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Assessing the Impact of Financial Education Programs: A Quantitative Model

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Abstract

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Keywords

financial advice, cognitive ability, older population, money management, Health and Retirement Study

Disciplines

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Comments

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Abstract

This paper evaluates how cognitive ability and financial literacy shape the demand for financial advice at older ages. We analyze a new module of the Health and Retirement Study which queried older respondents about their usage of financial advice and other financial management activities. Results show that cognitive ability and financial literacy are often positively correlated with advice-seeking for financial matters. Generally speaking, the more cognitively able tend to seek financial advice from professionals outside of family members; nevertheless, they are also more likely to be overconfident regarding their investments. The more financially literate also tend to ask for help with money management, but they are less likely to be overconfident. Overall, our findings are suggestive that cognitive ability as well as financial literacy can help shape older persons' money management behaviors.

JEL: D14, G11, G41, J26

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Cognitive Ability and the Demand for Financial Advice at Older Ages: Findings from the Health and Retirement Survey

1. Introduction

The last four decades have witnessed a long-term trend toward disintermediation of retirement saving and dissaving, as defined benefit pensions have given way to defined contribution plans all over the world. Such disintermediation efforts can, however, be thwarted by peoples' lack of financial sophistication, as attested to by extensive research around the globe on financial illiteracy (Lusardi and Mitchell, 2014). Moreover, the financially illiterate may have a very difficult time setting spending goals, paying debt, deciding how much and where to invest, determining when to stop working and when to claim their Social Security and pension payouts, and how to handle insurance needs over the lifetimes.

Shifting the risks to individuals of saving too little, investing unwisely, and outliving their assets does not make such risks disappear. Consequently, it is not surprising that people seek out financial advisors to get help managing their planning and saving (Doyle, 2010). Moreover, older individuals often experience declining cognitive ability (H,n 1968; Schroeder and Salthouse, 2004) and make sub-optimal investment decisions (Agarwal et al., 2009). At the same time, many older individuals have accumulated sizable wealth over their lifetimes. Consequently, declining cognitive ability can pose a challenge for individuals and their families, and can also raise important policy questions related to how to supervise and regulate financial fraud (Hammond et al., 2017).

Prior research on individual investors' cognitive ability and financial management has focused primarily on stock market participation. Many studies have concluded that people with high cognitive ability are more likely to participate in the stock market (e.g., Cole and Shastry, 2014; Kézdi, Michigan, and Willis, 2003; van Rooij, Lusardi, and Alessie, 2011; Christelis, Jappelli, and Padula, 2010). Additionally, some authors conclude that people with high cognitive

ability exhibit superior investment skills (Grinblatt, Keloharju, and Linnainmaa, 2011). Particularly pertinent to our interest, older investors have been shown to lose investment skills as their cognitive ability declines (Korniotis and Kumar, 2011).

Naturally, if people with low cognitive ability lack investment skills, they may be able to overcome this limitation by delegating complicated financial management to investment professionals (Kim, Maurer, and Mitchell, 2016; 2017). Nevertheless, cognitive ability may affect the decision to delegate, since delegation itself can also be a complicated process requiring screening/monitoring financial advisors' performance. For this reason, we investigate the role of cognitive ability in shaping older persons' demand for finance advice using a purpose-built module fielded in the 2016 Health and Retirement Study (HRS). Our aim is to provide new insights into older individuals' need for, and willingness to pay for, help with managing spending and financial demands.

Our results show that cognitive ability and financial literacy as measured in the HRS often are associated with financial behaviors when other controls are not held constant. Yet the statistical associations are attenuated when age, education, race/ethnicity, and other factors are controlled. Focusing only on significant factors, we find that people scoring higher on the cognitive questions by one standard deviation are 52% more likely to avoid advice due to self-confidence and 50% more likely not to know whom to ask for help, with other factors controlled. Financial literacy generally serves as a significant factor in explaining a broader set of behaviors related to investment and seeking financial advices: the more financially literate by one standard deviation are 13% more likely to spend time managing their finances; 10% more likely to get help with money management; 29% less likely to avoid asking for help due to self-confidence; and 21% less likely not to know whom to ask for help. By contrast, neither Cognitive nor FinLit scores are significantly associated with money management behaviors, including the number of self-management activities people

undertook, or with reasons for why they did not self-manage their money. And the financially savvier and more cognitively able individuals are also no better able to get financial advice, advice regarding a variety of financial tasks, free help, or follow the advice when given. The reader is cautioned, however, that sample sizes are sufficiently small that these conclusions are as yet tentative.

In what follows, Section 2 summarizes key prior studies on cognitive ability and financial management. Section 3 develops several questions regarding the empirical relationships between cognitive ability and the demand for financial advice. Next, Section 4 describes the HRS module we developed and provide descriptive statistics on key variables. Section 5 reports our regression results and a final section concludes.

2. Related Studies

Three related threads in the literature may be identified as relevant to our research: work on rational delegation and inattention, analysis of financial illiteracy, and inquiries into the complex institutional environment in which older persons must make financial decisions.

