The Effects of Financial Education on the Financial Behaviors of Gen Z, Gen Y, and All Generations

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Abstract

This study investigates the effects of financial education on the financial behaviors among adults in the United States using data from the latest (2018) National Financial Capability Study. The study assess the effects of financial education on financial behaviors with the three measures of financial education: type received (high school, college, workplace, or some combination); hours; and, whether it was required. The effects of financial education are analyzed using three age cohorts: Gen Z (ages 18-24); Gen Y or Millennials (ages 25-34), and adults of all generations (ages 18-65+). The probit analysis appears to show that financial education has positive and significant effects on precautionary savings (having an emergency fund or a savings account) and building wealth (having investments or preparing for retirement). The results are consistent across the three measures of financial education with the three samples of Gen Z, Millennials, and adults in all generations.

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Research about the effects of financial education, or its financial literacy counterpart, on financial behaviors has been conducted for several decades (Bernheim, Garrett, and Maki 2003; Hilgert, Hogarth, and Beverly 2003; Huston 2010; Remund 2010). As studies have accumulated, further investigations have been undertaken to summarize the research findings, either through a literature review (Lusardi and Mitchell 2014) or a meta-analysis (Kaiser and Menkhoff 2017). Such aggregate assessments are quite useful for understanding the research issues and differences across studies and also for drawing broader conclusions about the effects of financial education. What should be remembered, however, is that each financial education study is unique, contextual, and nuanced. The findings from a financial education study may vary based on the group targeted, content taught, type of instruction, program hours, delivery medium, and other factors. New studies of financial education increase our understanding of what might work and how it can be more effective under varying conditions, and at the same time contributes to the pool of potential studies for the summary assessments.

In this spirit of further discovery, this study investigates the effects of financial education on the financial behaviors among adults in the United States. The data from the study come from the recently-released 2018 National Financial Capability Study (NFCS) (FINRA Foundation 2019; Lin et al. 2019) that now includes three instruments for assessing the effects of financial education on financial behaviors. The first contribution of the study, therefore, is to assess the effects of financial education on financial behaviors with the three measures of exposure to or the amount of financial education: (1) the type received (in high school, college, employment, or some combination); (2) the intensity (in hours); and, (3) whether it was required. Only the type received was available for analysis in prior studies with the 2012 and 2015 NFCS data sets (Xiao and O'Neill 2016; Al-Baharani, Weathers, and Patel 2018; Wagner and Walstad 2019), but now measures of intensity and required are available. Together the three measures offer a more comprehensive means for assessing the effects of financial education on financial behaviors than has been possible in past studies.

A second contribution is to add depth and complexity to the data analysis by assessing the effects of financial education based on three different age cohorts. The all adult sample (ages 18-65+) covers all

generations and serves as the reference group to show the overall effects of financial education across a representative national sample, as has been analyzed in previous studies with NFCS data. Two different samples of young adults (ages 18-24 and 25-34) are included in the analysis for comparative purposes to determine if the findings for the two youngest generations differ substantially from what is found for all generations. The ages 18-24 sample are members of Generation Z (Gen Z) whereas the ages 25-34 sample are part of the Generation Y (Gen Y), popularly referred to as Millennials (Kasasa 2019). These young adults are more likely to be affected by the increase in the delivery of financial education that has occurred in the past twenty years or so in high schools (Council for Economic Education 2018; Urban et al. 2018), colleges and universities (Xiao, Serido, Shim 2011; Cude, Danes, and Kabaci 2016), and through employment (Clark, Morrill, and Allen 2012; Kim 2016).

A third contribution is to better justify the selection of the financial behaviors to evaluate the effects of financial education. The reason this issue merits attention is that the likely effects of financial education may change based on the type of financial behavior studied (Hilgert, Hogarth, and Beverly 2003; Miller, et al 2015; Kaiser and Menkhoff 2017; Authors 2019). Some financial behaviors are more routine and simpler, such as paying bills on time or managing a checking account. They often can be learned by doing, or from the feedback given by financial institutions, so financial education is less likely to influence these financial behaviors. Other financial behaviors, however, are more complex and require thinking about and planning for the future, such as saving, investing, or preparing for retirement. These financial behaviors are more likely to be the ones that financial education has the most opportunity to influence.

The investigation uses probit analysis to assess the effects of financial education on four different financial behaviors that are future-oriented and involve planning. The results appear to show that financial education does have positive and significant effects on precautionary savings (having an emergency fund or a savings account) and building wealth (having investments or preparing for retirement). The results seem to hold regardless of which of the three measures of financial education (type, intensity, or required) is used for the assessment. The findings consistently show positive and significant effects of financial education with the samples of Gen Z, Gen Y (hereafter Millennials) and adults of all generations.

The content of the study is organized into several sections. The review of the prior literature that comes next is useful for placing the study in context and offering more explanation of the study's contributions as they relate to that prior literature. It is followed by a detailed description of the NFCS data and the major variables. Then the probit model is described and the major results are presented. Further analysis of the findings focuses on robustness checks to assess whether the findings still hold under different specifications. The study ends with a discussion of the major implications and conclusions.

LITERATURE REVIEW

For well over a decade a debate has been ongoing about the effectiveness of financial education, and financial literacy, in improving financial behaviors. The debate largely targets financial education delivered in the schools, but it sometimes includes financial education taught in colleges or universities or through employment. Early in the debate, arguments were presented that raised doubts about the effectiveness of financial education in contributing to positive financial behaviors or outcomes (Willis 2008). This initial skepticism about the value of financial education and identifiable problems with the rigor of program assessments also were cited as major concerns in several reviews of the early research literature (Gale, Harris, and Levine 2012; Hastings, Madrian, and Skimmyhorn 2013). In addition, a meta-analysis of 201 studies from 1987 to 2013 found minimal effects of financial literacy and financial education on financial behaviors (Fernandes, Lynch, and Netemeyer 2014).

Nevertheless, financial education and financial literacy have long been recognized as being of vital importance to both individuals and society because of their potential to improve financial decision-making, contribute to positive financial outcomes, and aid the functioning of financial markets (Bernheim, Garrett, and Maki 2001; Bernanke 2006; Lusardi and Mitchell 2014; Lusardi, Michaud, and Mitchell 2017). The perceived benefits from financial education and financial literacy are the likely reasons why financial education has been mandated in some form in many public schools in the United States (CEE 2018; Urban et al. 2018) and why nations worldwide have participated in international assessments of financial literacy among youth (Lusardi 2015). Interest also has grown over the years in providing financial education for college or university students given their increasing financial responsibilities related to credit card use,

student loans, and other financial matters (Xiao, Serido, and Shim 2011; Cude, Danes, and Kabaci 2016). Employers too have long recognized the need to provide financial information to worker and educate employees about financial matters, especially related to planning for retirement (Bernheim and Garret 2003; Clark, Morrill, and Allen 2012; Clark, Lusardi, and Mitchell 2017).

More recent reviews of the research literature on the effects of financial education and financial literacy on financial behaviors for both adults and youth report positive outcomes. Lusardi and Mitchell (2014) provide an extensive discussion of research studies that explains how financial literacy matters for sound financial decision-making and what the costs are to individuals and society when there is financial ignorance. In further analysis, Lusardi, Michaud, and Mitchell (2017) develop a stochastic life-cycle model and show that financial knowledge accounts for 30 to 40 percent of the wealth inequality among adults in retirement. The Consumer Financial Protection Bureau (CFPB) also reviewed some 19 research studies on youth financial education conducted since 2000 and concluded that the findings show that "financial education can improve financial knowledge and financial behaviors" (CFPB 2019, p. 2). In addition, Kaiser and Menkhoff (2017) evaluated 126 impact studies using meta-analysis and concluded that that financial education and financial literacy have positive and measurable effects on financial behaviors.

The research reviews are summaries, however, that do not take into full account the many contexts or nuances in how financial education and financial literacy may affect financial behaviors. The impact of financial education and financial literacy will likely differ based on the groups served, the content taught, the duration of the education, whether it is required or voluntary, the quality of the instruction, and many other factors (Totenhagen et. al., 2015; Walstad et al., 2018). Such differentiating factors are acknowledged in the research reviews even if it is not possible to account for them all. For example, Kaiser and Menkhoff (2017) state that the "effects of financial education depend on the target group" (p. 2). The CFPB review (2019) also cautions that effect sizes vary based on the population served, instructional time, and topics covered. One consequence of this extensive heterogeneity is that no one standard exists for effective financial education or its evaluation. As suggested by the above reviews, new studies of the effectiveness

of financial education are worth conducting as they potentially add to our limited understanding of what might work in financial education and how best it might work.

An example of the importance of knowing about each target group for this study is splitting young adults into two age cohorts (18-24 and 25-34). One obvious reason for the division are differences in the stages of life. Young adults ages 18-24 are transitioning from adolescence to adulthood, and have been described as emerging adults (Arnett 2004). In this emerging state, they are assuming more personal responsibility, making more of their own decisions, and learning to manage their personal and financial affairs. In contrast, young adults ages 25-34 are more likely finishing this emerging transition and moving into the more complex mid-life stage that is often focused on developing careers, forming households and relationships, getting married, and having children. A second reason for making the split is the possible influence of generational differences (Seemiller and Grace 2016; Kasasa 2019) that go beyond the typical differences in the stages of life. As one example, Gen Z grew up solely in the era of digital-connectivity (e.g., smartphones, social media, fast internet) whereas Millennials experienced a less-connected digital world and slowly transitioned to it, in most cases. A more relevant example for the purposes of this study, however, is that Gen Z most likely received more financial education (CEE 2018; Urban et al. 2018) during their secondary education than other generations, and it was more recent. In addition, Gen Z may have more interest in personal finance having witnessed the life struggles Millennials faced in the aftermath of the Great Recession and their assumption of student loan debt (Kasasa 2019). The two reasons suggest that splitting young adults into two age cohorts may offer further insights about the effects of financial education that may be masked when only the full adult sample covering all generations is studied.

