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Persistence of the Racial Financial Literacy Gap. Can Parental and Formal Financial Education Bridge the Gap?

Abstract:
Racial differences in returns to financial literacy education are dependent on the source of respective education. Using the National Financial Capability Study (NFCS) data we identify five education sources: parental, high school, college, employer, and military. Our results indicate that the financial literacy scores for minorities are 9-16 percentage points lower than whites. Formal financial literacy education increases financial literacy scores between 3-6.1 percentage points. College level financial literacy education exhibits higher returns for whites than minorities. Receiving financial education from parents increases financial literacy scores by 1.7 percentage points, however, the returns to parental education depreciate as minorities age, whereas they persist for whites.

JEL classification: J15, D14, A20, I3
Keywords: financial literacy, financial literacy education, racial gap

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INTRODUCTION

Why does a racial financial literacy gap exist? Purported reasons extend from insufficient parental guidance to poor access to financial literacy education. We find the racial difference in returns to financial literacy education is indeed dependent on the source of financial education, but with persistent degrees of variation within the context of equal access while holding education and other pertinent demographics constant. Further, we find that parental dissemination of financial information displays an equal impact for whites and minorities, except the impetus depreciates more rapidly for minorities relative to whites. Hence, even with "equal" access to financial literacy education, the financial literacy gap persists.

Providing financial literacy education contributes to an increase in financial knowledge and thus presumably better financial behaviors.[2] However, the specifics of returns to financial literacy education has not been fully explored. Al-Bahrani, Weathers, and Patel (forthcoming) use financial literacy scores to confirm positive returns to financial literacy education but find that these results vary by race. Whites appear to benefit more from financial literacy education than their minority counterparts. These results hold two implicit assumptions: (1) the population has access to equitable quality of financial literacy education and (2) the quality of financial literacy education is consistent across all financial education sources. Financial literacy education quality is complicated to measure due to the various sources and types of financial education programs (Fox, Bartholomae, and Lee (2005)). So, it is imperative to identify and analyze distinctions in the sources of financial literacy education to further understand the racial gap in financial literacy scores. Furthermore, we must distinguish whether there are different returns to each education source and how these returns vary by race.

Our research is critical to policy makers interested in narrowing the racial wealth gap by changing overall financial behaviors through financial literacy education. In the past 20 years we have seen an increase in mandates of financial literacy courses at the high school level; 17 states currently require personal finance education in high school. Just recently, the U.S. Department of Education published a notice listing 11 priorities with financial literacy education appearing in part d. of the 4th priority:

[2] Al-Bahrani, Weathers, and Patel (forthcoming); Wagner and Walstad (2018); Harvey (2017); Walstad, Urban, Asarta, Breitbach, Bosshardt, Heath, O'Neill, Wagner, and Xiao (2017); Asarta, Hill, and Meszaros (2014); Lusardi and Mitchell (2011a); Lusardi and Mitchell (2011b); Lusardi, Mitchell, and Curto (2010)

> *Supporting instruction in personal financial literacy, knowledge of markets and economics, knowledge of higher education financing and repayment (e.g., college savings and student loans), or other skills aimed at building personal financial understanding and responsibility.*

This widely accepted assumption that we can uniformly impact financial behavior through blanket financial literacy education is flawed and as more schools inevitably add financial literacy curriculum, it is imperative that we work to clarify the details of how financial knowledge is cultivated in formal settings. It is also important to examine the value of financial knowledge acquired at home and any variations of impact by race. If we ignore the racial differences in the returns to financial literacy education, the financial literacy gap will continue to grow, thus further widening the racial wealth gap.

We contribute to the literature on financial education by disaggregating financial literacy education to formal/informal sources and measuring returns of financial literacy education both by source and all possible source combinations. Using the National Financial Capabilities Study (NFCS) data (2015), we define formal financial literacy education as education received in high school, college, from an employer, and/or while a member of the military. Walstad et al. (2017) provides an in-depth summary of research examining the available programs and benefits of these formal venues. Wagner and Walstad (2018) find formal financial education sources lead to an increase in positive financial behaviors. However, their research neglects the role of financial education received from parents. In our study, we identify whether respondents receive financial literacy education from their parents, which we define as the informal source.

Using the NFCS data, we find that minorities' financial literacy scores are 6-16 percentage points lower than whites. We confirm that financial literacy education increases financial literacy scores, but by decomposing the source of financial literacy education, we find an overall difference in impact. High school education leads to a 6.6% increase in the financial literacy score, compared to 6.5% for employer education, and 4.5% at the college level. Our results support the increase in state level interest for initial exposure to financial literacy education before college. Thus, policy makers interested in impacting financial behaviors by increasing financial literacy can do so with financial literacy mandates at the high school level.

Although we corroborate the overall efficacy of financial literacy education, we do not find differences in the returns to financial literacy education by source. Thus, financial literacy education is effective at the high school, college, and employer level. However, we do find that

the returns to financial literacy at the college level are higher for whites than for minorities. The racial difference in the returns to financial literacy education reported by Al-Bahrani, Weathers, and Patel (2018) appear to be driven by differences at the college level.

Additionally, we find that financial literacy is disseminated through parental education. Parents discussing financial topics with their kids increases financial literacy scores on average by 2%. We find no evidence that the returns to parental education vary by race overall, however, our results do indicate racial differences in how parental education impacts financial literacy scores across the age distribution. Minority financial literacy scores are impacted by parental influence at the younger age groups, however as individuals age, the returns to informal education disappear. For whites, the influence of parental education persists with age. This result eliminates the idea of inferior intergenerational transfer of financial knowledge among minorities as a possible explanation for the increasing racial wealth gap and points to other possible explanations such as systemic bias.

LITERATURE REVIEW

Measuring the returns to financial literacy education is complex since there is no standardized financial literacy course. Variation in the returns to financial literacy education could be due to differences in teacher quality, curriculum structure, method of knowledge assessment, and participant age (Wagner and Walstad (2018)). Nonetheless, the consensus is that financial literacy education increases financial knowledge.[3]

The returns to financial literacy education does lead to changes in financial behaviors. Lusardi, Michaud, and Mitchell (2017) find that financial literacy accounts for 30-40% of the retirement wealth inequality. Increasing financial knowledge impacts wealth accumulation. Harvey (2017) finds that individuals residing in states that mandate financial literacy education are less likely to use Alternative Financial Services (AFS) such as check-cashing, rent-to-own financing, pawn shop services, auto title loans, tax refund anticipation loans, and payday loans. She finds that the introduction of the mandate reduces the probability of using AFS by 6%, with a slightly higher reduction (7%) for minorities and underrepresented populations.

[3] e.g. Al-Bahrani, Weathers, and Patel (forthcoming); Wagner and Walstad (2018); Asarta, Hill, and Meszaros (2014); Harter and Harter (2009); Lusardi and Mitchell (2007)

Wagner and Walstad (2018) show that formal financial literacy education—defined as education received in high school, college or from an employer[4]—impacts financial behavior. However, they find a more pronounced effect on long term financial behaviors rather than short term behaviors, concluding the effect on short term behaviors is mitigated by way of monthly feedback (i.e. late fees, penalties, etc.). Penalties or consequences for long term behaviors are not realized until later in life and thus individuals don't receive immediate feedback to correct their behavior. Consequently, structuring financial literacy education with a focus on changing long-term financial behaviors may prove more beneficial.

