

## Financial Literacy and Financial Behavior at Older Ages

July 2021

**Olivia S. Mitchell**

The Wharton School  
University of Pennsylvania

**Annamaria Lusardi**

Global Financial Literacy  
Excellence Center,  
The George Washington  
University School of Business

### Abstract:

Recent research has documented that people are increasingly entering old age holding more debt than ever before, and having done little or no retirement planning. This paper examines some of the reasons why older peoples' financial behaviors depart from the predictions of the life cycle model, where the latter predicts that older persons would be at the peak of their wealth accumulation process, and manage their money so as not to run out of savings in retirement. Drawing on the rapidly growing literature on financial literacy and financial behavior at older ages, we highlight findings on financial literacy patterns. We also document that "better" financial behaviors are strongly associated with greater financial literacy in later life. We close with some thoughts regarding limitations, policy implications, and next steps.

## **Financial Literacy and Financial Behavior at Older Ages**

Olivia S. Mitchell and Annamaria Lusardi

Prepared for the *Handbook on the Economics of Ageing*,  
Eds. David E. Bloom, Alfonso Sousa-Poza, Uwe Sunde

7-29-2021

### **Abstract**

Recent research has documented that people are increasingly entering old age holding more debt than ever before, and having done little or no retirement planning. This paper examines some of the reasons why older peoples' financial behaviors depart from the predictions of the life cycle model, where the latter predicts that older persons would be at the peak of their wealth accumulation process, and manage their money so as not to run out of savings in retirement. Drawing on the rapidly-growing literature on financial literacy and financial behavior at older ages, we highlight findings on financial literacy patterns. We also document that "better" financial behaviors are strongly associated with greater financial literacy in later life. We close with some thoughts regarding limitations, policy implications, and next steps.

## **Financial Literacy and Financial Behavior at Older Ages**

Olivia S. Mitchell and Annamaria Lusardi

The conventional life cycle model of financial behavior proposes that adults nearing retirement will be at or near the peak of their wealth accumulation process. Accordingly, their major financial concern will be how to spend down their wealth so it will last them over their remaining lifetimes. People planning ahead for retirement would normally forecast a drop in income at retirement, since labor earnings will decline, and pensions and Social Security tend to replace less than pre-retirement earnings. Consequently, near-retirees would pay down their debt, or if necessary, carry only debt charging low interest rates into retirement. On the whole, their goal would be to preserve assets that can cover old-age consumption (in addition to setting aside assets to cover bequest motives, if any).

Nevertheless, as we shall show, peoples' financial behaviors in later life are often inconsistent with these simple theoretical predictions. This paper examines some of the reasons why, drawing on a rapidly-growing literature on financial literacy and financial behavior at older ages. In what follows, we first describe the empirical evidence on older persons' financial behaviors and how these behaviors can depart from the predictions of the conventional economic model. Next, we outline recent studies on financial literacy patterns with age, and we show that "better" financial behaviors are strongly associated with greater financial literacy in later life. Finally, we outline some comments regarding limitations, policy implications, and next steps.

### **Retirement Planning, Debt, and Financial Fragility at Older Ages**

One widespread finding from a variety of different datasets is that many older Americans fail to think about, and plan for, retirement, despite the importance of this crucial life change for

older peoples' financial wellbeing. For instance, Lusardi and Mitchell (2007) used data from the Health and Retirement Study (HRS) to examine whether and how much older respondents (age 51-56) had thought about retirement. They found that over one-quarter (28%) of the early Baby Boomers, and almost one-third (32%) of the original HRS cohort (age 51-56 in 1992), said they had not thought about retirement *at all*. Lusardi and Mitchell (2011a, b) also confirmed that only a minority – fewer than one-third – of older respondents (age 50 +) had ever tried to figure out how much they needed to save for retirement, and only 18% of them tried and somewhat succeeded in developing a saving plan. Other research has also confirmed that older people tend to be poorly informed about their prospective Social Security and pension benefits.<sup>1</sup> This is of concern, inasmuch as people who plan for retirement prove to be significantly more likely to accumulate more retirement wealth, compared to their non-planner counterparts (Lusardi and Mitchell 2007, 2011b).

In addition to not thinking about retirement and not planning for it financially, people have become increasingly likely to carry debt into their later years. For instance, Lusardi, Mitchell, and Oggero (2020a, b) analyzed both the 2018 Health and Retirement Study and the 2015 National Financial Capability Study, and they concluded that more older Americans are carrying debt close to retirement, even debt carrying high interest rates and rates above those normally earned on assets. This debt has also increasingly prompted older women to remain employed at older ages (Lusardi and Mitchell, 2018).

A side effect of this rising indebtedness is that it produces feelings of financial stress among the older population. For instance, Lusardi, Mitchell, and Oggero (2020b, c) provided evidence that the most financially distressed subset of the older population faced being contacted by debt

---

<sup>1</sup> Relevant studies include Mitchell (1988); Gustman and Steinmeier (2004), and the Employee Benefits Research Institute's Retirement Confidence Survey (2001).

collectors, held student loans, and carried medical debt. Moreover, population sub-groups most vulnerable to this stress include the least-educated, low income, African-Americans, and women.