The research focus on financial behaviors raises another concern for this study. Financial behaviors differ and this difference may be one reason why findings from past studies sometimes shows minimal or no effect of financial education on financial behaviors. In an early study, Hilgert, Hogarth, and Beverly (2003) grouped an extensive set of financial behaviors into four types of financial practices: cash-flow management; credit management; saving; and, investing. They reported that households were more likely to be involved in the simpler and more routine financial behaviors related to cash-flow and credit

management than those related to saving and investing. Wagner and Walstad (2019) used those insights to study the effectiveness of financial education and found that it had the most positive and significant effects on saving and investing behaviors and minimal or mixed effects on money or credit management behaviors. Miller et al (2015) also reported that financial education interventions were more likely to affect some financial behaviors such as saving and not others such as reducing loan defaults. Similarly, Kaiser and Menkhoff (2017) concluded that the effectiveness of financial education may depend on the type of financial behavior, as they found more of an impact on saving than borrowing.

DATA AND VARIABLES

The 2018 NFCS is a nationally representative survey of the financial knowledge, attitudes and behaviors of adults in the United States.[1] It was funded by the Investor Education Foundation of the Financial Industry Regulatory Agency (FINRA) and conducted by ARC Research. The survey has been administered every three years since 2009. The 2018 NCFS survey was administered online with 27,091 adult respondents in the United States between June and October 2018. Approximately 500 individuals completed the survey in each state and the District of Columbia, with oversamples of 1,250 each in Oregon and Washington. Survey quotas per state were met for age, gender, income, ethnicity, and education. The data set includes three sampling weights, one for each level of analysis: national, regional, or state. For this study the national-level weight was used to create a representative sample of the U.S. population in terms of age, gender, ethnicity, education, state, and census region.

The 2018 survey contains about 132 questions most of which were the same as in the 2015 NFCS survey and prior ones. The survey collects data on respondents' demographic characteristics including gender, age, marital status, ethnicity, living situation, income, employment, education, and the number of children. It has ten sections: (1) basic demographics; (2) financial attitudes and behaviors; (3) banking and money management; (4) retirement accounts; (5) government benefits; (6) home and mortgages; (7) credit

[1]Publicly available data, tables, survey questions, methodology explanations, and reports for the 2009, 2012, 2015, and 2018 surveys can be found at http://www.usfinancialcapability.org

cards; (8) other debt and loans; (9) insurance; and, (10) a financial self-assessment with questions about financial literacy and financial education.

Demographics

Table 1 reports the descriptive statistics for the all the variables used in the study based on the weighted 2018 NFCS data. Two sections of the table report the descriptive statistics for the two young adult cohorts. Gen Z (ages 18-24) is the smallest percentage (11.7) of the adult sample because the age range covers only seven years of life whereas Millennials (ages 25-34) represent 18.4 percent of the adult sample, a percentage that is similar to the other ten-year age cohorts of the all adult sample.

[Insert Table 1 about here]

The table also reports the descriptive statistics for the nationally representative sample of all adults (ages 18-65+) covering all generations, which is useful for a comparison and contrast with the Gen Z and Millennial samples. The average age of the adult sample is 47 years old. It is 21 years old for Gen Z and 30 years old for the Millennials. About half of each sample is male (49-52 percent). Although whites account for 64 percent of the adult sample, they represent less than half of the two young adult samples (47-49 percent). In the adult sample, 56 percent are employed, the same percentage as with Gen Z. The most likely reason for this employment similarity is that the adult sample includes retirees who are no longer employed while the Gen Z sample includes many young adults who are pursuing an education and have not yet entered the job market. Among the Millennials, however, 74 percent are employed, most likely because at this stage of life they are of prime working age, in the process of establishing their careers, and seeking to earn money to pay for their growing household expenses. Marriage is prevalent among all adults (51 percent) and Millennials (45 percent), but significantly less so (17 percent) among Gen Z, as would be expected as they are in the early and formative years of establishing long-term relationships. Having children is reported often in the adult sample (36 percent), but the percentage is substantially higher among Millennials (53 percent), an increase that is consistent with prime ages for forming joint households and adding children to them. The percentage having children is substantially lower among Gen Z (26 percent), as many of them have yet to establish joint relationships for starting a family.

The statistics for the income and education breakdowns show that the adult and the Millennials samples are quite similar. For each, about 23-24 percent make less than $25,000 a year, 26-28 percent make $25,000 to $50,000 a year, 19 percent make $25,000 to $75,000, 26 percent make $75,000 to $150,000, and 4-6 percent make more than $150,000 a year. As for education, only 3 percent have less than a high school education, 24-28 percent earned only a high school degree, 28 percent have participated in some college education, 29-34 percent earned at least a college degree, and almost 11 percent participated in post graduate education. By contrast, the income and education characteristics among Gen Z are distinctly different. The distribution of income is skewed lower, as almost half (47 percent) earn less than $25,000 a year. In addition, a larger percentage of Gen Z reported only a high school education or less (42 percent) compared with Millennials (27 percent) or adults (31 percent). The results for income and education for Gen Z, however, are not surprising as its members may not have yet completed their higher education or started working at jobs or on a career.

In general, the demographic data show that the three samples are similar and different in several ways. The adult sample is comparable with the Millennial sample in almost all respects, such as for gender, income, education, and marriage. The main difference is that Millennials are more likely to be employed and to have children, which is consistent with their stage of life in starting careers and families. The Gen Z sample is quite different with the other two samples in almost all these demographic characteristics.

Financial Education Measures

Three measures of financial education constructed for the study that focuses on the exposure to or the amount of financial education received (type, hours, and required). The first measure of type was constructed from two questions from the NFCS survey. One question (survey item M20) asks if financial education was offered by a school or college attended, or at a workplace. The next question (M21, 1-4) is a multiple one that asks when the respondent received that financial education (in high school, college, employment, or the military).[2] The data from the two questions (M20 and M21) were combined to create

[2]Only a few respondents received financial education in the military, so it was combined with employment, as being in the military is a type of employment.

the variable for the type of financial education received that has eight mutually exclusive categories: (1) high school only; (2) college only; (3) employer only; (4) high school and college; (5) high school and employer; (6) college and employer; (7) high school, college, and employer; and, (8) no financial education.

As shown in table 1, financial education was received by 34 percent of Gen Z, 28 percent of Millennials, and 21 percent of all adults. The Gen Z respondents were significantly more likely to state that they received financial education only in high school (17 percent) compared with the other two samples (6 percent). As previously noted, the probable reason is that a large percentage of Gen Z respondents were likely affected by the implementation of more recent state and school district mandates for coursework or instruction in financial education during high school. The other categories for financial education account for relatively small percentages (2 to 6 percent) of each sample. Overall, however, the great majority of each sample reported not receiving any financial education: 66 percent for Gen Z, 72 percent for Millennials, and 79 percent for all generations.

The second measure of financial education was constructed from the responses to a new question that asked how many total hours of financial education were received (M41). The three response categories were 1-2 hours, 3-10 hours, and, more than 10 hours, with a zero hours category created for comparison. What is validating about the responses to the hours variable is the consistency with the response to the previous measure of the type of financial education received. The percentages in the Gen Z, Millennial, and adult samples stating they received one or more hours of financial education (respectively: 35, 28, and 22) is essentially the same as the percentages stating they had received some type of financial education (respectively: 34, 28, and 21). Similarly, the percentages reporting no hours received (respectively 65, 72, and 78) is essentially the same as the percentages reporting no financial education received (64, 72, and 79). Although no NFCS data are available on the type of instruction received by hours, it is reasonable to think that a response of 1-2 hours of financial education is associated with a short seminar or workshop, a response of 3-10 hours of financial education involves multiple seminars or workshops, and a response of 10 or more hours of financial education most likely comes from taking a formal course in personal finance. As for the distribution of hours, Gen Z had a greater percentage of more than 10 hours (21 percent) compare

with the Millennials and all adults (12-13 percent) presumably because of the greater likelihood of the youngest sample taking a course in personal finance in high school.

The third measure of financial education uses another new NFCS question asking if the financial education received was ever required (M40). It is a general measure that could apply to financial education received in high school, college, employment or in some combination of multiple requirements. The differences in the percentages of yes responses among the three samples is most likely due to the average age of the samples, again with the youngest respondents more likely affected by state or school district requirements for financial education than older respondents. The percentages for the three samples show the expected differences from larger to smaller based on the age of a sample: 31 percent for Gen Z; 25 percent for Millennials; and, 16 percent for all generations.

The required variable can be interacted with the two other two measures of financial education to assess the influence of required financial education. For example, a large percentages of Gen Z (91 percent) and Millennials (88 percent) who report receiving some type of financial education also report that financial education was required, but it is only 73 percent among the adult sample. The percentage for adults is lower presumably because many older adults were less affected by requirements for personal finance during their education or employment. Similar percentages for each sample are produced when the required variable is interacted with a variable measuring one or more hours of financial education (87 percent for Gen Z; 88 percent for Millennials, and 74 percent for adults).

Financial Behaviors Measures

Also shown in Table 1 are the four financial behaviors analyzed for this study: (1) having a three-month emergency fund (survey item J5); (2) having a savings account, a money market account, or CDs (B2); (3) having investments in stocks, bonds, mutual funds, or other securities outside of retirement funds (B14); and, (4) figuring out how much they need for retirement (J8).[3] Each one is an indictor about planning

[3] The survey asks respondents who not retired if they have tried to figure out how much money they need for retirement (J8). Those respondents who were retired were asked if they figure out much money they needed for retirement prior to their retirement (J9). For the adult sample, the survey responses include respondents in both cases.

for future financial events. Having an emergency fund is a plan for self-insurance to protect household assets and a livelihood from unexpected financial expenses or a financial shock. By contrast, having a saving account, money market account, or CDs is often part of a plan to accumulate money for a positive financial goal instead of one for insurance or protection to cover unexpected expenses or a financial shock, although savings can serve that purpose too. Investing in financial assets, beyond those allocated to a retirement account, is often part of a long-term financial strategy to build financial wealth. Furthermore, figuring out how much money is needed for retirement can be a complex calculation that is often avoided, as it requires thinking and planning about a financial future.[4]

Table 1 presents the descriptive statistics for each financial behavior, with each variable coded as a 1 if respondents stated they engaged in a positive or prudent financial behavior. In the adult sample, 51 percent have an emergency fund, 73 percent have a saving account, 36 percent have non-retirement investments, and 43 percent tried to figure out how much was needed for retirement. Millennials shows about the same percentage of engagement in each financial behavior (respectively: 47, 70, 36, 40), indicating that these younger adults act more like all adults regarding these financial behaviors. With the Gen Z sample, however, the amount of engagement in each financial behavior is substantially less (respectively: 39, 65, 26, 27), as would be expected given their youth and considerable lack of life experience. Regardless of the start points for each sample, it is noteworthy that the financial behaviors related to wealth accumulation (investment and retirement) are less likely to be engaged in than saving for a purpose (negative or positive), presumably because both wealth accumulation and planning for retirement require thinking about a more distant future.

