

# **Investment Behavior: Factors that Limit African-Americans' Investment Behavior**

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*This study investigated factors that are likely to limit African Americans' investment activity in the stock market by triangulating data from the 2015 FINRA Financial Capacity Study and a Financial Behavior/Capacity survey that targeted African Americans. The financial survey revealed the top self-reported reasons these African Americans gave for not investing were, "I don't understand how the stock market works," "I don't make enough money," and "I don't want to lose my money." Logistic regression results for the FINRA African American sample indicate that those with more financial knowledge, those who participated in financial education, and those who were financially socialized by parents were more likely to invest. In terms of magnitude, financial education had a larger impact on the FINRA African Americans than on the FINRA Caucasians, and parental financial socialization and financial knowledge had larger impacts on the FINRA Caucasians.*

*Keywords: African Americans; investing; financial knowledge; financial socialization; financial education*

## **INTRODUCTION**

In the past, African Americans have not actively participated in the stock market (Ariel Investments, 2015; Choudhury, 2002; Kochhar & Fry, 2014; Shin & Hanna, 2015). Specifically, African Americans are less likely to own riskier investments that are high

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yielding assets, such as stocks (Choudhury, 2002; Gutter, Fox, & Montalto, 1999; Hanna, Wang, & Yuh, 2010; Shin & Hanna, 2015). The stock market presents a valuable opportunity to create wealth, an opportunity that African Americans have not taken advantage of in the past (Brown, 2007; Hanna & Lindamood, 2008; Prudential 2015).

In fact, the lack of African American investment activity in the stock market has been cited as a contributing factor to the black-white wealth disparity (Ariel Investments, 2015; Choudhury, 2002; Shin & Hanna, 2015; Lusardi, 2005). In 2011, Caucasians had more than ten times the median wealth of African Americans; the median wealth of Caucasians was \$111,740 compared to \$7,113 for African Americans (Guzman & Vulimiri, 2015; Tippet, Jones-DeWeever, Rockeymoore, Hamilton, & Darity, 2014). The black-white income disparity could only explain some of this wealth disparity. In 2011, Caucasians income was less than twice that of African American income, so other factors must be contributing to this black-white wealth disparity (Guzman & Vulimiri, 2015; Tippet et al., 2014).

Why are African Americans not active in the stock market? Or what are those factors that might limit or deter African Americans' investment activities? Previous studies have found some factors that are likely to limit African Americans' investment activities (Ariel Investments, 2015; Carmichael, 2015; Lusardi, 2005; Shin & Hanna, 2015). These factors included, but are not limited to, fear of losing their money, lack of financial education / financial knowledge and risk tolerance. However, African Americans were not the primary focus of these studies (Ariel Investments, 2015; Carmichael, 2015; Lusardi, 2005; Shin & Hanna, 2015). Moreover, although previous studies have examined some factors individually, studies that investigate these factors in the aggregate, while primarily focusing on African Americans, are limited.

The purpose of this study is to investigate factors that are likely to limit African Americans from investing in the stock market. This study is unique in that it triangulates secondary data from a national public dataset, the FINRA 2015 National Financial Capability Study (NFCS), with primary data from a survey of African Americans that investigates an extensive list of potentially limiting factors. This survey will be referred to as the Financial Behavior / Capacity (FBC) survey from now on. The survey asked African Americans to self-report reasons for their limited participation in the stock market. Potential explanatory factors examined in the FINRA data include African American perspectives and experiences of financial socialization, financial knowledge, financial education, income, risk tolerance, and financial satisfaction, as well as controls for marital status, gender, age and education.

This research is significant because it extends prior literature by examining multiple factors together that previously have been likely to be deterrents to African Americans' investing in the stock market. Research that examines key factors in the aggregate is needed because it allows researchers to ascertain the relative importance of each factor within the African American community. This approach will enable practitioners and service providers to develop targeted programming and products, instead of a one-size-fits-all approach, that would better serve the community and help boost their wealth-building capacity through investing.

## LITERATURE REVIEW

Several studies have found that African Americans are not active investors and are less likely to invest in the stock market compared to Caucasians (Ariel Investments, 2015; Brown, 2007; Carmichael, 2015; Gutter & Fontes, 2006; Hanna & Lindamood, 2008; Prudential, 2015). In fact, African Americans consider themselves as savers not investors (Prudential, 2015). Disparities in financial behavior, such as investing, has been associated with financial knowledge, exposure to financial education, financial socialization, and risk tolerance across studies investigating samples representative of the general population (Ariel Investments, 2015; Gutter et al., 1999; Hira, Loibl, & Schenk, 2003; Lusardi, 2005; Van Rooj, Lusardi, & Lessie, 2010; Shin & Hanna, 2015). This section reviews previous studies as well as a theory that sheds some light on hypotheses that were developed to guide the investigation of the African American experience.

### Financial Knowledge and Financial Literacy

Some previous studies have found that those with less financial knowledge / financial literacy were less likely to invest in the stock market (Lusardi, 2005; Van Rooj et al., 2010). Moreover, some studies have examined racial differences in the relationship between financial knowledge and investment behavior (Lusardi, 2005; Van Rooj et al., 2010). Previous studies have found that African Americans, on average, were less financially literate or less financially knowledgeable than Caucasians (Young, Hudson, & Davis, 2017; Lusardi, 2005; Lusardi & Mitchell, 2006). According to Huston (2010), financial literacy is a process by which individuals use financial education to increase their financial knowledge and apply this financial knowledge through skills and tools in order to make sound financial decisions.

Lusardi (2005) conducted a previous study and examined the relationship between financial knowledge / financial information and investment behavior. Lusardi (2005) found that high information cost and high planning cost limited ownership in high return assets such as stocks or equities among minorities, especially for those with lower levels of education. If these costs could be reduced, financial education programs could be effective in assisting with investment decisions (Lusardi, 2005).

Ariel Investments (2015) conducted a study on 500 high income African Americans and 500 Caucasians where participants self-reported their reasons for not investing in the stock market. In this study, all participants had a household income equal to or greater than \$50,000, regardless of household size. In this study, African Americans stated that they were "uncomfortable investing in the stock market because they do not understand how the stock market works" (Ariel Investments, 2015). Participants in the study were also asked: "What is the single most important reason that you do not invest in the stock market?" The third most popular reason for not investing related to financial knowledge and financial literacy was "investing is too complicated." These participants were also asked: "Under what circumstances would you consider investing?" Related to financial knowledge and literacy, the fourth most popular circumstance reported was, "You learn more about investing and the stock market by taking a class" (Ariel Investments, 2015).

## **Financial Assets and Income**

Previous studies have found that a lack of money / assets was likely to be a limiting factor to investment behavior (Brimmer, 1988; Hanna et al., 2010; Lusardi, 2005; Shin & Hanna, 2015). Thus, some studies examined lack of financial assets by examining low amounts of savings and low amounts of retirement assets (Brimmer, 1988; Choudhury, 2002; Lusardi, 2005). Most of these studies controlled for income across ethnic groups and found that those African Americans making less income were less likely to invest in the stock market than African Americans with higher incomes (Hanna et al., 2010; Lusardi, 2005; Shin & Hanna, 2015). Another study found that African Americans with lower account balances were less likely to invest in the stock market as compared to African Americans with higher account balances (Brimmer, 1988).

