The Effects of Financial Education on Short-term and Long-term Financial Behaviors

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Abstract:
Widespread financial problems have motivated financial education as on possible remedy which has spurred researchers to estimate the effectiveness of such programs. This paper will estimate how different financial education courses affect both short-term and long-term financial behaviors. Using two types of behaviors allows me to see if financial education is more effective for behaviors that are more likely to be learned by doing (short-term behaviors) or behaviors that are harder to learn by doing (long-term behaviors). I use the 2012 NFCS data set which is a large (n=25,509), nationally representative data set to estimate the effects of financial education. My results show that financial education has small effects on short-term behaviors but has much larger effects on long-term behaviors. Short-term behaviors may be learned through experience rather than a personal finance course while long-term behaviors are harder to learn by doing and may need to be formally taught.

People may make poor decisions because they do not understand financial tools or services. Some financial difficulties include managing personal debt and student loans (Lusardi and Mitchell, 2014; Council for Economic Education, 2011, 2014; NASBE, 2006; Hopley, 2003). Problems that surfaced during the 2007-2009 financial crisis also include foreclosures (Lusardi and Mitchell, 2014) and low savings rates (Lusardi and Mitchell, 2014; Bernheim et al., 2001; Vitt et al., 2005) which caused problems for people when faced with an emergency requiring ready access to funds. Adults also engage in poor credit card behaviors (Borden et al., 2008) that could be attributed to a lack of budgeting, not understanding the interest costs, and poor long-term financial planning.

The lack of financial literacy has motivated the development and implementation of numerous educational programs aimed at increasing financial literacy. At the high school level states are now incorporating personal finance standards, courses, or exams in order for students to graduate (CEE, 2011; CEE 2014). There are seminars and workshops dedicated to helping college students understand topics like credit cards (Borden et al., 2008) and investments (Volpe, Chen, and Pavlicko, 1996). There is also financial education programs for employees to help them with retirement decisions (Clark, Morrill, and Allen, 2012; Kim, 2008), and adults with other basic financial management including banking, investment, and credit card use (Zhan, Anderson, and Scott, 2006).

Economists have become interested in studying financial literacy and financial education. Informed consumers are more equipped to make better financial decisions that can have positive long-term effects. Even short-term effects of personal finance courses (such as increased short-term saving) can have long-term impacts on a person's lifetime consumption (Lusardi, Michaud, and Mitchell, 2013). Although financial education is often viewed as the most direct way to increase financial literacy, there is a need to evaluate the effectiveness of this approach because financial education is costly in terms of time and money. Extensive reviews of the literature also note that there is limited evidence showing

the effectiveness of financial education (Lusardi and Mitchell, 2014). More research needs to address this this gap in existing literature.

This research focuses on how financial education affects five short-term and five long-term financial behaviors. The short-term financial behaviors include: (1) Covering bills, (2) Having a checking account, (3) Paying credit card in full each month, (4) Not carrying over a credit card balance, and (5) Not being charged a credit card limit fee. The five long-term financial behaviors include: (1) Having an emergency fund, (2) having a savings account, (3) having non-retirement investments, (4) figuring out how much they need for retirement, and (5) having non-employer retirement accounts. I consider behaviors short-term if the effects of negatively engaging in the behaviors can be felt almost immediate while the effects of the long-term behaviors are felt after many years. Hilgert, Hogarth, and Beverly (2003) split their financial behaviors similarly and suggested that certain short-term, basic behaviors may be more likely to be learned by doing compared to long-term, complex financial behaviors. While financial behaviors have been studied in the literature, there has been limited research looking at how effective financial education is for improving short-term and long-term behaviors.

I use the 2012 National Financial Capability Study (NFCS) which was conducted by the Financial Industry Regulatory Authority (FINRA). The survey is nationally representative and asks American adults 18 and older about their attitudes and use of financial tools. The survey also includes a question about financial education; respondents are allowed to respond that they took a personal finance course in high school, college, or through an employer. The people surveyed could report that they took one or more course allowing me to estimate the effects of taking different combinations of financial education on short-term and long-term financial behaviors.

I also split the population by education level. I include people with less than a high school and high school education into the low education group and people with some college or a college degree

into the high education group. People with higher education may be characteristically different; they may be more motivated or have higher abilities. Lusardi, Mitchell, and Curto (2010) find that college students were more financially knowledgeable even after controlling for demographic characteristics. Therefore, people with higher education may have a higher stock of financial knowledge and may respond to financial education differently.

My initial hypothesis is that financial education will increase the likelihood that a person engages in the behaviors but that there will be a smaller effect on short-term behaviors because people may be more likely to learn through experience. My main finding is that financial education has some positive effects on short-term financial behaviors. However, financial education has much stronger positive effects on the long-term financial behaviors. Also, people with low education are more affected by financial education for both types of financial behaviors. Implications of this research suggest that financial education should be taught at a young age, before students are able to drop out of high school. Also, there should be some focus on simple, short-term financial behaviors in order to build up to the more complex, long-term behaviors but the focus should be on topics that are less likely to be learned through experience.

Literature Review

Financial literacy has not been consistently defined in previous research (Hastings, Madrian, and Skimmyhorn, 2013; Remund, 2010; Huston, 2010; McCormick, 2009; Fox and Bartholomae, 2008). Also, there are cases where the terms financial literacy, knowledge, and education may be used interchangeably (Huston, 2010). The definitions used by Lusardi and Mitchell (2014) and Remund (2010) closely match the ideas of being financially literate of this research. Both definitions include not only understanding financial concepts but utilizing that knowledge to make sound financial decisions. Remund (2010) also incorporates a time dimension in his definition of financial literacy, stating that both short-term and long-term behaviors are important. Other research has cited in their reviews of

the literature that decisions—both long-term and short-term—are an important component of financial literacy (Fernandes, Lynch, and Netemeyer, 2014; Carlin and Robinson, 2012). McCormick (2009) also states in her review of high school studies that education is a means to build this capacity. This study focuses on how effective high school, college, or employer financial education is to increase the likelihood of engaging in short-term and long-term financial behaviors.

The goal of financial education may be to increase knowledge but ultimately personal finance courses should encourage better financial behaviors. Bernheim, Garrett, and Maki (2001), one of the first studies to estimate the long-term effects of financial education in high school, finds that the personal finance mandate increased student saving rates. Another study using the *Money Talks* curriculum in high school a shows that students are financially illiterate but that after the curriculum students increased their saving score between the pre and post-test (Varcoe et al., 2005). This study would be improved if it had used actual behaviors rather than intentional financial behaviors. Personal finance education in high school can improve financial behaviors but it may take time after it is implemented to see the effects. Teachers need to be trained and well versed in the topic to be effective. Economic education may also affect financial behaviors. A study estimating the long-term effects of an economic course finds that students who took a course in high school were more likely to have a bank account later in life (Grimes, et al., 2010).

Not all studies find positive effects of financial education at the high school level. Mandell and Klein (2009) use data from the five Jump$tart national surveys that assess American high school student's financial literacy. The authors examine whether or not taking a personal finance class in high school has any effects on paying off a credit card in full, never being late with a credit card payment, balancing a checkbook, doing their own income tax, having savings and investment, and not worrying about debt. Results show that taking a personal finance management course has no effect on any of the financial behaviors.

College students are at a particularly vulnerable position in life. These students are becoming less dependent on their parents, may have disposable income from a job, and are likely taking on large amounts of debt with student loans. It is important to teach undergraduates good financial practices before they engage in financial contracts or start to make financial decisions (Lusardi, Mitchell, and Curto, 2010). Financial mistakes made at in college can also snowball into larger mistakes that can be costly.

The majority of college students are credit card holders. A recent survey by Nellie Mae (2005) found that in 2004 76 percent of college students, between the ages of 18 and 24, have at least one credit card with the average credit card balance of $2,169 and most report that they do not engage in sound credit card behaviors. With more credit available college students need to understand how to properly use credit cards to eliminate devastating consequences in the future.

Many studies at the college level focus on credit card behaviors. One study finds that having credit cards are positively related to compulsive spending (Roberts and Jones, 2001). Also, students that make poor credit card choices could hurt their credit score resulting in costly high interest rates (Tufano, 2010). Knowledge about credit cards may be one way to remedy the problem. A study estimates the effects of financial knowledge on college student credit card behaviors and finds that there is no statistical difference between students with high knowledge and low knowledge (Robb and Sharpe, 2009). The study did not take into account financial education—does a course in personal finance improve credit card behaviors? Lyons (2008) shows the college students who had taken (or currently enrolled) in a personal finance course were less likely to make negative credit card behaviors such as having credit card balanced as $1000 or more, making delinquent payments, reaching credit card limits, and not paying their credit card balances in full. Therefore college students who are susceptible to high debt including credit card debt may benefit from a personal finance course.

One study estimates the effects of a personal finance course in high school or the community on financial well-being. College students who took a course in high school were more likely than those who took a course through the community, to make positive financial behaviors (Gutter and Copur, 2011). The community financial literacy course may not have gone in as much depth as another course which may explain the lack of statistical significance. A similar study estimates how personal finance education in high school, college, or both affects investment knowledge that in turn would affect a person's saving rate (Peng, et al., 2007). The authors find that a college personal finance course increases the person's investment knowledge which then increases the likelihood of saving while taking a high school or both college and a high school course did not increase the person's investment knowledge. Information about investment knowledge may be more relevant for college students which may help explain why the college course was the only effective course. High school students may not take the time to pay attention to such a complicated topic or it may not have been covered in their personal finance course due to time limitations.