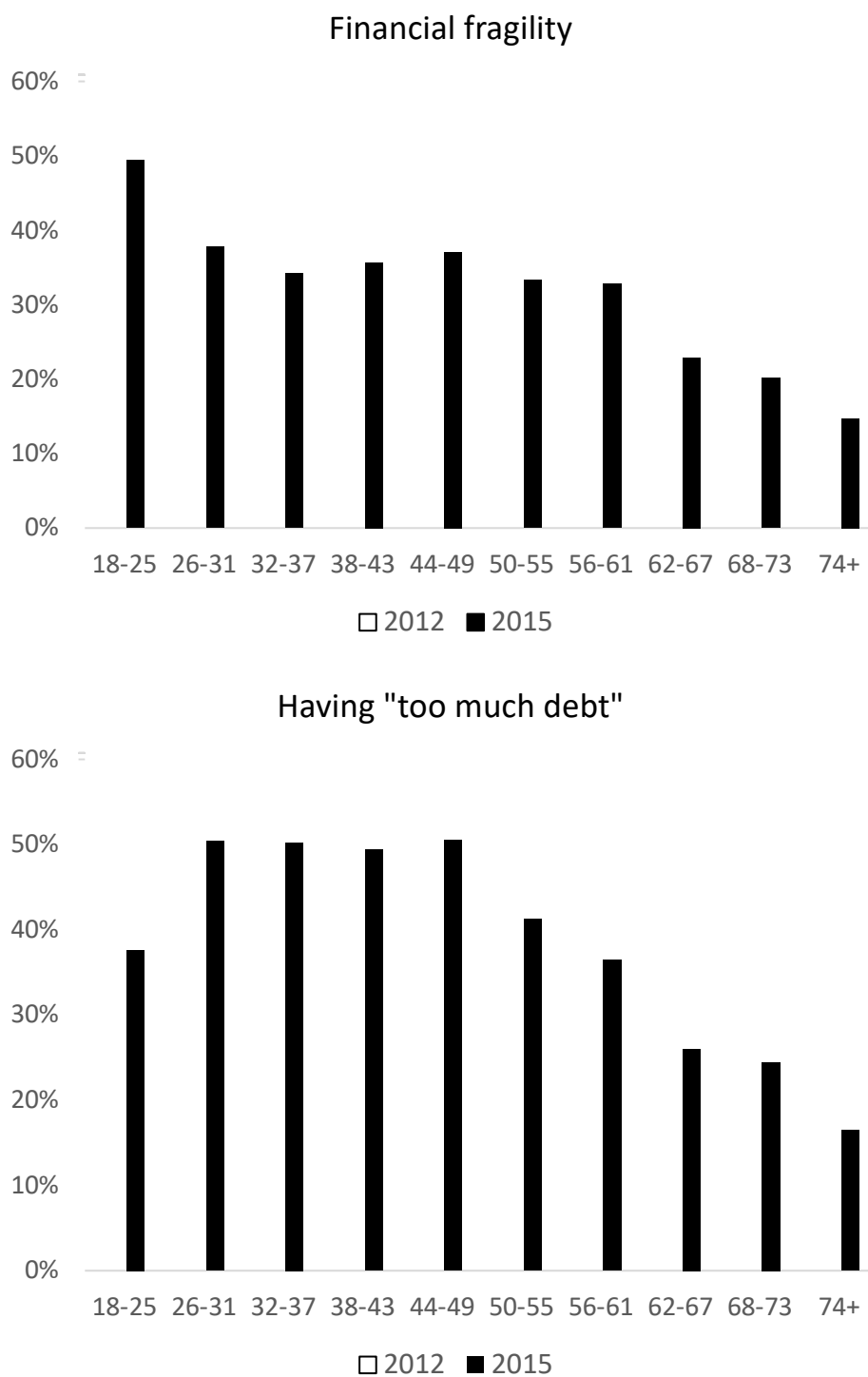
Lusardi, Mitchell, and Oggero (2020a) also studied the relationship between age and self-reported financial problems, using the 2012 and 2015 National Financial Capability Study (NFCS) surveys. Their results indicate an inverted-U shaped age pattern of having “too much debt,” suggesting that financial difficulties do not necessarily rise with age, but that a sizeable proportion of older respondents (more than 30%) continue to report having excessive amounts of debt close to retirement, when they should be at the peak of their wealth accumulation (see Figure 1). A different study, by Lusardi, Schneider, and Tufano (2011), asked respondents the question now most often used to measure financial fragility: *How confident are you that you could come up with \$2,000 if an unexpected need arose within the next month?* Possible answers to this question were: *I am certain I could come up with the full \$2,000; I could probably come up with \$2,000; I could probably not come up with \$2,000; I am certain I could not come up with \$2,000; Don’t know.* Findings from Lusardi, Mitchell, and Oggero (2020a, c) show that levels of financial fragility declined with age, but remained high among the near-retirement groups. That is, over 30% of those age 50+ reported being unable to face a mid-size shock in a month time, even though they would be anticipated to be close to the peak of their wealth accumulation (see Figure 1).

Turning to another topic which can be important for the older population, DeLiema et al. (2020) explored the chances of older individuals self-reporting being subject to investment and other types of financial fraud, using a special module of the HRS. Overall, they found that 5% of persons over the age of 50 stated they had been victimized, though age *per se* was not statistically significant in their multivariate analysis. Other research, including Gamble et al. (2014) concluded that older people were significantly more likely to be defrauded than were younger ones. Thus,

older respondents face a variety of financial challenges, including trying to preserve the wealth they have accumulated.