African Americans themselves have reported that they do not have enough assets or make enough money to invest in the stock market (Ariel Investments, 2015; Kochhar & Fry, 2014; Plath & Stevenson, 2000; Prudential, 2015). In the Ariel Investments (2015) study, the second most popular reason for not investing was, "They do not have enough extra money." The seventh most popular circumstance cited in the same study as to why African Americans said that they would invest was if they "had extra money that you wanted to put somewhere" (Ariel Investments, 2015).

## **Risk Tolerance**

Some previous studies have found that those with lower risk tolerance were less likely to invest (Yao, Gutter, & Hanna, 2005). Previous studies that have explored risk tolerance across racial groups examined differences in ownership of risky assets (Gutter et al., 1999; Shin & Hanna, 2015; Yao et al., 2005). These studies separately analyzed each racial group controlling for income, risk, and education (Gutter et al., 1999; Shin & Hanna, 2015). Previous studies found that African Americans were more risk averse than Caucasians (Badu, Daniel, & Salandro, 1999; Fang, Hanna, & Chatterjee, 2013; Gutter et al., 1999; Hanna et al., 2010; Shin & Hanna, 2015). Previous studies also found that African Americans were less likely to own high return, high risk assets such as stocks, investment real estate, and private business assets (Choudhury, 2002; Gutter et al., 1999; Hanna et al., 2010; Shin & Hanna, 2015). This fact was even true for wealthy African Americans as compared to wealthy Caucasians (Carmichael, 2015).

In the study conducted by Ariel Investments (2015), two of the top four reported reasons why African Americans do not invest in the stock market included: (a) "I think the stock market is too risky," which was the top reason; and (b) "I lost money in the stock market in the past and am no longer interested," the fourth top reason (Ariel Investments, 2015). However, investing in high return / high risk assets, such as equities or stocks, are essential to creating wealth (Plath & Stevenson, 2000). This wealth could create a short-term safety net, as well as wealth that could enable one to achieve long term goals (Gutter & Fontes, 2006; Kochhar & Fry, 2014; Plath & Stevenson, 2000).

## **Financial Socialization**

Previous studies have found that financial socialization has an impact on current financial behaviors (Gudmunson & Danes, 2011; Hira et al., 2003; Hira, Sabri, & Loibl, 2013). Financial acumen, norms, knowledge, and personality are developed through a process of interactions with family, friends, life experiences, and personal finance classes; this financial process is known as financial socialization (Gudmunson & Danes, 2011; Hudson, Young, Anong, Hudson & Davis, 2017). However, the primary focus of these studies was not African Americans. Most studies have shown that parents are the dominant financial socialization agents and have a direct impact on financial behaviors (Gudmunson & Danes, 2011; Hira et al., 2013; Shim, Xiao, Barber, & Lyons, 2009; Shim, Barber, Card, Xiao, & Serido, 2010).

Parental involvement is a key element within the financial socialization process (Gudmunson & Danes, 2011; Hira et al., 2013; Shim et al., 2009; Shim et al., 2010). In fact, African American parents culturally and financially socialize their children through explicit messages of ethnic pride, history and heritage more so than other races, even on financially topics (Baker, 2014; Hughes, 2003; Hudson et al., 2017). For example, Ekanem (2013) found that African Americans, and specifically people of African descent, have a strong cultural norm to settle debts and in turn avoid bankruptcies. Previous research has found that those African Americans who utilize cultural and financial socialization in this way are more likely to have better life outcomes than those African Americans who do not socialize in this way (Baker, 2014; Hughes, 2003).

Hira et al. (2003) investigated investment behavior in relation to financial socialization using a sample that included 23% minorities (7.46% African Americans, 7.59% Asians, and 7.57% Hispanics). On average, participants of every racial group identified their parents as their main influence on handling finances and savings (Hira et al.). Specifically, African Americans reported that their mother had the greatest financial influence on them, while Caucasians reported that their father was their greatest financial influence. Moreover, African Americans and Hispanics felt that their family financial situation was less secure while growing up compared to Caucasian households (Hira et al.). This lack of security plays an important part of an individual's financial socialization, which most certainly has an impact on investment behavior (Hira et al.). African Americans reported not being very confident while investing, as opposed to Asians and Caucasians (Hira et al.).

### **Conceptual Model of Family Financial Socialization**

The primary purpose of this study was to identify factors that are likely to have a limiting or dissuading effect on African American investment behavior. The Family Financial Socialization model guides this study. According to Gudmunson and Danes (2011), family financial socialization is the process of developing values, attitudes, beliefs, knowledge, and norms that contribute to financial well-being as depicted in Figure 1. The premise is that financial decisions or behavior are predicted by financial knowledge, financial socialization, financial education, risk tolerance, and personal characteristics (Gudmunson & Danes, 2011). Thus, the family financial socialization process is a suitable framework for studying investment behavior.

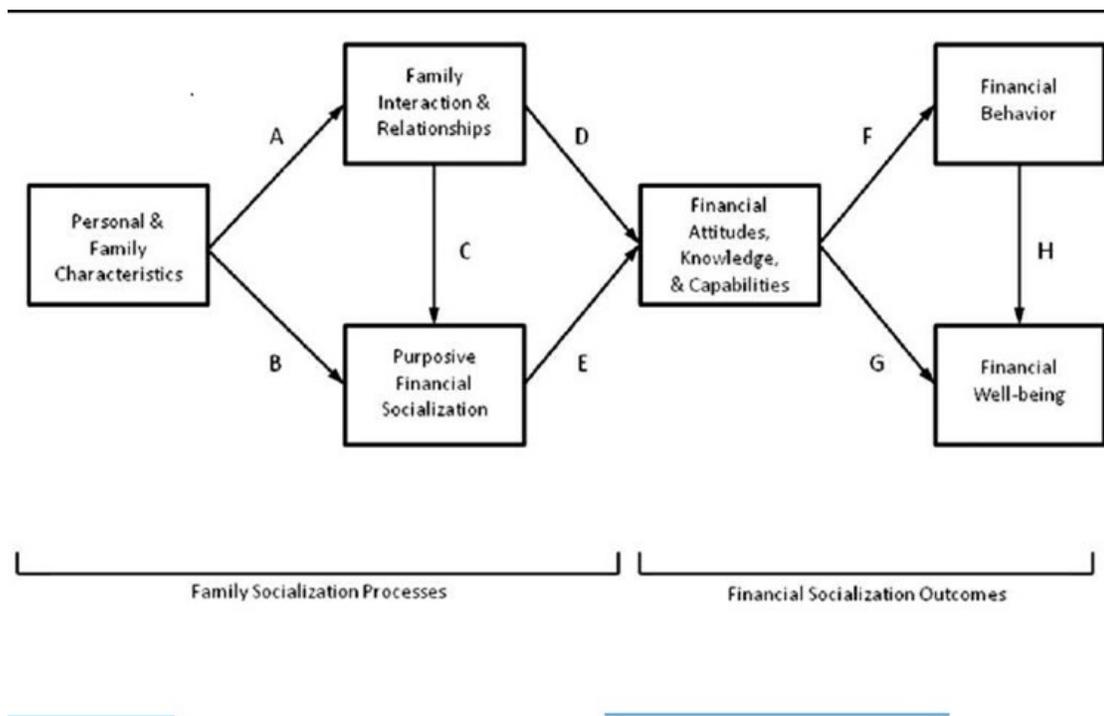


Figure 1. Conceptual model of family financial socialization processes and outcomes. From “Family Financial Socialization: Theory and Critical Review” by C. G. Gudmunson and S. M. Danes, 2011, *Journal of Family and Economic Issues*, 32 (4), p. 648.