Gale and Levine (2010) provide a summary of research on the existing types of financial literacy education but do not discuss the returns to each type. They detail the research on employer-based education and suggest that workplace financial education tends to be narrowly focused on retirement saving behaviors. Further, Bernheim and Garret (2003) show that financial literacy education at work helps lower income families increase their participation in retirement savings. The authors do not discuss the impact of the education on overall financial literacy but do however suggest that since employer-based education tends to be remedial, we should not expect an increase in overall financial literacy.

There is mixed evidence surrounding the effect of formal education and intergenerational transfer of financial literacy knowledge on financial behaviors. In an international study of high school students, Chambers, Asarta, and Farley-Ripple (forthcoming) revealed that most of students' financial knowledge is explained by parental characteristics and that financial literacy education at school (i.e. formal education) does not explain financial literacy knowledge. However, Breitbach and Wagner (forthcoming) examine financial literacy for incoming college freshman and find that parents impact financial literacy both directly and indirectly. They find that students who reported discussing finances with their parents were more likely to have high financial literacy scores. The measure used is a self-reported Likert scale. On a scale of 1-5 students reported whether they agreed or disagreed that their parents discussed financial literacy. Roughly 45 percent. They find that discussing finances with parents decreases the probability of placing on the lower end of the financial literacy distribution and increases the probability of placing on the higher end of the financial literacy distribution. Further, when students perceived that their parents were financially knowledgeable, they scored higher on the financial literacy test.

[4] Includes military.

In our research we extend the analysis of financial literacy education sources to a larger sample representative of the US population. We identify the different types of education sources by formality and determine returns to financial literacy education by both source and race.

DATA

National Financial Capabilities Study

The 2015 National Financial Capabilities Study (NFCS) includes data on 27,564 individuals from across the U.S. The sample includes 500 respondents from each state. The data cover samples from California, Illinois, New York, and Texas. The survey includes demographic information, financial behaviors, financial outlook, and their responses to the "Big Five" and "Big Three" financial literacy questions designed by Lusardi and Mitchell (2007). The survey also includes questions about access and participation in formal financial literacy education and whether respondents learned about financial topics from their parents.

Summary Statistics

Table 1 provides summary statistics for the variables we use in this study. Our measure of financial literacy is based on the participants score on the "Big Five" financial literacy questions. The questions focus on understanding the relationship between bonds and interest rates, compound interest, diversification, real rates of returns, and loan maturity.[5] The average respondent scored 60% on the financial literacy questions. On average, white respondents scored 12% higher than minorities on the same test; this difference is statistically significant. However, minorities are more likely to have access to financial literacy education, with 41% of minorities being offered financial literacy education compared to only 32% of whites. We also find that 27% of minorities, compared to 22% of whites, participate in the offered financial literacy education. Therefore, the financial literacy gap exists even though minorities have more access to financial education, and presumably receive more financial literacy education.[6]

The sample is relatively equally divided between male and female and equally distributed across age. Minorities are more likely to be in the age group of 25-34, while whites are more likely to be 65+. Therefore, the white sample is relatively older, and are more likely to be retired relative

[5] See appendix B for questions and answers.
[6] NFCS does not provide attrition rate data.

to minorities.[7] The majority of our sample works full time. Minorities are more likely to be single and living with parents compared to whites. This finding is likely correlated with the younger age of minorities compared to whites. The income and education distribution are equal across the race groups; the majority of respondents are in the 50-75K individual income range where the U.S. average pre-tax income per "consumer unit", as of 2015, is $69,629.[8]

[Insert Table 1]

Measuring Financial Literacy Education

In Table 2 we decompose the types of financial literacy education sources and various combinations. Our financial literacy education categories are similar to Wagner and Walstad (2018). We organize and report categories by respondents' receipt of financial literacy education as follows: high school education only, college education only, employer education only, high school and college, high school and employer, college and employer, and finally all three, high school, college, and employer.[9] There are 24,729 individuals that responded to the inquiry regarding access to formal financial literacy education, of which 77% reported no receipt of any formal education. There are 4.48%, 5.39%, and 2.6% that reported receiving financial education from high school only, college only, and employer only, respectively. A total of 12.48% of respondents that did receive formal education only received it from one source. Those with two sources of education account for a total of 7.49%. The high school and college combination comprise 3.28%, college and employer at 2.61%, and high school and employer at 1.6%. Those that received education from all formal sources compose 3.41% of the sample.

[Insert Table 2]

We contribute to the research by extending our categories to also include informal education. Out of the 27,564 responses, 46% reported that they received financial literacy

[7] "National and state-level findings are based on data from the 2015, 2012 and 2009 NFCS State-by-State Surveys, each of which were nationwide online surveys of over 25,000 American adults. Findings from the survey are weighted to be representative of Census distributions according to the American Community Survey. National figures are weighted to be representative of the national population in terms of age, gender, ethnicity, education and Census Division." http://www.usfinancialcapability.org/about.php

[8] https://www.bls.gov/news.release/cesan.nr0.htm

[9] Employer-based includes the military.

education from their parents. In Table 2, we report the mean financial literacy scores for each educational category. For formal education, we observe the highest financial literacy scores are participants that received financial literacy education through the college and employer combination. They scored 77% on the financial literacy test. Those without any formal education scored 58% on the financial literacy test. Respondents that only received parental financial education scored 61% on average. This is slightly higher than the average score of 59% and higher than the 58% reported by individuals without formal education.

We also report racial differences in the financial literacy scores by education type in Table 2. We find that minority financial literacy scores are statistically lower relative to whites for all education categories. Minorities without any formal financial education score 50% compared to 61% for whites. Among the respondents that receive financial literacy education in high school, whites score 11 percentage points higher than minorities and the difference is greater at the college level at 16 percentage points. This trend persists for all formal education categories. The difference in financial literacy score for minorities and whites that received financial literacy education from parents is a statistically significant 12 percentage point difference. The racial financial literacy gap persists across formal, informal, and no education.

METHODOLOGY

To estimate the returns to each financial literacy source we estimate the following equation using OLS.

$$Y_i = \beta_0 + \beta_i X_i + \varphi W_i + \tau F_i + \tau P_i + \varepsilon, \quad (1)$$

where Y_i is the measure of individual *i*'s financial literacy knowledge as measured by their percentage performance on the "Big Five" financial literacy questions. The vector X_i includes demographic, income, education, marital status, employment status, and family structure variables. The dummy variable W_i identifies white respondents. The vector F_i includes the formal financial literacy education categories and P_i is a dummy variable indicating whether parental financial literacy education was provided.