In our own prior analyses (Kim, Maurer and Mitchell, 2016; 2017), we showed that individuals will rationally devote little or no attention to their retirement portfolios early in their lifecycles.¹ This is particularly true when managing one's portfolio is time consuming, and devoting attention to it reduces the opportunity to invest in on-the-job training. Since people who manage their own investments will do so at the cost of future earnings growth, employees can benefit from hiring financial advisors to reduce the cost of managing their own finances. Naturally,

¹ Of course there are many theoretical papers which postulate that a rational fully-informed forward-looking individual can make optimal decisions regarding interrelated fields (saving, portfolio choice, asset location, benefit claiming), taking into consideration individual factors such as preferences (risk, time, leisure, bequest, intertemporal substitution, loss aversion), mortality, health and family status (e.g., Cocco et al., 2005, Gomes et al., 2008, Hubener et al., 2016, and Horneff et al., 2016)

delegating one's investments to an advisor entails a cost, so the tradeoff must be reevaluated over the life cycle. Young workers tend not to have saved much, but they have the longest horizon over which to reap the rewards of good financial advice. Older individuals may value input from financial advisors to the extent that they experience declining mental faculties making it more difficult to do a good job.

A second reason people may seek financial advice at older ages is that many are financially illiterate. Not only can many people not answer simple finance and economics questions, but they also fail to access expected higher-return investments (Lusardi and Mitchell, 2014; 2017; Clark et al., 2015). Somewhat surprisingly, and despite objective confirmation of an age-linked decline in financial capability, older persons' confidence in their financial ability rises with age, reaching a peak at about age 88.² As a result, it becomes quite important for older persons to seek reliable financial advisors who can help their clients make good financial decisions and prevent the most vulnerable from being defrauded of their wealth at older ages. To this point, there is now a substantial literature on the consequences of poor financial capability in later life. For instance, the FINRA Investor Education Foundation (2013) found that over 80% of adults of all ages had been solicited for potentially fraudulent offers, while older Americans were most likely to be the targets and likely to lose money when targeted. Still others have pointed out that it can be difficult to separately identify the individual effects of aging, financial illiteracy, and socioeconomic status on peoples' susceptibility to financial fraud (DeLiema et al., 2017).

A third reason that older persons may seek financial advice is that institutional complexity bedevils the decisions people must confront when planning for, making provision for, and moving into retirement. In the US, for instance, rules regarding when to claim one's Social Security benefits are extremely complicated, particularly if one has a spouse who is also entitled (or will be entitled)

² Authors' computations using the Health and Retirement Study.

to Social Security benefits (Kotlikoff et al., 2016). There are numerous and extremely complex regulations regarding how much people may save in tax-qualified retirement saving accounts, when one can make penalty-free payouts, and when one must begin taking required minimum distributions from these accounts (Horneff et al., 2016). These realities are particularly challenging when peoples' cognitive ability regarding financial decision making declines with age. As one example, Finke et al. (2015) reported a sharp downward trend with age in financial literacy scores regarding economic and finance basics including borrowing, insurance, and investments.³

There is also a separate literature showing how financial advisors influence their advisees' outcomes, though that research does not focus on older individuals *per se*. Shapira and Venezia (2001) posited that retail investors suffer from behavioral biases including the disposition effect, or the tendency to sell winning stocks too early and not to sell losing stocks until too late. They reported that financial advisors were effective in protecting investors against this outcome.⁴ Kramer (2012) found that portfolios advised by financial advisors were less prone to home bias, or investor over-concentration in their own country. Financial advice can also help with estate planning and tax management (Cici et al., 2017). Bhattacharya et al. (2012) showed that portfolio risk-return efficiency improved for those who actually followed the advice but did not for those who received but did not follow the advice. Using a Dutch household survey, von Gaudecker (2015) reported that households who engaged professional advisors achieved significant portfolio diversification benefits, measured in terms of return loss, similar to findings by Calvet et al. (2007).

³ Other examples are provided in Hammond et al., (2017).

⁴ Other studies have emphasized a negative result from hiring financial advisors, though few are specific to the retirement planning context. For instance, Bergstresser et al. (2009) and Del Guercio and Reuter (2014) reported that broker-sold mutual funds underperformed direct-sold mutual funds. Hackethal et al. (2012; 2013) studied independent financial advisors and bank-affiliated advisors in Germany; that study reported that accounts advised by both types of advisors did not generated higher risk-adjusted returns than those without advice. Using data from a large Swiss bank, Hoehle et al. (2017) found that trades advised by financial advisors underperformed trades initiated by account holders. One of the very few analyses of retirement plans (Chalmers and Reuter, 2015) concluded that broker-advised retirement accounts had lower risk-adjusted returns because of high-fee investments, in the context of the Oregon State University System Retirement Plan.

That literature also suggests that investors receiving financial advice are generally older, wealthier, and more financially savvy (Hackethal et al., 2012; Hackethal and Inderst, 2013). Moreover, there is evidence that better-informed individuals tend to seek financial advice because they have a clearer understanding of how the marketplace for financial advice works (Calcagno and Monticone, 2015). Limited-information processing capacity is also an important factor in financial decisions (Christelis et al., 2010; Bertrand and Morse, 2011), but as yet no studies have linked cognitive ability and peoples' willingness to take financial advice. Present-bias can also be quite extreme, such that people tend to procrastinate hiring financial advisors as long as they can (O'Donoghue and Rabin, 1999). Commission-based advisors are an important source of information for sophisticated investors (Inderst and Ottaviani, 2012), but people tend not to accept advice when it is provided free (Gino, 2008).⁵

Based on existing studies, then, we conclude that relatively little is known about the links between cognitive ability, financial literacy, and the probability of seeking financial advice at older ages, as well as the type of advice sought. In the next section, we describe several factors that might relate financial behaviors and the key variables of interest here, using new data from the HRS.

3. Potential Predictions regarding Financial Behaviors

Whether cognitive ability is positively or negatively associated with seeking financial advice is unclear from a theoretical perspective. If older investors recognize that their ability to manage financial asset is diminished, they would rationally delegate managing their finances to others (Kim, Maurer, and Mitchell, 2016). But if they mistakenly believe that their acumen remains intact, they will continue managing their assets at older ages.