Within the family financial socialization process, personal and family characteristics, such as gender, age, and socioeconomic status, have a direct relationship with family interactions and relationships, as well as purposeful financial socialization (Gudmunson & Danes, 2011). The completion of a personal finance class or taking part in a financial seminar is an example of purposeful financial socialization. These three elements, personal and family characteristics, family interactions and relationships, and purposeful financial socialization make up the family financial socialization process, which has an impact on current financial attitudes, financial knowledge, and financial capabilities (Gudmunson & Danes, 2011). Financial capability includes self-efficacy, which involves internal motivation and is necessary in the overall process (Gudmunson & Danes, 2011). In other words, an individual may have financial knowledge and skills, but they need the internal motivation to accomplish a disciplined outcome, like saving on a regular basis (Gudmunson & Danes, 2011). Financial literacy has an impact on one's financial decision-making process, which determines financial outcomes or financial behaviors, such as investing. Finally, financial behaviors, as well as financial literacy, have an impact on one's financial well-being (Gudmunson & Danes, 2011).

Given this review of previous studies and theoretical framework, the hypotheses of this study are as follows:

- H<sub>1</sub>: African Americans are less likely to invest in the stock market compared to Caucasians.
- H<sub>2</sub>: African Americans with more financial knowledge are more likely to invest in the stock market as opposed to African Americans with less financial knowledge.
- H<sub>3</sub>: African Americans who have received financial education are more likely to invest in the stock market as opposed to African Americans who have not received financial education.
- H<sub>4</sub>: African Americans who reported being financially socialized by parents are more likely to invest in the stock market as opposed to African Americans who reported not being financially socialized by parents.
- H<sub>5</sub>: African Americans who are more willing to take risk are more likely to invest in the stock market as opposed to African Americans who are less willing to take risk.
- H<sub>6</sub>: Higher income African Americans are more likely to invest in the stock market as opposed to lower income African Americans.
- H<sub>7</sub>: African Americans who are more satisfied with their financial condition are more likely to invest in the stock market as opposed to African Americans who are less satisfied with their financial condition.
- H<sub>8</sub>: African Americans will report, "I do not understand how the stock market works," as one of the top three reasons for not investing in the stock market.
- H<sub>9</sub>: African Americans will report, "I do not make enough money," as one of the top three reasons for not investing in the stock market.
- H<sub>10</sub>: African Americans will report, "I do not want to lose my money," as one of the top three reasons for not investing in the stock market.

## METHODOLOGY

### FINRA Data and Variables

In this study, researchers triangulate secondary data from a national public database, the 2015 National Financial Capability Study (FINRA), and primary data from the Financial Behavior / Capability (FBC) online survey to investigate factors that might limit African American investing behavior. Logistic regression models were utilized to analyze random data from the FINRA database to determine those factors that would more than likely limit African American investment behavior. Frequency analysis and t-test were used on the FBC primary data to statistically determine the top three self-reported reasons that participants do not invest.

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Every three years the Financial Industry Regulatory Authority (FINRA) collects random data that represents the general U.S. population as part of the National Financial Capability Study (NFCS), which includes a survey from each state as well as a military survey. Between June 2015 and October 2015, FINRA surveyed 27,564 Americans adults. Data from this 2015 FINRA survey was weighted in order to represent the national population (FINRA, 2015).

For this study, the FINRA data was delimited to include only African Americans and Caucasians, therefore 3,027 African Americans and 21,469 Caucasians were analyzed. First, a pooled sample of both races was analyzed, and each racial group was then analyzed separately. These three samples were used to test hypotheses H<sub>1</sub> through H<sub>7</sub>.

**Investor variable.** The investor variable was the primary variable utilized to test whether African Americans are less likely to invest in the stock market compared to Caucasians. It was also used as the dependent variable in the logistic regression analysis, which was used to test the limitation variables. The investor variable was derived from two questions within the FINRA data:

1. Not including a retirement plan, does your household have any investments in stocks, bonds, mutual funds or other securities?
2. Are any of your retirement plans the kind where you or your spouse gets to choose how the money was invested?

If any participant replied *yes* to at least one of these questions, they were considered an investor and coded as 1, while *no* responses for both questions were coded as 0 for non-investors. Question 2 was only asked of those participants who reported in a prior question that they or their spouse have a retirement account through their current employer. A list of all variable descriptions included in the analyses is provided in Table 1.

Table 1

*Variable List*

Variable	FINRA	Response Options & Coding
INVEST	Are any of your retirement plans the kind where you, or your spouse, get to choose how the money is invested?	Yes = 1; Otherwise = 0
	Not including retirement accounts, does your household have any investments in stocks, bonds, mutual funds, or other securities?	Yes = 1; Otherwise = 0
FINANCIAL KNOWLEDGE	Five financial knowledge questions are in the Appendix	More fin know = > 80%; Less fin know = < 60%
RISK	When thinking of your financial investments, how willing are you to take risk? 1 = Not at all willing, 10 = Very willing	6 to 10 = 1; 1 to 5 = 0
FIN SATISFACTION	Overall, thinking of your assets, debts and savings, how satisfied are you with your current personal condition? 1 = Not at all satisfied, 10 = extremely satisfied	6 to 10 = 1; 1 to 5 = 0
FIN EDUCATION	Was financial education offered at your school, or your workplace? If yes, and I did participate. When did you receive that financial education?	HS, college, employer, military = 1; 0 = otherwise
FIN SOCIALIZATION	Did your parents or guardians teach you how to manage your finances?	Yes = 1; Otherwise = 0
INCOME	What is your household's annual income including wages, tips investment income, public assistance, income from retirement plans, etc.	Less than \$50k, Greater than \$50k
MARITAL STATUS	What is your marital status?	Married = 1; Otherwise = 0
AGE	What is your actual age?	See Table 2 for age groups
EMPLOYMENT STATUS	Which of the following best describes your current work status?	Full-time, self-employed or work part time = 1; Otherwise = 0

**Limitation variables.** There were several questions in the FINRA data that were measured and operationalized into variables that represented potential limitations to African Americans' investing behavior. These variables were used as explanatory variables or independent variables in the logistic regression models. The financial socialization binary variable was measured and operationalized from the question, "Did your parents or

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guardian teach you how to manage your finances?" Responses were coded *yes* = 1 and *no* = 2. "Yes" responses represented participants who were financially socialized by their parents, whereas "no" responses represented those participants who were not financially socialized by their parents.