**Figure 1. Debt concerns and financial fragility in the US population**

Source: Authors' calculations, 2012 and 2015 NFCS



## Financial Literacy at Older Ages

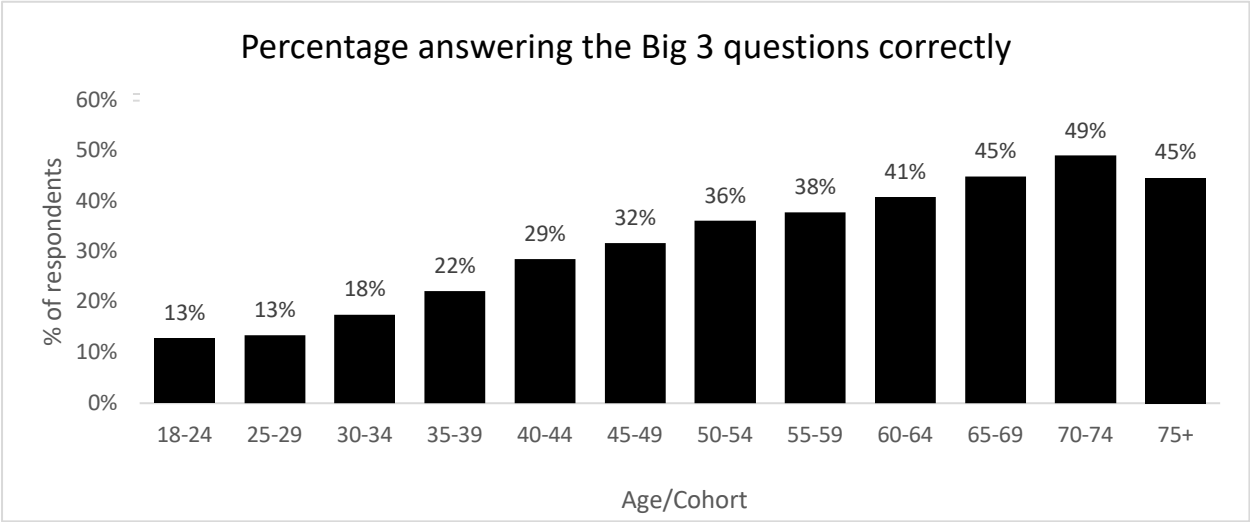
One reason that many older persons may exhibit problematic financial behaviors is that many are not financially literate. For instance, even if an older individual is not cognitively impaired, she may still be unable to protect her financial wellbeing if she does not understand key concepts central to financial decision-making. Lusardi and Mitchell (2008, 2011a) developed a short and easy-to-administer way to evaluate people's financial literacy, defined as the ability to do some simple calculations and knowledge of some fundamental financial concepts. Specifically, their questions assess the following: (i) the capacity to do calculations related to interest rates; (ii) an understanding of inflation; and (iii) an understanding of risk diversification. These questions have become known as the 'Big Three,' as they cover concepts at the basis of most decision-making. Their wording is as follows (correct answers **in bold**):

- *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: [**more than \$102**, exactly \$102, less than \$102, Do not know, refuse to answer.]*
- *Imagine that the interest rate on your savings account was 1% per year and inflation was 2% per year. After 1 year, would you be able to buy: [more than, exactly the same as, or **less than today** with the money in this account, Do not know, refuse to answer.]*
- *Do you think that the following statement is true or false? 'Buying a single company stock usually provides a safer return than a stock mutual fund.' [true, **false**, Do not know, refuse to answer.]*

As the wording indicates, these questions are relatively simple and are intended to measure basic knowledge. One way to create a financial literacy index is simply to sum the number of correct answers to the three questions or to examine the share of respondents

who can answer all of these three questions. Using this approach in the 2018 NFCS, we have tallied results for people age 18+ who are able to answer the Big Three(see Figure 2).<sup>2</sup> One of the striking findings is how low financial literacy is overall in the population and even among older respondents: less than 40% of older respondents age 55-59 know these three basic concepts. While we can expect older respondents to have made many financial decisions, they did so having little knowledge of some of the fundamental financial concepts.

**Figure 2: American’s financial literacy by age.**  
Source: Authors’ calculations using the 2018 National Financial Capability Study



Moreover, since the best way to accumulate wealth over the life cycle is to start early and save consistently, it is disturbing to see very low levels of financial literacy among the young. Mistakes made by the young can compound over time, which is why policy concern about the elderly or retirees do not mean that we should only focus on the older population.

<sup>2</sup> Here correct answers are coded as 1, and incorrect and “don’t know” answers are coded as =0.



Two additional questions were added to the NFCS from its inception in 2009, as reported below. These questions, in addition to the Big Three, have become known as the ‘Big Five.’ They are worded as follows:

- *If interest rates rise, what will typically happen to bond prices? Possible answers included: They will rise; **they will fall**; they will stay the same; there is no relationship; Do not know, refuse to answer.*
- *True or False? 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.[**True**, false, Do not know, refuse to answer]*

An additional question measuring knowledge of interest compounding in the context of debt was also added, more recently, to the NFCS.

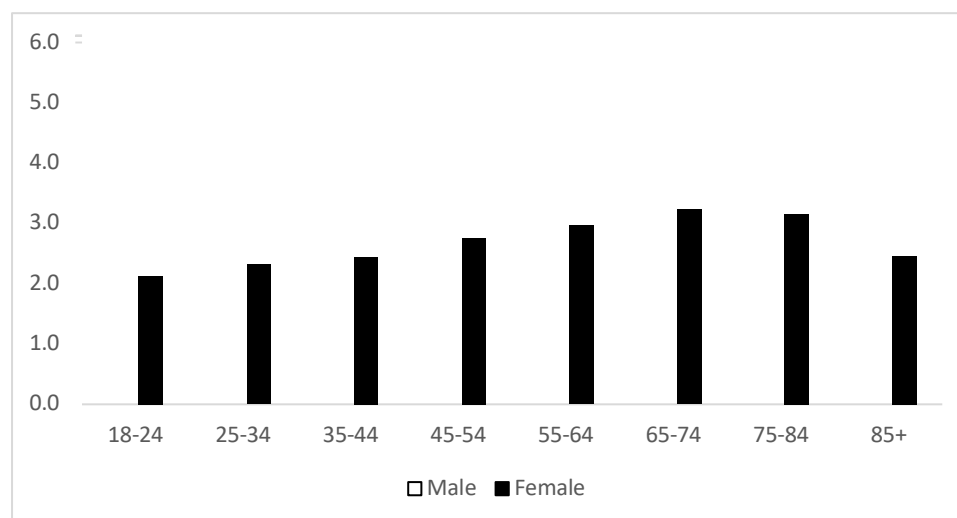
- *Suppose you owe \$1,000 on a loan and the interest rate you are charged is 20% per year compounded annually. If you didn’t pay anything off, at this interest rate, how many years would it take for the amount you owe to double? Possible answers included: Less than 2 years; **at least 2 but less than 5 years**; at least 5 but less than 10 years; at least 10 years; Do not know, refuse to answer.*