While the young are vulnerable and need financial education adults are also in need of financial education as they face an even more complex financial world and suffer from a lack of time to fix financial mistakes as some are nearing retirement. Many businesses are also now switching from a defined benefits to a defined contribution plan putting more responsibility on employees to fund their own retirement. The employees, however, are not equipped to make such important decisions with many people being financially illiterate.

One study estimates the relationship between confidence, actual financial knowledge, and retirement planning (Parker et al., 2011). In general, the four studies all found a positive and significant relationship between confidence and knowledge—people who are more confident are more financially knowledgeable even after controlling for actual financial knowledge. Similar to confidence a person's perceived financial literacy may affect their financial behaviors. A study by Allgood and Walstad (2013)

uses the 2009 NFCS to estimate how perceived and actual financial literacy affects various credit card behaviors at different ages. In general results showed that both perceived and actual financial literacy were related to positive credit card behaviors. Perceived financial literacy was, however a stronger predictor of positive credit card behaviors. These results are robust across numerous financial topics including investments, loans, insurance, and financial counseling in a similar study (Allgood and Walstad, 2012). These findings are contrary to the view that confidence in one's ability will hinder their financial behaviors. Implications from these studies suggest that financial education may also be effective by increasing a person's confidence in their abilities.

There may be some groups of people that benefit more from financial education. One group that may benefit are women—older women in the U.S. typically have lower financially literacy and have not planned for retirement. Using the 2004 Health and Retirement Study to gain insight about how women make saving decisions a study found that only 29 percent of the women in the study could answer all three financial literacy questions correctly[1] and financial literacy was positively related to retirement planning (Lusardi and Mitchell, 2008). Another study finds that women have lower financial literacy scores and are less likely to make household decisions compared to men (Fonseca, et al., 2012).

Low-income individuals may also benefit from financial education. Pre- and post-test scores indicated that people were not financial literate but there was improvement (54% to 74%). Education is also a significant factor and had a positive relationship with financial knowledge—people with higher education had higher financial knowledge scores (Zhan, Anderson, and Scott, 2006). Even after controlling for demographic characteristics, a person's base education affects their financially literacy and should be taken into account when estimating the effects of financial education. Also, a review of literature shows that financial education can help lower income households build their savings and

[1] The three financially literacy questions about interest, inflation, and risk diversification—three of the five questions used in this study.

improve their financial situation (Caskey, 2006). Research methods however are imperfect and future research is needed to estimate the effects of financial education.

Lusardi and Mitchell (2007) find that in adults 55 and older, financial literacy is a significant related to retirement planning. Adults who have taken an economics course or employer financial education program had higher financial literacy. Bernheim and Garrett (2003) estimate how workplace financial education affects people's saving rates. The main results from this study are that asset accumulation (having a 401(k) and a higher saving rate) is positively related to the availabilities of financial education for people with lower general wealth. Total wealth was not related to available workplace financial education. These results suggest that the availability of financial education does have positive effects on a person's saving behaviors. Results of this study, however, may be biased; workplaces that offer financial education may be characteristically different than workplaces that do not offer financial education. Also, employees may choose to participate in the financial education which can cause selection bias in some studies (Kim, 2008).

A study that studies the effects of retirement information randomly selected a group of employees at six large employers and mailed them a flyer about the retirement plans; the control group was not sent the flyer (Clark, Mirrill, and Allen, 2012). Results showed that there was no statistical difference between the two groups for the number of employees who signed up. There was a difference for the youngest group ages 18-24. Those who received the letter increased participation by 7.7 percent compared to 3.3 percent increased participation by those who did not get the letter. This study shows that financial information does affect some workers' behavior. Employer specific financial education may be more beneficial. Lusardi and Mitchell (2007) show that simple financial education may not be enough without financial tools, such as a specific retirement account, available. Also, "one-size-fits-all" education may not be the most effective—it should be timely and targeted at people.

This research benefits from being able to estimate the effects of financial education on people's short- and long-term behaviors. I am able to study high school, college, employer, or some combination of the three courses which has not been done in the literature. Most of the literature to date only estimates the effects of one of the courses and cannot analyze how taking multiple courses can affect financial literacy or financial behaviors. Also, much of the literature uses the population as a whole. This research splits the population by education to see how financial education affects both the lower (less than high school and high school graduate) and higher (some college and college graduate) educated groups. Previous studies may ask about how people may intend to behave after the financial education; I use their actual reported behaviors to see how financial education affects various short-term and long-term financial behaviors.

Description of the Data Set

The survey data for this study came from the 2012 National Financial Capability Study (NFCS) which was conducted by the Financial Industry Regulatory Authority (FINRA) with the U.S. Department of the Treasury and President Bush's Advisory Council on Financial Literacy to create a nationally representative survey of people's attitudes and use of various financial tools.[2] The data provides information about four major areas of American's financial capability: (1) making ends meet, (2) planning ahead, (3) managing financial products, and (4) financial literacy and financial decision making. The state-by state survey is an online survey of 25,509 American adult respondents. There is approximately 500 respondents per state plus the District of Columbia. The data was collected through a website from July-October 2012. The data include three weights: national-level weight, census divisions-level weights, and state-level weights. For this paper I weigh my data using the national-level weight which is representative of the U.S. population's age by gender, ethnicity, education, and census division.

[2] Publicly available data, tables, survey questions, methodology, and preliminary reports (for both the 2009 and 2012 surveys) can be found at http://www.usfinancialcapability.org

The first NFCS survey was conducted in 2009 with the second survey in 2012. The 2012 survey was largely developed from the 2009 survey with new questions added to better assess people's financial capabilities. Modifications to the 2012 survey came from inputs of academics, policy-makers, and researchers who used the 2009 data. The 2009 survey was designed to provide insights about financial skills, knowledge, and financial habits. The 2012 survey explains more about how consumers use complex financial tools. New to the 2012 survey are questions that ask if the person took a financial education course in high school, college, through an employer, or through the military.

The dataset provides a unique look into the effects of financial literacy by asking five financial literacy questions in the survey. The five financial literacy questions include topics on interest, inflation, bond pricing, mortgages, and stocks. These five questions have been used widely in the literature to provide a general understanding of a person's financial literacy (Lusardi and Mitchell, 2014; Bumcrot, Lin, and Lusardi, 2013; Hastings, Madrian, and Skimmyhorn, 2013; Allgood and Walstad, 2013; Lusardi, Mitchell, and Curto, 2010). The questions require the individual to understand numeracy, financial tools, and various types of financial assets.

The survey begins by asking about the person's demographic characteristics including their gender, age, marital status, ethnicity, living situation, income, number of children, employment, and education. After the demographic questions there are sections that ask about the following: (1) financial attitudes and behaviors, (2) financial advisors, (3) money management, (4) retirement accounts, (5) sources of income, (6) home and mortgages, (7) credit cards, (8) other debt, (9) insurance, and (10) financial self-assessment and literacy. This extensive questionnaire was given to each adult but the survey did not specifically target the head of household or primary financial decisions-makers (similar to the 2009 method).

Dependent Variables

For this research two types of dependent variable are used—short-term and long-term variables. The short-term variables include: (1) Covering bills, (2) Having a checking account, (3) Paying credit card in full each month, (4) Not carrying over a credit card balance, and (5) Not being charged a credit card limit fee. All variables are coded as a dummy variable equal to 1 if the person responded that they positively engage in the behavior. Some variables were reversed coded to reflect a good behavior. For example, not being charged a credit card limit fee is coded as a 1 if the respondent reported "No" they have not been charged a credit card limit fee. Table 1 shows the wording from the survey. The short-term behavior variables are considered short-term because negative effects can be felt almost immediately—people who don't pay off their credit card in full or carry over a credit card balance will be charged additional interest the very next month.

[Insert Table 1 about here]

The long-term behaviors include: (1) Having an emergency fund, (2) having a savings account, (3) having non-retirement investments, (4) figuring out how much they need for retirement, and (5) having non-employer retirement accounts. All variables are coded as a dummy variable equal to 1 if the person responded that they positively engage in the behavior. The behavior, figure(d) retirement account includes two different questions, the first question asks non-retired individuals if you have figured out what you need to save for retirement and the second question asks retired individuals about figuring out how much they need for retirement before they retired. If the person responded yes to either then figure(d) retirement amount was coded as a 1. Table 2 includes the wording for each long-term behavior from the survey.

[Insert Table 2 about here]

The dependent variables for this essay are a sub group of the dummy variables that Hilgert, Hogarth, and Beverly (2003) examined and considered long-term, complex financial behaviors. The

behaviors are considered long-term because effects of negatively engaging in the behaviors are not likely to be felt until later in life. For example, if you did not have an emergency fund, you may not feel the effects until there is some major financial problem in your life. You are less likely to be able to learn by doing these long-term behaviors.

Hilgert, Hogarth, and Beverly (2003) suggest that financial behaviors may be hierarchal and that simple behaviors may lead to more complex behaviors. Therefore I examine how financial education affects behaviors that are considered short-term simple financial behaviors and long-term complex financial behaviors. I consider behaviors short-term if the effects can be seen almost immediately. For example, if a person does not pay off their credit card in full each month they feel the effects the next month when they are charged interest. Long-term behaviors are financial behaviors that are felt after many years (or maybe never). For example, if you did not figure out how much money you need for retirement, you do not experience the negative effects until you retire, which could be in 20-30 years. Also, both the short-term and long-term dependent variables are behaviors that are generally seen as positive behaviors. In some situations it may be optimal for a person to not have a saving account of pay off their credit card in full each month but these behaviors are generally not seen as a positive.