⁵ The literature also discusses the possibility of conflicts of interest ; see Inderst and Ottaviani (2012), Stoughton et al. (2011), Bolton et al. (2007), Piccolo et al. (2016), Hackethal et al. (2012)

It is also likely that more cognitively able investors who do seek help will get help on investment decisions more than simpler subjects such as cash management. They may be more likely to be overconfident and distrust others' advice. We are also interested in the links between cognitive ability and the types of financial help people seek, along with whether people follow the investment advice they receive. Accordingly, it is possible that the more cognitively able will be more likely to get help from professional advisors rather than others, and they will follow advice when it is given.

Last, we are interested in ascertaining whether financial literacy has an independent effect on the three financial behaviors of interest here, after controlling on cognitive ability. That is, those who are more financially sophisticated may be more likely to self-manage their financial affairs, less like to request financial help, and more likely to get help from professionals when help is sought. Accordingly, we investigate whether more financially literate individuals will tend to self-manage their financial affairs and request financial help infrequently, yet they receive help from professionals versus others when help is sought. Next, we turn to operationalizing an empirical examination of these propositions.

4. Experimental Module in the HRS

To examine the relationships of interest, we have designed and fielded an experimental module in the 2016 HRS asking how older people (> age 50) manage their financial affairs.⁶ Some 1,180 age-eligible people participated in the module. To this information we also link data on each respondent taken from the core HRS; these variables include financial literacy, education, wealth, age, race/ethnicity, and marital status. The core HRS also provides a measure of cognitive ability that is widely used in the literature, defined as the sum of the respondent's total word recall and

⁶ Results reported herein include all respondents to the 2016 except the Late Baby Boomers who will be included in a future release of the 2016 data.

mental status indices, evaluated in 2016.⁷ As indicated in Table 1, the average Cognition score is 23.93 with a standard deviation of 4.23. Financial literacy (FinLit) score is measured as the sum of correct answers on four financial literacy questions based on those developed by Lusardi and Mitchell (2014). In this population, the average score is 2.1 (with a standard deviation of 0.91). The Cognition and FinLit score are positively related, with a Pearson correlation coefficient between the Cognition and FinLit scores of 0.32 (significant at the 1% level).

Table 1 here

The HRS module on older people's financial behaviors asked questions which we consider in three groupings. The first grouping of questions asked people whether they **received any type of financial advice**, and if not, why not. The second grouping asked whether people **self-manage their money**. That is, respondents were asked whether they engaged in financial activities in the last year if they engaged in sophisticated investment decisions (e.g., investments and withdrawals), and if they did not engage in any self-management, why they did not. The third and final grouping of questions asked respondents to identify **the types of financial advice they received** when managing their money, and whether they paid for professional help.

Summary statistics and variable definitions of these financial behaviors appear in Table 1, where it will be noted that sample sizes for specific questions differ depending on whether respondents met the right conditions given precursor questions.⁸ For instance, the first two questions covered the full sample of module respondents: half indicated that they did devote time to managing their finances in the last year, and one third (34%) indicated they got advice on money management. Of those who did get financial advice, half received advice on investments, and on

⁷ See St. Clair et al. (2011). The cognitive functioning measure includes performance on immediate and delayed word recall, serial 7's test, counting backwards, naming tasks (e.g., date-naming), and vocabulary questions. The mental status index sums scores from counting, naming, and vocabulary tasks. The total cognition score sums the total recall and mental status indices. For further detail see Fisher et al. (2017).

⁸ All data are weighted using the 2014 weights as the 2016 weights were not available as of this writing.

average people received this help within the past year. Focusing on the respondents who did not receive financial advice, 4% believed they were confident enough to manage the money on their own; 3% indicated they did not trust advisors, and 3% indicated they did not know whom to ask.

Turning to the second block of financial behaviors in Table 1, on average people undertook about 1.45 activities in doing their own money management, and 41% engaged in activities more sophisticated than simply managing their checking accounts. Only 7% of those who did not self-manage their own finances indicated that inertia was a reason for not asking for advice.

The third block of financial behaviors focuses on those who did receive financial advice and investigates what types of help they received. A large majority (71%) of those who received financial advice got it from a professional advisor, and 76% received help from a professional or other nonfamily member. A sizeable fraction, 14%, received free professional advice with potential conflicts of interests. Of those receiving advice, the average number of advisors was 1, who provided help with an average number of 1.58 different types of financial tasks. Interestingly, of those who received this advice, people reported that they mostly did act on the advice given.⁹

Turning to the control variables beyond cognition and financial literacy, we note that the sample averaged 68.11 years of age and 45% of the sample were male. Most were White (85%) or Hispanic (9%); a majority (62%) of respondents were married. Education averaged is 13.58 years, and the sample held an average of net non-housing wealth of about \$156,000 and housing net wealth of \$139,000.

5. Results and Discussion

Our empirical strategy examines how financial behaviors of interest are related to respondents' cognitive ability and financial literacy, holding constant other controls. When the

⁹ Appendix 2 presents correlation matrices for the financial behavior and control variables.

dependent variable is continuous, we use OLS; if the dependent variable is binary, we estimate probit models:

$$\Pr(Y_i = 1|X_i) = \Phi(b \times \text{Cognition score}_i + c \times \text{FinLit} + \delta'X_i), \quad (1)$$

where i indexes each respondent, and $\Phi(\cdot)$ is the standard normal cumulative distribution of the probit model. To mitigate potential confounding effects, we also control for the other factors noted above. Standard errors are clustered at the household level, and all results use the 2014 HRS person weights.¹⁰

5.1 Factors associated with getting financial advice

Table 2 identifies which factors are associated with spending time on financial management, getting financial advice, and not getting advice. In each case, we first report results using only the Cognition and the FinLit scores, followed by a second column of estimates including the vector of all controls.