A financial education binary variable was measured and operationalized through two questions. The first question asked if they had access to financial education through their high school, college, and/or workplace. If participants answered "yes," then they were asked, "When did you receive financial education offered at your high school, college, and/or workplace." Respondents who reported receiving this education were coded as 1, whereas respondents not receiving financial education were coded as 0. The risk tolerance variable was measured and operationalized from the question, "When thinking of your financial investments, how willing are you to take risk?" This risk tolerance variable was measured on a Likert-type scale from 1 to 10, with 1 being "not at all willing" and 10 being "very willing." Those respondents who selected 6 to 10 on this scale were coded as more willing to take risk (coded as 1), whereas those respondents who selected 1 to 5 were coded as less willing to take risk (coded as 0).

A financial satisfaction variable was measured and operationalized from the FINRA question, "When thinking of your assets, debts and savings, how satisfied are you with your current personal financial condition?" This financial satisfaction variable was measured on a Likert-type scale with 1 being "not at all satisfied" and 10 being "extremely satisfied." This financial satisfaction variable was used to determine if respondents lacked the necessary assets to invest. Responses between 6 and 10 on this scale were coded as more satisfied (coded as 1), while responses between 1 and 5 were coded as less satisfied (coded as 0).

A financial knowledge variable was measured and operationalized through FINRA's five financial capability and numeracy questions which measured participants' financial knowledge. These five questions have been accepted as an industry standard for measuring financial knowledge (Appendix 1). If respondents answered four or more questions correctly they were considered to have more financial knowledge ( $x > 80\%$ ). Whereas if respondents answered three or fewer questions they are considered to have less financial knowledge ( $x < 60\%$ ) (Lusardi & Mitchell, 2006; Robb & Woodyard, 2011). The financial knowledge questions used in this survey are well-known and utilized consistently in previous studies (Chen & Volpe, 2002; Rowley, Lown, & Piercy, 2012; Young, 2013).

### **African American Financial Behavior / Capacity Survey and Variables**

The primary goal of this study was to investigate limitations to African American investing in the stock market. Primary data collected through the self-reported Financial Behavior / Capability (FBC) survey gave insight to participants' opinions about factors that limit their opportunities to investment in the stock market. African Americans associated with a liberal arts university in the southeast, as well as members of a national African American organization, were surveyed through an online link through email. Moreover, participants outside these two organizations were likewise surveyed through a link on social media.

The questionnaire was provided through Qualtrics software between November 2015 and March 2017. The first solicitation enabled individuals who were willing to participate in the study to click on a link embedded in the email. Additional email reminders were sent to the non-respondent sample during the allocated period. In order to gain a complete understanding of the sample, the survey included demographics questions such as age, education, gender, marital status, employment, and income. Moreover, economic and financial questions relating to financial behavior, financial knowledge, financial attitudes, asset levels, and debt levels were likewise asked.

One variable was used to measure those self-reported factors that are likely to limit African Americans from investing. The variable, investment limitation, was measured and operationalized from the question, "If you do not invest in the stock market, why not?" Possible responses to this question included the following:

1. I do not make enough money.
2. I do not want to lose my money.
3. I do not understand how the stock market works.
4. I do not trust the financial markets.
5. I'm not an investor.
6. I do not have access to financial professionals who can help me.
7. Financial professionals do not actively market to me or my community.

### **Descriptive and Frequency Analysis**

From the FINRA data, a frequency analysis was used to create and analyze the investor variable, which was used to measure whether participants invest or do not invest. This frequency analysis determined the percentage of respondents who were considered investors and the percentage of respondents who were not investors. The study used demographic variables to describe each sample in terms of education, gender, age, income, education, employment, and marital status. These results were used to compare African Americans and Caucasians samples.

A descriptive analysis was used on the self-reported African American FBC survey data to determine the top three reasons that participants do not invest in the stock market. This analysis was used to test H<sub>8</sub>, H<sub>9</sub> and H<sub>10</sub>. Respondents selected from a list of seven reasons with the option of selecting as many reasons that apply. The overall mean and standard deviation were calculated for each selection and a t-test was used to determine the significant difference between the top three reasons for not investing. The mean for each reason was ranked from highest to lowest, with the highest mean representing the most important reason selected.

### **Logistic Regression Analysis**

Three logistic regression models estimated on the FINRA data were used to test hypotheses H<sub>2</sub> through H<sub>7</sub>, which examined the influence of likely limiting factors to

investing. Since the dependent variable (i.e., investor) was a binary variable with a dichotomous outcome of investor or not an investor, the logistic regression model was the most appropriate (King, 2008). One logistic regression model was used to analyze the pooled sample to demonstrate the likelihood that participants were more likely to invest or not invest in the stock market given the varied influence of financial knowledge, risk tolerance, financial socialization, financial education, financial satisfaction, and other control variables. Two identical logistic regression models were then performed separately for the African American and Caucasian samples.

The logistic regression model analyzes the likelihood that an individual would invest or would not invest in the stock market given the independent variables and given the control variables (Snedker, Glynn, & Wang, 2002). The following formula represents the logistic regression model (Snedker, et al., 2002).

$$\text{logit} [\theta(x)] = \log \left[ \frac{\theta(x)}{1-\theta(x)} \right] = \alpha + \beta_1 x_1 + \beta_2 x_2 + \dots + \beta_i x_i$$

The vector of independent variables,  $(x)$ , includes characteristics such as financial socialization, financial knowledge, financial education, financial satisfaction, risk tolerance, and other factors that could limit investing. Coefficients and odds ratios are generated for each independent variable to estimate the maximum likelihood of these independent variables (Snedker, et al, 2002).

## RESULTS

### Demographics

A total of 24,496 participants were used from the 2015 FINRA data comprising of 3,027 African Americans and 21,469 Caucasians. A total of 1,142 African American respondents from the FBC survey were analyzed in this study. The demographics for the African American FBC sample and the FINRA samples are presented in Table 2. In all three samples, most of the respondents were women. The African American FBC sample consisted of 80.2% women, whereas the FINRA African American sample was 62.4% women, and the FINRA Caucasian sample was 54.7% women. The majority (73.6%) of the African American FBC sample had a household income of over \$50,000, whereas the FINRA African American and Caucasian samples, respectively, only had 32.5% and 48.6% reporting household incomes of more than \$50,000.

Table 2

*African-American Demographic Comparison Profile*

Characteristics	African American (FBC) N=1,142	African American (FINRA) N=3,027	Caucasians (FINRA) N=21,469
Male	19.8%	37.6%	45.3%
Female	80.2%	62.4%	54.7%
Marital Status			
Married	35.6%	31.6%	58.4%
Not Married	64.4%	68.4%	41.6%
Age Group			
18 - 24	1.9%	5.6%	2.8%
25 - 34	30.6%	29.2%	16.2%
35 - 44	17.1%	24.3%	17.0%
45 - 54	17.1%	19.3%	19.9%
55 - 64	14.8%	16.0%	23.5%
65 Plus	18.5%	5.6%	20.6%
Employment Status			
Full Time	63.3%	36.4%	38.4%
Retired	17.3%	15.8%	22.3%
Other	19.4%	47.8%	39.3%
Annual Income			
Less Than \$50,000	26.4%	67.5%	51.4%
\$50,000 and Greater	73.6%	32.5%	48.6%
Financial Knowledge			
Less Knowledge	70.7%	74.8%	53.0%
More Knowledge	29.3%	25.2%	47.0%

*Note.* Financial Industry Regulatory Authority (FINRA).