Independent Variables

The independent variables for this paper include the individuals' demographic characteristics and financial education. Demographic characteristics include the person's gender, ethnicity, marital status, employment status,, age, income, education, and number of children. All demographic characteristics (except number of children) are dummy variables. I also include the person's financial literacy score which is the number of correct questions the person answered out of 5. Controlling for financial literacy allows me to estimate the effects of financial education above and beyond the stock of financial knowledge.

The 2012 NFCS includes a set of questions about financial education. People responded to a question about whether or not they took a personal finance course. If the person said that they had taken a personal finance course the next question asks if the person took the course in high school, college, through an employer or through the military[3]. For this paper employer and military personal finance courses are combined because the military is another form of employment. The person could respond that they took more than one personal finance course therefore there are multiple categories that an individual could fall under. The omitted category is that the person did not take a personal finance course. The categories of personal finance courses are:

- High School course only
- College course only
- Employer course only
- High School and College course only
- High School and Employer course only
- College and Employer course only
- High School, College, and Employer course only

Model

To estimate the effects of financial education of people's financial behaviors separate probit models are used for each behavior. Again, each financial behavior is positively coded if the person engages in the positive financial behavior. I also split the population by education to see the effects of a financial course for those with lower and higher education. The following general model is used for each short-term behavior using the appropriate categories of personal finance courses:

$$Pos.ST\ Fin.Behavior = \beta_0 + \beta_i X + \beta_j Fin.Lit.Course + \beta_k Fin.Lit.Score + \beta_l Z$$

[3]Respondents could only respond to taking a personal finance course in college, through an employer, or through the military if they had previously responded that they had taken or were currently in college, currently employed, or part of the military respectively.

The following model is used for each long-term financial behavior:

$$Pos.LT\ Fin.Behavior = \beta_0 + \beta_i X + \beta_j Fin.Lit.Course + \beta_k Fin.Lit.Score + \beta_l Z$$

In each model X is a vector of demographic characteristics listed previously. The characteristics are dummy variables. The variables in *Financial Literacy Course are* the financial literacy courses that apply to the specific group of people. For example, those with lower education could only fall into one of three courses—*HS course only, Employer course only,* and *HS and Employer course only.* The categories are all dummy variables equal to 1 if the respondent reported taking the course or group of courses. The dependent variable, *Positive Short Term Financial Behavior*, is the different short-term financial behavior dummy variables previously listed. The dependent variable, *Positive Long Term Financial Behavior,* is the different long-term financial behaviors. *Fin. Lit. Score* is the person's financial literacy score out of 5. Finally, *Z* are dummy variables for each state to control for differences across states.

I would expect that taking a financial literacy course(s) would have a positive relationship with the person engaging in each positive financial behavior. Those who have taken a course should be more knowledgeable about personal finance and be able to make better financial decisions for themselves (their households). However, I would expect that the effect would be weaker for short-term financial behaviors because people may be more likely to learn-by-doing. Short-term behaviors may be learned through experience because the effects are felt quickly they can correct bad behaviors. For example, people who do not pay off their credit card in full each month can learn through the experience of additional interest charges. If is much more difficult to learn long-term behaviors through experience. For example, people who do not figure out how much they need for retirement cannot go back and re-calculate this.

Results

Descriptive statistics can be found in Table 3. About 49 percent of the sample is male. There is about 12- 20 percent of the sample that fall into each of the age categories. Almost 9 percent has less than a high school education, 29 percent has a high school degree, 36 percent has some college education, 16 percent has a college degree, and almost 10 percent has post graduate education. About 27 percent make less than $25,000 a year, 26 percent make $50,000-75,000, 22 percent make $75,000-150,000, and 6 percent make more than $150,000.

About 4 percent of the population took a high school course only. Similarly about 4 percent of the population took a college course only and only about 3 percent took an employer course only. There were only about 1-2 percent of the population that took any combination of personal finance courses. As excepted there is a relatively small percent of the population that has taken a financial literacy course and that percent gets smaller as the categories include more courses. There are only 3 percent of the population that has taken all three financial education courses. Almost 80 percent of the population took no financial education course. The table also includes the proportion that reported positive financial behaviors which is discussed below and is also found in Table 4 and Table 5.

[Insert Table 3 about here]

Table 4 shows the proportion that engages in each short-term financial behavior for the full sample, people with high education, and people with low education. About 41 percent of the population reported that it is not difficult to cover their bills, 90 percent have a checking account, almost 50 percent pay their credit card in full, 50 percent reported not carrying over a credit card balance, and almost 92 percent are not charged credit card limit fees. The table also shows the proportion of people with high education and low education that engage in each of the behaviors. For all five financial behaviors there was a significantly larger portion of people with high education that reported positive short-term financial behaviors.

[Insert Table 4 about here]

Similarly, Table 5 shows the proportion that engage in the different long-term financial behaviors. The table includes proportions for the full sample, people with high education, and people with low, education. The proportion of people who engage in each long-term behavior is generally lower than the short-term behaviors. One explanation, suggested by Hilgert, Hogarth, and Beverly (2003) is that financial behaviors are hierarchal—simple, short-term behaviors may lead to more complex, long-term behaviors. Therefore, in our sample, more people make positive short-term behaviors because they are simpler.

About 42 percent of the population has an emergency fund, 74 percent has a savings account, 36 percent has non-employer investments, almost 40 percent has figured out how much they need for retirement, and 29 percent has a non-employer retirement account. As with the short-term behaviors, there are a larger proportion of people with higher education that participate in these long-term behaviors which is statistically different than people with lower education.

[Insert Table 5 about here]

Table 6 shows the probit model results with the short-term financial behaviors for the full sample. For simplicity I only discuss some of the variables of interest. Across the five short-term financial behaviors, people with less than a college degree (less than high school, high school, and some college) are significantly less likely to report engaging in positive short-term financial behaviors.

[Insert Table 6 about here]

All course combinations are compared to the omitted category, no personal finance course. For the full sample, a high school financial education course decreased the likelihood that a person reported that they are not charged a credit card limit fee by 2 percentage points. People who only took a college course were 4 and 6 percentage points less likely to not carry over a credit card balance and pay off their credit card in full each month respectively. Taking an employer course only increased the

likelihood of a person covering their bills by 7 percentage points. Compared to not taking a financial education course people who took both the high school and college course they were 4 percentage points less likely to have a checking account. People who took both a high school and employer course were 7 percentage points less likely to not be charged a credit card limit fee. Finally, taking all three financial education courses—high school, college, and through an employer—increased the likelihood of paying your credit card in full by 9 percentage points and decreased the likelihood of not being charged a credit card limit fee by about 4 percentage points. These results suggest the financial education is not very effective for short-term behaviors.

A person's financial literacy score is a significant determinant of the positive short-term financial behaviors. Answering one more question correctly results in people being 2 percent more likely to cover their bills, 1 percent more likely to have a checking account, almost 1 percent more likely to pay their credit card in full each month, and 2 percent more likely to not be charged a credit card limit fee. For these short-term financial behaviors the person's financial literacy score is more important than taking a financial literacy course.

The effects of financial education are larger for people with lower education. Table 7 shows the probit regression results for people with less than a high school and high school education. Taking only a high school personal finance course increases the likelihood of having a checking account and paying their credit card in full by 3 and 9 percentage points respectively. Taking only an employer financial literacy course increases the likelihood of having a checking account by 7 percentage points and increases the likelihood of not being charged credit card limit fees by 4 percentage points. Finally, taking both a high school and employer financial education course increases the likelihood of having a checking account by 20 percentage points and decreases the likelihood of not being charged a credit card limit fee by 7 percentage points.

For people with low education the financial literacy score is not as effective as the personal finance course which is contrary to the results from the full sample. Answering one more financial literacy question correctly increases the likelihood that a person has a checking account and is not charged credit card limit fees by 2 and almost 1 percent. One more correct financial literacy question decreases the likelihood that a person doesn't carry a credit card balance by almost 2 percent

[Insert Table 7 about here]

Finally, the effects of financial education on short-term behaviors for the higher education group are found in Table 8. Financial education is also not as effective for people with high education to engage in the short-term financial behaviors in general. Taking a college course only decreases the likelihood of paying their credit card in full by 7 percentage points. Taking only an employer financial education course increases the likelihood that a person can cover their bills by almost 10 percentage points and decreases the likelihood of paying their credit card in full by 6 percentage points. Taking an employer and college course decreases the likelihood that a person has a checking account by 3 percentage points. Taking a high school and employer course decreases the likelihood of paying their credit card in full, not carrying a credit card balance, and not being charged a credit card limit fee by 5-9 percentage points. Finally, taking all three financial education courses (high school, college, and employer) increases the likelihood that a person pays their credit card in full each month by 10 percentage points.

Financial education is not as effective for the short-term behaviors. However, a person's financial literacy score is important. Answering another financial literacy question correctly increased the likelihood of covering bills (2%), having a checking account (almost 1%), paying their credit card in full each month (1%), and not being charged a credit card limit fee (2%). People with higher education may not benefit from the personal finance courses for short-term behaviors.