RESULTS

Regressions 1-3 in Table 3 report the coefficients from the OLS estimation of the financial literacy score for the full sample, for minorities, and for whites, respectively. We find that parental

education increases financial literacy scores by 1.7 percentage points compared to those that did not receive any financial education from their parents. We do find a positive financial literacy education effect on overall financial literacy, however, the returns to education vary by source, ranging between 5.8-6.6%. Receiving education in high school increases financial literacy scores by 6.6 percentage points, college by 4.5, and employer education by 6.1. The combination of high school/college leads to an increase of 6.6 percentage points, and college/employer education leads to an increase 5.8 percentage points. The omitted category is respondents with no financial education from any formal source.

[Insert Table 3]

In regressions 2 and 3 we separate the minority and white samples to test the returns to financial education by education source for each of the racial categories. Our findings support Al-Bahrani Weathers, and Patel (2018), who find financial literacy education has higher returns for whites than minorities. The white coefficient is higher than the minority, however the difference is not statistically significant, with the exception for college level education. The racial difference in the returns to financial literacy education is driven by the coefficient of the college only category. The return to financial literacy education for minorities in college is a 2.6 percentage point increase in scores on average compared to a 5.5 percentage point increase for whites. The results are statistically different from each other. The college only category is the financial education source with the highest participation, with 5.39% of those receiving financial literacy education reporting that they received financial education through college only. The racial difference in the returns to financial literacy education found in Al-Bahrani, Weathers, and Patel (2018) can be directly attributed to the financial literacy education provided at the college level. All other education categories have a positive return that is statistically equal across the racial groups.

Informal education increases financial literacy scores by 1.7 percentage points overall. For minorities, the return is 1.1 percentage points and for whites it is 2.0 percentage points. These results are statistically equal, and consequently there is no evidence that differences in parental financial literacy education is the driving force behind the financial literacy gap (and consequently the racial wealth gap). There are no statistically significant differences in intergenerational transfer of financial knowledge. Ascribing the cause of the racial wealth gap to differences in financial

literacy and family structure is a myth (Darity et al. (2018)). While Hamilton and Darity (2017) do agree that the financial acumen of blacks is relatively less than that of whites, they suggest the difference is not due to education, but lack of household assets required to learn how to manage funds. Their claim suggests that the usefulness of financial literacy education is in many ways dependent on wealth or income. This endogeneity complicates the analysis of measuring the returns to financial literacy education.

Lusardi, Michaud, and Mitchell (2017) provide a model whereby financial knowledge is endogenously determined, suggesting that individuals choose how much financial literacy to accumulate. In their model they do not make a distinction between formal or informal education. Their results suggest that the racial financial literacy gap may exist due to optimal choice behavior and individual investment in financial knowledge. In their model, financial literacy explains 30-40% of the wealth gap between those that invest in financial knowledge and those that choose to remain uninformed. Meier and Sprenger (2013), suggest that the determinant of investment in financial literacy can be attributed to differences in time preferences. The selection into financial literacy education is a limitation of our research and we acknowledge that we cannot control for it.

In Table 2 we show lower financial literacy scores for minorities regardless of education type. Therefore, although the returns are equal, initial financial literacy levels are different. Increasing financial literacy education does increase financial literacy, but it will not help narrow the racial financial literacy gap alone. Our results support financial education increases financial literacy scores, that minorities have lower financial literacy scores, and finally, parental financial education is equally productive for minorities and whites. Any difference in racial returns to financial literacy education are solely due to college level education.

We cannot identify any reasons why college level financial literacy education benefits whites more than minorities with our data. However, these results have implications to racial difference in financial behaviors. Kakar, Daniels, and Petrovaska (2018) find that minorities accumulate student debt at higher rates than whites. Stoddard and Urban (2018) find that high school financial literacy mandates allow students to make better financial decisions with respect to student loan acquisition. Therefore, the lower level of financial literacy for minorities can lead to differences in behavior that lead to increasing racial wealth gap through the accumulation of student loans.

Table 3 also provides the results for the other control variables. We find that males consistently outperform females in financial literacy, scoring 8 percentage points higher. The gender financial literacy gap is narrower in the minority sample, with males scoring 6.9 percentage points higher than females compared to an 8.4 percentage point difference in the white sample. However, those results are not statistically significant.

Education level and financial literacy education are positively correlated. Professional degrees are the omitted category in our regressions. Individuals that did not complete high school scored 24.3 percentage points lower on the financial literacy test compared to those with professional degrees. For high school graduates the difference is 16.7 percentage points lower than professional degree holders. The coefficients are -9.2 and -9.8 percentage points for respondents with some college and associate degree holders, respectively. Bachelor's degree holders have a score that is only 2.1 percentage points lower.

Divorced or separated individuals score 3.5 percentage points higher than married couples. Both widowed and single individuals scored higher than married couples with 2.4 and 1.6 percentage point differences, respectively. Those that identified themselves as home makers scored 1.6 percentage points lower than employed respondents.

Finally, there is a positive relationship between income and financial literacy. The omitted category is income greater than $150,000. The coefficient for individuals making less than $15,000 per year indicates a score 15.6 percentage points lower than those making more than 150K. This coefficient decreases as income increases. Thus, the financial literacy gap appears to contract in varying degrees with respect to income. Moving from the 25-35K to the 35-50K bracket, the coefficient decreases, in absolute terms from 12.6 to 8.2 percentage points. Finally, those making between 100-150K only score 1.4 percentage points less than those making more than 150K.

The income coefficients are more interesting when compared between the minority and white samples. The rate at which the financial literacy score increases across the income distribution is higher for minorities than it is for whites. The coefficients are statistically different between the race categories. Our results support the Hamilton and Darity (2017) and Darity et al. (2018) claims that financial literacy differences are likely due to differences in available assets. We find that as income increases, the financial literacy gap decreases. Financial literacy scores are 50% on the lower end of the income distribution and they are as high as 66% for high income earners.

Robustness Analyses

To identify the role of formal and informal education we repeat the estimation for each age cohort. We report the results in Table 4 for the full sample, and Tables 5 and 6 for the minority and white samples, respectively.

[Insert Table 4]

[Insert Table 5]

[Insert Table 6]

Results in Table 4 indicate that whites outperform minorities on the financial literacy test in every age group. Respondents that received high school financial literacy education outperform those without formal education in every age group except the 35-44 group. College financial education increases the financial literacy score for those in age cohorts of 45 and above. Employer financial literacy education increases the financial literacy scores for all age groups except younger individuals in the 18-25 age group. Parent education helps increase financial literacy for younger individuals compared to those without parent education. The coefficient on parents is 4.4 percentage points for 18-24 years old. It decreases to 2.6 percentage points for the 25-34 group. For those older than 35 years old, parent education does not increase their financial literacy score. The results indicate that the influence of parents depreciates with age. Our results are in line with the findings of Breitbach and Wager (forthcoming), and Chambers, Asarta, and Farley-Ripple (forthcoming). Both studies find that financial literacy scores increase when parents discuss finances with college and high school students, respectively. While we find that the value of parental education is present for younger groups, it does decrease with age.

In Table 5, we estimate the model for the minority group. Here we are interested in identifying how parental education impacts financial literacy across the age distribution. We find that parental education is only significant for the 18-24 age group. However, in Table 6, when we estimate the same model for the white sample, we find that the parental education coefficient is positive and significant for four of the six age cohorts. Thus, indicating that the role of parental education is more persistent for whites than for minorities across the age distribution.