Table 2 here

A first observation is that Cognition scores are generally positive and statistically significant when only the two main regressors are included. Nevertheless, when other controls are added, the marginal effects of Cognition score become attenuated and less statistically significant. Overall, in Table 2, cognition remains statistically significant for only two behaviors: No Money Help: Overconfidence, and NoMoneyHelp: DK. In other words, people scoring higher on Cognition variable (by one standard deviation) are 52% more likely to avoid advice due to self-confidence ($4.23 \times 0.5\%$ on a base of 4.1%), and they are 50% more likely not to know whom to ask for help ($4.23 \times 0.4\%$ on a base of 3.4%).

The FinLit score variable is also related to a range of financial behaviors of interest, but now this persists even after including the additional controls. That is, the more financially literate

¹⁰ The 2016 weights will be made available in a subsequent release.

(by one standard deviation) are 13% more likely to spend time managing their finances ($0.91 \times 7\%$ more on a base of 50%); 10% more likely to get help with money management ($0.91 \times 3.7\%$ on a base of 34%); 29% less likely to avoid asking for help due to self-confidence ($0.91 \times -1.3\%$ on a base of 4.1%); and 21% less likely not to know whom to ask for help ($0.91 \times -1\%$ on a base of 3.4%).

In other words, holding other factors constant, being financially literate is more strongly associated with spending time on managing one's finances and receiving financial advice, than is scoring better on cognitive tests at the margin. Having a higher Cognitive score is not significantly related to the probability of managing one's own money or getting help with money management, though it is associated with eschewing financial advice due to overconfidence and lack of knowledge on whom to ask. This result, however, does not imply that cognitive ability plays no role in shaping the demand for financial advice. Rather, as we shall see, Cognition scores are related to whom to ask financial advice, explored in the section 5.3.

5.2 Factors associated with money self-management

In Table 3 we examine the factors associated with money self-management behaviors. Here too, we explore the relationships first including only the Cognition and the FinLit scores, and then we add the other controls.

Table 3 here

Overall, in both of the columns and for all three behaviors, no estimates are significantly different from zero for either the Cognition or FinLit variables. Part of the explanation may be that the sample sizes for these behavioral outcomes are much smaller due to small sample sizes: that is, few respondents appear in the relevant outcome categories.¹¹ In any case, there is no evidence that

¹¹ We anticipate having a larger sample size when the 2016 release is expanded to include the new cohorts.

either Cognition or FinLit scores are strongly associated with the number of self-management activities people undertook or the reasons why they did not self-manage their money.

5.3 Factors associated with types of financial advice sought

Table 4 evaluates whether cognitive ability is related to the type of financial advice that people seek. As before, we first employ a lean set of regressors – Cognition and FinLit scores – and the subsequent column includes all controls.

Table 4 here

Once again the results tell a similar story. In only a single case is the respondent's cognition score associated significantly with an outcome, namely getting help from a professional or non-family advisor. A one standard deviation increase in the Cognition score is related to 7.2% increase in receiving financial advice from professional money managers outside of family members. There is no significant association between the FinLit score and any of the outcomes under investigation. Accordingly, it does not appear that financially savvier or more cognitively able individuals get free help as well as advice regarding a larger set of financial tasks. And finally, the two control variables of interest are not statistically associated with people saying they follow the advice when provided. We remind the reader, however, that sample sizes here are quite small, so that these findings must remain tentative until the sample including the new cohort can be investigated.

Taken as a whole, Table 4 suggests that more cognitively able individuals do tend to seek professional advisors rather resorting to family, relatives, or friends. Combined with the previous section's result that cognitive ability is uncorrelated with the likelihood of seeking financial advice, we conclude that cognitive ability is related to the *quality* rather than the *quantity* of financial advice sought.

6. Conclusions

It is important to build an understanding of how older persons make key financial decisions, in light of population aging and because financial products and decisions that must be made during the latter part of life are increasingly complex. Moreover, given the demographic transition, many older persons will need to rely on financial advice during retirement over time. This paper has explored the relationship between two factors important in an aging population, cognitive ability and financial literacy, and the types of financial management decisions that older persons undertake.

Overall, our findings suggest that cognitive ability as well as financial literacy can help shape older persons' money management behaviors, though financial literacy appears to be related to a broader set of observed financial behaviors in our dataset. We also conclude that the more cognitively able in the older population tend to seek financial advice from professionals outside of family members; nevertheless, they are also more likely to be overconfident regarding their investments. The more financially literate tend to ask for help with money management and they are less likely to be overconfident.

In light of the fact that financial advice encompasses a wide range of financial management tasks, it will be increasingly important for analysts to develop better ways to evaluate financial advisor performance. Our own future research will revisit these themes with a larger sample of respondents to the HRS experimental module, and we will also investigate the possibility that Cognition and FinLit scores might be endogenously determined. This research will offer insight into who seeks financial advice when, as well as much-needed information on financial management practices among older households.