ESTIMATION AND RESULTS

Probit analysis was used for the estimation. The estimation is nonlinear with coefficients fitted by the maximum likelihood using the function: $P(Y = 1) = \Phi(\beta' x)$, where Φ is the standard normal distribution, x is a vector of explanatory variables, and β is vector coefficients to be estimated. The

[4] For the sake of brevity in the text and tables to follow, shortened descriptions will be used for each financial behavior: (1) has an emergency fund; (2) has a savings account; (3) has investments (non-retirement); and, (4) figured retirement.

dependent variables for the probit regressions are the financial behaviors. They are coded as 1 if a positive financial behavior is evident and zero otherwise. The explanatory variables are financial education and demographics characteristics (gender; race and ethnicity marital status, employment status, age, income, education, and having children). The demographic variables are coded as dummy variables, with the exception of a continuous age variable and an age squared variable for the 18-24 and 25-34 samples.[5] State fixed effects were used in the estimations to control for the variation in geographic location.

Of most importance for this study are the effects of financial education on financial behaviors. The expectation is that financial education is likely to have significant influences on these financial behaviors, as they are not likely to be easily learned by doing or from life experiences until it is often too late to do something about it. The adverse consequences of not planning for a financial future and not taking actions to prepare for it, such as not having an emergency fund to handle a financial shock or not figuring out what is necessary for retirement, or the positive benefits of planning for the future and taking an action, such as having a saving account to meet a financial goal or having investments to build wealth, may often only be realized well in the future. Accordingly, financial education is likely to help people think about and plan for these aspects of their financial future and suggest actions individuals can take to enact those plans.

Given that there are three measures of financial education, four financial behaviors, and three samples for the analysis, a total of 36 probit regressions were estimated. To simplify the reporting of the results, the tables that follow present only the probit marginal effects of the financial education variables on the four financial behaviors in the three samples. The marginal effects for all variables in all regressions, including demographic variables, but omitting the state fixed effects, are found in the appendices A1 to A9.

Type of Financial Education

Table 2 presents the estimated average marginal effects for financial education by type received on the four financial behaviors. The results show that financial education of different types increases the

[5]For the adult sample, age was specified as a dichotomous variable for each of the six discrete categories (18-24; 25-34; 35-44; 45-54; 55-64; and 65 or more) to be consistent with how it was defined in the 2015 NFCS (and in 2012 and 2009) so comparisons could be made between the results for samples in 2018 and 2015.

likelihood of engaging positively each of the four financial behaviors in all three samples. The largest effects, and the ones consistently positive and significant across all four financial behaviors in the Gen Z and Millennial samples, are for the triple combination (high school, college, and employer). They indicate that the most positive effects of financial education appear to be cumulative. Those individual who received the triple combination of financial education were 25 to 29 percentage points more likely to have a three-month emergency fund, 23 to 25 percentage points more likely to have a savings account, 32 to 36 percentage points more likely to have investments outside of retirement, and 37 to 42 percentage points more likely to have figured out how much money they needed for retirement than similar young adults who did not receive financial education. The triple combination also shows significant effects on each of the four financial behaviors for the sample of all adults, but the magnitude of the effects was somewhat smaller (respectively: 22, 11, 25, and 29 percentage points) than for Gen Z and Millennials, suggesting that the passage of time and some different life experiences reduce the direct effects of financial education.

[Insert Table 2 about here]

Financial education for the other types (separately or in two combinations) appears to influence all four behaviors of Gen Z and Millennials in a positive way, even if the results are not completely consistent as they are with the triple combination. To tabulate these potentially influential effects for the other types of financial education, letters are used for each financial behavior (E for emergency fund; S for savings account; I for investment; and R for retirement) and numbers are used for each young adult sample (1 for Gen Z and 2 for Millennials). The results from the tabulation show some significant effects for each of the other categories than just the triple combination: high school only (E1,S1,I2,R2); college only (E1, E2, I1, R2); employer only (E2, I2); high school and college (E1, E2, S1, I2, R1, R2); high school and employer (E2, S1, S2, I1,I2, R2) and college and employer (E1, E2, I2, R2).

A couple of observations pertain to the above results. First, both Gen Z and Millennials appear to benefit from financial education across most of the categories, but the size of the effects are generally smaller than with the triple combination. Second, financial education received separately (high school, college, or employer only) makes less of a difference to financial behaviors, and shows fewer significant

effects, depending on the sample, than financial education received from two sources. This result reinforces the point that financial education seems to be most effective with multiple exposures. A possible and largely unexplored reason why past research sometimes finds financial education to be ineffective is that studies conducted at only one period in time do not account for how financial education received in another period in time may provide a foundation for or serve as reinforcement for financial education received later in life.

That financial education appears to have lasting and cumulative effects over time also is evident in the results for the adult sample. In addition to the triple combination, the marginal effects of financial education on the four financial behaviors is significant in most cases for other combinations of financial education, even if the two-combination effects are less than the three-combination effect. When financial education is considered separately by type (e.g., high school only) it still appears to have a significant influence on at least two or three financial behaviors, albeit a relatively smaller one.

Hours of Financial Education

The analysis now turns to the second measure of financial education, the number of hours received. In general, the results in table 3 indicate that the number of hours of financial education received contributes to the four financial behaviors, confirming the previous results showing that the types of financial education appeared to positively affect the four financial behaviors. Significant marginal effects for all three categories for hours on the four financial behavior are evident for Millennials and adults (12 of 12) and only somewhat less for Gen Z (8 of 12).

[Insert Table 3 about here]

The results for the smallest category for hours (1-2) suggest that even a small amount of time spent in financial education makes a difference in affecting financial behaviors. This finding holds for all four financial behaviors for Millennials and adults. Gen Z, however, appears to benefit from more hours of financial education, except for having an emergency fund, for which 1-2 hours of instruction produces a large marginal effect (20 percentage points). It is difficult to determine what number of hours for financial education is optimal for influencing the four financial behaviors given that the survey has a different number of hours in each category. A comparison of the results for the 3 to 10 hours and the greater than 10 hours

categories, however, suggests diminishing returns exist with hours of financial education as the marginal effects for the greater than 10 hours category are less than the marginal effects for the 3 to 10 hours category in all comparisons with Millennials and adults, and in two of the four comparisons with Gen Z.

Required Financial Education

Financial education can be voluntary, where individuals self-select to receive it or they can be required to take it. Although a requirement for financial education is most likely associated with state mandates for secondary education in public schools (CEE 2018; Urban et al. 2018), for some individuals it could be required in tertiary education at a particular college or university or at a job with a particular employer. It was not possible given the limitation of the NFCS data to make fine distinctions in the samples based on whether the financial education received (high school, college, or employment) was required, and some individuals may have been subject to multiple requirements. Given these complexities, the response to the survey question (M40) about ever being required to take financial education serves as a general indicator of what individuals remember experiencing over a lifetime.

Table 4 shows the estimates from whether the financial education received was required. The results for this third measure of financial education re-confirm what was found with the other two measures. Requiring financial education appears to have significant positive effects on all four financial behaviors for all three samples. The marginal effects range from 11 to 15 percentage points for Gen Z, from 9 to 28 percentage points for Millennials, and from 5 to 17 percentage points for adults.

[Insert Table 4 about here]

ALTERNATIVE EXPLANATIONS

One concern with the findings is how robust they are to changes or other factors that might explain the results. What follows is a brief discussion of five major robustness checks: (1) simplifying the type of financial education; (2) accounting for possible reverse causality; (3) including financial literacy with financial education; (4) splitting the samples based on education or income and re-analyzing the data; and, (5) assessing the stability of the findings for financial education over time. Some known limitations with survey data also are noted for the sake of completeness.

One possible problem with the analysis of the type of financial education received is that the number of respondents in each of the seven categories is small, so this artifact of size may be influencing the effects of financial education on the four financial behaviors. This concern was investigated by aggregating the seven categories for the type of financial education received (high school, college, employment or some combination) into one category for any financial education received. The effects of this aggregate variable for financial education received remained positive and significant for the four financial behaviors when estimated with each sample: Gen Z: 6 to 12 percentage points; Millennials: 6 to 18 percentage points; and, all generations: 5 to 13 percentage points.

Reverse causality (endogeneity) with financial education could possibly explain the findings if engaging more positively in financial behaviors encourages individuals to seek more financial education (Hastings, Madrian, and Skimmyhorn 2013, 358). Some evidence to counter this potential problem is based on the results on whether the financial education received was required (table 4). It indicates that financial education still has significant effects on each financial behavior even if it is required, and thus is not subject to self-selection by the participants. Furthermore, the results for financial education received by type (table 2) or the hours of financial education (table 3) are not likely to be influenced by self-selection as most of each sample who received it were required to take it: Gen Z, 91 percent for type and 88 percent for hours; Millennials, 88 percent for type and hours; and all generations, 73 percent for type and 74 percent for hours.

Counterfactuals were analyzed as a further assessment of reverse causality. For this study, the counterfactuals are those financial behaviors where it may be realistically thought that financial education should have the expected positive effect, but it does not for understandable reasons. Such results undermine the case for reverse causality with financial education. For this study, the counterfactuals were: (1) not having difficulty in a typical month covering expenses and paying bills (survey item J3); and, (2) not occasionally overdrawing a checking account (B4). Although financial education might be expected to have positive effects on such financial behaviors, the results were insignificant or inconsistent with all three samples when analyzed with the 2018 NFCS data. The likely reason is that these financial behaviors are less complex management tasks that often may be learned by doing from the regular feedback to encourage

compliance, so financial education has less opportunity to be influential. By contrast, the four financial behaviors analyzed in the current study are more complex, future-oriented, and more likely to be responsive to financial education given the difficulty of learning them by doing. The analysis showed consistently positive and significant effects for financial education on these financial behaviors (tables 2 to 4). Such a difference in the effects of financial education on some financial behaviors and not others has been reported in other studies (Miller et al 2015; Kaiser and Menkoff 2017; Wagner and Walstad 2019).