Limitations

Though our analysis links financial literacy education, and the source of education, to overall financial literacy knowledge, there are a few limitations to the available data. First, we encounter a measurement issue within the definition of financial literacy education. Program requirements lack consistent definition which makes it difficult to measure the direct impact of financial literacy education. Similarly, the true return to informal education cannot be measured when a standard characterization of parental financial education does not exist. Another challenge is self-selection bias. Individuals interested in financial literacy are more likely to select into financial literacy education (Hastings, Madrian, and Skimmyhorn (2013)), either formally or informally. The choice to invest in financial literacy education can be endogenous as predicted by Lusardi, Michaud, and Mitchell (2017). A causal determination of the impact of financial literacy education on financial literacy and financial behaviors is therefore difficult to determine.

Until recently, researchers have assumed a positive causal relationship between financial literacy knowledge and better financial behavior. Willis (2011) suggests that the evidence linking financial literacy education to financial behaviors is weak. However, a recent paper by Skimmyhorn (2016) uses a natural experiment to identify and confirm the positive causal effect of financial literacy education on financial behaviors. Using variations in state level policies mandating high school financial education, Stoddard and Urban (2018), find that financial high school education reduces the use of high cost student debt, reduces credit card use, and reduces the number of hours students spend working while in college.

Finally, the "Big Five" questions may be racially biased, making performance comparison between whites and minorities problematic. The persistence of the white financial literacy advantage increases speculation about the quality of the instrument measuring financial literacy knowledge across racial and demographic groups. While the "Big Five" questions are convenient and have been used often in research, there is no evidence that they are inclusive. There is evidence that standardized measures of knowledge like the MCAT (Davis, Dorsey, Franks, Sackett, Searcy, and Zhao (2013)) ACT and SAT (Kane (1998)) are racially and gender biased. However, there has been no examination of the potential biases in the "Big Five" financial literacy questions.

CONCLUSION

Our research examines the returns to financial literacy education. We contribute to the field by disaggregating the financial literacy education sources and by including informal education at

the household level. Individuals can obtain financial literacy education in high school, college, via their employer, at home, or any combination thereof. Research examining the returns to financial literacy education finds that the returns are different by race. We confirm that those differences exist for college level education only. College level financial literacy education has higher returns for whites than for minorities. We find no evidence of variation in the returns to financial literacy education for high school, or employer education.

We also find that parental financial literacy education helps increase financial literacy scores 1-2 percentage points. However, we find no evidence that the returns to parental education vary by race. We do find evidence that the impact of parental financial education depreciates faster for minorities than for white. The financial literacy scores for whites are more likely to be influenced by parental education as they age. While for minorities, the impact is only evident for younger age groups. There is no evidence of racial difference in the intergenerational transmission of financial literacy. Attempts to attribute the growing racial wealth gap to differences in parental understanding of financial literacy that is passed down through informal education is not supported by our results.

If the racial financial literacy and racial wealth gaps are correlated, then financial literacy education will do little to narrow that gap.

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Appendix A[a]

Variable	Description	
Actual Literacy %	Dependent variable	Actual Financial Literacy Percentage; (sum of correct answers to 5 literacy questions)/ total questions. Questions listed in Appendix B.
High School Only	Independent variables	Participant received financial education in high school only
College Only		Participant received financial education in college only
Employer Only		Participant received financial education from employer and/or military only
High School/ College		Participant received financial education in both high school and college
High School/ Employer		Participant received financial education in both high school and from employer and/or military
College/ Employer		Participant received financial education in both college and from employer and/or military
All Formal Education Sources		Participant received financial education from all formal sources
Parents Only		Participant received financial education parents only
White		Race; 1=white alone; 0=non-white
Male	Gender	1=male; 0=nonmale
Child	# of financially dependent children	Range 0-4; 4 encapsulates 4+ children
Income Drop	Large unexpected income drop in past 12 months	1=household experienced a large unexpected income drop in past 12 months; 0 = no income drop OR don't know OR prefer not to disclose
Age 18-24	Age groups	18-24 years old; not included as an individual control group in regressions
Age 25-34		25-34 years old
Age 35-44		35-44 years old
Age 45-54		45-54 years old
Age 55-64		55-64 years old
Age 65+		65+ years old
< High School	Highest level of education completed	Did not complete high school
= High School		High school graduate with high school diploma
GED		High school graduate with GED or alternative credential
Some College		Some college completed, but no degree
Associates		Associate's degree
Bachelors		Bachelor's degree
Postgrad		Post graduate degree; not included as an individual control group in regressions
Married	Marital status	Married; not included as an individual control group in regressions
Single		Single
Div/separated		Divorced or separated
Widowed/er		Widowed or widower

Self Employed	Current employment or work status	Self employed
Full Time		Work full time for an employer (or the military); not included as an individual control group in regressions
Part Time		Work part time for an employer (or the military)
Homemaker		Homemaker
Student		Full-time student
Disabled		Permanently sick, disabled, or unable to work
Unemployed		Unemployed or temporarily laid off
Retired		Retired
Live Alone	Current living arrangements	The only adult in the household
Live With Significant Other		Live with spouse/partner/significant other; not included as an individual control group in regressions
Live With Parents		Live with parents
Other Living Arrangement		Live with other family, friends, or roommates
Income < $15k	Approximate annual household income including wages, tips, investment income, public assistance, income from retirement plans, etc.	Less than $15,000
$15-25k		At least $15,000 but less than $25,000
$25-35k		At least $25,000 but less than $35,000
$35-50k		At least $35,000 but less than $50,000
$50-75k		At least $50,000 but less than $75,000
$75-100k		At least $75,000 but less than $100,000
$100-150k		At least $100,000 but less than $150,000
$150k+		$150,000 or more; not included as an individual control group in regressions

[a] Omitted control groups for regressions are highlighted in gray

Appendix B

#	Question	Possible Answers	Answer
1.	Suppose you had $100 in a savings account and the interest rate was 2% per year. After 5 years, how much do you think you would have in the account if you left the money to grow?	A. More than $102 B. Exactly $102 C. Less than $102 D. Don't know E. Prefer not to say	A. More than $102
2.	Imagine that the interest rate on your savings account was 1% per year and inflation was 2% per year. After 1 year, how much would you be able to buy with the money in this account?	A. More than today B. Exactly the same C. Less than today D. Don't know E. Prefer not to say	C. Less than today
3.	If interest rates rise, what will typically happen to bond prices?	A. They will rise B. They will fall C. They will stay the same D. There is no relationship between bond prices and the interest rates E. Don't know F. Prefer not to say	B. They will fall
4.	A 15-year mortgage typically requires higher monthly payments than a 30-year mortgage, but the total interest paid over the life of the loan will be less.	A. True B. False C. Don't know D. Prefer not to say	A. True
5.	Buying a single company's stock usually provides a safer return than a stock mutual fund.	A. True B. False C. Don't know D. Prefer not to say	B. False