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Table 1: Descriptive Statistics on Key Variables**A. Financial Behaviors**

Variable	N	Mean	St Dev	Respondent Group
<u>Any Financial Help</u>				
Spent time on FinMgmt last year (0/1)	1,118	0.50	0.50	Full sample
Get help w/ money mgmt (0/1)	1,168	0.34	0.47	Full sample
Gets help w/ invst (0/1)	318	0.52	0.50	Those receiving financial advice
Last time got money help (1-5)	318	1.93	0.91	Those receiving financial advice
No money help: Overconfidence (0/1)	830	0.04	0.20	Those not receiving financial advice
No money help: Distrust (0/1)	809	0.03	0.18	Those not receiving financial advice
No money help: DK whom to ask (0/1)	809	0.03	0.18	Those not receiving financial advice
<u>Money Self-management</u>				
Last Yr Self-mgmt: # activities (0-5)	439	1.45	0.91	Those self-managing finances
Last Yr Self-mgmt sophis (0/1)	439	0.41	0.49	Those self-managing finances
Last Mo Why no svg/invst: Inertia (0/1)	579	0.07	0.26	Those not self-managing finances
<u>Types of Financial Advice</u>				
Gets help from profl advisor (0/1)	338	0.71	0.45	Those receiving financial advice
Gets help from profl/other non family	338	0.76	0.43	Those receiving financial advice
Gets free profl help (0/1)	338	0.14	0.35	Those receiving financial advice
# of diff types of helpers (0-3)	338	1.03	0.38	Those receiving financial advice
# of diff types of help (0-11)	318	1.58	1.14	Those receiving financial advice
How often follow advice (0-7)	324	6.03	1.16	Those receiving financial advice

B. Controls

Variable	N	Mean	St Dev	Respondent Group
Cognition score	1,179	23.93	4.23	Full sample
FinLit score	1,179	2.08	0.91	Full sample
Age	1,179	68.11	9.08	Full sample
Male	1,179	0.45	0.50	Full sample
White	1,179	0.85	0.36	Full sample
Hispanic	1,179	0.09	0.28	Full sample
Married	1,179	0.62	0.49	Full sample
Education (yrs)	1,179	13.58	2.80	Full sample
Good health	1,179	0.77	0.42	Full sample
Non-housing wealth (/100k, 2014\$)	1,179	1.56	4.51	Full sample
Housing wealth (/100k, 2014\$)	1,179	1.39	2.07	Full sample

Source: Authors' calculations 2016 HRS

Table 2. Factors Associated with Getting Any Financial Advice

This table presents coefficient estimates from multivariate analysis of seven financial behavioral variables including Spent time on FinMgmt last year; Get help w/ money mgmt; Get help w/ invst ; Last time got money help; No money help: Overconfidence; No money help: Distrust; No money help: DK whom to ask. These are regressed on cognitive ability (Cognition score) and financial literacy (FinLit score) along with other controls. Variables are described in the Appendix and marginal effects reported.

	Probit				OLS				Probit					
	Spent time on FinMgmt last year (0/1)		Get help w/ money mgmt (0/1)		Get help w/ invst (0/1)		Last time got money help (1-5)		No money help: Overconfidence (0/1)		No money help: Distrust (0/1)		No money help: DK whom to ask (0/1)	
Cognition score	0.015 *** (0.005)	0.001 (0.005)	0.007 * (0.004)	-0.008 (0.005)	0.019 ** (0.009)	0.005 (0.010)	-0.010 (0.016)	-0.015 (0.016)	0.006 *** (0.002)	0.005 *** (0.002)	0.004 (0.002)	0.001 (0.001)	0.006 *** (0.002)	0.004 *** (0.001)
FinLit score	0.099 *** (0.023)	0.069 *** (0.024)	0.058 *** (0.021)	0.037 * (0.022)	0.049 (0.044)	0.009 (0.046)	-0.051 (0.082)	-0.044 (0.087)	-0.015 (0.010)	-0.013 * (0.007)	0.013 (0.009)	0.004 (0.005)	-0.014 * (0.009)	-0.008 * (0.004)
Age		-0.002 (0.002)		0.000 (0.002)		-0.005 (0.004)		0.003 (0.007)		0.000 (0.001)		0.000 (0.000)		0.000 (0.000)
Male		0.026 (0.042)		-0.091 ** (0.037)		0.082 (0.077)		-0.189 (0.119)		0.015 (0.012)		0.010 (0.007)		0.007 (0.008)
White		0.066 (0.049)		0.112 *** (0.043)		0.110 (0.103)		0.193 (0.162)		-0.017 (0.015)		-0.007 (0.012)		-0.019 (0.013)
Hispanic		0.052 (0.076)		-0.076 (0.063)		-0.041 (0.168)		-0.333 (0.209)		-0.021 *** (0.007)		-0.009 (0.006)		-0.010 ** (0.004)
Married		0.085 ** (0.043)		0.020 (0.040)		0.014 (0.084)		0.099 (0.135)		0.009 (0.011)		0.011 * (0.007)		0.004 (0.007)
Education (yrs)		0.025 *** (0.008)		0.030 *** (0.008)		0.019 (0.017)		0.006 (0.028)		-0.002 (0.002)		-0.001 (0.001)		-0.002 * (0.001)
Good health		0.080 (0.051)		0.044 (0.047)		0.106 (0.104)		0.294 * (0.165)		0.019 ** (0.009)		0.019 ** (0.008)		0.009 * (0.005)
Non-housing wealth (/100k, 2014\$)		0.013 ** (0.006)		0.007 (0.005)		0.008 (0.009)		-0.034 *** (0.011)		-0.005 (0.004)		0.000 (0.001)		-0.002 (0.002)
Housing wealth (/100k, 2014\$)		0.032 * (0.017)		0.022 (0.014)		0.046 ** (0.020)		-0.012 (0.020)		0.000 (0.004)		0.001 (0.001)		0.000 (0.002)
N	1,118	1,118	1,168	1,168	318	318	318	318	830	830	809	809	809	809
R-sq	0.043	0.095	0.016	0.075	0.027	0.078	0.016	0.080	0.056	0.129	0.070	0.168	0.097	0.181
Dep. Var. Mean	0.500	0.500	0.341	0.341	0.523	0.523	1.933	1.933	0.041	0.041	0.034	0.034	0.034	0.034
Dep. Var. St. Dev.	0.500	0.500	0.474	0.474	0.500	0.500	0.911	0.911	0.198	0.198	0.182	0.182	0.181	0.181

Notes: Note: * Significant at 0.10 level, ** Significant at 0.05 level, *** Significant at 0.01 level. Coefficients on constant terms omitted; missing data dummies not reported, SE in parentheses and clustered at the household level.