We have tallied respondents’ answers to these six financial literacy questions as a comprehensive measure of financial literacy by age and sex in the 2018 NFCS, and again a pattern emerges that is similar to results using the Big Three (see Figure 3). All respondents, as well as only the older ones, can only answer about half of the financial literacy questions. We also want to highlight a group for which financial knowledge is particularly low, namely, women. As Figure 3 shows, there is a consistent gender gap in financial literacy by sex: women consistently know much less than men, both when young and old. Moreover, financial literacy is even lower among

specific subgroups of women: Clark et al. (2021) reported that Hispanic and African-American women had lower financial literacy scores than White women.

**Figure 3. American's financial literacy by age and sex.**

Source: Authors' computations using six Financial Literacy questions in the 2018 NFCS



Since cross-sectional results by age do not differentiate between time and cohort effects, it is also useful to mention a rare panel study by Angrisani et al. (2020), which tracked the same respondents over time. They administered the same Big Five financial literacy questions to respondents in the American Life Panel (ALP) in 2012 and again in 2018. The results indicated that financial literacy scores were fairly stable for people younger than age 65+, with some decline after that age.

**Table 1. Changes in financial literacy by age: Panel data analysis.**  
Source: Angrisani et al. (2020)

<b>Age Cohort</b>	<b>Change in Financial Literacy</b>
18 – 34	-0.014
35 – 44	-0.159*
45 – 54	-0.046
55 – 64	-0.144
65 and older	-0.165***

Notes: \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.10$

A different study by Lusardi, Mitchell, and Curto (2014) used responses to a 2008 HRS module to assess whether older adults' financial literacy shaped their capital market behavior, taking into account age, race, sex, and cognition scores, among other factors. While the main contribution of that work was to examine alternative ways to combine answers to financial literacy questions to construct a better index, an additional interesting finding appears below (Table 2). Specifically, the authors reported that age was not significantly associated with financial literacy scores *per se*, after controlling on cognition and other factors.

**Table 2. Regression of financial literacy index on socio-economic factors.**

Source: Lusardi, Mitchell, and Curto (2014)

	<i>OLS</i> (1)	<i>PRIDIT</i> (2)
Female	-0.048 *** (0.014)	-0.011 *** (0.002)
High School Graduate	0.037 * (0.021)	0.006 * (0.004)
College Graduate	0.062 *** (0.022)	0.008 * (0.004)
Graduate Plus	0.113 *** (0.022)	0.010 ** (0.004)
African American	-0.123 *** (0.021)	-0.017 *** (0.004)
Hispanic	-0.160 *** (0.027)	-0.016 *** (0.004)
Other Race	0.005 (0.031)	-0.003 (0.005)
Age: 65-74	-0.007 (0.014)	-0.002 (0.002)
Age: 75+	-0.028 (0.019)	-0.003 (0.003)
Planning horizon	0.005 (0.006)	0.001 (0.001)
Risk aversion	-0.011 (0.007)	0.000 (0.001)
Total cognition score	0.005 *** (0.002)	0.001 ** 0.000
N	1,147	1,147
R-squared	0.199	0.255

\*\*\* p&lt;0.01 , \*\* p&lt;0.05 \*p&lt;0.1

Of course, when tracking financial literacy at older ages, it is also important to control for cognitive changes that occur in the older population. For instance, Han et al. (2014, 2016) tracked older participants in the Rush Memory and Aging Project for as long as a decade, linking their responses to financial literacy questions and cognitive measures over time. The authors concluded that “financial literacy and cognitive functioning may be at least partially distinguishable constructs that may have some different neuroanatomical correlates” (Han et al. 2014: 226). Similarly, Li et al. (2015) evaluated the association of financial decision making and financial

literacy using a web-based study of 478 US residents age 18-86 linked to credit bureau information, and for whom they had collected information on cognitive function. Despite the small sample and the fact that it was better-educated than the population as a whole, the authors found that the more financially literate had higher credit scores and performed better on hypothetical financial exercises allocating repayments across low versus high credit cards, as well as selecting the best health insurance plan. That study concluded that, to obtain a clear picture of the impact of financial literacy on financial behaviors, it was also important to control on cognitive functioning. Nevertheless, Kim, Maurer, and Mitchell (2018) explored the relationships between financial literacy and cognitive functioning in the HRS, and they reported that financial literacy was more strongly associated with spending time on managing one's finances and receiving financial advice, than was scoring better on cognitive tests at the margin.<sup>3</sup>

In sum, while there is some evidence that financial literacy declines with age in nationally representative panel studies, more research is required to distinguish age from cohort effects. Additionally, at more advanced ages, future research on financial literacy must also investigate the potentially separate influence of cognition, when focusing on aging and financial decision-making.