[Insert Table 8 about here]

Results of the long-term financial behaviors for the full sample are found in Table 9. Again, for simplicity I will only discuss some of the main findings from the regressions. People with less than a college degree (people with less than high school, a high school degree, and some college education) are all significantly less likely to engage in any of the five behaviors. People with less than a college education are between 9-23 percentage points less likely to have an emergency fund, 12-19 percentage points less likely to have a savings account, 12-18 percentage points less likely to have non-retirement investments. People with less than a college degree have also not figured out how much they need for retirement (12-19 percentage points less) compared to those with a college degree, and 10-14 percentage points less likely to have non-employer retirement accounts. These results suggest that education is an important indicator of engaging in various long-term financial behaviors. This also reiterates the need to split the population by education to estimate the effects of financial education on the two groups. A person's financial literacy score is important for the full sample. Answering one more question increased the likelihood of engaging all of the financial behaviors by 3-5 percent.

[Insert Table 9 about here]

In general, the results show for the full sample that financial education is more important and has larger effects on the likelihood of engaging in the long-term behaviors compared to engaging in the short-term behaviors. People who took only a high school financial education would were 4 percentage points more likely to have an emergency fund, and 11 percentage points more likely to have figured out how much they need for retirement compared to people with no financial literacy course. People who reported taking only a college personal finance course were 7 percentage points more likely to figure out how much they need for retirement. People who took an employer course were more likely (between 5-14 percentage points) to engage in all of the behaviors except having an emergency fund.

People who took both a high school and college course were 7 percentage points more likely to have an emergency fund, 5 percentage points more likely to have non-employer retirement accounts, and 5 percentage points more likely to figure out how much they need for retirement. Taking both a high school and employer course increases the likelihood of engaging in all of the long-term financial behaviors by 8-25 percentage points. People who took a college and employer financial education course were between 7-19 percentage points more likely to engage in all of the financial behaviors suggesting that the combination of the two is important for long-term behaviors. And finally, people taking all three courses—high school, college, and employer—were between 5-21 percentage points more likely to engage in all of the long term-financial behaviors. For the full sample it seems that the combinations including the employer course were the most significantly related to the long-term behaviors.

Table 10 shows the effects of financial education on long-term financial behaviors for people with lower education. People with less than a high school education were between 6-12 percentage points less likely to engage in any of the long-term behaviors compared to people with a high school degree. This suggests that education level is still an important factor contributing to the likelihood that a person makes better long-term financial decisions.

[Insert Table 10 about here]

In general financial education was more effective for people with lower education suggesting that financial education is an important way to encourage people to positively engage in long-term behaviors that are hard to learn by experience. People who took a high school course were 5-12 percentage points more likely to engage in the long-term financial behaviors compared to people who did not take any financial literacy course. People who took an employer course only increased the likelihood that a person has a savings account, figured out how much they need for retirement, and non-employer retirement accounts by 17, 16, and 9 percentage points. Taking both courses has the

largest effect increasing the likelihood that a person engages in the five long-term financial behaviors by 15-26 percentage points. The multiple courses probably reinforces topics and is more effective for people with low education.

The effects of financial education for people with higher education are positive and significant, however the magnitude of the marginal effects is not as large compared to people with lower education. The financial education course however, is more effective for long-term behaviors compared to short-term behaviors. Table 11 shows the effects of financial education on long-term behaviors for people with higher education. Education is still important—people with some college were significantly less likely to engage in any of the financial behaviors. Compared to people with a college degree, people with some college were between 4-12 percentage points less likely to have an emergency fund, have a savings account, have non-retirement investments, figure out how much they need for retirement, and have non-employer retirement accounts. A person's financial literacy score is also a significant factor that contributes to the person engaging in the long-term financial behaviors. Answering an additional financial literacy question correctly increases the likelihood that a person engages in the long-term financial behaviors by 2-4 percent.

[Insert Table 11 about here]

People who took a high school financial education course were about 9 percentage points more likely to figure out how much they need for retirement. People who took a college personal finance course were about 6 percentage points more likely to figure out how much they need for retirement. Taking only an employer financial literacy course increased the likelihood that a person figured out how much they needed for retirement by 13 percentage points.

Taking a high school and college course increase the likelihood that a person has figured out how much they need for retirement by 6 percentage. Taking a high school and employer course increased the likelihood that a person has an emergency fund by 8 percentage points and figured out

how much they need for retirement by about 22 percentage points. Taking a college and employer course increases the likelihood that a person engages in any of the long-term behaviors by 7-19 percentage points. Finally, taking all three financial education courses increases the likelihood that a person engages in any of the long-term financial behaviors by 6-22 percentage points. The long-term behaviors seem to be more effected by the employer course than the other courses, which is similar to the full sample.

Discussion, Limitations, and Future Research

I hypothesized that financial education would be effective for both short-term and long-term financial behaviors but may have a more muted effect on the short-term financial behaviors because there is more possibility to learn by doing. This hypothesis is supported with the short-term financial behaviors for the full sample and people with lower education. There are significant and positive effects of financial education for the low education group to have a checking account and pay their credit card in full. The higher educated population, however are not as affected by financial education. This lack of effectiveness could be attributed to people with more education being more equipped to follow a "learn by doing" model. Hilgert, Hogarth, and Beverly (2003) suggest that people are able to fix financial mistakes with basic, short-term tools, though experience.

A personal finance course is significantly related to a person engaging in positive long-term financial behaviors. The effects of the courses are larger for long-term behaviors than with the short-term behaviors. Once again, as suggested by Hilgert, Hogarth, and Beverly (2003), complex, long-term behaviors may be less likely to be learned by doing. Therefore the financial education course is more important for long-term behaviors where effects may be seen only once or seen after many years.

Education is also an effective determinant of short-term financial behaviors both all three groupings. Compared to people with a college degree, people with less than high school, high school degree, and some college are generally less likely to engage in the financial behaviors. This is especially

true for people with lower education—people with less than a high school degree are less likely to engage in any of the short-term behaviors. Thus personal finance education is especially important for people with lower education. People with higher education are more likely to be able to learn by doing, but people in with lower education need a personal finance course before they are able to drop out of high school to help them make positive short-term financial behaviors.

The effects of financial education on long-term financial behaviors are again strongest for the low education group. The results reiterate the need to teach personal finance at younger ages to help people become more knowledgeable and make more sound financial decisions. People made better long-term decisions if they were exposed to any personal finance course even if they did not continue on for more schooling.

Long-term financial behaviors were also most affected by the employer personal finance course. Across the three samples—full, low education, and high education—combinations of courses that included an employer financial literacy course had the largest marginal effects. The result could be explained because long-term behaviors may be more suited for adults to learn due to their timing and relevance. High school students may not be worried about retirement while someone who is more mature and has a job may be more interested in figuring out how much they need to save for retirement.

Implications of this research could aid the adoption of financial education at a young age—particularly in high school before a student is able to drop out. Also, financial education in high school should teach simple, short-term financial behaviors as a means to help them understand the long-term financial topics. Much of financial education at all levels, however, should focus on long-term behaviors as there is little chance for people to learn by experience and the education may be their only way to hear or understand the information. Similarly, complex topics should be taught at

appropriate times in order to maximize the information. The complex topics should come after people have had training with simple topics which may be best taught in high school.

There are some general limitations of this research. First, I do not know the content of the financial literacy courses. There is no information about the topics, the length of the course, or how the course was taught. Walstad, Rebeck, and MacDonald (2010) stated that controlling for course effects is necessary with financial education research. For this research I am also assuming that all high school, college, and employer courses are comparable which may not be entirely accurate. Some courses may be different lengths (a day, week, or an entire year). Also employer courses may also be specific only for that company and not comparable to other employer financial education courses.

Another problem is that there is no information about why the individual took the course—were they required to take the course or chose to do so? There may be selection bias if those who chose to take the course are characteristically different than those who did not take the course; a common problem noted in reviews of financial education effectiveness (Willis, 2008). For example, people may have learned about credit card behaviors by experience which lead them to more financial education because they are not interested in the topic rather than the course changing their credit card behaviors.

There is no causal relationship between financial education and financial behaviors in this paper. The cross section data has no information about why a person engages in the positive financial behaviors. Do people behave differently because of the personal finance course or for some other reason? More research needs to be done to estimate if the behaviors are learned from financial education or experience.

Future research will look into the behaviors being learned through experience. More analysis needs to be done to see how age or experience effect financial behaviors. I would expect age or experience to be more important for the short-term behaviors where there is more of an opportunity

to learn through experience. The long-term behaviors would not be as affected by age or experience because there is little to no chance to redo mistakes. For example, there is no chance to go back and plan for retirement if you had not done it throughout your life while there is a chance to redo credit card mistakes. Methods to control for age or experience may be to use interaction terms or split the sample into different age groups to see how financial education affects financial behaviors. Also, more behaviors should be studied to see if different types of behaviors are affected the same way by financial education. For example, does financial education improve different credit card behaviors, banking behaviors, or retirement behaviors? Future research may also look into using a Heckman model to account for potential selection bias because people may have chosen to participate in the various types of courses.