Table 3. Factors Associated with Money Self-Management

This table presents coefficient estimates from multivariate regressions of three outcome variables relative to money self-management: Last Yr Self-mgmt; Last Yr Self-mgmt sophis ; and Last Mo Why no svg/invst: Inertia. These are regressed on cognitive ability (Cognition score) and financial literacy (FinLit score) along with other controls. All variables are defined in the Appendix; missing data controlled with dummy variables (not reported). Marginal effects are reported for probits on binary variables.

	OLS		Probit			
	Last Yr Self-mgmt: # activities (0-5)		Last Yr Self-mgmt sophis (0/1)		Last Mo Why no svg/invst: Inertia (0/1)	
Cognition score	0.031 (0.020)	0.030 (0.023)	0.007 (0.008)	-0.003 (0.009)	0.000 (0.004)	-0.002 (0.004)
FinLit score	-0.032 (0.069)	-0.059 (0.068)	-0.015 (0.038)	-0.032 (0.039)	0.005 (0.017)	-0.002 (0.016)
Age		-0.005 (0.005)		-0.007 ** (0.004)		-0.003 * (0.002)
Male		0.085 (0.122)		0.006 (0.061)		0.000 (0.026)
White		0.026 (0.134)		0.021 (0.087)		0.035 (0.023)
Hispanic		0.044 (0.188)		0.083 (0.113)		-0.048 ** (0.023)
Married		-0.028 (0.123)		0.038 (0.070)		0.000 (0.026)
Education (yrs)		-0.008 (0.028)		0.003 (0.015)		0.001 (0.005)
Good health		-0.171 (0.204)		0.158 * (0.090)		0.012 (0.031)
Non-housing wealth (/100k, 2014\$)		0.022 (0.020)		0.020 *** (0.007)		0.001 (0.004)
Housing wealth (/100k, 2014\$)		-0.003 (0.024)		0.005 (0.016)		-0.001 (0.006)
Intercept	0.721 (0.528)	1.296 * (0.745)				
N	439	439	439	439	579	579
R-sq	0.026	0.071	0.012	0.064	0.026	0.061
Dep. Var. Mean	1.445	1.445	0.408	0.408	0.074	0.074
Dep. Var. St. Dev.	0.911	0.911	0.492	0.492	0.262	0.262

Table 4. Factors Associated with Types of Financial Advice Sought

This table presents coefficient estimates from multivariate analysis of six behavioral variables including Gets help from prof/ advisor; Gets help from prof/other non-family advisors; Gets free prof help; # of diff types of helpers; # of diff types of help; How often follows advice. These are regressed on cognitive ability (Cognition score) and financial literacy (FinLit score) and other controls. Variables described in the Appendix; marginal effects for probit regressions on binary outcomes reported. See also Notes to Table 2.

	Probit						OLS					
	Gets help from prof advisor (0/1)		Gets help from prof/other non family advisors (0/1)		Gets free prof help (0/1)		# of diff types of helpers (0-3)		# of diff types of help (0-11)		How often follow advice (0-7)	
Cognition score	0.023 ***	0.011	0.025 ***	0.013 *	0.001	0.000	-0.006	-0.006	0.017	0.014	0.000	0.017
	(0.006)	(0.008)	(0.006)	(0.007)	(0.005)	(0.005)	(0.005)	(0.005)	(0.018)	(0.023)	(0.027)	(0.031)
FinLit score	0.082 ***	0.046	0.054 **	0.019	-0.020	-0.019	-0.006	0.001	0.002	-0.024	0.052	0.076
	(0.030)	(0.030)	(0.026)	(0.026)	(0.029)	(0.029)	(0.022)	(0.024)	(0.119)	(0.115)	(0.101)	(0.106)
Age		-0.006 **		-0.006 ***		-0.001		0.003		0.020 ***		-0.001
		(0.003)		(0.002)		(0.002)		(0.003)		(0.007)		(0.009)
Male		0.034		0.012		-0.002		-0.033		-0.062		0.167
		(0.056)		(0.048)		(0.049)		(0.052)		(0.142)		(0.174)
White		0.108		0.141 *		0.033		-0.101		0.174		0.159
		(0.084)		(0.077)		(0.066)		(0.069)		(0.163)		(0.215)
Hispanic		-0.038		-0.097		-0.117 ***		-0.053		-0.071		0.328
		(0.121)		(0.121)		(0.038)		(0.053)		(0.241)		(0.329)
Married		0.084		0.070		-0.044		-0.078 *		0.492 ***		-0.312 *
		(0.060)		(0.050)		(0.057)		(0.045)		(0.154)		(0.161)
Education (yrs)		0.022 *		0.010		-0.007		0.013		0.047		-0.012
		(0.011)		(0.009)		(0.011)		(0.010)		(0.030)		(0.033)
Good health		-0.001		0.004		0.022		-0.117		-0.566 *		-0.210
		(0.069)		(0.052)		(0.056)		(0.073)		(0.311)		(0.223)
Non-housing wealth (/100k, 20		0.018 **		0.013 **		0.000		0.004		-0.004		0.010
		(0.008)		(0.006)		(0.004)		(0.005)		(0.019)		(0.023)
Housing wealth (/100k, 2014\$)		-0.013		0.007		0.008		0.015		-0.004		-0.048
		(0.015)		(0.011)		(0.011)		(0.013)		(0.036)		(0.048)
N	338	338	338	338	338	338	338	338	318	318	324	324
R-sq	0.119	0.193	0.132	0.218	0.003	0.022	0.006	0.068	0.004	0.082	0.002	0.043
Dep. Var. Mean	0.713	0.713	0.760	0.760	0.142	0.142	1.027	1.027	1.582	1.582	6.035	6.035
Dep. Var. St. Dev	0.453	0.453	0.428	0.428	0.349	0.349	0.379	0.379	1.138	1.138	1.160	1.160