### **Financial Literacy and Financial Behaviors in Later Life**

A wide range of papers has established a strong positive link between financial literacy and positive economic behavior (for reviews, see Lusardi and Mitchell, 2014; Kaiser et al. 2020; and Santini et al. 2019). Beginning with the special module in the HRS on planning and financial literacy that pioneered the financial literacy questions, to other surveys using similar questions, a very strong relationship between financial literacy and retirement planning emerges from many

---

<sup>3</sup> Finke et al. (2017) reported a negative association of age with a financial literacy index, but that study did not control on cognitive functioning.

studies (see Lusardi and Mitchell 2014 for a review). Specifically, Lusardi and Mitchell (2011a, b) evaluated how financial literacy shape planning for retirement, using a sample of older Americans over the age of 50.<sup>4</sup> Their results showed that financially literate people were more likely to try to figure out their retirement saving needs, and the most critical determinant of doing so was whether they could correctly answer the interest rate question (in the Big Three). This is also the case when they focused on women, as shown in Figure 3, who are more likely to have lower financial literacy levels. More financially literate older women are much more likely to plan for their retirement (Lusardi and Mitchell, 2008).

Several studies have also sought to link financial literacy at older ages to other key financial decisions, one of which was by Kim et al. (2018) using the Health and Retirement Study. Even after controlling on cognitive performance, more financially literate respondents were % more likely to spend time managing their finances; more likely to get help with money management; less likely to avoid asking for help due to over-confidence; and less likely not to know whom to ask for help. Other sets of authors explored the relationship between financial literacy and investment performance, and concluded that the more financially literate do better (van Rooij et al. 2011; Korniotis and Kumar 2011; Clark et al. 2017; Deuflhard et al. 2019). Moreover Lusardi et al. (2020b) reported that the more financially savvy were less likely to have costly auto loans, pay expensive credit card fees, and engage in alternative financial services (e.g. pawn shops, rent to own, etc.).

---

<sup>4</sup> The specific questions used to measure retirement planning were as follows:

- *Have you ever tried to figure out how much your household would need to save for retirement?*
- *If yes: Did you develop a plan for retirement saving?*
- *If yes: How often were you able to stick to this plan: would you say always, mostly, rarely, or never?*

Yu et al. (2021) also reported that a “decline in financial and health literacy is subsequently associated with poorer decision making, higher susceptibility to scams and lower psychological well-being,” using around 1,000 members of the Rush Memory and Aging Project and following them longitudinally. Using the same dataset, Yu et al. (2018) concluded that financial literacy did not decline over time, whereas declining knowledge of health topics was predictive of the likelihood of cognitive impairment. Lusardi et al. (2020a, c) confirmed that financial literacy was negatively related to respondent reports of having excessive debt. Moreover, that study found that NFCS respondents who could answer one additional financial literacy question correctly were less likely to be financially fragile.

These findings have continued to hold true during the COVID crisis. The onset of the pandemic has cast financial fragility in a new light, in view of the huge rise in joblessness, widespread illness, death, and the prospect of many people becoming financially destitute. Clark et al. (2021) examined evidence on almost 3,000 older (age 45-75) American respondents to an online survey run in May of 2020 in the Understanding America Study (UAS), asking people about their financial fragility during the pandemic. The goal was to assess whether respondents who were more financially literate were better able to absorb financial setbacks associated with the virus. The team measured financial fragility using the question designed by Lusardi et al. (2011) cited above, about how confident the respondents were that they could come up with \$2,000 within a month in an emergency. Results confirmed that more financially knowledgeable respondents had a lower chance of being financially fragile. In particular, a respondent who correctly answered the Big Three questions was 6.3 percentage points less likely to report being unable to cover a \$2,000 unexpected expense (a 33.4% reduction in fragility relative to the sample mean), compared to someone who answered none of the three questions correctly.

In sum, the evidence is clear: financial literacy can enhance peoples' financial decisions and well-being, financial security, and resilience, even in abnormal times such as during the COVID-19 pandemic. An implication of this is that providing financial education to the young may well enhance their preparedness for old age, particularly when it helps them make better saving, borrowing, and consumption choices throughout their life cycles. A meta-analysis by Kaiser et al. (2020) shows that the impact of financial literacy on many financial behaviors holds true in many countries and not just the United States.

### **Limitations and Extensions**

There are several potential limitations of examining the effects of financial literacy on behavior, in particular when examining older respondents. One important issue is whether financial literacy is an endogenously-determined variable. For instance, the financially literate may be those who accumulate savings; alternatively, those who accumulate savings might then invest in learning about money management. Addressing causality has been difficult because many data sets often do not provide information on, for example, exogenous sources of variation in financial literacy such as having access to financial literacy in school or the work place, or the opening of a new university where young people could learn about financial literacy or changes in the law affecting financial decisions. A second concern is whether people simply learn by doing: that is, by making many financial decisions about saving and debt, they may also accumulate some financial savvy. A third concern is whether and how well financial literacy is measured, how many questions are needed to measure financial literacy among older respondents, and how important measurement error is. A fourth concern is that psychological biases may affect financial behavior including confidence, self-awareness and so on. Finally, there is much heterogeneity in both



financial literacy and financial behavior, making it difficult to account fully for all of the differences across individuals (Klapper and Lusardi, 2020).

Several of these limitations have now been addressed in a series of research studies summarized by Lusardi and Mitchell (2014). Though finding instruments for financial literacy is often difficult, several surveys have included additional questions that provide more robust ways to assess the impact of financial literacy on behavior. Interestingly, all of these studies show that the impact of financial literacy measured by simple OLS regressions underestimate the true impact of financial literacy. Studies using different measures of financial literacy—including our own research—confirm that even simple or succinct measures of financial literacy do a good job evaluating peoples’ financial knowledge and also in assessing the effects of financial literacy on behavior. A more recent meta-analysis looking at the most rigorous evaluation of the effects of financial literacy using randomized controlled trials confirm earlier results about the economic importance of financial literacy on behavior (Kaiser et al. 2020).