TABLE 1: *Summary Statistics*

Variable	Minority	White	Full sample	Variable	Minority	White	Full sample
Actual Literacy %	0.519	0.631	0.600	Self employed	0.068	0.074	0.072
Access to Fin Ed	0.411	0.330	0.352	Full-time	0.414	0.381	0.391
Participate in Fin Ed	0.275	0.230	0.243	Part-time	0.109	0.094	0.098
Fin Ed courses[a]	0.848	0.848	0.848	Homemaker	0.080	0.092	0.089
Male	0.433	0.459	0.451	Student	0.085	0.032	0.047
Child[b]	0.772	0.649	0.684	Disabled	0.040	0.045	0.044
Income drop	0.276	0.193	0.216	Unemployed	0.079	0.046	0.055
Age 18-24	0.180	0.081	0.108	Retired	0.125	0.235	0.204
Age 25-34	0.240	0.157	0.180	Live alone	0.260	0.230	0.239
Age 35-44	0.183	0.160	0.166	Live together	0.485	0.639	0.596
Age 45-54	0.162	0.189	0.181	Live parents	0.138	0.056	0.079
Age 55-64	0.138	0.191	0.176	Live other	0.116	0.075	0.086
Age 65+	0.098	0.223	0.188	Income < $15k	0.157	0.092	0.110
Less than high school	0.022	0.020	0.021	$15-25k	0.119	0.102	0.107
High school	0.135	0.173	0.162	$25-35k	0.119	0.104	0.108
GED	0.069	0.060	0.062	$35-50k	0.151	0.144	0.146
Some college	0.280	0.276	0.277	$50-75k	0.190	0.214	0.207
Associates	0.112	0.109	0.110	$75-100k	0.116	0.146	0.138
Bachelors	0.244	0.224	0.229	$100-150k	0.101	0.133	0.124
Postgrad	0.139	0.139	0.139	150k+	0.049	0.065	0.060
Married	0.434	0.596	0.550	Observations	6,928	17,801	24,729
Single	0.428	0.234	0.289				
Div/separated	0.107	0.124	0.119				
Widowed/er	0.031	0.046	0.042				

[a]Range: 0–5 possible financial education sources.

[b]Range: 0–4 where 4 represents 4 or more children.

Table 2: *Formal and Informal Education Sources. Formal Education sources are mutually exclusive.*

			Full Sample			Minority			White		
Variable	Sample Size	% of data	N	Financial Literacy	SD	N	Financial Literacy	SD	N	Financial Literacy	SD
No Formal Education	24,729	77	18,949	0.58	0.29	5,131	0.50	0.29	13,818	0.61	0.28
HS Only	24,729	4	1,109	0.57	0.27	319	0.49	0.28	790	0.60	0.26
College only	24,729	5	1,333	0.66	0.29	472	0.55	0.30	861	0.71	0.26
Employer only	24,729	3	643	0.72	0.26	193	0.65	0.28	450	0.74	0.25
High school and College	24,729	3	810	0.68	0.26	249	0.58	0.28	561	0.72	0.24
High School and Employer	24,729	2	395	0.61	0.27	106	0.52	0.26	289	0.65	0.26
College and Employer	24,729	3	646	0.76	0.25	214	0.68	0.26	432	0.80	0.23
All formal Ed	24,729	5	1,123	0.69	0.28	244	0.61	0.29	600	0.74	0.26
Parent	27,564	46	12,652	0.61	0.29	3,244	0.52	0.29	9,408	0.64	0.28

TABLE 3: *OLS regression results. Dependent variable = Actual Financial Literacy Percentage*

	Full	Minority	White	Test of Difference in Coefficients
White	0.066***	0.000	0.000	
	[0.004]	[.]	[.]	
High School only	0.066***	0.071***	0.064***	
	[0.008]	[0.016]	[0.009]	
College only	0.045***	0.026**	0.056***	**
	[0.007]	[0.013]	[0.009]	
Employer only	0.065***	0.081***	0.058***	
	[0.010]	[0.019]	[0.012]	
High School and College	0.066***	0.043**	0.077***	*
	[0.009]	[0.017]	[0.011]	
High school and Employer	0.034***	0.022	0.040***	
	[0.013]	[0.026]	[0.014]	
College and Employer	0.061***	0.069***	0.058***	
	[0.010]	[0.019]	[0.012]	
All Formal Ed	0.031***	0.022	0.036***	
	[0.009]	[0.017]	[0.010]	
Parents	0.017***	0.011*	0.019***	
	[0.003]	[0.007]	[0.004]	
male	0.079***	0.069***	0.083***	*
	[0.003]	[0.007]	[0.004]	
child	-0.010***	-0.011***	-0.009***	
	[0.002]	[0.003]	[0.002]	
idropyes	-0.018***	-0.008	-0.022***	
	[0.004]	[0.007]	[0.005]	
age25	-0.001	-0.010	0.007	
	[0.007]	[0.011]	[0.009]	
age35	0.060***	0.066***	0.060***	
	[0.007]	[0.013]	[0.009]	
age45	0.114***	0.092***	0.126***	**
	[0.007]	[0.013]	[0.009]	
age55	0.148***	0.126***	0.159***	*
	[0.008]	[0.014]	[0.010]	
age65	0.170***	0.157***	0.178***	
	[0.009]	[0.019]	[0.011]	
nohighschool	-0.243***	-0.240***	-0.242***	
	[0.012]	[0.024]	[0.014]	
highschool	-0.167***	-0.171***	-0.164***	
	[0.006]	[0.013]	[0.007]	

highschoolalt	-0.181***	-0.175***	-0.182***	
	[0.008]	[0.016]	[0.009]	
somecollege	-0.092***	-0.112***	-0.083***	**
	[0.006]	[0.011]	[0.006]	
associates	-0.098***	-0.113***	-0.092***	
	[0.007]	[0.013]	[0.008]	
bachelors	-0.021***	-0.033***	-0.016**	
	[0.005]	[0.011]	[0.006]	
single	0.016**	0.013	0.017**	
	[0.006]	[0.011]	[0.007]	
div_sep	0.035***	0.036**	0.035***	
	[0.007]	[0.014]	[0.008]	
widowed	0.024**	0.007	0.027**	
	[0.010]	[0.022]	[0.011]	
selfemp	0.014**	0.009	0.015**	
	[0.007]	[0.013]	[0.007]	
parttime	-0.020***	-0.036***	-0.013*	*
	[0.006]	[0.011]	[0.007]	
homemaker	-0.016**	-0.020	-0.014*	
	[0.006]	[0.013]	[0.007]	
student	0.026***	-0.000	0.047***	***
	[0.009]	[0.014]	[0.012]	
disabled	-0.054***	-0.050***	-0.054***	
	[0.009]	[0.018]	[0.010]	
unemp	-0.015*	-0.028**	-0.011	
	[0.008]	[0.014]	[0.010]	
retired	0.000	-0.021	0.006	*
	[0.006]	[0.014]	[0.007]	
lalone	-0.049***	-0.053***	-0.047***	
	[0.006]	[0.011]	[0.007]	
lparents	-0.044***	-0.036**	-0.054***	
	[0.008]	[0.014]	[0.011]	
lother	-0.037***	-0.057***	-0.024***	**
	[0.007]	[0.013]	[0.009]	
less15k	-0.156***	-0.170***	-0.157***	
	[0.009]	[0.019]	[0.011]	
i15_25k	-0.131***	-0.156***	-0.125***	
	[0.009]	[0.019]	[0.010]	
i25_35k	-0.126***	-0.168***	-0.111***	
	[0.009]	[0.018]	[0.010]	

i35_50k	-0.082***	-0.115***	-0.073***	***
	[0.008]	[0.017]	[0.009]	
i50_75k	-0.068***	-0.108***	-0.056***	***
	[0.008]	[0.017]	[0.009]	
i75_100k	-0.056***	-0.096***	-0.045***	***
	[0.008]	[0.017]	[0.009]	
i100_150k	-0.014*	-0.048***	-0.004	***
	[0.008]	[0.017]	[0.009]	
Constant	0.596***	0.666***	0.633***	
	[0.011]	[0.020]	[0.012]	
Observations	24729	6928	17801	
Adjusted R-squared	0.27	0.21	0.26	