Appendix 1: Variable Descriptions

A. Financial Behaviors (from 2016 Experimental Module)¹²

Any Financial Help

Spent time on FinMgmt last year (0/1) (self_fin_mgmt) =1 if R self-managed finances last year (v124=1), 0 else

Get help w/ money mgmt (help_fin_mgmt) =1 if R got help with money management in past year (Item v106=1), 0 else.

Gets help w/ invst (0/1) (v1110=1; portfolio_help) =1 if R got help with investing stocks, bonds or mutual funds; 0 else.

Last time got money help (1-5) (last_help) = 1 if R got help in last month; =2 if got help in last year; =3 if got help in last 5 years; =4 if got help longer ago than 5 years; = 5 if never (pv118).

No money help: Overconfidence (0/1) ((v107=1); finovcnfd_flg) =1 if R did not receive financial advice because he can do financial management on his own, 0 else..

No money help: Distrust (0/1) (v107=2; helptrust_flg) =1 if R did not receive financial advice due to no trust in financial advisors, =0 else.

No money help: DK whom to ask (0/1) (v107=2; helpignrc_flg) =1 if R did not financial advice because he knows no one to ask, 0 else.

Money Self-management

Last Yr Self-mgmt: # activities (0-5) (scope_self_mgmt) # financial management activities in last year (sum of all answers v125).

Last Yr Self-mgmt sophis (v125=2, 3 or 4; sophi_mgmt_flg) =1 if R made more sophisticated investment decisions (e.g., decisions on investment and withdrawal) rather than just checking accounts, 0 else

Last Mo Why no svg/invst: Inertia (inertia_flg) = 1 if R chose inertia as a reason not receiving help (any answers to v127 - v127_9 =equal 5), 0 else.

Types of Financial Help

Gets help from profl advisor (0/1) (v108=4; advisor_help2) =1 if R gets help from professional financial advisor (financial advisor, planner, accountant, or other professional investment counselor); =0 else

Gets help from profl/other non family advisors (0/1) (v108=4, 5, 6, 7, 8; advisor_help3) =1 if R gets help from professional financial advisors or other nonfamily member; =0 else

Gets free profl help (0/1) (v112=7; free_advice1) = 1 if R gets help for free from professional advisor; =0 else

of diff types of helpers (0-3) (scope_helpers) = # of helpers giving financial advice (sum of all v108 answers)

of diff types of help (0-11) (scope_helps) = # of financial tasks for which received advice(sum of all pv110 answers).

How often follow advice (0-7) (v117; acceptance_adv) = 1 never; up to 7 always; 0: missing)

B. Control variables (from HRS Core)

Cognition score Sum of total word recall and mental status summary scores (0-35)

FinLit score Sum of number of correct answers to four financial literacy questions.

¹² <https://hrs.isr.umich.edu/documentation>

Age	R age in years
Male	=1 if R male, 0 else.
White	=1 if R white, 0 else.
Hispanic	=1 if R Hispanic, 0 else.
Married	=1 if R married , 0 else.
Education	# years of education
Good health	=1 if R reports health status excellent/good , 0 else.
Housing wlt	Net value of housing (value of 1ry residence less mortgages and home loans)
Non-housing wlt	Net value of non-housing financial wealth (stock, saving, CDs, bonds, and other saving less debt)