Another way to assess the impact of financial literacy on behavior is to employ a theoretical structure that incorporates the impact of financial literacy on behavioral outcomes. Lusardi, Michaud, and Mitchell (2017) did this using an intertemporal model of saving that incorporated many features of the economic environment, including several sources of uncertainty facing consumers, and the fact that people require some financial sophistication to access what we consider to be complex investments, e.g., stocks. In that model, financial literacy is characterized as a form of human capital that people accumulate, so as to be able to invest in high-return assets. Accordingly, financial literacy is a choice variable and varies over both the life cycle and across individuals. One of the most remarkable findings of that study is how much financial literacy mattered: according to their estimates, 30-40 percent of retirement savings inequality could be

accounted for by financial knowledge. These estimates agreed with the fact that estimates derived from simple OLS estimates tend to underestimate the true effect of financial knowledge.

We recognize that, besides financial literacy, people may also suffer from behavioral biases; face complex financial decisions when information is “shrouded;” and can be subject to sophisticated scams, just to mention a few additional problems related to the economic environment or the way people approach financial decisions. Nevertheless, we emphasize that, during the pandemic, financial literacy was strongly associated with financial resilience (Clark, Lusardi, and Mitchell, 2021), additional evidence of how much basic skills can help people not only in normal times but also in difficult times

### **Policy Implications and Next Steps**

Having shown that financial literacy can be protective against financial errors and stress in later life, it is useful to consider options that could build up such useful knowledge if policymakers sought to do so. The research we summarize here suggests several paths. First, it is essential to teach teens in school about financial matters. The statistics reported above show that young peoples’ as well as adults’ financial literacy is very low, and generally speaking, it is too low to expect them to make good financial decisions. Moreover, many people arrive near retirement without having grasped some of key important concepts central to financial decision-making. School-based financial literacy will provide wide access and also ensure that young adults start their financial lives on a good footing. This is especially important now that young people are starting their economic lives having taken on student loans, which may compete with saving for the long term.

A second option is to make education widely available to the adult population, particularly those in the older age groups. The workplace can be an excellent place, not only because this is where many older people can be found, but also because employers have an incentive to help protect their employees from financial stress, along with incentives to plan and save for retirement. Many of the behaviors discussed in this paper, including lack of planning, the inability to face emergency expenses, carrying debt into retirement, and more, indicate that many employees are not on a path to financial security, and accordingly, they may need help to do so. Because of this, financial education should focus not only on retirement savings, but also on the range of financial decisions people are facing, including debt and debt management. When asked how many hours per week people spent thinking about and dealing with personal finances, low-literate respondents reported a staggering 12 hours per week, six of which were during work hours (Lusardi, Hasler, and Yakoboski, 2020).

A related consideration is that, later in life, people may experience declining cognitive levels. Here too, financial literacy can play a role: for instance, James et al. (2012) found a stronger positive effect of financial literacy on financial decision-making among persons with lower cognitive function. Moreover, financial mistakes made in later life may be more consequential, as there is less time remaining during which to recover. Thus, it is also critically important that people plan not only for retirement, but also plan to obtain help with financial decisions or whom they should delegate financial decisions later in life, before they become cognitively impaired (Rentezelas and Santucci, 2018; Santucci 2018, 2019). Additionally, a combination of low cognition paired with high wealth can render older people targets of scams. In view of the reality that the incidence of dementia is estimated at about 30 percent for persons age 85+, most of these persons will require help managing their money (Belbase et al. 2018). Nevertheless, Belbase and

Sanzenbacher (2017) report that most of the elderly are unaware that their financial abilities are slipping.

In addition to financial education, redesigned financial products can also help people manage their personal finances in later life. For example, target date funds offer implicit investment advice to people who lack knowledge about investment portfolios that adjust risk exposures with age and offer protection from excessive exposure to the stock market at older ages (Mitchell and Utkus 2020). Similarly, annuities not only provide protection against the risk of living too long, but they can also reduce older peoples' exposure to fraud and scams that may occur when people cash out their pensions as lump sums. Nevertheless, not all insured products are necessarily cost-effective. For example, Horneff et al. (2019) showed that money-back guarantees on pension contributions are extraordinarily expensive in this time of low capital market returns.

Given the low levels of financial literacy among the older population and the complexity of decisions that individuals increasingly face close to and after retirement, it is also important that financial regulation be put in place to protect older people in this critical phase of life, protection not only regarding assets but also debt and also protection against scams and fraud. There are numerous federal, state, and private sector agencies which offer older persons and their family's protection against financial misbehavior. Several of these are outlined in the National Academy of Science volume (Blazer et al. 2015), while others are discussed by DeLiema and Deevy (2017). Key interventions include training financial advisors and bank personnel, and preventing fraudulent exploitation via community outreach. Moreover, data-driven strategies are now in place at retail banks to identify and alert customers to suspicious transactions. US financial institutions are also now responsible for reporting what might be perceived as financial crimes to law enforcement, and federal regulation now charges the Securities and Exchange Commission (SEC)

as well as the Financial Industry Regulatory Authority (FINRA) with overseeing stock brokers and investment firms. Some individual states have also promoted laws permitting financial advisors to contact clients' legal representatives or family members if the advisors suspect exploitation. Another area of growing interest is how medical professionals can engage with patients or their guardians, if they suspect financial fraud is being committed.

We close by acknowledging that the shattering effects of the COVID-19 pandemic are likely to leave a scar on the personal finances of many Americans for years to come. Continuing long-term job losses, persistent health problems, home evictions, food scarcity, and other corrosive effects of the virus have dramatically altered peoples' perceptions of their potential longevity and their need to save (Hurwitz et al. 2021). For all of these reasons, it is now high time to focus on strategies to help all people, the young as well as older individuals, find and remain on a path to financial security.