Another robustness check investigated whether including a financial literacy variable added any useful information to the estimation beyond what was already reflected in financial education. In this case, the expectation was that it would only slightly reduce the coefficient estimates for financial education, as financial literacy is a goal or product of financial education (Kaiser and Menkoff, 2017, 616). Two measures of financial literacy were studied. The first was a test score constructed from five survey items often used in financial literacy studies (Hastings, Madrian, and Skimmyhorn 2013, 353). The second was a broader measure combining the test scores with a self-rating of financial literacy (Allgood and Walstad 2016). As anticipated, the coefficient estimates for financial education with financial literacy included remained about the same as those reported in tables 2 to 4, so a financial literacy variable contributed little of value. An additional reason for not including a financial literacy variable is that it introduces potential endogeneity into the estimation that is not easily corrected and is to be avoided (Lusardi and Mitchell 2014, 27).

A further concern is whether the findings would hold if the sample is split based on key demographic variables such as the levels of education and income (Author 2019). As for education, the low education group was defined as individuals who were only a high school graduate or did not graduate from high school. The high education group covered those individuals with some college coursework, a college degree, or post graduate degree. As for income, the low and high groups were split at the approximate median income of $50,000. The results from the analysis showed that financial education for all three samples had similar significant and positive effects on the four financial behaviors for both the low and high groups based on the splits for the levels of education and income.

The positive and significant effects of financial education on the four financial behaviors appear to be stable over time. The NFCS survey was administered in 2015 with the same survey item on the type of financial education received, but not with survey items on the other two measures of financial education (hours or required). The same probit analysis used with the 2018 NFCS data was conducted with the 2015 NFCS data for the types of financial education to estimate their effects on the four financial behavior. The results with the 2015 NFCS showed positive and significant effects by type of financial education, especially for combinations of types as found with the 2018 NFCS data (table 2), thus indicating that the results appear to be consistent over time.

Finally, what must be acknowledged is how the limitations of the NFCS survey data and self-reporting may affect the results from the analysis. No data were available on what specific financial education was received by each sample in high school, college, employment, or in combinations. If financial education was received, it is not known whether the instruction was provided in a formal separate course or through informal education. The hours of instruction also are only self-reported and may not be an accurate statement of the number of hours received, but only a rough estimate. The personal finance content that was the focus of the financial education received is a mystery. The time limits for any survey, however, limit the amount of data that can be collected. The desire for more information and concerns related to self-reported data are common limitations with any survey study. They do not diminish the apparent significance and the consistency of the positive finding for financial education with the NFCS data that are available.

IMPLICATIONS AND CONCLUSIONS

A key finding from this study is that financial education appears to make a positive contribution to the four financial behaviors, regardless of whether it is measured by the type of financial education received, the hours of financial education, or whether financial education was required. This analysis with three different measures of financial education offers more extensive support for the results from some previous NFCS studies suggesting that financial education has positive effects on financial behaviors among adults (Xiao and O'Neill 2016; Al-Bahrani, Weathers, and Patel 2019; Authors 2019).

The study conducted the analysis with three different age samples: Gen Z (ages 18-24), Millennials (ages 25-34), and all generations (ages18-65+). The initial expectation was that striking differences would be found in the effects of financial education based on differences in the stages of life or generational influences, such as the recentness of financial education. The initial expectation is not supported by the results. The findings consistently indicate that financial education appears to have substantial effect on the financial behaviors of individuals despite their stages of life or potential generational differences. Financial education seems to have value in shaping financial behaviors across generations.

A related insight about the full effects of financial education over time emerges from the analysis. Financial education received separately, only in high school, college, or through employment, may be limited in its effectiveness at one point in time, but the contribution from financial education appears to be greater when it is received multiple times. The cumulative or total effects of financial education deserve more attention in future studies. The results from each of the three samples seem to confirm that the full benefits of financial education received are not completely evident just in high school, college, or employment. A long-term perspective on financial education should take into account when evaluating the likely effects of a financial education programs. Assessing only how financial education affect financial behaviors today may not fully account for its potential contribution to its effects on financial behavior in the future. The results apply regardless of whether the time period is relatively short, as it is for Gen Z, and to a less extent for Millennials, compared with all generations.

The findings suggest that the intensity of financial education matters, but in some unexpected ways. The benefits from hours of financial education are not linear, as its positive effects were evident for each hourly category (1-2, 3-10, and >10), but not at an increasing rate. What is especially noteworthy is that just one or two hours of financial education appears to have positive effects on financial behaviors related to saving and wealth building. These results indicated that even limited exposure to financial education topics appears to contribute to such financial behaviors as having an emergency fund. This analysis of time devoted to financial education and its likely effects on financial behaviors, however, is too limited in this

study to draw any precise conclusions, but the results indicate that the effects of different amount of instructional time makes a difference and merit further investigation.

Whether the financial education is required seems to matter. The national evidence is slowly starting to accumulate that required or mandated financial education at the precollege level appears to have beneficial effects on financial behaviors over time (Bernheim, Garret, and Maki 2003; Brown et al 2016; CFPB 2019; Harvey 2019; Urban et al 2018; Stoddard and Urban 2019). The recognition of the potential benefits of financial education also may ultimately results in some type of requirement in higher education or employment. For example, a recent report from the U.S. Financial Literacy and Education Commission recommends that institutions of higher education require mandatory financial literacy studies (FLEC, 2019, 21). Various studies of financial education in the workplace also find substantial benefits for employees from some forms of financial education (Bernheim and Garret 2003; Bayer, Bernheim, and Scholz 2009; Clark et al 2012; Lusardi, Michaud, and Mitchell 2019), so it could be that requiring financial education in some form for employees also is worthwhile. The results from this study add to the general evidence that being required to take financial education has benefits for Gen Z, Millennials, and all adults of all generations, regardless of whether they received it in high school, college, or through employment.

Instructional time for financial education is often limited, so more consideration should be given to financial education content that is most likely to influence financial behaviors. The findings from this study are consistent with past studies that have shown that financial education is more likely to influence some financial behaviors, such as saving or wealth building, rather than others such as money management, borrowing, or loan defaults (Miller et al 2015; Kaiser and Menkoff 2017; Wagner and Walstad 2019). The financial behaviors investigated in this study involve planning, and therefore have a degree of complexity requiring future-oriented thinking. Such financial behaviors as establishing and maintaining an emergency fund to prepare for a possible financial shock, setting up a saving program to achieve a financial goal, making investments to build household wealth, or figuring out how much money is needed for retirement appear to be beneficially affected by the financial education received. The findings suggest that the delivery

of financial education for many individuals may have more long-term benefits if financial education focused on topics involving financial planning or decision-making.

One final point that should be remembered from the introduction is that financial education is quite heterogeneous. It will differ based on the content focus, the characteristics of the group targeted, the size of the sample, the length of time for instruction, the quality of instruction, whether it was required or voluntary, the use of technology, and many other factors. Each new study, therefore, potentially adds value by helping understand the contexts and nuances associated with financial education and offering more insights about its effectiveness or potential benefits under different conditions. At the same time, more research will contribute to the growing body of studies used to prepare and update the findings reported in research reviews and meta-analyzes.

REFERENCES

Al-Bahrani, Abdullah, Jamie Weathers, and Darshak Patel. 2019. Racial differences in the returns to financial literacy education. *Journal of Consumer Affairs,* 53 (2): 572–599.

Allgood, Sam, and William B. Walstad. 2016. The effects of perceived and actual financial literacy on financial behaviors. *Economic Inquiry,* 54 (1): 675–697.

Arnett, Jeffrey. J. 2000. Emerging adulthood: A theory of development from late teens through the twenties. *American Psychologist*, 55 (5): 469–480.

Bayer, Patrick J., B. Douglas Bernheim, and John Karl Scholz. 2009. The effects of financial education in the workplace: Evidence from a survey of households. *Journal of Public Economics*, 87:1487–1519.

Bernanke, Ben S. 2006 (May 23). Financial Literacy. Testimony before the Committee on Banking, Housing, and Urban Affairs of the United States Senate. https://www.federalreserve.gov/newsevents/testimony/bernanke20060523a.htm

Bernheim, B. Douglas and D. Garrett. 2003. The effects of financial education in the workplace: Evidence from a survey of households. *Journal of Public Economics*, 87: 1487–1519.

Bernheim, B. Douglas, D. Garrett, & D. Maki. 2001. Education and saving: The long-term effects of high school financial curriculum mandates. *Journal of Public Economics*, 85(3): 435–465.

Brown, Meta, John Grigsby, Wilbert van der Klaauw, Jaya Wen, and Basit Zafar. 2016. Financial education the debt behavior of the young. *Review of Economic Studies,* 29 (9): 2490–2522.

Clark, Robert L., Melinda Sandler Morrill, and Steven G. Allen. 2012. Effectiveness of employer-provided financial information: Hiring to retiring. *American Economic Review,* 102 (3): 314–18.

Clark, Robert L., Annamaria Lusardi, and Oliva S. Mitchell. 2017. Employee financial literacy and retirement plan behavior: A case study. *Economic Inquiry,* 55 (1): 248–259.

Consumer Financial Protection Bureau (CFPB). 2019 (April). A review of youth financial education: Effects and evidence. https://files.consumerfinance.gov/f/documents/cfpb_youth-financial-education_lit-review.pdf

Council for Economic Education (CEE). 2018. Survey of the States: The state of K-12 economic and financial education in the U.S. New York: CEE. https://www.councilforeconed.org/wp-content/uploads/2018/02/2018-SOS-Layout-18.pdf

Cude, Brenda J, Donna Danes, and M.J. Kabaci. 2016. Financial knowledge and financial education of college students. In Jing Jian Xiao (ed.) *Handbook of Consumer Finance Research* (2nd ed.)(pp. 141-53). Switzerland: Springer.

Fernandes, Daniel, John G. Lynch, and Richard G. Netemeyer. 2014. Financial literacy, financial education, and downstream financial behaviors. *Management Science*, 60 (8): 1861–1883.

Financial Literacy and Education Commission (FLEC). 2019. Best practices for financial literacy and education at institutions of higher education. Washington DC: U.S. Treasury Department. https://home.treasury.gov/system/files/136/Best-Practices-for-Financial-Literacy-and-Education-at-Institutions-of-Higher-Education2019.pdf

FINRA Investor Education Foundation. 2019. *National Financial Capability Study*. https://www.usfinancialcapability.org/about.php

Gale, William G., Benjamin H. Harris, and Ruth Levine. 2012. Raising Household Saving: Does Financial Education Work? *Social Security Bulletin,* 72 (2): 39–48

Harvey, Melody. 2019. Impact of financial education mandates on younger consumers' use of alternative financial services. *Journal of Consumer Affairs,* 53 (3): 731–769.