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The African American FBC sample appears to be younger than the FINRA African American and Caucasian samples with 30.6% of the sample between the ages of 25 to 34, whereas the FINRA African American sample had 29.2% between the ages of 25 to 34. The FINRA Caucasian sample had 16.2% between the ages of 25 to 34. The FINRA Caucasian sample appears to be older with 23.5% between the ages of 55 to 64, whereas 14.8% and 16% of the African American FBC and FINRA African American samples were between the ages of 55 to 64. In terms of marital status, only 35.6% of the African American FBC sample were married, whereas 31.6% of the FINRA African American sample and 58.4% of the FINRA Caucasian sample were married. Furthermore, 63.3% of the African American FBC sample were employed full time at the time of this study, whereas 36.4% of the FINRA African American sample and 38.4% of FINRA Caucasian sample were employed full time.

In both African American samples, most participants had less financial knowledge. In fact, 70.7% of the African American FBC sample were less financially knowledgeable, and 74.8% of the FINRA African American sample were less financially knowledgeable; whereas 53.0% of the FINRA Caucasian sample were less financially knowledgeable. All descriptive results for all three samples are included in Table 2.

### **Investor Behavior – FINRA**

This study found that 54.0% of the FINRA African American sample were investors compared to 68.6% of the FINRA Caucasian sample ( $t [3,832.92] = 16.72; p < 0.001$ ). These results are reported in Table 3. Based on the t-test, this difference was significant, and therefore, this finding supports hypothesis H<sub>1</sub>, which states that African Americans are less likely to invest in the stock market as compared to Caucasians. However, this result was not consistent with the pooled regression results, which included various other explanatory variables. Moreover, only 20.8% of the African American FBC sample were investors.

Table 3

*Investors in the Stock Market (Sample Frequencies)*

Characteristics	African American <sup>1</sup> (FBC)	African American <sup>2</sup> (FINRA)	Caucasans <sup>3</sup> (FINRA)
Investor in Stock Market			
Yes	20.8%	54.0%	68.6%
No	79.2%	46.0%	31.4%
Financially Knowledge Respondents (Investors)			
More	39.4%	48.6%	57.4%
Less	60.6%	51.4%	42.6%
Summary Statistics <sup>a</sup>			
Means	0.48	0.50	0.67
Standard Deviations	0.50	0.50	0.47
P Value	0.00	0.00	0.00

*Note.* Financial Industry Regulatory Authority (FINRA) – 2015 National Financial Capability Study Data.  
<sup>a</sup> Equal variances not assumed; Comparing samples – FINRA African American to White:  $t(3832.92) = 16.72, p < 0.001$ ; FBC African American to White:  $t(1252.69) = -12.23, p < 0.001$ ; FBC African American to FINRA African American:  $t(2055.05) = -1.38, p > 0.05$

### Why African Americans Do Not Invest – Financial Behavior / Capacity Survey

Respondents were asked to self-report their reasons for not investing from a list of seven reasons. The number one top reason was “I do not understand how the stock market works.” This finding supported H<sub>8</sub>. The second top reason was, “I do not make enough money.” This finding supported H<sub>9</sub>. A paired-samples *t*-test showed a significant difference between these two top reported reasons ( $t[1,141] = 4.67, p < 0.001$ ).

The third top reason was “I don’t want to lose my money.” This finding supported H<sub>10</sub>, which states that African Americans do not invest in the stock market because they are afraid to lose their money in the stock market. Again, paired-sample *t*-test showed that the second and third top reasons for not investing in the stock market were statistically different ( $t$

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(1,141) = -10.30,  $p < 0.001$ ). All descriptive results related to the reasons for not investing are shown in Table 4.

Table 4

*Reasons for Not Investing in the FBC sample (t-test for Equality of Means)*

Reasons for Not Investing	Why I do not invest?				t-test
	Yes		No		
	M	SD	M	SD	
I do not make enough money	0.04	0.20	0.12	0.32	-3.34*
I don't want to lose my money	0.05	0.21	0.05	0.21	ns
I do not understand how the stock market works	0.06	0.24	0.22	0.42	-5.63*
I do not trust the financial markets	0.04	0.20	0.04	0.19	ns
I'm not an investor	0.01	0.11	0.05	0.21	-2.43**
I do not have access to financial professionals who can help me	0.02	0.13	0.03	0.18	ns
Financial professionals do not actively market to me or my community	0.01	0.09	0.02	0.15	ns

\*  $p < .05$ ; \*\*  $p < .01$ .

*Note.* The reasons range from 0 (Does not have a broker account) to 1 (I have a broker account).

### **Factors Influencing African American Investment Behavior**

Three logistic regression models were estimated on the FINRA data to test the effects of explanatory variables on a pooled sample of African Americans and Caucasians and on the two subgroups separately. Results from these logistic regression models are reported in Table 5. The results of the pooled regression suggested that there is no statistical difference between African Americans' and Caucasians' investment behavior, whereas the t-test statistic shows a large significant disparity in the propensity to invest between African Americans and Caucasians. The regression investment behavior results accounts for the significant influences of financial knowledge, financial education, financial socialization, and risk tolerance, which could affect these results. The t-test result is a clearer comparison.

Results from analyzing just the African American sample show that, as hypothesized, financial knowledge, financial education, financial socialization, and income, all had significant positive relationships with investment behavior. African Americans who had more financial knowledge, those who participated in financial education, those who were financially socialized by their parents, and those who had higher income were more likely to invest in the stock market as opposed to those who had less financial knowledge, those who did not participate in financial education, those who were not financially socialized by their parents, and those who had lower income. Therefore, hypotheses H<sub>2</sub>, H<sub>3</sub>, H<sub>4</sub> and H<sub>6</sub> were accepted. These four factors were also significant for Caucasians. Risk tolerance and financial satisfaction were not significant for African Americans and thus H<sub>5</sub> and H<sub>7</sub> were rejected. However, risk tolerance was significant for Caucasians.

African Americans who had more financial knowledge were 1.58 times more likely to invest than African Americans who had less financial knowledge. Moreover, African Americans who participated in financial education were 1.64 times more likely to invest than African Americans who did not participate in financial education. Those African Americans who were financially socialized by their parents were 1.27 times more likely to invest than African Americans not financially socialized by their parents. Higher income African Americans were 1.63 times more likely to invest than lower income African Americans. Risk tolerance was not significant at the 5% level but could have a marginal negative impact at the 10% level.

In contrasting the magnitude of effects of the significant factors with the Caucasian sample, more financially knowledgeable Caucasians were almost twice as likely to be investors, but only 1.2 times more likely if Caucasians had received financial education. This is opposite to the relative importance of these two factors on African Americans where financial education took the edge over financial knowledge. Similarly, parental financial socialization among Caucasians increased their odds of being an investor by 1.52 times compared to 1.27 times among African Americans. Financial satisfaction with one's financial condition was not a significant factor for either group separately or in the pooled sample.