Standard errors in brackets * p<0.10 ** p<0.05 *** p<0.01
The Test of Difference in coefficients measures the statistical difference between the white and monirity coefficient. Statistically difference coefficients are indicated by stars * p<0.10 ** p<0.05 *** p<0.01

Table 4 *Entire sample OLS by age cohort*

	18	25	35	45	55	65
white	0.054***	0.064***	0.038***	0.080***	0.078***	0.082***
	[0.010]	[0.008]	[0.009]	[0.009]	[0.009]	[0.010]
High School only	0.094***	0.063***	0.019	0.056***	0.067***	0.057**
	[0.014]	[0.020]	[0.021]	[0.019]	[0.022]	[0.023]
College only	0.044**	0.024	0.031*	0.072***	0.055***	0.059***
	[0.019]	[0.015]	[0.018]	[0.019]	[0.018]	[0.017]
Employer only	-0.067	0.076***	0.072***	0.077***	0.055**	0.065***
	[0.055]	[0.026]	[0.025]	[0.023]	[0.022]	[0.018]
High School and College	0.124***	0.073***	0.094***	0.035*	0.008	0.051**
	[0.023]	[0.021]	[0.022]	[0.021]	[0.023]	[0.024]
High school and Employer	0.043	0.013	0.035	0.050*	0.061*	0.019
	[0.038]	[0.031]	[0.032]	[0.027]	[0.032]	[0.029]
College and Employer	0.043	0.057**	0.056**	0.083***	0.050**	0.059***
	[0.056]	[0.026]	[0.027]	[0.025]	[0.021]	[0.018]
All Formal Ed	0.020	-0.020	0.037	0.059***	0.020	0.049***
	[0.036]	[0.022]	[0.023]	[0.020]	[0.020]	[0.018]
Parents	0.044***	0.026***	0.013	0.009	0.018**	0.010
	[0.010]	[0.008]	[0.008]	[0.008]	[0.007]	[0.007]
Male	0.061***	0.050***	0.085***	0.084***	0.108***	0.082***
	[0.010]	[0.008]	[0.009]	[0.008]	[0.008]	[0.007]
Child	-0.018**	-0.004	-0.003	-0.015***	-0.019***	-0.024***
	[0.008]	[0.004]	[0.004]	[0.004]	[0.005]	[0.008]
Experienced a drop in income	-0.020*	-0.033***	-0.033***	0.002	0.002	0.003
	[0.011]	[0.009]	[0.010]	[0.009]	[0.009]	[0.011]
Less than high school education	-0.149***	-0.204***	-0.184***	-0.281***	-0.249***	-0.264***
	[0.041]	[0.033]	[0.034]	[0.029]	[0.028]	[0.031]
High school education	-0.100***	-0.179***	-0.170***	-0.178***	-0.171***	-0.140***
	[0.035]	[0.016]	[0.016]	[0.015]	[0.015]	[0.013]
GED	-0.113***	-0.161***	-0.173***	-0.197***	-0.198***	-0.150***
	[0.038]	[0.020]	[0.021]	[0.019]	[0.019]	[0.017]
Some college	-0.049	-0.092***	-0.082***	-0.101***	-0.094***	-0.076***
	[0.034]	[0.014]	[0.013]	[0.014]	[0.013]	[0.011]
Associates	-0.074**	-0.098***	-0.086***	-0.100***	-0.105***	-0.072***
	[0.036]	[0.015]	[0.016]	[0.016]	[0.015]	[0.014]
Bachelors	0.056	-0.026**	-0.040***	-0.025*	-0.012	-0.004
	[0.035]	[0.012]	[0.013]	[0.013]	[0.013]	[0.011]
Single	0.008	0.021*	0.062***	-0.016	-0.013	-0.056***
	[0.018]	[0.012]	[0.015]	[0.016]	[0.018]	[0.022]

Divorced or separated	0.015	0.014	0.112***	0.021	-0.000	-0.049**
	[0.056]	[0.023]	[0.017]	[0.016]	[0.018]	[0.019]
Widowed	-0.033	0.198**	0.064	0.049*	-0.058***	-0.045**
	[0.255]	[0.087]	[0.060]	[0.029]	[0.022]	[0.020]
Self employed	0.002	-0.005	0.009	0.018	0.023	0.035*
	[0.023]	[0.017]	[0.015]	[0.014]	[0.014]	[0.020]
Part time	-0.013	-0.048***	-0.019	-0.031**	-0.008	0.010
	[0.016]	[0.013]	[0.016]	[0.014]	[0.014]	[0.019]
Homemaker	-0.025	-0.019	-0.033**	0.001	-0.013	-0.009
	[0.024]	[0.013]	[0.014]	[0.014]	[0.016]	[0.025]
Student	0.023	0.003	-0.007	0.057	-0.070	-0.031
	[0.014]	[0.020]	[0.032]	[0.047]	[0.076]	[0.135]
Disabled	-0.061	-0.031	-0.049**	-0.014	-0.054***	0.004
	[0.044]	[0.031]	[0.023]	[0.016]	[0.015]	[0.038]
Unemployed	-0.034*	-0.031*	-0.024	0.018	-0.004	-0.002
	[0.019]	[0.019]	[0.020]	[0.017]	[0.019]	[0.036]
Retired	-0.095	-0.174	-0.107**	-0.007	0.019**	0.010
	[0.249]	[0.115]	[0.046]	[0.018]	[0.010]	[0.015]
Live alone	-0.087***	-0.071***	-0.087***	0.002	0.018	0.052***
	[0.018]	[0.012]	[0.014]	[0.016]	[0.018]	[0.019]
Live with parents	-0.040**	-0.064***	-0.071***	-0.071***	0.006	0.025
	[0.016]	[0.017]	[0.022]	[0.027]	[0.033]	[0.084]
Other living arraignment	-0.024	-0.026	-0.099***	-0.015	0.017	0.046**
	[0.018]	[0.017]	[0.020]	[0.018]	[0.019]	[0.021]
Income less than 15k	0.030	-0.088***	-0.220***	-0.233***	-0.204***	-0.235***
	[0.038]	[0.027]	[0.025]	[0.022]	[0.022]	[0.022]
Income between 15 & 25k	0.007	-0.057**	-0.187***	-0.176***	-0.145***	-0.143***
	[0.039]	[0.026]	[0.023]	[0.021]	[0.020]	[0.019]
Income between 25 & 35k	0.018	-0.045*	-0.210***	-0.161***	-0.146***	-0.131***
	[0.039]	[0.025]	[0.022]	[0.020]	[0.020]	[0.018]
Income between 35 & 50k	0.027	-0.018	-0.128***	-0.127***	-0.094***	-0.062***
	[0.039]	[0.024]	[0.020]	[0.017]	[0.018]	[0.017]
Income between 50 & 75k	0.004	-0.024	-0.118***	-0.092***	-0.068***	-0.036**
	[0.040]	[0.023]	[0.018]	[0.016]	[0.017]	[0.016]
Income between 75 & 100k	0.005	-0.025	-0.122***	-0.063***	-0.044**	-0.015
	[0.042]	[0.024]	[0.018]	[0.016]	[0.018]	[0.016]
Income between 100 & 150k	0.029	0.027	-0.070***	-0.015	-0.009	0.009
	[0.044]	[0.025]	[0.018]	[0.016]	[0.017]	[0.016]
Constant	0.419***	0.565***	0.722***	0.721***	0.714***	0.706***
	[0.050]	[0.024]	[0.020]	[0.019]	[0.019]	[0.021]