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Tables

Table 1: Short-term Behaviors (Wording from 2012 NFCS)

Cover Bills	In a typical month, how difficult is it for you to cover your expenses and pay all your bills? 1. Very difficult 2. Somewhat difficult 3. Not at all difficult 4. Don't know 5. Prefer not to say
Checking Account	Do you [Does your household] have a checking account? 1. Yes 2. No 3. Don't know 4. Prefer not to say
Pay CC in Full	In the past 12 months, which of the following describes your experience with credit cards? – I always paid my credit cards in full. 1. Yes 2. No 3. Don't know 4. Prefer not to say
Doesn't Cary CC Balance	In the past 12 months, which of the following describes your experience with credit cards? – In some months, I carried over a balance and was charged interest. 1. Yes 2. No 3. Don't know 4. Prefer not to say
Not Charged CC Limit Fee	In the past 12 months, which of the following describes your experience with credit cards? – In some months, I was charged an over the limit fee for exceeding my credit line. 1. Yes 2. No 3. Don't know 4. Prefer not to say

Table 2: Long-Term Behaviors (Wording from 2012 NFCS)

Emergency Fund	Have you set aside emergency or rainy day funds that would cover your expenses for 3 months, in case of sickness, job loss, economic downturn, or other emergencies? 1. Yes 2. No 3. Don't know 4. Prefer not to say
Savings Account	Do you have a savings account, money market account, or CDS? 1. Yes 2. No 3. Don't know 4. Prefer not to say
Investments	Not including retirement accounts, do you [does your household] have any investments in stocks, bonds, mutual funds, or other securities? 1. Yes 2. No 3. Don't know 4. Prefer not to say
Figure(d) Retirement	Have you ever tried to figure out how much you need to save for retirement? 1. Yes 2. No 3. Don't know 4. Prefer not to say Before you retired did you try to figure out how much you needed to save for retirement? 1. Yes 2. No 3. Don't know 4. Prefer not to say (Note: If a person responded yes to either, they were coded as a 1 that they figure(d) out how much they needed for retirement.)
Non-employer Retirement	Do you [or your spouse/partner] have any other retirement accounts not through an employer, like and IRA, Keogh, SEP, or any other type of retirement account that you have set up yourself? 1. Yes 2. No 3. Don't know 4. Prefer not to say

Table 3: Full Sample Descriptive Statistics

	count	mean	sd
Male	25509	0.4858	0.4998
18-24	25509	0.1231	0.3285
25-34	25509	0.1830	0.3867
35-44	25509	0.1635	0.3698
45-54	25509	0.1962	0.3971
55-64	25509	0.1791	0.3835
65+	25509	0.1551	0.3620
Less than high school	25509	0.0867	0.2813
High School	25509	0.2945	0.4558
Some College	25509	0.3591	0.4797
College	25509	0.1609	0.3675
Post Grad Education	25509	0.0988	0.2983
Married	25509	0.5403	0.4984
Single	25509	0.2928	0.4551
Divorced/Separated	25509	0.1283	0.3345
Widowed/Widower	25509	0.0386	0.1926
Has Children	25509	0.3914	0.4881
Less than $25k	25509	0.2650	0.4414
$25-50k	25509	0.2625	0.4400
$50-75k	25509	0.1882	0.3909
$75-150k	25509	0.2229	0.4162
$150k+	25509	0.0613	0.2399
Self Employed	25509	0.0758	0.2647
Employed	25509	0.4507	0.4976
Not in Labor Force	25509	0.2072	0.4053
Unemployed	25509	0.0911	0.2878
Retired	25509	0.1752	0.3801
White Alone	25509	0.6647	0.4721
Financial Literacy Score	25509	2.8781	1.4656
HS Course Only	22858	0.0415	0.1994
College Course Only	22858	0.0406	0.1973
Employer Course Only	22858	0.0272	0.1628
HS & College Course Only	22858	0.0270	0.1621
HS & Employer Course Only	22858	0.0179	0.1327
College & Employer Course Only	22858	0.0242	0.1536
HS, College, & Employer Course	22858	0.0291	0.1680
No Fin. Lit. Course	22858	0.7926	0.4055
Not Difficult to Cover Bills	24995	0.4101	0.4919
Has Checking Account	25099	0.9031	0.2958
Pays CC in Full	18356	0.4999	0.5000
Doesn't Carry CC Balance	18336	0.4981	0.5000
Not Charged CC Limit Fee	18314	0.9167	0.2763
Figure(d) Retirement Amount	25509	0.3985	0.4896
Emergency fund	24497	0.4164	0.4930
Has Savings Account	25012	0.7403	0.4385
Has Non-Employer Retirement Account	24260	0.2907	0.4541
Has Non-Retirement Investments	23030	0.3636	0.4811
Observations	25509		

Table 4: Short-term Behaviors by Education

	Full Sample		High Education		Low Education			
	Count	Prop.	Count	Prop.	Count	Prop.	Diff.	Signif.
Not Difficult to Cover Bills	24995	0.4101	13544	0.4389	8205	0.3191	0.1199	***
Has Checking Account	25099	0.9031	13596	0.9441	8243	0.8254	0.1188	***
Pays CC in Full	18356	0.4999	10629	0.4864	4698	0.4495	0.0369	***
Doesn't Carry CC Balance	18336	0.4981	10601	0.4764	4708	0.4832	-0.0068	***
Not Charged CC Limit Fee	18314	0.9167	10591	0.9209	4693	0.9010	0.0199	***
Observations	25422		13725		8422			

Standard errors in parentheses
* $p < .1$, ** $p < .05$, *** $p < .01$

Table 5: Long-term Behaviors by Education

	Full Sample		High Education		Low Education			
	Count	Prop.	Count	Prop.	Count	Prop.	Diff.	Signif.
Emergency fund	24497	0.4164	13276	0.4539	8051	0.30374	0.1501	***
Has Savings Account/Money Market Account/CDs	25012	0.7403	13560	0.8082	8203	0.60047	0.2077	***
Has Investments	23030	0.3636	12839	0.3959	7019	0.23123	0.1647	***
Figure(d) Retirement Amount	25509	0.3985	13762	0.4483	8464	0.27169	0.1766	***
Has Retirement Account (not employer)	24260	0.2907	13148	0.3245	7934	0.16824	0.1563	***
Observations	25509		13762		8464			

Standard errors in parentheses
* $p < .1$, ** $p < .05$, *** $p < .01$

Table 6: Short-Term Financial Behaviors (Full Sample)

	(1) Covers Bills	(2) Has Checking Account	(3) Pays CC in Full	(4) No CC Balance	(5) Not Charged CC Limit Fee
Male	0.0366***	-0.0111***	0.0568***	0.0313***	-0.0140***
	(0.009)	(0.003)	(0.010)	(0.010)	(0.005)
White Alone	0.0013	0.0088**	0.0242*	0.0157	0.0171***
	(0.011)	(0.004)	(0.013)	(0.012)	(0.006)
Single	0.0148	-0.0366***	0.0160	0.0081	-0.0077
	(0.013)	(0.006)	(0.015)	(0.015)	(0.006)
Divorced/Separated	-0.0345***	-0.0373***	-0.0458***	-0.0518***	-0.0279***
	(0.013)	(0.007)	(0.016)	(0.016)	(0.009)
Widowed/Widower	-0.0218	-0.0225*	-0.0112	-0.0242	-0.0318*
	(0.021)	(0.013)	(0.025)	(0.024)	(0.017)
Self Employed	-0.0319**	-0.0140**	0.0842***	0.0555***	-0.0165*
	(0.016)	(0.007)	(0.018)	(0.018)	(0.009)
Not in Labor Force	0.0085	-0.0199***	0.0540***	0.0751***	0.0097
	(0.012)	(0.005)	(0.015)	(0.015)	(0.006)
Unemployed	-0.1071***	-0.0631***	-0.0211	0.0132	-0.0179
	(0.017)	(0.009)	(0.024)	(0.024)	(0.011)
Retired	0.0822***	-0.0088	0.1250***	0.1201***	0.0289***
	(0.015)	(0.008)	(0.016)	(0.016)	(0.007)
Number of Children	-0.0623***	-0.0062***	-0.0368***	-0.0363***	-0.0148***
	(0.005)	(0.002)	(0.005)	(0.005)	(0.002)
18-24	-0.0760***	-0.1109***	0.0966***	0.0599**	-0.0997***
	(0.022)	(0.022)	(0.027)	(0.027)	(0.024)
25-34	-0.1103***	-0.0985***	-0.0654***	-0.0944***	-0.1040***
	(0.018)	(0.019)	(0.022)	(0.021)	(0.019)
35-44	-0.1124***	-0.1043***	-0.1600***	-0.1345***	-0.0669***
	(0.017)	(0.020)	(0.020)	(0.020)	(0.017)
45-54	-0.1339***	-0.0707***	-0.1704***	-0.1374***	-0.0495***
	(0.015)	(0.015)	(0.018)	(0.018)	(0.014)
55-64	-0.0930***	-0.0496***	-0.1504***	-0.1152***	-0.0240**
	(0.014)	(0.013)	(0.016)	(0.016)	(0.011)
Less than $25k	-0.3631***	-0.1179***	-0.1519***	-0.0890***	-0.0229**
	(0.011)	(0.012)	(0.018)	(0.018)	(0.009)
$25-50k	-0.2615***	-0.0538***	-0.1459***	-0.1038***	-0.0176**