Hastings, Justine S., Brigitte C. Madrian, and William L. Skimmyhorn. 2013. Financial literacy, financial education and economic outcomes. *Annual Review of Economics,* 5 (1): 347–373.

Hilgert, Marianne A., Jeanne M. Hogarth, and Sondra G. Beverly. 2003. Household financial management: The connection between knowledge and behavior. *Federal Reserve Bulletin,* 89: 309–322.

Huston, Sandra J. 2010. Measuring financial literacy. *Journal of Consumer Affairs,* 44 (2): 296–316.

Kaiser, Tim and Lukas Menkhoff. 2017. Does financial education impact financial literacy and financial behavior, and if so, when. *The Word Bank Economic Review,* 31 (3): 611–630.

Kasasa. 2019. Boomer, Gen X, Gen Y, and Gen Z explained. www.kasasa.com/articles/generations/gen-x-gen-y-gen-z .

Kim, Jinhee. 2016. Financial issues of workers. In Jing Jian Xiao (ed.) *Handbook of Consumer Finance Research* (2nd ed.)(pp. 239–249). Switzerland: Springer.

Lin, Judy T., Christopher Bumcrot, Tippy Ulicny, Gary Mottola, Gerri Walsh, Robert Ganem, Christine Kieffer, and Annamaria Lusardi. 2019. *The State of U.S. financial capability: The 2018 National Financial Capability Study.* FINRA Investor Education Foundation. https://www.usfinancialcapability.org/downloads/NFCS_2018_Report_Natl_Findings.pdf

Lusardi, Annamaria. 2015. Financial literacy skills for the 21st century: Evidence from PISA. *Journal of Consumer Affairs,* 49 (3): 639–659.

Lusardi, Annamaria, and Olivia S. Mitchell. 2014. The economic importance of financial literacy: Theory and evidence. *Journal of Economic Literature,* 52 (1): 5–44.

Lusardi, Annamaria, Pierre-Carl Michaud, and Olivia S. Mitchell. 2017. Optimal financial knowledge and wealth inequality. *Journal of Political Economy,* 125 (2): 431–477.

Lusardi, Annamaria, Pierre-Carl Michaud, and Olivia S. Mitchell. 2019. Assessing the impact of financial education programs: A quantitative model. *Economics of Education Review*. https://doi.org/10.1016/j.econedurev.2019.05.006

Miller, Margaret, Julia Reichelstein, Christian Salas, and Bilal Zia. 2015. Can you help someone become financially capable? A meta-analysis of the literature. *The Word Bank Research Observer,* 30: 220–246.

Remund, David L. 2010. Financial literacy explicated: The case for a clearer definition. *Journal of Consumer Affairs,* (2): 276–29516.

Totenhagen, Casey J, Deborah M. Casper, Kelsey M. Faber, Leslie A. Bosch, Christine Bracamonte Wiggs, and Lynne M. Borden. 2015. Youth Financial Literacy: A Review of Key Considerations and Promising Delivery Methods. *Journal of Family and Economic Issues,* 36: 167–191.

Seemiller, Corey and Megan Grace. 2016. *Generation Z Goes to College*. San Francisco: Jossey-Bass.

Stoddard, Christiana and Carly Urban. 2019 (forthcoming). The effects of financial education graduation requirements on postsecondary financing decisions. *Journal of Money, Credit, and Banking*.

Urban, Carly, Maximilian Schmeiser, J. Michael Collins, and Alexandra Brown. 2018. The effects of high school personal financial education policies on financial behavior. *Economics of Education Review*. https://doi.org/10.1016/j.econedurev.2018.03.006

Wagner, Jamie. 2019. Financial education and financial literacy by income and education groups. *Journal of Financial Counseling and Planning,* 30 (1): 132–141.

Wagner, Jamie and William B. Walstad. 2019. The effects of financial education on short-term and long-term financial behaviors. *Journal of Consumer Affairs,* 53 (1): 234–259.

Walstad, William B., Carly Urban, Carlos J. Asarta, Elizabeth Breitbach, William Bosshardt, Julie Heath, Barbara O'Neill, Jamie Wagner, and Jing Jain Xiao. 2017. Perspectives on evaluation in financial education: Landscape, issues, and studies. *Journal of Economic Education,* 48 (2): 93–112.

Willis, Lauren E. 2008. Against financial literacy education. *Iowa Law Review,* 94 (1): 197–285.

Xiao, Jing Jian and Barbara O'Neill. 2016. Consumer financial education and financial capability. *International Journal of Consumer Studies* 40 (6): 712–721.

Xiao Jing.Jian., Joyce Serido, and Soyeon Shim. 2011. Financial education, financial knowledge, and risky credit behavior of college students. In: Lamdin D. (eds.) *Consumer Knowledge and Financial Decisions* (pp. 113–128). New York: Springer.

Table 1: NFCS Descriptive Statistics									
Variables	Gen Z (ages 18-24)			Millennials (ages 25-34)			All Generations (ages 18-65+)		
	count	mean	s.d.	count	mean	s.d.	count	mean	s.d.
Financial Education Received									
High school only	2506	0.172	0.377	4069	0.060	0.238	23305	0.057	0.232
College only	2506	0.048	0.214	4069	0.054	0.226	23305	0.044	0.205
Employer only	2506	0.023	0.150	4069	0.027	0.161	23305	0.025	0.155
High school & college	2506	0.043	0.203	4069	0.037	0.189	23305	0.029	0.169
High school & employer	2506	0.027	0.161	4069	0.021	0.142	23305	0.017	0.130
College & employer	2506	0.011	0.102	4069	0.020	0.140	23305	0.019	0.136
High school, college, & employer	2506	0.016	0.124	4069	0.059	0.235	23305	0.031	0.174
No financial education	2506	0.662	0.473	4069	0.723	0.447	23305	0.778	0.416
Financial Education Hours									
0 hours	2442	0.647	0.478	3984	0.721	0.449	22747	0.782	0.413
1-2 hours	2442	0.054	0.226	3984	0.054	0.225	22747	0.029	0.166
3-10 hours	2442	0.092	0.289	3984	0.102	0.302	22747	0.060	0.238
>10 hours	2442	0.208	0.406	3984	0.124	0.329	22747	0.129	0.335
Financial Education Required?									
Required	2612	0.308	0.462	4422	0.245	0.430	26092	0.161	0.368
Not Required	2612	0.692	0.460	4422	0.755	0.425	26092	0.839	0.365
Demographic variables									
Male	2795	0.499	0.500	4686	0.516	0.500	27091	0.487	0.500
Age	2795	21.20	2.028	4686	29.73	2.840	27091	46.70	17.00
White	2795	0.474	0.499	4686	0.491	0.500	27091	0.636	0.481
Employed	2795	0.564	0.496	4686	0.742	0.437	27091	0.564	0.496
Married	2795	0.166	0.372	4686	0.448	0.497	27091	0.509	0.500
Has Children	2795	0.262	0.440	4686	0.526	0.499	27091	0.358	0.479
Less than $25k	2795	0.469	0.499	4686	0.239	0.426	27091	0.234	0.424
$25-50K	2795	0.267	0.442	4686	0.282	0.450	27091	0.256	0.436
$50-75K	2795	0.129	0.335	4686	0.188	0.391	27091	0.190	0.392
$75-150K	2795	0.114	0.318	4686	0.256	0.437	27091	0.257	0.437
$150K+	2795	0.021	0.144	4686	0.036	0.185	27091	0.063	0.243
Less than high school	2795	0.059	0.236	4686	0.032	0.175	27091	0.029	0.168
High school education	2795	0.358	0.480	4686	0.242	0.428	27091	0.283	0.450
Some college education	2795	0.343	0.475	4686	0.277	0.448	27091	0.284	0.451
College education	2795	0.211	0.408	4686	0.336	0.472	27091	0.292	0.455
Post graduate education	2795	0.028	0.165	4686	0.114	0.318	27091	0.114	0.315
Age 18-24							27091	0.117	0.321
Age 25-34							27091	0.184	0.388
Age 35-44							27091	0.164	0.370
Age 45-54							27091	0.167	0.373
Age 55-64							27091	0.178	0.382
Age 65+							27091	0.191	0.393
Financial Behaviors									
Has an emergency fund	2574	0.388	0.487	4440	0.473	0.499	25858	0.511	0.500
Has a savings account	2659	0.652	0.476	4510	0.703	0.457	26334	0.737	0.440
Has investments (nonretirement)	2290	0.262	0.440	4017	0.357	0.479	24213	0.360	0.478
Figured amount for retirement	2795	0.265	0.441	4686	0.400	0.490	27091	0.435	0.496

Table 2: Marginal Effects of Financial Education Received				
	Has Emergency Fund	Has Savings Account	Has investments (nonretirement)	Figured amount for retirement
Gen Z: ages 18-24				
High school only	0.0919**	0.0750**	0.0729**	0.0168
	(0.036)	(0.031)	(0.036)	(0.032)
College only	0.1260**	-0.0091	0.1423**	0.0714
	(0.063)	(0.055)	(0.058)	(0.058)
Employer only	0.0191	-0.0344	-0.0611	0.0437
	(0.093)	(0.089)	(0.070)	(0.076)
High school & college	0.1788***	0.1393***	0.0958	0.2329***
	(0.064)	(0.053)	(0.062)	(0.064)
High school & employer	0.1266	0.1292**	0.2329***	0.0411
	(0.085)	(0.064)	(0.090)	(0.070)
College & employer	0.2161*	-0.0793	0.0874	0.1614
	(0.128)	(0.127)	(0.113)	(0.114)
High school, college, & employer	0.2567**	0.2474***	0.3398***	0.4314***
	(0.107)	(0.050)	(0.102)	(0.091)
Millennials: ages 24-34				
High school only	0.0170	0.0481	0.1323***	0.1074**
	(0.044)	(0.035)	(0.045)	(0.045)
College only	0.0779*	-0.0045	0.0090	0.0857**
	(0.045)	(0.039)	(0.043)	(0.043)
Employer only	0.1489**	0.0593	0.1945***	0.0628
	(0.058)	(0.047)	(0.071)	(0.062)
High school & college	0.1339**	0.0260	0.1490***	0.1417***
	(0.052)	(0.055)	(0.057)	(0.055)
High school & employer	0.1636**	0.1022*	0.3295***	0.4085***
	(0.068)	(0.055)	(0.075)	(0.054)
College & employer	0.1424**	0.0743	0.2117***	0.1235*
	(0.071)	(0.072)	(0.073)	(0.071)
High school, college, & employer	0.2901***	0.2344***	0.3556***	0.3627***
	(0.043)	(0.018)	(0.052)	(0.043)
All Generations: ages 18-65+				
High school only	0.0385**	0.0520***	0.0502**	0.0502***
	(0.019)	(0.013)	(0.020)	(0.019)
College only	0.0684***	0.0197	0.0500**	0.0796***
	(0.020)	(0.017)	(0.020)	(0.020)
Employer only	0.0404	0.0351	0.0943***	0.1357***
	(0.028)	(0.022)	(0.028)	(0.026)
High school & college	0.1010***	0.0573***	0.1050***	0.1322***
	(0.025)	(0.020)	(0.026)	(0.025)
High school & employer	0.1074***	0.0822***	0.2687***	0.2297***
	(0.035)	(0.023)	(0.035)	(0.031)
College & employer	0.1255***	0.0801***	0.1877***	0.1825***
	(0.032)	(0.026)	(0.031)	(0.030)
High school, college, & employer	0.2223***	0.1179***	0.2509***	0.2967***
	(0.023)	(0.016)	(0.025)	(0.023)
Standard errors in parentheses * $p < .1$, ** $p < .05$, *** $p < .01$				

