.676**	1.115	0.875	1.423	1.134	1.091
Parents sometimes discussed money with me	0.882	1.628***	1.271	2.373***	1.609**	1.108
Parents often discussed money with me	1.185	2.262***	1.789***	3.759***	2.283***	1.652**
Received an allowance as a child or teen	1.076	1.160*	0.927	0.826	1.064	0.956
Parents assisted me in obtaining my own credit card prior to college	0.917	1.088	1.064	0.978	1.291**	3.645***
Formal financial education						
Financial education (None)						
Attended personal finance classes/ workshops in high school	1.374***	1.230*	1.372**	1.460*	1.268**	1.297*
Attended personal finance classes/ workshops in college	1.168	1.064	1.235	1.394	1.112	0.785

(Continued)

Table 5. (Continued)

White students	Budget	Fin plan	Track	Aware	Savings	Pay CC
Attended personal finance classes/ workshops in both	1.258	1.359*	1.595**	1.280	1.587***	1.173
Worked for pay while in high school	1.326**	0.986	1.126	0.835	0.932	1.213

Source: 2010 Ohio Student Financial Wellness Study.
 Note: * $p < .05$. ** $p < .01$. *** $p < .001$.

allowance, nor attend any personal finance classes. Neither of these significances were found for Black students.

Gender and academic achievement were significantly related to having a financial plan among Black students and White students. Among each group, female students were less likely than male students to follow a financial plan and students with higher than 3.0 GPA were more likely than students with a lower GPA to have a financial plan. Additionally, among White students, seniors were more likely than freshman, students at four-year schools were less likely than those at two-year schools, and part-time workers were more likely than unemployed students to have a financial plan.

7.5. Student tracks all transactions

Black students whose parents often discussed money with them were significantly more likely than Black students whose parents never discussed money with them to track all transactions. The odds were four times greater that money discussions among Black families will be related to tracking all transactions. Whereas (respectively), White students whose parents often discussed money with them and who attended personal finance classes in high school were more likely than White students whose parents never discussed money with them and who never attended personal finance classes to track all transactions. The odds were 79% ($p < .0001$) and 37% ($p < .001$) higher, respectively.

Class rank, institution type, working status, and race were significant demographic variables in students tracking their transactions. Students attending two-year colleges, students working greater than 20 h on-campus, and Asian students were all more likely to track all transactions to balance their accounts. Seniors were less likely to track their transactions.

7.6. Student knows where money goes

The odds were five times higher and significant that Black students whose parents sometimes discussed money with them are aware of where their money goes. Among White students the odds of this same relationship were 2.3 times higher ($p < .0001$). Among White students, those that took a personal finance class in high school were more likely than those that never took a personal finance class to know where their money goes. White students with a higher GPA were more likely than White students with less than a 3.0 GPA to know where their money goes.

7.7. Student regularly adds to savings

Among White students, parental involvement and formal education were each significant in whether or not the student adds to their savings. White students with parents that discuss money with them were significantly more likely than White students with parents who never discussed money with them to regularly add to their savings. Parental teaching was not significant among Black students. White students with parents that assisted them in obtaining a credit card prior to college were more likely to regularly add to savings. Also, White students that attended personal finance classes/workshops in high school were more likely than those with no personal finance classes to regularly add to savings. Again, there was no significance in these areas among Black students.

Black students that work part-time were more likely than unemployed Black students to regularly add to savings. Among White students, class rank, academic achievement, institution type, employment status, and dependency were each significant to regularly adding to savings. Seniors and juniors were less likely than freshman to regularly add to savings. White students with greater than 3.0 GPAs were more likely than those with less than 3.0 GPAs to regularly add to savings. White students at four-year private schools were more likely than White students at two-year schools to add to savings. All White students that work were more likely than unemployed White students to regularly add to savings. White students with a dependent were less likely to add to savings regularly.

7.8. Student pays monthly credit card bill in full and avoids finance charges

Black students with parents that sometimes discussed money with them were more likely than Black students with parents that never discussed money with them to pay their credit card bill in full each month. The odds were 237% higher that the money discussions of the Black students were related to the student paying their monthly credit card bill in full ($p < .05$). Both Black students and White students whose parents assisted them in getting a credit card prior to college were more likely to pay their credit card bill in full each month. For Black students the odds were more than 1,000% ($p < .0001$) higher and for White students the odds were 265% ($p < .0001$) higher that students will pay their bill in full each month. White students with parents that discuss money with them and white students that attended personal finance classes in high school were more likely to pay credit card bills in full each month.

Among White students, gender, class rank, academic achievement, and employment status were each significantly related to paying monthly credit card balance in full and avoiding finance charges. White females were less likely than White males to pay their credit card balances in full each month. Sophomores, juniors, seniors, and high achieving students were more likely than freshman and students with less than a 3.0 GPA to pay their credit card bills in full each month. White students that work part-time or full-time were more likely than unemployed White students to pay their credit card balance in full each month.