	(0.010)	(0.009)	(0.014)	(0.014)	(0.007)
$50-75k	-0.1349***	-0.0218**	-0.0889***	-0.0739***	0.0010
	(0.011)	(0.009)	(0.014)	(0.013)	(0.006)
$150k+	0.1584***	-0.0160	0.0889***	0.0774***	0.0093
	(0.019)	(0.014)	(0.018)	(0.018)	(0.008)
Less than high school	-0.1165***	-0.1173***	-0.1139***	-0.0207	-0.0484***
	(0.019)	(0.016)	(0.028)	(0.028)	(0.017)
High School	-0.0393***	-0.0409***	-0.0944***	-0.0646***	-0.0215***
	(0.013)	(0.007)	(0.015)	(0.015)	(0.008)
Some College	-0.0552***	-0.0143**	-0.1289***	-0.1062***	-0.0198***
	(0.012)	(0.006)	(0.013)	(0.013)	(0.006)
Post Grad Education	-0.0051	0.0053	0.0869***	0.0709***	-0.0136
	(0.014)	(0.008)	(0.015)	(0.015)	(0.008)
HS Course Only	0.0323	0.0060	0.0156	-0.0014	-0.0212*
	(0.021)	(0.006)	(0.026)	(0.026)	(0.013)
College Course Only	0.0103	0.0045	-0.0582**	-0.0414*	-0.0005
	(0.020)	(0.008)	(0.023)	(0.023)	(0.010)
Employer Course Only	0.0664**	0.0156	-0.0278	-0.0130	-0.0024
	(0.026)	(0.010)	(0.028)	(0.027)	(0.013)
HS & College Course Only	-0.0008	-0.0355**	0.0116	-0.0110	0.0149
	(0.024)	(0.016)	(0.028)	(0.027)	(0.010)
HS & Employer Course Only	0.0353	0.0066	0.0385	-0.0524	-0.0681***
	(0.031)	(0.011)	(0.034)	(0.035)	(0.022)
College & Employer Course Only	0.0320	-0.0175	-0.0121	-0.0077	-0.0138
	(0.026)	(0.015)	(0.027)	(0.027)	(0.014)
HS, College, & Employer Course	0.0320	0.0008	0.0905***	-0.0245	-0.0371**
	(0.023)	(0.011)	(0.025)	(0.025)	(0.016)
Financial Literacy Score	0.0159***	0.0111***	0.0067*	0.0039	0.0163***
	(0.003)	(0.001)	(0.004)	(0.004)	(0.002)
State Fixed Effects	Yes	Yes	Yes	Yes	Yes
Pseudo R^2	.1516	.2516	.0868	.0569	.1238
Observations	22545	22634	16748	16728	16709

Standard errors in parentheses

* $p < .1$, ** $p < .05$, *** $p < .01$

Table 7: Short-Term Financial Behaviors (Less than HS/ HS Degree)

	(1) Covers Bills	(2) Has Checking Account	(3) Pays CC in Full	(4) No CC Balance	(5) Not Charged CC Limit Fee
Male	0.0326**	-0.0087	0.0568***	0.0425**	-0.0173*
	(0.014)	(0.009)	(0.020)	(0.020)	(0.010)
White Alone	0.0221	0.0046	0.0313	0.0064	0.0379***
	(0.018)	(0.011)	(0.027)	(0.027)	(0.014)
Single	0.0015	-0.0873***	0.0206	0.0177	-0.0272*
	(0.020)	(0.014)	(0.030)	(0.029)	(0.015)
Divorced/Separated	-0.0128	-0.0662***	-0.0210	-0.0502*	-0.0622***
	(0.020)	(0.016)	(0.031)	(0.030)	(0.019)
Widowed/Widower	-0.0350	0.0132	-0.0443	-0.0602	-0.0030
	(0.029)	(0.023)	(0.040)	(0.040)	(0.026)
Self Employed	-0.0074	-0.0375*	0.0834**	0.0491	-0.0262
	(0.027)	(0.020)	(0.036)	(0.037)	(0.019)
Not in Labor Force	0.0179	-0.0340***	0.0098	0.0326	-0.0003
	(0.019)	(0.012)	(0.027)	(0.026)	(0.012)
Unemployed	-0.0629***	-0.1158***	-0.0731**	-0.0155	-0.0077
	(0.021)	(0.019)	(0.037)	(0.038)	(0.017)
Retired	0.0403*	-0.0081	0.0907***	0.0747**	0.0273**
	(0.024)	(0.020)	(0.032)	(0.032)	(0.014)
Number of Children	-0.0574***	-0.0139***	-0.0199**	-0.0254**	-0.0159***
	(0.007)	(0.004)	(0.010)	(0.010)	(0.004)
18-24	-0.0988***	-0.1870***	0.0244	-0.0036	-0.1272***
	(0.030)	(0.044)	(0.051)	(0.050)	(0.045)
25-34	-0.1294***	-0.1634***	-0.1006**	-0.1338***	-0.1556***
	(0.026)	(0.041)	(0.042)	(0.042)	(0.042)
35-44	-0.1270***	-0.1602***	-0.2357***	-0.1921***	-0.0852**
	(0.025)	(0.041)	(0.035)	(0.038)	(0.034)
45-54	-0.1714***	-0.1331***	-0.2462***	-0.2299***	-0.0669**
	(0.021)	(0.035)	(0.031)	(0.033)	(0.027)
55-64	-0.0928***	-0.0723**	-0.1809***	-0.1492***	-0.0412*
	(0.021)	(0.029)	(0.028)	(0.029)	(0.023)

Less than $25k	-0.3361***	-0.1990***	-0.1189***	-0.0665**	-0.0322*
	(0.019)	(0.026)	(0.031)	(0.032)	(0.018)
$25-50k	-0.2292***	-0.1043***	-0.1275***	-0.0995***	-0.0242
	(0.017)	(0.026)	(0.027)	(0.027)	(0.016)
$50-75k	-0.0968***	-0.0296	-0.0234	-0.0269	0.0113
	(0.020)	(0.027)	(0.029)	(0.029)	(0.015)
$150k+	0.2026***	-0.0965	0.0407	0.0632	-0.0033
	(0.055)	(0.064)	(0.054)	(0.053)	(0.027)
Less than high school	-0.0834***	-0.0683***	-0.0208	0.0345	-0.0225
	(0.016)	(0.012)	(0.028)	(0.028)	(0.015)
HS Course Only	0.0438	0.0248*	0.0863**	0.0448	-0.0147
	(0.028)	(0.014)	(0.038)	(0.038)	(0.018)
Employer Course Only	0.0690	0.0653***	-0.0181	0.0144	0.0442***
	(0.052)	(0.025)	(0.062)	(0.060)	(0.016)
HS & Employer Course Only	0.0472	0.0335	0.1978***	0.0017	-0.0692*
	(0.045)	(0.022)	(0.052)	(0.057)	(0.040)
Financial Literacy Score	-0.0010	0.0193***	-0.0027	-0.0148**	0.0086**
	(0.005)	(0.003)	(0.007)	(0.007)	(0.003)
State Fixed Effects	Yes	Yes	Yes	Yes	Yes
Pseudo R^2	.1435	.2324	.0844	.0568	.1443
Observations	7358	7388	4268	4277	4262

Standard errors in parentheses

* $p < .1$, ** $p < .05$, *** $p < .01$

Table 8: Short-term Financial Behaviors (Some College/College Education)

	(1) Covers Bills	(2) Has Checking Account	(3) Pays CC in Full	(4) No CC Balance	(5) Not Charged CC Limit Fee
Male	0.0487***	-0.0122***	0.0512***	0.0194	-0.0062
	(0.012)	(0.003)	(0.013)	(0.013)	(0.006)
White Alone	-0.0135	0.0104**	0.0115	0.0043	0.0105
	(0.015)	(0.004)	(0.016)	(0.016)	(0.007)
Single	0.0163	-0.0197***	0.0105	-0.0055	-0.0085
	(0.018)	(0.006)	(0.020)	(0.020)	(0.008)
Divorced/Separated	-0.0375**	-0.0284***	-0.0477**	-0.0415*	-0.0191*
	(0.018)	(0.007)	(0.022)	(0.022)	(0.011)
Widowed/Widower	0.0086	-0.0658***	0.0138	0.0078	-0.0541**
	(0.031)	(0.022)	(0.035)	(0.035)	(0.027)
Self Employed	-0.0352	-0.0027	0.1049***	0.0703***	-0.0057
	(0.022)	(0.006)	(0.023)	(0.024)	(0.011)
Not in Labor Force	0.0021	-0.0161***	0.0898***	0.1061***	0.0146**
	(0.017)	(0.005)	(0.020)	(0.019)	(0.007)
Unemployed	-0.1431***	-0.0321***	0.0226	0.0332	-0.0282*
	(0.026)	(0.010)	(0.033)	(0.032)	(0.016)
Retired	0.1078***	-0.0025	0.1308***	0.1344***	0.0306***
	(0.021)	(0.007)	(0.022)	(0.022)	(0.009)
Number of Children	-0.0614***	-0.0027*	-0.0512***	-0.0492***	-0.0154***
	(0.007)	(0.002)	(0.007)	(0.007)	(0.003)
18-24	-0.0531*	-0.0610***	0.1065***	0.0800**	-0.0857***
	(0.031)	(0.023)	(0.035)	(0.035)	(0.031)
25-34	-0.0892***	-0.0625***	-0.0712**	-0.0785***	-0.0797***
	(0.026)	(0.021)	(0.029)	(0.029)	(0.024)
35-44	-0.0928***	-0.0756***	-0.1462***	-0.1153***	-0.0563***
	(0.025)	(0.022)	(0.027)	(0.027)	(0.021)
45-54	-0.1039***	-0.0424***	-0.1385***	-0.0922***	-0.0468**
	(0.023)	(0.016)	(0.025)	(0.025)	(0.019)
55-64	-0.0961***	-0.0370***	-0.1453***	-0.1022***	-0.0143
	(0.020)	(0.014)	(0.022)	(0.022)	(0.015)