Looking at the demographic controls across the racial samples shows that age had a significant positive relationship with investing for both African Americans and Caucasians. For each additional year of age, the likelihood of a participant investing increases by 1.02. Marital status had a significant negative relationship with investment behavior for both African Americans and Caucasians. Thus, those who were single were more likely to invest in the stock market than those who were not single. There was not a significant relationship between gender and African American investment behavior, but there was a significant positive relationship between gender and Caucasians' investment behavior. Education was not significant across all sampled groups. Employment status was the most impactful variable in predicting the likelihood of investing, especially in the African American sample. African Americans who were employed full time were 3.39 times more likely to invest than African Americans who were not employed full time and being employed full time was also significant for Caucasians.

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Through the inferential statistic tests, an improvement above the baseline was observed in this study. All three tests yielded similar conclusions for this dataset, which was that the logistic regression model was more effective than the simple null model and these results are reported in Table 5 (Peng, Kuk, & Ingersoll, 2002). The Homer-Lemeshow test evaluated the data fitness to the model, or how well the model fits the data. For this study, high p-values indicated that the model is a good or appropriate fit for this data (Table 5). The Cronbach alpha coefficients of 0.15 for the African American sample and 0.19 for the Caucasian and pooled samples show internal consistency for its variables.

Table 5

### *Logistic Results: African Americans vs Whites in Investor Behavior in Different Samples.*

Predictor	Ethnic Category								
	Pooled Sample			Caucasians			African Americans		
	$\beta$	$p$	$e^{\beta}$ (Odds ratio)	$\beta$	$P$	$e^{\beta}$ (Odds ratio)	$\beta$	$p$	$e^{\beta}$ (Odds ratio)
African American (White)	0.02	0.71	1.02						
Female (Male)	0.13	0.00	1.13	0.15	0.00	1.15	-0.01	0.93	0.99
College Grad (Not)	0.11	0.21	1.11	0.11	0.27	1.11	0.17	0.35	1.18
Married (Unmarried)	-0.45	0.00	0.64	-0.41	0.00	0.66	-0.61	0.00	0.55
Age	0.02	0.00	1.02	0.02	0.00	1.02	0.02	0.00	1.02
Full Time (Not)	1.01	0.00	2.74	0.97	0.00	2.64	1.22	0.00	3.39
Income	0.54	0.00	1.72	0.55	0.00	1.73	0.49	0.00	1.63
Financial Knowledge (Not)	0.64	0.00	1.90	0.67	0.00	1.95	0.46	0.00	1.58
Financial education (None)	0.24	0.00	1.27	0.19	0.00	1.21	0.49	0.00	1.64
Parent socialization (Not)	0.39	0.00	1.48	0.42	0.00	1.52	0.24	0.02	1.27
Fin. Condition (Not satisfied)	0.00	0.77	1.00	0.00	0.74	1.00	0.00	0.76	1.00
Risk Tolerance	-0.01	0.00	0.99	-0.01	0.00	0.99	-0.01	0.08	0.10

Intercept	-3.13	0.00	N/A	-3.16	0.00	N/A	-2.76	0.00	N/A
Tests	$X^2$	$df$	$p$	$X^2$	$df$	$p$	$X^2$	$df$	$p$
Overall model evaluation									
Likelihood ratio test	20478	12	0.000	17994	11	0.00	2631	11	0.00
Score test	7345	12	0.00	6425	11	0.00	858	11	0.00
Wald test	2492	1	0.00	26624	1	0.00	16	1	0.00
Goodness-of-fit test									
Hosmer & Lemeshow	6.99	8	0.54	9.96	8	0.27	5.12	8	0.75
N	22,725			20,260			2,632		
Pseudo R <sup>2</sup>	0.43			0.42			0.42		

## DISCUSSION

This study adds to the existing literature by examining not only African American investment behavior, but by also examining factors that are likely to deter or limit their investing behavior. The study concludes that financial knowledge, financial education, financial socialization, and income all have positive significant relationships with the investment behavior of African Americans, similar to Caucasians. Similar to previous studies, those who have more financial knowledge and income, participated in financial education, and were financially socialized by their parents, were more likely to invest in the stock market as opposed to those who have less financial knowledge, those who did not participate in financial education, those with less income, and those who were not financially socialized by their parents (Brimmer, 1998; Gutter & Fontes, 2006; Hanna et al., 2010; Lusardi, 2005; Lusardi & Mitchell, 2005; Shin & Hanna, 2015; Van Rooj et al., 2010). However, financial education had more impact on investing for African Americans than for Caucasians and financial knowledge was more impactful for Caucasians than for African Americans. Finally, financial socialization by parents had more influence for Caucasians versus African Americans. These conclusions are a significant contribution to the literature in understanding racial disparities in investing behavior.

Risk tolerance was not a significant factor for African Americans' investing behavior, which contradicts previous findings where it has been found to be a significant factor (Hanna & Lindamood, 2008; Shin & Hanna, 2015; Yao et al., 2005). Most found that less risky or conservative African Americans were less likely to invest in the stock market as opposed to more risky African Americans (Hanna & Lindamood, 2008; Shin & Hanna, 2015; Yao et al.,

2005). The difference between this study and previous studies may be due to the variation in the measurement of risk tolerance and investment behavior. Future research is required to rigorously clarify this relationship and disparity across racial groups.

The primary data generated for this study also revealed that the top three reasons for not investing among the African American sample were:

1. "I do not understand how the stock market works"
2. "I do not make enough money"
3. "I don't want to lose my money."

These findings are consistent with, although in a different order than, Ariel Investments' (2015) study that found "I think the stock market is too risky" as the top reason for African Americans not investing in the stock market, followed by "I don't have enough extra money" and "Investing is too complicated for me." Thus, in the Ariel Investments (2015) study, risk was the top reason, similar to the third most popular reason for this study. However, the reason of "I do not understand how the stock market works" was found as the most important factor of this study while it was the third top reason in the Ariel Investments (2015) study. Any difference in the two studies may be that Ariel Investments examined higher income African Americans, while this study attempted to sample across all income groups.

### **Implications**

Practitioners within the financial services industry and retirement plan administrators would certainly be interested in these findings in order to more effectively market to the African American community. Financial educators and counselors should likewise be interested in the findings of the disparities in the relative importance of financial knowledge, financial education, and financial socialization by parents to each racial subgroup in this study. African Americans are more hesitant to be active investors in the stock market and have been an underserved target for the financial services industry and advocate groups in the area of investing (Prudential, 2015). To resolve this problem, practitioners, educators, and counselors must first understand why African Americans are not active investors, and then eliminate or reduce these limitations. It appears financial education could be used more effectively as a more impactful resource to raise awareness of the benefits of investing among African Americans than from family socialization, which is where Caucasians seem to acquire their comfort levels for investing.

To entice the African American community to be more active investors, it seems that part of a holistic solution must include financial education. Financial practitioners, financial educators, and financial counselors should work together in this solution. African Americans could certainly be a new market of investors for the financial services industry, so again this industry should be interested in the findings of this study.

## **Limitations**

A number of limitations exist for this study. One limitation is with the subjective way that some variables were measured. For example, risk tolerance was measured based on the participants' perspective of their risk tolerance. Also, having enough assets to invest in the stock market is measured through a financial satisfaction question, where participants rated their satisfaction with their financial condition. A participants' actual financial condition may be different than their perceived financial condition.