Table 3: Marginal Effects of Hours of Financial Education				
	Has Emergency Fund	Has Savings Account	Has investments (nonretirement)	Figured amount for retirement
Gen Z: ages 18-24				
1-2 hours	0.2003***	0.0344	0.0608	0.0224
	(0.056)	(0.054)	(0.056)	(0.053)
3-10 hours	0.1219**	0.0072	0.1033**	0.1705***
	(0.051)	(0.045)	(0.048)	(0.047)
>10 hours	0.1105***	0.0869***	0.1307***	0.0584*
	(0.034)	(0.030)	(0.033)	(0.030)
Millennials: ages 25-34				
1-2 hours	0.2027***	0.0796**	0.2005***	0.1683***
	(0.040)	(0.040)	(0.048)	(0.050)
3-10 hours	0.1434***	0.0766***	0.2094***	0.1839***
	(0.035)	(0.029)	(0.036)	(0.034)
>10 hours	0.0838***	0.0527*	0.1965***	0.1526***
	(0.031)	(0.028)	(0.033)	(0.031)
All Generations: ages 18-65+				
1-2 hours	0.1063***	0.0554***	0.1103***	0.1265***
	(0.028)	(0.019)	(0.028)	(0.026)
3-10 hours	0.1094***	0.0530***	0.1759***	0.1784***
	(0.019)	(0.014)	(0.019)	(0.018)
>10 hours	0.0924***	0.0559***	0.1310***	0.1326***
	(0.013)	(0.010)	(0.013)	(0.013)
Standard errors in parentheses * $p < .1$, ** $p < .05$, *** $p < .01$				

Table 4: Marginal Effects of Financial Education Required				
	Has Emergency Fund	Has Savings Account	Has investments (nonretirement)	Figured amount for retirement
Gen Z: ages 18-24				
Required	0.1297***	0.1085***	0.1546***	0.1158***
	(0.028)	(0.025)	(0.027)	(0.025)
Millennials: ages 25-34				
Required	0.1951***	0.0937***	0.2840***	0.2412***
	(0.023)	(0.021)	(0.023)	(0.023)
All Generations: ages 18-65+				
Required	0.0919***	0.0564***	0.1720***	0.1612***
	(0.011)	(0.009)	(0.012)	(0.011)
Standard errors in parentheses * $p < .1$, ** $p < .05$, *** $p < .01$				

Table A1. Marginal Effects of Financial Education Received: Gen Z (ages 18-24)				
Variables	Has Emergency Fund	Has Savings Account	Has Investments (non-retirement)	Figured amount for Retirement
High school only	0.0919**	0.0750**	0.0729**	0.0168
	(0.036)	(0.031)	(0.036)	(0.032)
College only	0.1260**	-0.0091	0.1423**	0.0714
	(0.063)	(0.055)	(0.058)	(0.058)
Employer only	0.0191	-0.0344	-0.0611	0.0437
	(0.093)	(0.089)	(0.070)	(0.076)
High school and college	0.1788***	0.1393***	0.0958	0.2329***
	(0.064)	(0.053)	(0.062)	(0.064)
High school & employer	0.1266	0.1292**	0.2329***	0.0411
	(0.085)	(0.064)	(0.090)	(0.070)
College & employer	0.2161*	-0.0793	0.0874	0.1614
	(0.128)	(0.127)	(0.113)	(0.114)
High school, college, & employer	0.2567**	0.2474***	0.3398***	0.4314***
	(0.107)	(0.050)	(0.102)	(0.091)
Age	-0.0379	0.2875*	0.1652	-0.0734
	(0.156)	(0.149)	(0.151)	(0.139)
Age squared	0.0005	-0.0069**	-0.0039	0.0020
	(0.004)	(0.004)	(0.004)	(0.003)
Male	0.0319	-0.0250	0.1610***	0.0728***
	(0.026)	(0.025)	(0.024)	(0.023)
White	-0.0067	0.0007	0.0243	-0.0090
	(0.026)	(0.026)	(0.026)	(0.023)
Employed	0.0743***	0.0806***	0.0712***	0.0903***
	(0.026)	(0.026)	(0.025)	(0.023)
Married	0.0080	0.0402	0.0376	0.1198***
	(0.037)	(0.036)	(0.035)	(0.035)
Has Children	0.0635*	-0.1435***	0.0111	0.0678**
	(0.033)	(0.033)	(0.030)	(0.030)
Less than $25k	-0.2103***	-0.2209***	-0.1564***	-0.0831**
	(0.041)	(0.042)	(0.036)	(0.037)
$25-50k	-0.0978**	-0.0982**	-0.1022***	-0.0776**
	(0.042)	(0.047)	(0.034)	(0.036)
$50-75k	0.0016	-0.0383	-0.0273	-0.0100
	(0.049)	(0.052)	(0.041)	(0.041)
$150k+	0.1427	-0.0099	0.2214**	0.2304***
	(0.088)	(0.099)	(0.094)	(0.086)
Less than high school education	-0.1833***	-0.3704***	-0.0857	-0.1345***
	(0.049)	(0.063)	(0.056)	(0.043)
High school education only	-0.0643*	-0.1620***	-0.0104	0.0101
	(0.038)	(0.039)	(0.035)	(0.034)
Some college education	-0.0731**	-0.0770**	-0.0785**	-0.0465
	(0.034)	(0.037)	(0.031)	(0.031)
Post graduate education	0.1819**	0.0371	0.1126	0.0558
	(0.076)	(0.071)	(0.076)	(0.074)
Pseudo R^2	.0854	.1317	.1353	.0959
Observations	2344	2404	2097	2506
Standard errors in parentheses * $p < .1$, ** $p < .05$, *** $p < .01$				

Table A2. Marginal Effects of Financial Education Received: Millennials (ages 25-34)				
Variables	Has Emergency Fund	Has Savings Account	Has Investments (non-retirement)	Figured amount for Retirement
High school only	0.0170	0.0481	0.1323***	0.1074**
	(0.044)	(0.035)	(0.045)	(0.045)
College only	0.0779*	-0.0045	0.0090	0.0857**
	(0.045)	(0.039)	(0.043)	(0.043)
Employer only	0.1489**	0.0593	0.1945***	0.0628
	(0.058)	(0.047)	(0.071)	(0.062)
High school and college	0.1339**	0.0260	0.1490***	0.1417***
	(0.052)	(0.055)	(0.057)	(0.055)
High school & employer	0.1636**	0.1022*	0.3295***	0.4085***
	(0.068)	(0.055)	(0.075)	(0.054)
College & employer	0.1424**	0.0743	0.2117***	0.1235*
	(0.071)	(0.072)	(0.073)	(0.071)
High school, college, & employer	0.2901***	0.2344***	0.3556***	0.3627***
	(0.043)	(0.018)	(0.052)	(0.043)
Age	0.1021	-0.0616	0.0683	0.0683
	(0.085)	(0.076)	(0.090)	(0.085)
Age squared	-0.0018	0.0011	-0.0012	-0.0011
	(0.001)	(0.001)	(0.002)	(0.001)
Male	0.1044***	-0.0136	0.1855***	0.0960***
	(0.022)	(0.019)	(0.021)	(0.021)
White	-0.0951***	0.0125	-0.0132	-0.0515**
	(0.022)	(0.019)	(0.023)	(0.021)
Employed	0.1186***	0.0897***	0.1255***	0.1506***
	(0.026)	(0.023)	(0.026)	(0.024)
Married	0.0658***	0.0628***	0.0017	0.0304
	(0.024)	(0.020)	(0.025)	(0.023)
Has Children	-0.0297	-0.0424**	0.0555**	0.0588***
	(0.023)	(0.020)	(0.024)	(0.023)
Less than $25k	-0.2990***	-0.3329***	-0.2835***	-0.2782***
	(0.031)	(0.034)	(0.025)	(0.028)
$25-50k	-0.2576***	-0.1797***	-0.2645***	-0.2102***
	(0.028)	(0.030)	(0.024)	(0.026)
$50-75k	-0.1623***	-0.0656**	-0.1826***	-0.1083***
	(0.029)	(0.031)	(0.025)	(0.028)
$150k+	0.0402	-0.1398**	0.1192*	-0.0789
	(0.065)	(0.070)	(0.065)	(0.055)
Less than high school education	-0.1107	-0.2794***	-0.0382	-0.1588***
	(0.071)	(0.061)	(0.080)	(0.058)
High school education only	-0.0589**	-0.1458***	-0.0400	-0.0590**
	(0.030)	(0.028)	(0.031)	(0.029)
Some college education	-0.0547**	-0.0527**	0.0274	0.0501*
	(0.028)	(0.025)	(0.029)	(0.027)
Post graduate education	-0.0156	0.0189	0.0863**	0.0366
	(0.034)	(0.032)	(0.034)	(0.033)
Pseudo R^2	.1414	.1686	.2072	.1548
Observations	3916	3966	3573	4069
Standard errors in parentheses * $p < .1$, ** $p < .05$, *** $p < .01$				