8. Conclusion

The empirical results from the logistic regression analyses provided partial support for hypotheses 1 and 2. Among Black students, there was a positive relationship between parents having money discussions with their children prior to college and each financial behavior tested (except regularly adding to savings). This partially confirmed H1, that positive parental teaching will have positive effects on how college students at Ohio universities manage their money. Other positive parental teaching with demonstrable effect included a positive relationship between parents assisting in obtaining a credit card prior to college and Black students paying off the credit card bill each month to avoid finance charges. Despite this support for H1, some parental teaching methods did not correlate with positive financial behaviors. For example, there was no difference between Black students that received an allowance as a child or teen and those that did not receive an allowance.

In regards to H2, it appeared that exposure to formal financial education did have a positive effect on how college students at Ohio universities managed their money. For example, among Black students, attending a personal finance class in high school and working for pay in high school were both positively related to using a budget, which provides support for the second hypothesis.

9. Discussion and implications

The empirical results suggested that both aspects of financial socialization—parental teaching and classroom learning—as well as demographic characteristics were associated with financial behaviors of college students. In this study, money discussions between Black students and their parents prior to college were more likely to be related to positive financial behaviors than Black students whose parents rarely discussed money related issues with them. This is important since previous literature concludes students with healthy credit card behaviors (such as paying the

monthly balance in full) are more likely to have less credit card and student loan debt (Smith & Barboza, 2014). Surprisingly, for Black students, receiving an allowance prior to college was not correlated with significant relationships to money management behaviors in college.

The results suggested financial education in high school may be important for Black students that go on to college. This result was consistent with previous research conclusions that propose non-family related financial learning during formative years helps shape individuals' future planning and saving behaviors (Koposko & Hershey, 2014). The magnitude of the result increased in the areas of having a budget and regularly adding to savings when Black college students attended personal finance classes in high school, indicating high school financial education classes may have an important relationship in shaping positive financial behaviors among Black students. Similarly, working while in high school was also related to Black students using a budget in college but the magnitude was smaller than attendance in personal finance classes in high school.

Our findings also showed advantages to financial literacy for Black students include having a dependent and working part-time. Black students with a dependent were more likely to have and use a weekly or monthly budget. The increased responsibility may indicate a higher maturity level or more financial strain emphasizing the importance of using a budget. Finally, Black students that work part-time likely have more resources and are better able to save regularly than unemployed Black students. This final result may seem intuitive, but the relationship between Black students that work full-time and unemployed Black students was not significant for regularly adding to savings which suggests it may not totally be an economic issue.

There are some obvious discrepancies due not only to race, but to gender. In general, Black females are not demonstrating the same efficacy with financial socialization of their male peers. The odds of Black females having a suitable financial plan are nearly half that of Black males having a financial plan, a huge discrepancy.

There are several takeaways for parents and financial educators alike. Parents of Black youth should have discussions about money with their children prior to college. Discussions that occur more often prior to college increase the odds of Black students having positive financial behaviors once they enter college. In addition, the evidence suggests that personal finance classes in high school may be beneficial to Black students who enroll in college. Hence, promoting and establishing financial education prior to college may lead to behaviors and habits that put Black students on the road to developing lasting financial well-being. The creation of youth employment opportunities combined with formal financial education may be a way to train Black students in healthy money management techniques and habits.

Even controversial topics such as credit card usage could be related to positive behaviors such as avoiding finance charges and paying off credit card balances in full each month when parents start early working with children on proper usage of credit. Moreover, avoidance of debt may not be the best approach to influencing healthy credit management. Parents of Black students should consider assisting their children to attain credit prior to college and training them in responsible uses of credit. Parental involvement in this arena may help students leave college with manageable debt loads.

Limitations exist in this study. First, causation is not possible with cross-sectional data. Despite the retrospective nature of the study, we suggest the results are relational not causal. Second, when researching human behavior there is inevitably omitted variable bias in the results. For example, future research should control for socioeconomic status of the students and parents. Third, attendance in personal finance classes does not guarantee increased financial knowledge. Future research should contain measures to control for the prior financial knowledge of students. Fourth, the data is restricted only to college students at predominantly White institutions in Ohio and does not provide the capability to address the financial behaviors of students that participated

in financial socialization activities in high school but did not go on to college. It is important to note the two Historically Black Colleges and Universities (HBCU) in Ohio did not participate in the study. HBCUs have a legacy tradition in which students attend their parent's alma mater. This may influence the data by having more first-generation Black students in the data. Although the data is likely representative of national data, future research should include students nationwide and at both predominantly White institutions as well as historically Black institutions. It is will also be beneficial to control for additional variables such as the socioeconomic status of the households, and education level of parents.

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