Observations	2,681	4,452	4,108	4,485	4,348	4,655
Adjusted R-squared	0.12	0.14	0.19	0.25	0.26	0.24

Standard errors in brackets * p<0.10 ** p<0.05 *** p<0.01

Table 5: *Minority OLS by age cohort. Only Education categories are reported.*

	18	25	35	45	55	65
High School only	0.096***	0.021	-0.013	0.107**	0.047	0.006
	[0.022]	[0.037]	[0.046]	[0.051]	[0.053]	[0.077]
College only	-0.005	0.021	0.018	0.107***	0.011	0.042
	[0.027]	[0.024]	[0.032]	[0.037]	[0.036]	[0.042]
Employer only	-0.049	0.097**	0.068	0.084*	0.056	0.145***
	[0.069]	[0.041]	[0.044]	[0.048]	[0.048]	[0.046]
High School and College	0.053	0.083**	0.090**	0.012	-0.100**	0.026
	[0.036]	[0.035]	[0.040]	[0.052]	[0.048]	[0.050]
High school and Employer	0.005	0.038	0.025	-0.034	0.106	0.035
	[0.059]	[0.051]	[0.066]	[0.063]	[0.081]	[0.076]
College and Employer	-0.032	0.096**	0.073*	0.054	0.052	0.049
	[0.097]	[0.041]	[0.040]	[0.042]	[0.044]	[0.047]
All Formal Ed	-0.016	-0.064	0.062	0.076**	0.003	0.057
	[0.057]	[0.039]	[0.042]	[0.037]	[0.047]	[0.043]
Parents	0.052***	0.019	0.012	-0.039**	0.012	0.003
	[0.015]	[0.014]	[0.015]	[0.017]	[0.018]	[0.021]

Standard errors in brackets * p<0.10 ** p<0.05 *** p<0.01

Table 6: *White OLS by age cohort. Only Education categories are reported.*

	18	25	35	45	55	65
High School only	0.090***	0.077***	0.027	0.044**	0.074***	0.060**
	[0.019]	[0.024]	[0.024]	[0.020]	[0.024]	[0.024]
College only	0.095***	0.025	0.036	0.060***	0.071***	0.059***
	[0.027]	[0.020]	[0.023]	[0.022]	[0.021]	[0.018]
Employer only	-0.114	0.053	0.065**	0.073***	0.054**	0.049**
	[0.094]	[0.034]	[0.032]	[0.026]	[0.024]	[0.020]
High School and College	0.169***	0.068***	0.097***	0.039*	0.043*	0.057**
	[0.029]	[0.026]	[0.026]	[0.023]	[0.026]	[0.027]
High school and Employer	0.067	-0.004	0.038	0.070**	0.051	0.021
	[0.050]	[0.040]	[0.036]	[0.030]	[0.035]	[0.031]
College and Employer	0.089	0.024	0.042	0.100***	0.052**	0.060***
	[0.069]	[0.033]	[0.036]	[0.032]	[0.024]	[0.020]
All Formal Ed	0.040	0.001	0.033	0.055**	0.025	0.049**
	[0.047]	[0.026]	[0.027]	[0.024]	[0.022]	[0.020]
Parents	0.037***	0.028***	0.014	0.025***	0.019**	0.011
	[0.014]	[0.010]	[0.010]	[0.009]	[0.008]	[0.007]

Standard errors in brackets * p<0.10 ** p<0.05 *** p<0.01

Table 7: *Probit Estimation of Participation in each educational Source. Marginal Effects reported*

	1	2	3	4	5	6	7	8	9
	No Formal Education	High school only	College Only	Employer Only	High school and college	High School and Employer	College and Employer	All formal	Parents
White	0.019***	0.009***	-0.012***	-0.007***	0.001	0	-0.014***	-0.003	0.076***
	[0.006]	[0.002]	[0.004]	[0.002]	[0.003]	[0.002]	[0.003]	[0.003]	[0.007]
Male	-0.041***	-0.002	0.013***	0.001	0.003	0.003*	0.017***	0.014***	-0.007
	[0.006]	[0.002]	[0.004]	[0.002]	[0.003]	[0.001]	[0.003]	[0.003]	[0.006]
Child	-0.015***	0.002	0.005**	0	0.004***	0.001*	0	0.005***	-0.006*
	[0.003]	[0.001]	[0.002]	[0.001]	[0.002]	[0.001]	[0.001]	[0.002]	[0.003]
Experienced an income drop	-0.008	-0.004*	-0.005	-0.001	0	0.005***	0.004	0.014***	0.01
	[0.007]	[0.003]	[0.004]	[0.002]	[0.004]	[0.002]	[0.003]	[0.004]	[0.008]
Age 25-34	0.088***	-0.026***	-0.014**	0.013*	-0.025***	-0.001	0.009	-0.003	-0.085***
	[0.010]	[0.003]	[0.007]	[0.007]	[0.004]	[0.003]	[0.008]	[0.007]	[0.013]
Age 35-44	0.113***	-0.028***	-0.030***	0.013*	-0.025***	-0.003	0.006	-0.009	-0.110***
	[0.009]	[0.003]	[0.006]	[0.007]	[0.004]	[0.003]	[0.008]	[0.007]	[0.013]
Age 45-54	0.097***	-0.027***	-0.033***	0.016**	-0.023***	-0.001	0.008	0.002	-0.119***
	[0.010]	[0.003]	[0.006]	[0.007]	[0.005]	[0.003]	[0.008]	[0.008]	[0.013]
Age 55-65	0.110***	-0.031***	-0.031***	0.016**	-0.030***	-0.006***	0.020**	-0.001	-0.133***
	[0.010]	[0.003]	[0.007]	[0.007]	[0.004]	[0.002]	[0.010]	[0.008]	[0.014]
Age 65+	0.112***	-0.034***	-0.029***	0.014*	-0.035***	-0.007***	0.021**	0.004	-0.165***
	[0.012]	[0.003]	[0.008]	[0.008]	[0.005]	[0.003]	[0.011]	[0.009]	[0.016]
Less than high school education	0.178***	0.060***		-0.016***		0			-0.175***
	[0.010]	[0.018]		[0.004]		[0.008]			[0.021]
High school education	0.133***	0.092***		-0.007**		0.036***			-0.103***
	[0.008]	[0.012]		[0.003]		[0.007]			[0.012]
GED	0.162***	0.067***		-0.008**		0.032***			-0.127***
	[0.008]	[0.014]		[0.003]		[0.009]			[0.014]
Some college	0.047***	0.047***	-0.048***	-0.001	-0.015***	0.020***	-0.017***	-0.010**	-0.078***
	[0.009]	[0.008]	[0.005]	[0.003]	[0.004]	[0.004]	[0.003]	[0.004]	[0.010]
Associates	0.017*	0.022***	-0.020***	-0.008***	0.001	0.009*	-0.005	0.006	-0.048***
	[0.010]	[0.008]	[0.005]	[0.003]	[0.005]	[0.005]	[0.004]	[0.005]	[0.012]
Bachelors	-0.018**	0.012**	0	-0.003	0.005	0.002	0.006**	0.006	-0.006
	[0.009]	[0.006]	[0.005]	[0.002]	[0.004]	[0.003]	[0.003]	[0.004]	[0.010]
Single	-0.004	0	0.018**	-0.005*	0.003	-0.006***	-0.002	0.006	-0.015