Table A3. Marginal Effects of Financial Education Received: All Generations (ages 18-65+)				
Variables	Has Emergency Fund	Has Savings Account	Has Investments (non-retirement)	Figured amount for Retirement
High school only	0.0385**	0.0520***	0.0502**	0.0502***
	(0.019)	(0.013)	(0.020)	(0.019)
College only	0.0684***	0.0197	0.0500**	0.0796***
	(0.020)	(0.017)	(0.020)	(0.020)
Employer only	0.0404	0.0351	0.0943***	0.1357***
	(0.028)	(0.022)	(0.028)	(0.026)
High school and college	0.1010***	0.0573***	0.1050***	0.1322***
	(0.025)	(0.020)	(0.026)	(0.025)
High school & employer	0.1074***	0.0822***	0.2687***	0.2297***
	(0.035)	(0.023)	(0.035)	(0.031)
College & employer	0.1255***	0.0801***	0.1877***	0.1825***
	(0.032)	(0.026)	(0.031)	(0.030)
High school, college, & employer	0.2223***	0.1179***	0.2509***	0.2967***
	(0.023)	(0.016)	(0.025)	(0.023)
Age 18-24	-0.2009***	-0.1202***	-0.1154***	-0.1860***
	(0.017)	(0.018)	(0.016)	(0.016)
Age 25-34	-0.2040***	-0.1702***	-0.1195***	-0.1591***
	(0.016)	(0.017)	(0.014)	(0.015)
Age 35-44	-0.2774***	-0.2049***	-0.1928***	-0.1848***
	(0.015)	(0.017)	(0.013)	(0.014)
Age 45-54	-0.2775***	-0.2021***	-0.2023***	-0.1456***
	(0.014)	(0.016)	(0.011)	(0.014)
Age 55-64	-0.1565***	-0.1032***	-0.1173***	-0.0431***
	(0.014)	(0.014)	(0.012)	(0.013)
Male	0.0700***	-0.0099	0.1091***	0.0624***
	(0.009)	(0.007)	(0.008)	(0.008)
White	0.0082	0.0264***	0.0387***	0.0138
	(0.010)	(0.008)	(0.010)	(0.010)
Employed	0.0184*	0.0634***	0.0259**	0.0625***
	(0.010)	(0.009)	(0.010)	(0.010)
Married	0.0388***	0.0402***	0.0021	0.0608***
	(0.010)	(0.008)	(0.010)	(0.010)
Has Children	-0.0717***	-0.0397***	-0.0064	0.0090
	(0.011)	(0.009)	(0.010)	(0.010)
Less than $25k	-0.3904***	-0.3686***	-0.3065***	-0.2905***
	(0.012)	(0.015)	(0.010)	(0.012)
$25-50k	-0.2340***	-0.2061***	-0.2218***	-0.1834***
	(0.012)	(0.013)	(0.010)	(0.011)
$50-75k	-0.1167***	-0.0888***	-0.1177***	-0.1025***
	(0.013)	(0.013)	(0.010)	(0.012)
$150k+	0.1172***	0.0230	0.1450***	0.0670***
	(0.020)	(0.019)	(0.019)	(0.019)
Less than high school education	-0.1957***	-0.2703***	-0.1556***	-0.1882***
	(0.029)	(0.029)	(0.028)	(0.027)
High school education only	-0.0527***	-0.0782***	-0.0566***	-0.0779***
	(0.012)	(0.011)	(0.011)	(0.011)
Some college education	-0.0780***	-0.0332***	-0.0584***	-0.0327***
	(0.011)	(0.010)	(0.011)	(0.011)
Post graduate education	0.0207	0.0174	0.0755***	0.0754***
	(0.015)	(0.013)	(0.014)	(0.014)
Pseudo R^2	.1455	.1629	.1508	.1275
Observations	22,483	22,825	21,113	23,305
Standard errors in parentheses * $p < .1$, ** $p < .05$, *** $p < .01$				

Table A4. Marginal Effects of Financial Education Hours: Gen Z (ages 18-24)				
Variables	Has Emergency Fund	Has Savings Account	Has Investments (non-retirement)	Figured amount for Retirement
1-2 hours	0.2003***	0.0344	0.0608	0.0224
	(0.056)	(0.054)	(0.056)	(0.053)
3-10 hours	0.1219**	0.0072	0.1033**	0.1705***
	(0.051)	(0.045)	(0.048)	(0.047)
>10 hours	0.1105***	0.0869***	0.1307***	0.0584*
	(0.034)	(0.030)	(0.033)	(0.030)
Age	-0.0458	0.3206**	0.2025	-0.0792
	(0.158)	(0.152)	(0.153)	(0.141)
Age squared	0.0007	-0.0077**	-0.0047	0.0022
	(0.004)	(0.004)	(0.004)	(0.003)
Male	0.0317	-0.0130	0.1616***	0.0784***
	(0.026)	(0.026)	(0.024)	(0.023)
White	-0.0092	-0.0051	0.0176	-0.0066
	(0.027)	(0.027)	(0.026)	(0.024)
Employed	0.0705***	0.0791***	0.0690***	0.0883***
	(0.026)	(0.026)	(0.025)	(0.023)
Married	0.0087	0.0371	0.0420	0.1172***
	(0.037)	(0.037)	(0.035)	(0.036)
Has Children	0.0610*	-0.1427***	0.0072	0.0670**
	(0.033)	(0.033)	(0.030)	(0.030)
Less than $25k	-0.2109***	-0.2142***	-0.1558***	-0.0804**
	(0.041)	(0.043)	(0.037)	(0.038)
$25-50k	-0.0949**	-0.0900*	-0.1055***	-0.0861**
	(0.043)	(0.048)	(0.035)	(0.036)
$50-75k	0.0139	-0.0357	-0.0295	-0.0134
	(0.050)	(0.053)	(0.042)	(0.042)
$150k+	0.1581*	0.0042	0.2153**	0.2347***
	(0.090)	(0.098)	(0.093)	(0.086)
Less than high school education	-0.1959***	-0.3739***	-0.1020*	-0.1529***
	(0.047)	(0.062)	(0.055)	(0.041)
High school education only	-0.0801**	-0.1643***	-0.0163	-0.0212
	(0.037)	(0.039)	(0.034)	(0.033)
Some college education	-0.0747**	-0.0703*	-0.0726**	-0.0489
	(0.035)	(0.038)	(0.031)	(0.031)
Post graduate education	0.1969***	0.0439	0.1167	0.0461
	(0.076)	(0.071)	(0.077)	(0.074)
Pseudo R^2	.0912	.1281	.1306	.0889
Observations	2287	2344	2042	2442
Standard errors in parentheses * $p < .1$, ** $p < .05$, *** $p < .01$				

Table A5. Marginal Effects of Hours of Financial Education: Millennials (ages 25-34)				
Variables	Has Emergency Fund	Has Savings Account	Has Investments (non-retirement)	Figured amount for Retirement
1-2 hours	0.2027***	0.0796**	0.2005***	0.1683***
	(0.040)	(0.040)	(0.048)	(0.050)
3-10 hours	0.1434***	0.0766***	0.2094***	0.1839***
	(0.035)	(0.029)	(0.036)	(0.034)
>10 hours	0.0838***	0.0527*	0.1965***	0.1526***
	(0.031)	(0.028)	(0.033)	(0.031)
Age	0.1135	-0.0458	0.0808	0.0942
	(0.086)	(0.078)	(0.090)	(0.085)
Age squared	-0.0020	0.0008	-0.0014	-0.0015
	(0.001)	(0.001)	(0.002)	(0.001)
Male	0.1178***	-0.0096	0.1959***	0.1084***
	(0.022)	(0.019)	(0.022)	(0.021)
White	-0.0982***	0.0037	-0.0143	-0.0541**
	(0.022)	(0.019)	(0.023)	(0.021)
Employed	0.1147***	0.0949***	0.1334***	0.1539***
	(0.026)	(0.024)	(0.026)	(0.024)
Married	0.0599**	0.0569***	0.0010	0.0278
	(0.024)	(0.021)	(0.025)	(0.023)
Has Children	-0.0197	-0.0369*	0.0622**	0.0712***
	(0.024)	(0.021)	(0.024)	(0.023)
Less than $25k	-0.3141***	-0.3557***	-0.2915***	-0.2868***
	(0.031)	(0.034)	(0.025)	(0.027)
$25-50k	-0.2733***	-0.2076***	-0.2744***	-0.2289***
	(0.027)	(0.031)	(0.023)	(0.025)
$50-75k	-0.1761***	-0.0851***	-0.1844***	-0.1180***
	(0.029)	(0.032)	(0.025)	(0.027)
$150k+	0.0395	-0.1448**	0.1204*	-0.0753
	(0.064)	(0.070)	(0.063)	(0.054)
Less than high school education	-0.1315*	-0.2862***	-0.0158	-0.1490**
	(0.071)	(0.061)	(0.083)	(0.059)
High school education only	-0.0766**	-0.1466***	-0.0339	-0.0623**
	(0.030)	(0.028)	(0.031)	(0.028)
Some college education	-0.0608**	-0.0420*	0.0410	0.0583**
	(0.027)	(0.025)	(0.029)	(0.027)
Post graduate education	-0.0186	0.0127	0.0848**	0.0194
	(0.035)	(0.033)	(0.035)	(0.033)
Pseudo R^2	.1386	.1577	.2015	.1446
Observations	3836	3888	3494	3984
Standard errors in parentheses * $p < .1$, ** $p < .05$, *** $p < .01$				