Less than $25k	-0.3636***	-0.0915***	-0.1750***	-0.1025***	-0.0163
	(0.014)	(0.015)	(0.023)	(0.024)	(0.012)
$25-50k	-0.2565***	-0.0410***	-0.1461***	-0.0902***	-0.0133
	(0.014)	(0.009)	(0.018)	(0.018)	(0.009)
$50-75k	-0.1396***	-0.0222**	-0.1144***	-0.0876***	-0.0030
	(0.015)	(0.009)	(0.017)	(0.017)	(0.008)
$150k+	0.1608***	-0.0067	0.0871***	0.0780***	0.0128
	(0.027)	(0.013)	(0.025)	(0.025)	(0.011)
Some College	-0.0525***	-0.0100***	-0.1268***	-0.1050***	-0.0171***
	(0.012)	(0.003)	(0.014)	(0.014)	(0.005)
HS Course Only	0.0266	-0.0028	-0.0535	-0.0491	-0.0101
	(0.033)	(0.009)	(0.038)	(0.037)	(0.017)
College Course Only	0.0166	-0.0008	-0.0658**	-0.0355	0.0042
	(0.023)	(0.006)	(0.027)	(0.027)	(0.011)
Employer Course Only	0.0918***	0.0008	-0.0627*	-0.0391	-0.0238
	(0.034)	(0.011)	(0.036)	(0.036)	(0.018)
HS & College Course Only	-0.0066	-0.0271**	0.0226	-0.0088	0.0121
	(0.028)	(0.013)	(0.032)	(0.032)	(0.012)
HS & Employer Course Only	0.0261	-0.0047	-0.0847*	-0.0890*	-0.0488*
	(0.044)	(0.015)	(0.046)	(0.046)	(0.026)
College & Employer Course Only	0.0328	-0.0175	-0.0283	-0.0112	-0.0107
	(0.031)	(0.013)	(0.033)	(0.033)	(0.016)
HS, College, & Employer Course	0.0280	-0.0041	0.0990***	-0.0130	-0.0270
	(0.027)	(0.009)	(0.029)	(0.030)	(0.017)
Financial Literacy Score	0.0216***	0.0087***	0.0105*	0.0085	0.0156***
	(0.005)	(0.001)	(0.005)	(0.005)	(0.002)
State Fixed Effects	Yes	Yes	Yes	Yes	Yes
Pseudo R^2	.1306	.1843	.0824	.0556	.1131
Observations	12193	12235	9671	9646	9640

Standard errors in parentheses

* $p < .1$, ** $p < .05$, *** $p < .01$

Table 9: Long-Term Financial Behaviors (Full Sample)

	(1) Emergency Fund	(2) Savings Account	(3) Non-retirement Investments	(4) Figure(d) Retirement	(5) Non-Employer Retirement
Male	0.0172*	-0.0255***	0.0085	-0.0010	-0.0111
	(0.009)	(0.007)	(0.009)	(0.009)	(0.008)
White Alone	-0.0059	-0.0020	0.0504***	-0.0047	0.0496***
	(0.011)	(0.009)	(0.011)	(0.011)	(0.009)
Single	-0.0065	-0.0395***	0.0198	-0.0405***	-0.0106
	(0.013)	(0.010)	(0.013)	(0.012)	(0.011)
Divorced/Separated	-0.0907***	-0.0667***	-0.0529***	-0.0324**	-0.0627***
	(0.013)	(0.012)	(0.013)	(0.013)	(0.011)
Widowed/Widower	-0.0535**	-0.0088	-0.0098	0.0097	0.0009
	(0.021)	(0.019)	(0.022)	(0.022)	(0.019)
Self Employed	0.0567***	-0.0255*	0.0718***	0.0053	0.0920***
	(0.017)	(0.015)	(0.017)	(0.016)	(0.016)
Not in Labor Force	-0.0259**	-0.0789***	-0.0909***	-0.0937***	-0.0635***
	(0.013)	(0.011)	(0.012)	(0.012)	(0.011)
Unemployed	-0.0773***	-0.1374***	-0.0847***	-0.0743***	-0.0385**
	(0.018)	(0.015)	(0.018)	(0.017)	(0.016)
Retired	0.0961***	-0.0246*	0.0316**	0.0069	0.0446***
	(0.015)	(0.014)	(0.015)	(0.015)	(0.013)
Number of Children	-0.0356***	-0.0126***	0.0073	0.0101**	-0.0077*
	(0.005)	(0.004)	(0.005)	(0.004)	(0.004)
18-24	-0.1010***	-0.0201	-0.1469***	-0.1767***	-0.1458***
	(0.022)	(0.020)	(0.019)	(0.019)	(0.015)
25-34	-0.1752***	-0.0823***	-0.1695***	-0.1210***	-0.1495***
	(0.017)	(0.019)	(0.016)	(0.018)	(0.012)
35-44	-0.2191***	-0.0853***	-0.1869***	-0.1422***	-0.1553***
	(0.016)	(0.019)	(0.015)	(0.017)	(0.012)
45-54	-0.2000***	-0.0935***	-0.1547***	-0.1248***	-0.1187***
	(0.015)	(0.017)	(0.015)	(0.015)	(0.012)
55-64	-0.1305***	-0.0416***	-0.0829***	-0.0364**	-0.0555***
	(0.014)	(0.015)	(0.014)	(0.014)	(0.011)
Less than $25k	-0.3409***	-0.3150***	-0.3134***	-0.2254***	-0.2550***
	(0.012)	(0.015)	(0.010)	(0.013)	(0.009)
$25-50k	-0.2399***	-0.1898***	-0.2356***	-0.1518***	-0.1836***

	(0.011)	(0.014)	(0.010)	(0.011)	(0.008)
$50-75k	-0.1250***	-0.0679***	-0.1142***	-0.0783***	-0.0974***
	(0.012)	(0.014)	(0.011)	(0.012)	(0.009)
$150k+	0.1447***	0.0675***	0.1489***	0.0929***	0.1042***
	(0.020)	(0.017)	(0.020)	(0.019)	(0.017)
Less than high school	-0.1904***	-0.2321***	-0.1862***	-0.1428***	-0.1792***
	(0.018)	(0.020)	(0.017)	(0.018)	(0.012)
High School	-0.1162***	-0.0976***	-0.1231***	-0.0941***	-0.1236***
	(0.013)	(0.013)	(0.012)	(0.013)	(0.010)
Some College	-0.1086***	-0.0382***	-0.0978***	-0.0377***	-0.1086***
	(0.012)	(0.011)	(0.011)	(0.012)	(0.009)
Post Grad Education	-0.0095	-0.0037	0.0207	0.0147	0.0176
	(0.015)	(0.015)	(0.015)	(0.015)	(0.013)
HS Course Only	0.0381*	0.0252	0.0127	0.1124***	0.0209
	(0.022)	(0.016)	(0.024)	(0.022)	(0.023)
College Course Only	0.0149	0.0013	0.0207	0.0640***	0.0081
	(0.022)	(0.018)	(0.020)	(0.021)	(0.018)
Employer Course Only	0.0250	0.0518**	0.0533**	0.1349***	0.0523**
	(0.026)	(0.022)	(0.026)	(0.027)	(0.024)
HS & College Course Only	0.0682***	0.0246	0.0486*	0.0481*	0.0216
	(0.026)	(0.022)	(0.026)	(0.025)	(0.021)
HS & Employer Course Only	0.1275***	0.0787***	0.1326***	0.2471***	0.1505***
	(0.033)	(0.022)	(0.036)	(0.032)	(0.036)
College & Employer Course Only	0.0685**	0.1127***	0.0925***	0.1903***	0.1072***
	(0.027)	(0.018)	(0.026)	(0.027)	(0.026)
HS, College, & Employer Course	0.1513***	0.0508**	0.1668***	0.2144***	0.1361***
	(0.024)	(0.020)	(0.025)	(0.024)	(0.025)
Financial Literacy Score	0.0183***	0.0267***	0.0445***	0.0451***	0.0383***
	(0.004)	(0.003)	(0.004)	(0.003)	(0.003)
State Fixed Effects	Yes	Yes	Yes	Yes	Yes
Pseudo R^2	.1430	.1703	.2016	.2330	.2088
Observations	22178	22572	20865	22858	22027

Standard errors in parentheses

* $p < .1$, ** $p < .05$, *** $p < .01$

Table 10: Long-Term Financial Behaviors (Less than HS/HS Education)