## References

- Angrisani, Marco, Jeremy Burke, Annamaria Lusardi, and Gary Mottola (2020). “The Stability and Predictive Power of Financial Literacy: Evidence from Longitudinal Data.” NBER Working Paper 28125.
- Belbase, Anek and Geoffrey T. Sanzenbacher. (2017). “Cognitive Aging and the Capacity to Manage Money.” CRR 17-1.
- Belbase, Anek, Geoffrey T. Sanzenbacher, and Abigail Walters. (2018). “Do People with Dementia Get Help Managing Their Money?” CRR Report March 2018, Number 18-6.
- Blazer, Dan G., Kristine Yaffe, and Catharyn T. Liverman, Eds. (2015). *Cognitive Aging: Progress in Understanding and Opportunities for Action*. Washington, D.C.: National Academy of Science.
- Clark, Robert L., Annamaria Lusardi, and Olivia S. Mitchell. (2017). “Financial Knowledge and 401(k) Investment Performance.” *Journal of Pension Economics and Finance*. 16(3): 324-347.
- Clark, Robert L., Annamaria Lusardi, and Olivia S. Mitchell. (2021) “Financial Fragility during the COVID-19 Pandemic.” *American Economic Association Papers & Proceedings*. 111: 292-96.
- Clark, Robert, Annamaria Lusardi, Olivia S. Mitchell, and Hallie Davis. (2021). “Factors Contributing to Financial Well-Being among Black and Hispanic Women,” *Journal of Retirement*, Summer 2021.
- DeLiema, Marguerite and Martha Deevy. (2017). “Aging and Exploitation: How Should the Financial Industry Respond?” In Olivia S. Mitchell, P. Brett Hammond, and Stephen Utkus, eds. *Financial Decision Making and Retirement Security in an Aging World*. Oxford: Oxford University Press, pp. 153-184.
- DeLiema, Marguerite, Martha Deevy, Annamaria Lusardi, and Olivia S. Mitchell. (2020). “Financial Fraud among Older Americans: Evidence and Implications.” *The Journals of Gerontology: Series B*, 75(4): 861-868.
- Deuflhard, Florian, Dimitris Georgarakos, and Roman Inderst. (2019). “Financial Literacy and Saving Account Returns.” *Journal of the European Economic Association*. 17(1):131–164
- Employee Benefits Research Institute. (2001). “Retirement Confidence Survey (RCS), Minority RCS, and Small Employer Retirement Survey.” *Issue Brief* No. 234.
- Gamble, Keith J., Patricia Boyle, Lei Yu, and David Bennett. (2014). “The Causes and Consequences of Financial Fraud among Older Americans.” CRR Report, Boston College.

- Gustman, Alan, and Thomas Steinmeier. (2004). "What People Don't Know about their Pensions and Social Security." In Gale, W., Shoven, J., Warshawsky, M. (Eds.), *Private Pensions and Public Policies*. Brookings Institution: Washington, DC, pp. 57–125.
- Finke, Michael S., John S. Howe, and Sandra J. Huston. (2017). "Old Age and the Decline in Financial Literacy." *Management Science* 63(1): 213-230.
- Han, S. Duke, Patricia A. Boyle, Konstantinos Arfanakis, S Debra Fleischman, Lei Yu, Bryan D. James, and David A. Bennett. (2016). "Financial Literacy is Associated with White Matter Integrity in Old Age." *Neuroimage*, 130: 223–229.
- Han, S. Duke, Patricia A. Boyle, Lei Yu, Debra A. Fleischman, Konstantinos Arfanakis, Sue Leurgans, and David A. Bennett. (2014). "Financial Literacy is Associated with Medial Brain Region Functional Connectivity in Old Age." *Arch Gerontol Geriatr.* 59(2): 429–438.
- Horneff, Vanya, Daniel Liebler, Raimond Maurer, and Olivia S. Mitchell. (2019). "Money-Back Guarantees in Individual Retirement Accounts: Still a Good Deal?" NBER WP 26406
- Hurwitz, Abigail, Olivia S. Mitchell, and Orly Sade (2021). "Longevity Perceptions and Saving Decisions during the COVID-19 Outbreak: An Experimental Investigation." *American Economic Association Papers & Proceedings*, 111: 297-301.
- James, B.D., Boyle, P.A., Bennett, J.S., Bennett, D.A. (2012). "The Impact of Health and Financial Literacy on Decision Making in Community-based Older Adults. *Gerontology* 58: 531–539.
- Kaiser, Tim, Annamaria Lusardi, Lukas Menkhoff, and Carly Urban. (2020). "Financial Education Affects Financial Knowledge and Downstream Behaviors." NBER Working Paper 27057, forthcoming *Journal of Financial Economics*.
- Kim, Hugh Hoikwang, Raimond Maurer, and Olivia S. Mitchell. (2018). "Cognitive Ability, Financial Literacy, and the Demand for Financial Advice at Older Ages: Findings from the Health and Retirement Study." *TIAA Institute Research Dialogue*.
- Klapper Leora and Annamaria Lusardi. (2020). "Financial Literacy and Financial Resilience: Evidence from Around the World," *Financial Management* 49(3): 589-614.
- Korniotis, George M., and Alok Kumar. (2011). "Do Older Investors Make Better Investment Decisions?" *The Review of Economics and Statistics* 93(1): 244–265
- Li, Ye, Jie Gao, A. Zeynep Enkavi, Lisa Zaval, Elke U. Weber, and Eric J. Johnson. (2015). "Sound Credit Scores and Financial Decisions Despite Cognitive Aging." *Proceedings of the National Academy of Sciences* 112(1): 65-69.