Table A6. Financial Education Hours: All Generations (ages 18-65+)				
Variables	Has Emergency Fund	Has Savings Account	Has Investments (non-retirement)	Figured amount for Retirement
1-2 hours	0.1063***	0.0554***	0.1103***	0.1265***
	(0.028)	(0.019)	(0.028)	(0.026)
3-10 hours	0.1094***	0.0530***	0.1759***	0.1784***
	(0.019)	(0.014)	(0.019)	(0.018)
>10 hours	0.0924***	0.0559***	0.1310***	0.1326***
	(0.013)	(0.010)	(0.013)	(0.013)
Age 18-24	-0.2141***	-0.1234***	-0.1315***	-0.2026***
	(0.017)	(0.018)	(0.016)	(0.015)
Age 25-34	-0.2079***	-0.1704***	-0.1243***	-0.1657***
	(0.016)	(0.017)	(0.014)	(0.015)
Age 35-44	-0.2799***	-0.2047***	-0.1974***	-0.1897***
	(0.015)	(0.017)	(0.013)	(0.014)
Age 45-54	-0.2814***	-0.2010***	-0.2064***	-0.1509***
	(0.014)	(0.016)	(0.012)	(0.014)
Age 55-64	-0.1577***	-0.1013***	-0.1202***	-0.0458***
	(0.014)	(0.014)	(0.012)	(0.013)
Male	0.0715***	-0.0090	0.1117***	0.0650***
	(0.009)	(0.007)	(0.008)	(0.009)
White	0.0057	0.0242***	0.0357***	0.0094
	(0.010)	(0.009)	(0.010)	(0.010)
Employed	0.0179*	0.0633***	0.0280***	0.0629***
	(0.011)	(0.009)	(0.010)	(0.010)
Married	0.0374***	0.0412***	0.0004	0.0599***
	(0.010)	(0.008)	(0.010)	(0.010)
Has Children	-0.0682***	-0.0408***	-0.0043	0.0136
	(0.011)	(0.009)	(0.010)	(0.010)
Less than $25k	-0.3957***	-0.3737***	-0.3099***	-0.2922***
	(0.012)	(0.015)	(0.010)	(0.012)
$25-50k	-0.2418***	-0.2124***	-0.2285***	-0.1898***
	(0.012)	(0.013)	(0.010)	(0.011)
$50-75k	-0.1218***	-0.0925***	-0.1233***	-0.1060***
	(0.013)	(0.013)	(0.011)	(0.012)
$150k+	0.1189***	0.0236	0.1456***	0.0712***
	(0.020)	(0.019)	(0.019)	(0.019)
Less than high school education	-0.2093***	-0.2750***	-0.1561***	-0.1900***
	(0.029)	(0.029)	(0.028)	(0.026)
High school education only	-0.0613***	-0.0770***	-0.0536***	-0.0845***
	(0.012)	(0.010)	(0.011)	(0.011)
Some college education	-0.0797***	-0.0317***	-0.0541***	-0.0314***
	(0.011)	(0.010)	(0.011)	(0.011)
Post graduate education	0.0211	0.0152	0.0752***	0.0705***
	(0.015)	(0.013)	(0.014)	(0.014)
Pseudo R^2	.1453	.1621	.1497	.1237
Observations	21952	22287	20613	22747
Standard errors in parentheses * $p < .1$, ** $p < .05$, *** $p < .01$				

Table A7. Financial Education Required: Gen Z (ages 18-24)				
Variables	Has Emergency Fund	Has Savings Account	Has Investments (non-retirement)	Figured amount for Retirement
Required	0.1297***	0.1085***	0.1546***	0.1158***
	(0.028)	(0.025)	(0.027)	(0.025)
Age	-0.0206	0.2816*	0.1618	-0.0612
	(0.151)	(0.146)	(0.148)	(0.135)
Age squared	0.0001	-0.0069**	-0.0038	0.0017
	(0.004)	(0.003)	(0.003)	(0.003)
Male	0.0241	-0.0221	0.1567***	0.0816***
	(0.025)	(0.025)	(0.023)	(0.022)
White	-0.0138	0.0138	0.0289	-0.0165
	(0.026)	(0.026)	(0.024)	(0.022)
Employed	0.0817***	0.0920***	0.0666***	0.0913***
	(0.025)	(0.025)	(0.024)	(0.022)
Married	0.0126	0.0462	0.0447	0.1207***
	(0.037)	(0.036)	(0.033)	(0.035)
Has Children	0.0333	-0.1401***	-0.0075	0.0670**
	(0.033)	(0.033)	(0.028)	(0.029)
Less than $25k	-0.1763***	-0.2148***	-0.1287***	-0.0849**
	(0.040)	(0.042)	(0.036)	(0.035)
$25-50k	-0.0806**	-0.0829*	-0.0819**	-0.0747**
	(0.041)	(0.046)	(0.034)	(0.034)
$50-75k	0.0166	-0.0570	-0.0026	-0.0150
	(0.048)	(0.052)	(0.042)	(0.039)
$150k+	0.1478*	-0.0149	0.2537***	0.2528***
	(0.088)	(0.099)	(0.094)	(0.085)
Less than high school education	-0.2027***	-0.3991***	-0.1092**	-0.1435***
	(0.045)	(0.061)	(0.049)	(0.039)
High school education only	-0.0954***	-0.1772***	-0.0220	-0.0249
	(0.036)	(0.038)	(0.032)	(0.032)
Some college education	-0.0620*	-0.0980***	-0.0708**	-0.0535*
	(0.033)	(0.036)	(0.030)	(0.029)
Post graduate education	0.1738**	0.0016	0.0975	0.0491
	(0.071)	(0.073)	(0.074)	(0.073)
Pseudo R^2	.0786	.1349	.1367	.0966
Observations	2457	2516	2204	2612
Standard errors in parentheses * $p < .1$, ** $p < .05$, *** $p < .01$				

Table A8. Financial Education Required: Millennials (ages 25-34)				
Variables	Has Emergency Fund	Has Savings Account	Has Investments (non-retirement)	Figured amount for Retirement
Required	0.1951***	0.0937***	0.2840***	0.2412***
	(0.023)	(0.021)	(0.023)	(0.023)
Age	0.0522	-0.0765	0.0738	0.0896
	(0.081)	(0.074)	(0.084)	(0.079)
Age squared	-0.0009	0.0013	-0.0013	-0.0014
	(0.001)	(0.001)	(0.001)	(0.001)
Male	0.1102***	-0.0137	0.1870***	0.0946***
	(0.021)	(0.018)	(0.020)	(0.020)
White	-0.0864***	0.0167	-0.0191	-0.0516**
	(0.021)	(0.018)	(0.022)	(0.020)
Employed	0.1075***	0.1096***	0.1178***	0.1610***
	(0.024)	(0.022)	(0.025)	(0.023)
Married	0.0577**	0.0481**	-0.0015	0.0210
	(0.023)	(0.020)	(0.024)	(0.022)
Has Children	-0.0205	-0.0294	0.0390*	0.0576***
	(0.023)	(0.020)	(0.023)	(0.022)
Less than $25k	-0.2986***	-0.3509***	-0.2663***	-0.2693***
	(0.028)	(0.033)	(0.024)	(0.026)
$25-50k	-0.2566***	-0.2090***	-0.2431***	-0.1976***
	(0.026)	(0.030)	(0.022)	(0.025)
$50-75k	-0.1578***	-0.0935***	-0.1511***	-0.1038***
	(0.027)	(0.031)	(0.024)	(0.026)
$150k+	0.0711	-0.1164*	0.1598***	-0.0269
	(0.061)	(0.068)	(0.062)	(0.053)
Less than high school education	-0.1246*	-0.2713***	-0.0570	-0.1605***
	(0.067)	(0.058)	(0.073)	(0.054)
High school education only	-0.0655**	-0.1462***	-0.0467	-0.0636**
	(0.028)	(0.027)	(0.029)	(0.027)
Some college education	-0.0586**	-0.0444*	0.0194	0.0412
	(0.025)	(0.024)	(0.026)	(0.026)
Post graduate education	0.0033	0.0239	0.0854***	0.0477
	(0.033)	(0.031)	(0.032)	(0.031)
Pseudo R^2	.1425	.1633	.2155	.1586
Observations	4255	4309	3878	4422
Standard errors in parentheses * $p < .1$, ** $p < .05$, *** $p < .01$				

Table A9. Financial Education Required: All Generations (ages 18-65+)				
	Has Emergency Fund	Has Savings Account	Has Investments (non-retirement)	Figured amount for Retirement
Required	0.0919***	0.0564***	0.1720***	0.1612***
	(0.011)	(0.009)	(0.012)	(0.011)
Age 18-24	-0.2137***	-0.1124***	-0.1422***	-0.2092***
	(0.016)	(0.017)	(0.014)	(0.014)
Age 25-34	-0.2221***	-0.1729***	-0.1355***	-0.1761***
	(0.015)	(0.016)	(0.013)	(0.013)
Age 35-44	-0.2845***	-0.2041***	-0.1960***	-0.1946***
	(0.014)	(0.016)	(0.012)	(0.013)
Age 45-54	-0.2847***	-0.2055***	-0.2028***	-0.1533***
	(0.013)	(0.015)	(0.011)	(0.013)
Age 55-64	-0.1585***	-0.1008***	-0.1120***	-0.0512***
	(0.013)	(0.013)	(0.011)	(0.012)
Male	0.0716***	-0.0067	0.1099***	0.0678***
	(0.008)	(0.007)	(0.008)	(0.008)
White	0.0066	0.0281***	0.0363***	0.0058
	(0.010)	(0.008)	(0.009)	(0.009)
Employed	0.0182*	0.0637***	0.0207**	0.0609***
	(0.010)	(0.008)	(0.010)	(0.009)
Married	0.0395***	0.0386***	-0.0017	0.0565***
	(0.010)	(0.008)	(0.009)	(0.009)
Has Children	-0.0726***	-0.0379***	-0.0120	0.0050
	(0.010)	(0.008)	(0.010)	(0.010)
Less than $25k	-0.3976***	-0.3745***	-0.3118***	-0.3030***
	(0.011)	(0.014)	(0.009)	(0.011)
$25-50k	-0.2408***	-0.2096***	-0.2249***	-0.1894***
	(0.011)	(0.012)	(0.009)	(0.010)
$50-75k	-0.1219***	-0.0932***	-0.1238***	-0.1085***
	(0.012)	(0.012)	(0.010)	(0.011)
$150k+	0.1180***	0.0333*	0.1555***	0.0834***
	(0.019)	(0.017)	(0.018)	(0.018)
Less than high school education	-0.2121***	-0.2787***	-0.1791***	-0.1983***
	(0.028)	(0.028)	(0.026)	(0.025)
High school education only	-0.0693***	-0.0833***	-0.0630***	-0.0882***
	(0.011)	(0.010)	(0.010)	(0.010)
Some college education	-0.0757***	-0.0371***	-0.0572***	-0.0341***
	(0.011)	(0.009)	(0.010)	(0.010)
Post graduate education	0.0295**	0.0173	0.0714***	0.0707***
	(0.014)	(0.012)	(0.013)	(0.013)
Pseudo R^2	.1473	.1652	.1526	.1273
Observations	25150	25555	23614	26092
Standard errors in parentheses * $p < .1$, ** $p < .05$, *** $p < .01$				