Note: R refers to survey Respondent

Appendix Table 2. Correlations

A. Financial Behaviors

	Spent time on FinMgmt last year (0/1)	Get help w/ money mgmt (0/1)	Gets help w/ invst (0/1)	Last time got money help (1- 5)	No money help: Overconfidenc e (0/1)	No money help: Distrust (0/1)	No money help: DK whom to ask (0/1)	Last Yr Self- mgmt: # activities (0-5)	Last Yr Self- mgmt sophis (0/1)	Last Mo Why no svg/invst: Inertia (0/1)	Gets help from profl advisor (0/1)	Gets help from profl/other non family advisors (0/1)	Gets free profl help (0/1)	# of diff types of helpers (0- 3)	# of diff types of help (0-11)
<u>Any Financial Help</u>															
Spent time on FinMgmt last year (0/1)	1														
Get help w/ money mgmt (0/1)	0.27 **	1													
Gets help w/ invst (0/1)	0.24 **	0.65 ***	1												
Last time got money help (1-5)	-0.32 **	-0.79 ***	-0.50 ***	1											
No money help: Overconfidence (0/1)	-0.10 **	-0.12	-0.08	0.09 *	1										
No money help: Distrust (0/1)	0.06	-0.11	-0.07	0.08 *	-0.03	1									
No money help: DK whom to ask (0/1)	-0.12 **	-0.11	-0.07	0.11 *	0.90 ***	-0.02	1								
<u>Money Self-management</u>															
Last Yr Self-mgmt: # activities (0-5)	0.75 **	0.20 ***	0.22 ***	-0.23 ***	-0.07 *	0.16	-0.09 **	1							
Last Yr Self-mgmt sophis (0/1)	0.51 **	0.23 ***	0.25 ***	-0.24 ***	-0.05 *	0.04	-0.05 *	0.65 ***	1						
Last Mo Why no svg/invst: Inertia (0/1)	0.04	-0.01	0.06	-0.02	0.01	0.01	0.01	0.03	0.04	1					
<u>Types of Financial Advice</u>															
Gets help from profl advisor (0/1)	0.30 **	0.79 ***	0.67 ***	-0.65 ***	-0.09	-0.09	-0.09	0.24 ***	0.26 ***	0.02	1				
Gets help from profl/other non family advisors (0/1)	0.29 **	0.82 ***	0.68 ***	-0.68 ***	-0.10	-0.09	-0.09	0.24 ***	0.28 ***	0.03	0.96 ***	1			
Gets free profl help (0/1)	0.02	0.31 ***	0.24 ***	-0.22 ***	-0.04	-0.03	-0.03	0.02	0.04	0.02	0.40 ***	0.38 ***	1		
# of diff types of helpers (0-3)	0.25 **	0.91 ***	0.63 ***	-0.74 ***	-0.11 ***	-0.10 ***	-0.10 ***	0.21 ***	0.23 ***	0.02	0.80 ***	0.83 ***	0.35 ***	1	
# of diff types of help (0-11)	0.22 **	0.75 ***	0.63 ***	-0.60 ***	-0.09 ***	-0.08 ***	-0.08 ***	0.22 ***	0.22 ***	0.04	0.63 ***	0.64 ***	0.21 ***	0.73 ***	1
How often follow advice (0-7)	0.27 **	0.97 ***	0.64 ***	-0.77 ***	-0.11 ***	-0.11 ***	-0.11 ***	0.19 ***	0.23 ***	0.01	0.78 ***	0.81 ***	0.29 ***	0.88 ***	0.73 ***

B. Controls and Financial Behaviors

	Spent time on FinMgmt last year (0/1)	Get help w/ money mgmt (0/1)	Gets help w/ invst (0/1)	Last time got money help (1- 5)	No money help: Overconfidenc e (0/1)	No money help: Distrust (0/1)	No money help: DK whom to ask (0/1)	Last Yr Self- mgmt: # activities (0-5)	Last Yr Self- mgmt sophis (0/1)	Last Mo Why no svg/invst: Inertia (0/1)	Gets help from profl advisor (0/1)	Gets help from profl/other non family advisors (0/1)	Gets free profl help (0/1)	# of diff types of helpers (0- 3)	# of diff types of help (0-11)	How often follow advice (0-7)
Cognition score	0.18 ***	0.10 **	0.14 ***	-0.12 **	0.08	0.08	0.10 *	0.20 ***	0.13 ***	0.02	0.18 ***	0.19 ***	0.03	0.07 *	0.11 **	0.11 **
FinLit score	0.21 ***	0.13 ***	0.14 ***	-0.17 ***	-0.05	0.07	-0.05	0.18 ***	0.12 **	0.04	0.19 ***	0.18 ***	0.02	0.11 **	0.11 *	0.14 ***
Age	-0.04	0.00	-0.05	-0.01	-0.04	-0.01	-0.05	-0.09 ***	-0.10 **	-0.03	-0.09 **	-0.09 **	0.00	0.03	0.03	-0.01
Male	0.06	-0.06	-0.02	0.00	0.05	0.09 *	0.04	0.07	0.02	0.06	-0.04	-0.05	-0.04	-0.07	-0.04	-0.05
White	0.11 **	0.13 ***	0.12 ***	-0.10 **	-0.04	-0.01	-0.05	0.09 **	0.07 *	0.03	0.15 ***	0.16 ***	0.06 *	0.11 ***	0.11 ***	0.12 ***
Hispanic	-0.06	-0.11 ***	-0.10 ***	0.15 ***	-0.04 **	-0.04 *	-0.04 *	-0.07 *	-0.04	-0.07 ***	-0.11 ***	-0.12 ***	-0.06 ***	-0.10 ***	-0.09 ***	-0.10 **
Married	0.16 ***	0.06	0.10 *	-0.04	0.03	0.08 *	0.02	0.14 ***	0.13 ***	0.03	0.13 ***	0.13 ***	-0.01	0.03	0.11 ***	0.05
Education (yrs)	0.23 ***	0.21 ***	0.21 ***	-0.25 ***	-0.03	0.04	-0.03	0.21 ***	0.16 ***	0.03	0.26 ***	0.25 ***	0.06	0.19 ***	0.19 ***	0.20 ***
Good health	0.14 ***	0.09 **	0.10 **	-0.09 *	0.05 *	0.08 ***	0.05	0.10 *	0.14 ***	0.04	0.11 **	0.11 **	0.04	0.06	0.04	0.08 *
Non-housing wealth (/100k, 2014\$)	0.17 ***	0.16 **	0.18 **	-0.20 **	-0.04 *	0.08	-0.04 *	0.19 *	0.21 **	0.06	0.20 ***	0.19 ***	0.05	0.16 **	0.13 **	0.16 **
Housing wealth (/100k, 2014\$)	0.20 ***	0.18 **	0.21 **	-0.19 **	-0.03	0.09	-0.03	0.17 **	0.15 **	0.06	0.17 **	0.20 **	0.07	0.19 **	0.16 **	0.17 **