Another limitation is that the FBC survey is not a random sample. However, this survey was not used in the logistic regression analysis. Regardless, it was essential to understand African Americans' opinion of their limitations to investing, therefore the FBC survey was necessary. In addition, the FBC survey was necessary because there are few databases with the desired financial data on African Americans. All these limitations should be taken into consideration in the study when generalizing the conclusions of this study

## **Future Research & Conclusion**

As previously mentioned, there is a lack of studies that exclusively target African Americans' financial behavior, and specifically investment behavior. Therefore, future research in this area is essential. Future research should target the large disparity in black-white wealth to determine if investment behavior is indeed a contributing factor.

Future research should also involve a more in-depth analysis of an expanded list of factors that are likely to limit African Americans' investment behavior. Although this study has uncovered many likely deterrents to African American investment behavior, more research is needed to examine these limitations, along with others, in aggregate. This expanded list of factors might include access to financial professionals / advisors, access to costly financial information, access to retirement plans, level of interaction with financial institution or level of unbanked population, and level of debt. Additionally, segments within the African American community, such as social classes, age, investment clubs, gender, and so forth, should be used to examine likely limitations to investment behavior.

## REFERENCES

- Ariel Investments (2015). Black investor survey: Savings and investing among higher income African Americans and Whites. Chicago, IL. The Ariel Investment LLC. Available at:  
[https://www.arielinvestments.com/images/stories/landing\\_pages/Black\\_Investor/arielinvestments-black-investor-survey-2015.pdf](https://www.arielinvestments.com/images/stories/landing_pages/Black_Investor/arielinvestments-black-investor-survey-2015.pdf)
- Badu, Y. A., Daniels, K. N., & Salandro, D. P. (1999). An empirical analysis of differences in Black and White asset and liability combinations. *Financial Services Review*, 8, 129-147. Available at:  
<https://pdfs.semanticscholar.org/606a/bd6d056d3ba59eeea477475cc1985fac65c2.pdf>
- Baker, C. (2014). Parenting and cultural socialization as predictors of African American children's science and social studies achievement. *Journal of African American Studies*, 18(1), 92. doi: 10.1007/s12111-013-92572
- Brimmer, A. F. (1988). Income, wealth and investment behavior in the Black community. *American Economic Review*, 78(2), 151-155. Available at:  
<http://www.jstor.org/stable/1818114>
- Brown, D.A. (2007). Pensions and risk aversion: The influence of race, ethnicity, and class on investment behavior. *Lewis and Clark Law Review*, 2(1), 385-406. Available at:  
<http://dorothyabrown.com/wp-content/uploads/2015/07/11-Lewis-and-Clark-L-Rev-385-2007-Pensions-and-Risk-Aversion.pdf>
- Carmichael, S. G. (2015). How Americans' wealthiest Black families invest money. Boston, MA. *Harvard Business Review*. Available at: <https://hbr.org/2015/02/how-americas-wealthiest-black-families-invest-money>
- Chen, H., & Volpe, R. P. (2002). Gender differences in personal financial literacy among college students. *Financial Services Review*, 11(3), 289-307. Available at:  
<https://search.proquest.com/docview/212012102/fulltext/4D161C8EC98F4989PQ/1?accountid=9942>
- Choudhury, S. (2002). *Racial and ethnic differences in wealth holdings and portfolio choices*. Division of Economic Research. Social Security Administration, Working Paper Series number 95. Washington, D.C. Available at:  
<https://www.ssa.gov/policy/docs/workingpapers/wp95.html>
- Ekanem, I. (2013). Influences on the behavior of Black and minority ethnic (BME) communities towards debt and bankruptcy. *International Journal of Consumer Studies*, 37(2), 199-205. Available at:  
[https://www.researchgate.net/publication/261540293\\_Influences\\_on\\_the\\_behavior\\_of\\_black\\_and\\_minority\\_ethnic\\_BME\\_communities\\_towards\\_debt\\_and\\_bankruptcy](https://www.researchgate.net/publication/261540293_Influences_on_the_behavior_of_black_and_minority_ethnic_BME_communities_towards_debt_and_bankruptcy)
- Fang, M., Hanna, S. D., & Chatterjee, S. (2013). The impact of immigrant status and racial/ethnic group on difference in response to a risk adverse measure. *Journal of Financial Counseling and Planning*. 24(2), 63-76. Available at:  
<https://search.proquest.com/docview/1492958952?pq-origsite=gscholar>
- FINRA (2015). *National financial capability study*. Washington D.C.; FINRA Investor Education Foundation. Available at  
[http://www.usfinancialcapability.org/downloads/NFCS\\_2015\\_Report\\_Natl\\_Findings.pdf](http://www.usfinancialcapability.org/downloads/NFCS_2015_Report_Natl_Findings.pdf)

- Gudmunson, C. G., & Danes, S. M. (2011). Family financial socialization: Theory and critical review. *Journal of Family and Economic Issues, 32*(4), 644-667. doi: 10.1007/s10834-011-9275-y
- Gutter, M.S., & Fontes, A. (2006). Racial differences in risky asset ownership: A two-stage model of the investment decision process. *Financial Planning and Counseling, 17*(2), 64-78. Available at: <http://afcpe.org/assets/pdf/vol-1726-gutter.pdf>
- Gutter, M. S., Fox, J. J., & Montalto, C. P. (1999). Racial differences in investor decision making. *Financial Services Review, 8*(1), 149-162. Available at: <https://pdfs.semanticscholar.org/03df/3a57d2cce128395d9379d9f28cf6c23ce049.pdf>
- Guzman, E., & Vulimiri, M. (2015). *African American retirement security*. Washington, D.C.; Center for Global Policy Solution. Available at: <https://globalpolicysolutions.org/wp-content/uploads/2015/08/African-American-Retirement-Insecurity.pdf>
- Hanna, S. D., & Lindamood, S. (2008). The decrease in stock ownership by minority households. *Journal of Financial Counseling and Planning, 19*(2), 46-58. Available at: <https://www.afcpe.org/assets/pdf/jfcp-volume-19-issues-2-2008-final-sent-to-the-printer.pdf#page=47>
- Hanna, S.D., Wang, C., & Yuh, Y. (2010). Racial/ethnic differences in high return investment ownership: A decomposition analysis. *Journal of Financial Counseling and Planning, 21*(2), 44-59. Available at: [https://www.researchgate.net/profile/Sherman\\_Hanna/publication/228292921\\_RacialEthnic\\_Differences\\_in\\_High\\_Return\\_Investment\\_Ownership\\_A\\_Decomposition\\_Analysis/links/0deec5239a02647884000000/Racial-Ethnic-Differences-in-High-Return-Investment-Ownership-A-Decomposition-Analysis.pdf](https://www.researchgate.net/profile/Sherman_Hanna/publication/228292921_RacialEthnic_Differences_in_High_Return_Investment_Ownership_A_Decomposition_Analysis/links/0deec5239a02647884000000/Racial-Ethnic-Differences-in-High-Return-Investment-Ownership-A-Decomposition-Analysis.pdf)
- Hira, T.K., Loibl, C., & Schenk, T. (2003). *Exploring the investment behavior of minorities in America*. FINRA Investor Education Foundation. Available at: <http://www.finrafoundation.org/web/groups/foundation/@foundation/documents/foundation/p118420.pdf>
- Hira, T. K., Sabri, M. F., & Loibl, C. (2013). Financial socialization's impact on investment orientation and household net worth. *International Journal of Consumer Studies, 37*(1), 29-35. doi: 10.1111/ijcs.12003
- Hudson, C.R., Young, J., Anong, S., Hudson, E., & Davis, E. (2017). African American financial socialization. *The Review of Black Political Economy, 44*(3), 285-302. doi.org/10.1007/s12114-017-9258-9
- Hughes, D. (2003). Correlates of African American and Latino's parents' message about ethnicity and race: A comparative study of racial socialization. *American Journal of Community Psychology, 31*(1), 1-2. doi: 10.1023/A:1023066418688
- Huston, S. J. (2010). Measuring financial literacy. *Journal of Consumer Affairs, 44*(2), 296-316. doi: 10.1111/j.1745-6606.2010.01170.x
- King, J. E. (2008). Binary logistic regression. In J. W. Osborne (Eds.), *Best practices in quantitative methods* (pp. 358-384). Thousand Oaks, CA: Sage Publications.
- Kochhar, R., & Fry, R. (2014). *Wealth inequality has widened along racial, ethnic lines since end of Great Recession*. Washington, D.C., Pew Social and Demographic Trends.