	(1) Emergency Fund	(2) Savings Account	(3) Non-retirement Investments	(4) Figure(d) Retirement	(5) Non-Employer Retirement
Male	0.0173	-0.0346**	-0.0058	0.0121	-0.0156
	(0.014)	(0.016)	(0.013)	(0.013)	(0.010)
White Alone	-0.0319*	-0.0087	0.0242	-0.0138	0.0143
	(0.019)	(0.019)	(0.017)	(0.017)	(0.013)
Single	-0.0078	-0.0272	-0.0012	-0.0425**	0.0048
	(0.020)	(0.021)	(0.019)	(0.018)	(0.014)
Divorced/Separated	-0.0856***	-0.0819***	-0.0466***	-0.0392**	-0.0396***
	(0.019)	(0.023)	(0.017)	(0.018)	(0.012)
Widowed/Widower	-0.0599**	-0.0151	-0.0274	0.0015	0.0211
	(0.027)	(0.033)	(0.025)	(0.029)	(0.021)
Self Employed	0.1007***	-0.0109	0.0846***	0.0512*	0.1122***
	(0.030)	(0.030)	(0.029)	(0.028)	(0.026)
Not in Labor Force	-0.0202	-0.0743***	-0.0736***	-0.0346**	-0.0369***
	(0.018)	(0.020)	(0.015)	(0.016)	(0.012)
Unemployed	-0.0509**	-0.1679***	-0.0751***	-0.0119	-0.0357**
	(0.022)	(0.025)	(0.019)	(0.022)	(0.015)
Retired	0.0965***	-0.0165	0.0082	0.0426*	0.0292*
	(0.026)	(0.027)	(0.021)	(0.023)	(0.017)
Number of Children	-0.0309***	-0.0210***	0.0055	0.0094	-0.0028
	(0.007)	(0.008)	(0.006)	(0.006)	(0.005)
18-24	-0.1190***	-0.0709*	-0.1176***	-0.1383***	-0.0877***
	(0.028)	(0.039)	(0.022)	(0.025)	(0.014)
25-34	-0.1665***	-0.1519***	-0.1251***	-0.0950***	-0.0938***
	(0.024)	(0.038)	(0.020)	(0.025)	(0.013)
35-44	-0.2125***	-0.1392***	-0.1486***	-0.1183***	-0.1103***
	(0.020)	(0.037)	(0.017)	(0.023)	(0.010)
45-54	-0.1714***	-0.1439***	-0.1487***	-0.1318***	-0.0950***
	(0.021)	(0.033)	(0.017)	(0.021)	(0.012)
55-64	-0.1247***	-0.0600**	-0.0839***	-0.0502**	-0.0486***
	(0.019)	(0.029)	(0.017)	(0.021)	(0.012)

Less than $25k	-0.2876***	-0.4359***	-0.2235***	-0.1755***	-0.1702***
	(0.020)	(0.027)	(0.016)	(0.020)	(0.013)
$25-50k	-0.1813***	-0.3052***	-0.1717***	-0.1066***	-0.1082***
	(0.018)	(0.029)	(0.014)	(0.018)	(0.010)
$50-75k	-0.0513**	-0.1435***	-0.0866***	-0.0188	-0.0484***
	(0.021)	(0.033)	(0.015)	(0.021)	(0.011)
$150k+	0.1587***	0.0439	0.1782***	0.1085**	0.0763**
	(0.053)	(0.064)	(0.053)	(0.049)	(0.038)
Less than high school	-0.0718***	-0.1215***	-0.0605***	-0.0530***	-0.0601***
	(0.017)	(0.019)	(0.016)	(0.016)	(0.011)
HS Course Only	0.0997***	0.0732***	0.0612**	0.1216***	0.0467*
	(0.029)	(0.028)	(0.028)	(0.029)	(0.024)
Employer Course Only	0.0277	0.1695***	0.0884	0.1585***	0.0874*
	(0.053)	(0.049)	(0.057)	(0.059)	(0.049)
HS & Employer Course Only	0.1712***	0.1539***	0.1993***	0.2630***	0.1660***
	(0.046)	(0.042)	(0.052)	(0.048)	(0.048)
Financial Literacy Score	0.0143***	0.0404***	0.0437***	0.0416***	0.0270***
	(0.005)	(0.006)	(0.005)	(0.005)	(0.003)
State Fixed Effects	Yes	Yes	Yes	Yes	Yes
Pseudo R^2	.1598	.1837	.1901	.1168	.2169
Observations	7258	7361	6339	7518	7173

Standard errors in parentheses

* $p < .1$, ** $p < .05$, *** $p < .01$

Table 11: Long-Term Financial Behaviors (Some College/ College Degree)

	(1) Emergency Fund	(2) Savings Account	(3) Non-retirement Investments	(4) Figure(d) Retirement	(5) Non-Employer Retirement
Male	0.0175	-0.0152*	0.0073	-0.0075	-0.0081
	(0.012)	(0.009)	(0.012)	(0.012)	(0.011)
White Alone	-0.0055	0.0018	0.0584***	-0.0125	0.0582***
	(0.015)	(0.010)	(0.015)	(0.014)	(0.013)
Single	-0.0008	-0.0461***	0.0270	-0.0399**	-0.0173
	(0.018)	(0.013)	(0.018)	(0.017)	(0.017)
Divorced/Separated	-0.0752***	-0.0536***	-0.0418**	-0.0227	-0.0625***
	(0.019)	(0.014)	(0.018)	(0.018)	(0.016)
Widowed/Widower	-0.0295	0.0018	-0.0018	0.0144	-0.0180
	(0.032)	(0.024)	(0.033)	(0.032)	(0.028)
Self Employed	0.0414*	-0.0307*	0.0545**	-0.0281	0.0598***
	(0.022)	(0.017)	(0.023)	(0.022)	(0.022)
Not in Labor Force	-0.0199	-0.0875***	-0.0929***	-0.1268***	-0.0618***
	(0.018)	(0.014)	(0.017)	(0.016)	(0.016)
Unemployed	-0.0821***	-0.1065***	-0.0730***	-0.1303***	-0.0240
	(0.027)	(0.020)	(0.027)	(0.024)	(0.025)
Retired	0.0807***	-0.0327*	0.0310	-0.0191	0.0454**
	(0.021)	(0.017)	(0.020)	(0.020)	(0.019)
Number of Children	-0.0353***	-0.0055	0.0058	0.0059	-0.0103*
	(0.007)	(0.004)	(0.006)	(0.006)	(0.006)
18-24	-0.1115***	0.0011	-0.1601***	-0.2065***	-0.1908***
	(0.031)	(0.022)	(0.027)	(0.028)	(0.021)
25-34	-0.1821***	-0.0564**	-0.1797***	-0.1258***	-0.1740***
	(0.025)	(0.022)	(0.023)	(0.025)	(0.019)
35-44	-0.2421***	-0.0614***	-0.1945***	-0.1506***	-0.1769***
	(0.023)	(0.022)	(0.021)	(0.024)	(0.018)
45-54	-0.2232***	-0.0749***	-0.1435***	-0.1111***	-0.1234***
	(0.021)	(0.021)	(0.021)	(0.022)	(0.018)
55-64	-0.1399***	-0.0353**	-0.0780***	-0.0315	-0.0607***
	(0.020)	(0.017)	(0.020)	(0.020)	(0.017)

Less than $25k	-0.3596***	-0.2436***	-0.3454***	-0.2412***	-0.2929***
	(0.016)	(0.020)	(0.013)	(0.018)	(0.012)
$25-50k	-0.2603***	-0.1411***	-0.2515***	-0.1677***	-0.2201***
	(0.015)	(0.015)	(0.013)	(0.015)	(0.012)
$50-75k	-0.1602***	-0.0445***	-0.1183***	-0.0987***	-0.1246***
	(0.016)	(0.015)	(0.015)	(0.016)	(0.013)
$150k+	0.1182***	0.0681***	0.1470***	0.0689***	0.0899***
	(0.028)	(0.017)	(0.027)	(0.026)	(0.024)
Some College	-0.1094***	-0.0307***	-0.1043***	-0.0338***	-0.1241***
	(0.013)	(0.009)	(0.013)	(0.012)	(0.012)
HS Course Only	-0.0445	-0.0143	-0.0486	0.0913***	-0.0560*
	(0.033)	(0.022)	(0.033)	(0.032)	(0.031)
College Course Only	0.0191	-0.0015	0.0006	0.0589**	0.0173
	(0.024)	(0.016)	(0.024)	(0.024)	(0.023)
Employer Course Only	0.0168	0.0345	0.0343	0.1303***	0.0439
	(0.033)	(0.023)	(0.033)	(0.033)	(0.032)
HS & College Course Only	0.0638**	0.0253	0.0330	0.0435	0.0172
	(0.030)	(0.019)	(0.030)	(0.028)	(0.027)
HS & Employer Course Only	0.0843*	0.0365	0.0354	0.2182***	0.0695
	(0.046)	(0.032)	(0.047)	(0.043)	(0.044)
College & Employer Course Only	0.0694**	0.0896***	0.0908***	0.1850***	0.1164***
	(0.032)	(0.016)	(0.032)	(0.032)	(0.032)
HS, College, & Employer Course	0.1674***	0.0547***	0.1585***	0.2154***	0.1566***
	(0.027)	(0.017)	(0.029)	(0.026)	(0.030)
Financial Literacy Score	0.0178***	0.0192***	0.0397***	0.0411***	0.0373***
	(0.005)	(0.003)	(0.005)	(0.005)	(0.005)
State Fixed Effects	Yes	Yes	Yes	Yes	Yes
Pseudo R^2	.1418	.1375	.1709	.1106	.1948
Observations	11980	12210	11585	12320	11908

Standard errors in parentheses

* $p < .1$, ** $p < .05$, *** $p < .01$