	[0.011]	[0.004]	[0.008]	[0.003]	[0.006]	[0.002]	[0.005]	[0.006]	[0.012]
Divorced or separated	-0.014	0.009	0.027***	-0.003	0.001	-0.005**	-0.004	0.004	-0.031**
	[0.012]	[0.006]	[0.010]	[0.004]	[0.007]	[0.002]	[0.005]	[0.007]	[0.013]
Widowed	0.005	0.003	0.009	0.002	0.004	-0.008***	-0.009	0.008	-0.016
	[0.017]	[0.008]	[0.013]	[0.005]	[0.011]	[0.002]	[0.006]	[0.010]	[0.019]
Self employed	-0.013	-0.001	0.015*	-0.009***	0.009	0	-0.003	0.011*	0.034***
	[0.011]	[0.005]	[0.008]	[0.003]	[0.006]	[0.003]	[0.004]	[0.006]	[0.013]
Part time	-0.01	-0.001	0.013*	0.002	0.003	-0.001	-0.003	0.003	0.013
	[0.010]	[0.004]	[0.007]	[0.003]	[0.006]	[0.002]	[0.004]	[0.006]	[0.011]
Homemaker	0.006	0.004	0.014	-0.010***	0.007	-0.007***	-0.004	-0.012**	-0.012
	[0.011]	[0.005]	[0.009]	[0.003]	[0.007]	[0.002]	[0.005]	[0.006]	[0.012]
Student	-0.075***	0.010*	0.061***	-0.006	0.019**	-0.005*	-0.002	-0.005	0.029*
	[0.016]	[0.006]	[0.014]	[0.005]	[0.009]	[0.003]	[0.008]	[0.008]	[0.017]
Disabled	-0.022	-0.001	0.030**	-0.005	0.005	-0.001	-0.001	0.016	0.003
	[0.016]	[0.006]	[0.014]	[0.005]	[0.010]	[0.004]	[0.008]	[0.011]	[0.016]
Unemployed	0.009	0.001	0.023*	-0.012***	0	-0.007***	-0.001	-0.015**	-0.047***
	[0.014]	[0.005]	[0.012]	[0.003]	[0.008]	[0.002]	[0.007]	[0.007]	[0.015]
Retired	-0.038***	-0.009**	0.007	0.009**	0.006	0.007*	0.010**	0.009	0.015
	[0.011]	[0.004]	[0.008]	[0.004]	[0.006]	[0.003]	[0.005]	[0.006]	[0.012]
Live alone	-0.003	-0.004	-0.009	0.006	-0.009*	0.012***	-0.002	0.006	0.025**
	[0.010]	[0.004]	[0.006]	[0.004]	[0.005]	[0.004]	[0.004]	[0.006]	[0.012]
Live with parents	-0.024	0.017***	-0.009	0.003	-0.007	0.009*	-0.015***	-0.008	0.052***
	[0.014]	[0.006]	[0.008]	[0.006]	[0.007]	[0.005]	[0.005]	[0.008]	[0.016]
Other living arraignment	-0.030**	0.002	-0.009	0.015**	0.001	0.010**	0.005	0.009	0.022
	[0.013]	[0.005]	[0.008]	[0.006]	[0.007]	[0.005]	[0.006]	[0.008]	[0.014]
Income less than 15k	0.054***	0.020**	0.032**	-0.020***	0.016	-0.010***	-0.020***	-0.027***	-0.094***
	[0.014]	[0.010]	[0.013]	[0.002]	[0.011]	[0.002]	[0.003]	[0.005]	[0.017]
Income between 15 & 25k	0.056***	0.01	0.035***	-0.016***	0.017	-0.007***	-0.019***	-0.024***	-0.044***
	[0.013]	[0.009]	[0.013]	[0.002]	[0.010]	[0.002]	[0.003]	[0.005]	[0.017]
Income between 25 & 35k	0.060***	0.012	0.023**	-0.012***	0.008	-0.007***	-0.022***	-0.026***	-0.066***
	[0.012]	[0.009]	[0.012]	[0.003]	[0.009]	[0.002]	[0.003]	[0.004]	[0.016]
Income between 35 & 50k	0.057***	0.013	0.009	-0.009***	0.009	-0.007***	-0.018***	-0.023***	-0.051***
	[0.012]	[0.008]	[0.010]	[0.003]	[0.008]	[0.002]	[0.003]	[0.004]	[0.015]
Income between 50 & 75k	0.049***	0.015*	0.003	-0.008***	0.003	-0.004	-0.017***	-0.020***	-0.041***
	[0.011]	[0.008]	[0.008]	[0.003]	[0.007]	[0.003]	[0.003]	[0.005]	[0.015]
Income between 75 & 100k	0.012	0.011	0.008	-0.002	0.007	0.001	-0.014***	-0.003	-0.02
	[0.012]	[0.008]	[0.009]	[0.003]	[0.007]	[0.003]	[0.003]	[0.005]	[0.015]

Income between 100 & 150k	-0.004	0.018*	0.002	0	0.01	0.004	-0.010***	-0.003	-0.01
	[0.013]	[0.009]	[0.009]	[0.004]	[0.008]	[0.004]	[0.003]	[0.005]	[0.015]
Observations	24,729	24,729	18,673	24,729	18,673	24,729	18,673	18,673	27,564

Marginal effects; Standard errors in brackets

(d) for discrete change of dummy variable from 0 to 1

="* p<0.10 ** p<0.05 *** p<0.01"