## Investment Behavior: Factors that Limit African-Americans' Investment Behavior

- Available at: <http://www.pewresearch.org/fact-tank/2014/12/12/racial-wealth-gaps-great-recession/>
- Lusardi, A. (2005). *Financial education and the savings behavior of African American and Hispanic households*. Report for the Department of Labor. Available at: [http://www.dartmouth.edu/~alusardi/Papers/Education\\_African&Hispanic.pdf](http://www.dartmouth.edu/~alusardi/Papers/Education_African&Hispanic.pdf)
- Lusardi, A., & Mitchell, O. (2005). *Financial behavior and the savings behavior of African Americans and Hispanic households*. A report from the US Department of Labor. Available at: <http://citeseerx.ist.psu.edu/viewdoc/download?>
- Lusardi, A., & Mitchell, O. (2006). *Baby Boomer Retirement Security: The role of planning, financial literacy and housing wealth* (WP 2006/20). Frankfurt, Germany: Center for Financial Studies: Goethe University Frankfurt. Available at: <http://publikationen.ub.uni-frankfurt.de/frontdoor/index/index/docId/2100>.
- Plath, D. A., & Stevenson, T. H. (2000). Financial services and the African American market: What every financial planner should know. *Financial Services Review*, 94(1), 343-359. doi: 10.1016/S1057-0810(01)00073-7
- Peng, C. J., Kuk, L. L., & Ingersoll, G. M. (2002). An introduction to logistic regression analysis and reporting. *The Journal of Educational Research*, 96(1), 3. doi: 10.1080/00220670209598786
- Prudential (2015). *The African American financial experience, 2015-16*. Newark, New Jersey: Prudential research. Available at: <http://www.prudential.com/media/managed/aa/AAStudy.pdf>
- Robb, C. A., & Woodyard, A. S. (2011). Financial knowledge and best practice behavior. *Journal of Financial Counseling and Planning*, 22(1), 60-70.
- Rowley, M. E., Lown, J. M., & Piercy, K. W. (2012). Motivating women to adopt positive financial behaviors. *Journal of Financial Counseling and Planning*, 23(1), 47-62. Available at: <https://files.eric.ed.gov/fulltext/EJ979297.pdf>
- Snedker, K., Glynn, P., & Wang, C. (2002). *Ordered/Ordinal Logistic Regression with SAS and Stata*. University of Washington; 2002. Available at <http://staff.washington.edu/glynn/olr.pdf>.
- Shim, S., Xiao, J. J., Barber, B. L., & Lyons, A. C. (2009). Pathways to life success: A conceptual model of financial well-being for young adults. *Journal of Applied Developmental Psychology*, 30(6), 708-723. doi: 10.1016/j.appdev.2009.02.003.
- Shim, S., Barber, B. L., Card, N. A., Xiao, J. J., & Serido, J. (2010). Financial socialization of first-year college students: The roles of parents, work, and education. *Journal Of Youth And Adolescence*, 39(12), 1457-1470. doi: 10.1007/s10964-009-9432-x
- Shin, S.H., & Hanna, S.D. (2015). Decomposition analyses on racial/ethnic differences in high return investment ownership after the great recession. *Journal of Financial Counseling and Planning*, 26(1), 1-19.
- Tippett, R., Jones-DeWeever, A., Rockey Moore, M., Hamilton, D., & Darity, W. (2014). *Beyond broke: Why closing the racial wealth gap is a priority for national economic security*. Center for Global Policy Solutions, Duke University; Social Science Research Institute, Durham, North Carolina. 1-32. Available at: [https://globalpolicysolutions.org/wp-content/uploads/2014/04/BeyondBroke\\_Exec\\_Summary.pdf](https://globalpolicysolutions.org/wp-content/uploads/2014/04/BeyondBroke_Exec_Summary.pdf)
- Van Rooj, M., Lusardi, A., & Lessie, R. A. (2010). Financial literacy and stock market

- participation. *Journal of Financial Education*, 101(2), 449-472. doi: 10.1016/j.jfineco.2011.03.006
- Yao, R., Gutter, M. S., & Hanna, S.D., (2005). The financial risk tolerance of Blacks, Whites and Hispanics. *Association of Financial Planning and Counseling*, 15(1), 51-62. Available at: <http://afcpe.org/assets/pdf/vol1616.pdf>
- Young, J. H., (2013). Financial literacy: Age and experience as the determinants. *Washington Business Research Journal*, 3(1), 35-45. Available at: [https://docs.wixstatic.com/ugd/62d798\\_edc32918d7e54915938abae24ee6bb70.pdf](https://docs.wixstatic.com/ugd/62d798_edc32918d7e54915938abae24ee6bb70.pdf)
- Young, J., Hudson, C.R., & Davis, E. (2017). A survey of retirement readiness among African Americans. *Journal of African American Studies*, 21(4), 551-566. doi: 10.1007/s12111-017-9381-5



Appendix  
Financial Knowledge Questions from FINRA Survey

- 1) Suppose you had \$100 in a savings account and the interest rate was 2% per year. After 5 years, how much do you think you would have in the account if you left the money to grow?
  - a. **More than \$102**
  - b. Exactly \$102
  - c. Less than \$102
  - d. Don't know
  
- 2) Imagine that the interest rate on your savings account was 1% per year and inflation was 2% per year. After 1 year, how much would you be able to buy with the money in this account?
  - a. More
  - b. Same
  - c. **Less**
  - d. Don't know
  
- 3) If interest rates rise, what will typically happen to bond prices?
  - a. Rise
  - b. **Fall**
  - c. Stay the same
  - d. Don't know
  
- 4) A 15-year mortgage typically requires higher monthly payments than a 30-year mortgage, but the total interest paid over the life of the loan will be less.
  - a. **True**
  - b. False
  - c. Don't know
  
- 5) Buying a single company's stock usually provides a safer return than a stock mutual fund.
  - a. True
  - b. **False**
  - c. Don't know

Correct answers are bolded