- Lusardi, Annamaria, Andrea Hasler, and Paul Yakoboski. (2020). "Building up Financial Literacy and Financial Resilience." *Mind & Society*: 1-7
- Lusardi, Annamaria, Pierre-Carl Michaud, and Olivia S. Mitchell. (2017). "Optimal Financial Knowledge and Wealth Inequality." *Journal of Political Economy*. 125(2): 431-477.
- Lusardi, Annamaria and Olivia S. Mitchell. (2007). "Baby Boomer Retirement Security: The Role of Planning, Financial Literacy, and Housing Wealth." *Journal of Monetary Economics* 54: 205-224.
- Lusardi, Annamaria and Olivia S. Mitchell. (2014) "The Economic Importance of Financial Literacy: Theory and Evidence." *Journal of Economic Literature* 52 (1): 5–44.
- Lusardi, Annamaria and Olivia S. Mitchell. (2011a). "Financial Literacy and Planning: Implications for Retirement Well-being." In *Financial Literacy: Implications for Retirement Security and the Financial Marketplace*. Eds. O.S. Mitchell and A. Lusardi. Oxford: Oxford University Press, pp. 17-39.
- Lusardi, Annamaria and Olivia S. Mitchell. (2011b). "Financial Literacy and Retirement Planning in the United States." *Journal of Pension Economics & Finance*, 10(4):509.
- Lusardi, Annamaria and Olivia S. Mitchell. (2018). "Older Women's Labor Market Attachment, Retirement Planning, and Household Debt." In Golden, C. and L. Katz, eds. *Women Working Longer: Increased Employment at Older Ages*. Chicago: University of Chicago Press, pp. 185-216.
- Lusardi, Annamaria and Olivia S. Mitchell. (2008). "Planning and Financial Literacy: How Do Women Fare?" *American Economic Review* 98(2): 413–417.
- Lusardi, Annamaria, Olivia S. Mitchell, and Vilsa Curto. (2014). "Financial Literacy and Financial Sophistication in the Older Population." *Journal of Pension Economics & Finance* 13(4): 347 - 366
- Lusardi, Annamaria, Olivia S. Mitchell, and Noemi Oggero. (2020a). "Debt and Financial Vulnerability on the Verge of Retirement." *Journal of Money, Credit and Banking*. 52(5): 1005-1034.
- Lusardi, Annamaria, Olivia S. Mitchell, Noemi Oggero. (2020b). "Debt Close to Retirement and its Implications for Retirement Well-being." In Olivia S. Mitchell and A. Lusardi (eds) *Remaking Retirement*. Oxford University: 15-34.
- Lusardi, Annamaria, Olivia S. Mitchell, and Noemi Oggero. (2020c). "Understanding Debt in the Older Population." NBER Working Paper N. 28236.



- Lusardi, Annamaria, Daniel J. Schneider, and Peter Tufano. (2011). “Financially Fragile Households: Evidence and Implications.” *Brookings Papers on Economic Activity*. Spring: pp. 83-150
- Mitchell, Olivia S. (1988). “Worker Knowledge of Pension Provisions.” *Journal of Labor Economics* 6: 21–39.
- Mitchell, Olivia S. and Steve Utkus. (2020). “Target Date Funds and Portfolio Selection in 401(k) Plans.” NBER Working Paper N. 26684.
- Peterson, J.C., DPR Burnes, Paul L. Caccamise, Art Mason, Charles R. Henderson Jr., Martin T. Wells, Jacquelin Berman, Ann Marie Cook, Denise Shukoff, Patricia Brownell, Mebane Powell, Aurora Salamone, Karl A. Pillemer, and Mark S. Lachs. (2014). “Financial Exploitation of Older Adults: A Population-Based Prevalence Study.” *Journal of General Internal Medicine* 29(12): 1615-1623.
- Rentezelas, Jeanne and Larry Santucci. (2018). “Combining Forces to Combat Elder Financial Victimization How Consumers Can Avoid the Financial Pitfalls of Cognitive Aging and What They Should Be Asking Their Financial Institutions.” *FRB Philadelphia Discussion Paper*.
- Santini, Fernando D. O., Wagner Ladeira, Frederike M. B. Mette, and Mateus C Ponchio. (2019). “The Antecedents and Consequences of Financial Literacy: A Meta-analysis.” *International Journal of Bank Marketing* 37(6): 1462-1479.
- Santucci, Larry. (2018). “Addressing the Financial Well-Being of Older Adults.” Federal Reserve Bank of Philadelphia. *CFI in Focus*.
- Santucci, Larry. (2019). “Aging, Cognition, and Financial Health Building a Robust System for Older Americans.” *Conference Summary*, Consumer Finance Institute, Federal Reserve Bank of Philadelphia.
- van Rooij, Martin, Annamaria Lusardi, and Rob Alessie, (2011). “Financial Literacy and Stock Market Participation.” *Journal of Financial Economics* 101: 449–472.
- Yu, Lei, Robert S. Wilson, S. Duke Han, Sue Leurgans, David A. Bennett, and Patricia A. Boyle. (2018). “Decline in Literacy and Incident AD Dementia Among Community-Dwelling Older Persons.” *Journal of Aging and Health* 30(9): 1389-1405.
- Yu, Lei, Mottola, Gary, Bennett, David A., and Boyle, Patricia A. (2021). “Adverse Impacts of Declining Financial and Health Literacy in Old Age.” *The American Journal of Geriatric Psychiatry*, February. <https://doi.org/10.1016/j.jagp.2021.02.042>

This and other Global Financial Literacy Excellence Center  
working papers and publications are available online at [www.gflec.org](http://www.gflec.org)

# GFLEC

GLOBAL FINANCIAL LITERACY  
EXCELLENCE CENTER

**Global Financial Literacy Excellence Center**  
The George Washington University School of Business  
Duquès Hall, Suite 450  
2201 G Street NW  
Washington, DC 20052

T: 202-994-7148 | E: [gflec@gwu.edu](mailto:gflec@gwu.edu)