

## Challenges for Financial Decision Making at Older Ages

Keith Jacks Gamble

### Abstract

The retirement years can be a time of one's life enriched by new freedom and comfort. While increased longevity has brought great joy into seniors' lives, it has also brought about financial challenges for which many seniors and their families are unprepared. Although individuals continue to build their financial experience throughout their lifetime, their financial capabilities may diminish as they age. Older adults who experience cognitive decline often have difficulties managing their money. Financial mistakes made by the elderly include falling victim to financial fraud, failing to plan for future expenses, and forgetting to pay amounts owed. Most older individuals have exited the labor market, which limits their ability to respond to financial shocks. This article reviews research findings on what happens to cognition at older ages and how diminished financial capacity affects the financial landscape for seniors. I also outline what can be done to address these challenges before they become problems that can no longer be ignored.

Keywords: aging, retirement, financial decision making, cognitive decline, fraud, scams

Keith Jacks Gamble  
Department of Finance  
Driehaus College of Business  
DePaul University  
1 E. Jackson Blvd., Suite 5500  
Chicago, IL 60604-2287  
[kgamble@depaul.edu](mailto:kgamble@depaul.edu)  
<http://condor.depaul.edu/kgamble/>

**PRELIMINARY AND INCOMPLETE**

## **The joy of increased longevity**

Americans now are living longer and better than ever before thanks to major medical and public health advances and greater access to health care. These biomedical advances of the 20<sup>th</sup> century increased longevity by almost three decades. Life expectancy at birth in the United States has reached a record high of 78.8 years. Now a 65-year-old man can expect to live another 17 years while a 65-year-old woman can expect another 20 years. (REF) With increased longevity, older Americans now have more time to stay in the workforce or in civic and volunteer activities that enrich their communities.

Older adults contribute to society in many ways, such as working, volunteering, or providing unpaid care to family members. Eighty percent of adults ages 65 to 74, and almost sixty percent of adults ages 75 and older, contribute their time and energy to at least one of these engagements (REF). One study estimated that the contributions of older adults through volunteering and unpaid family caregiving alone are worth more than \$160 billion per year to our nation. (REF) Older Americans' knowledge, experience, wisdom, and caring improve prospects for future generations. To help every American enjoy a longer, better, more engaged and independent life, our society needs to address the challenges and opportunities inherent in an aging population.

## **Demographic aging population**

Currently, there are 45 million people 65 and older, which is about 15% of the total US population. In the next decade this segment is expected to grow to nearly 70 million. Over 10,000 baby boomers are turning 65 every day, and the fastest growing demographic in the U.S. is women over age 85. The number of people 85 years and over is projected to increase by about

50 percent by 2030 and double from there by 2050. Currently, people 65 and older are disproportionately wealthy. They collectively hold \$100 trillion in wealth. (US Census Bureau; Federal Reserve Survey of Consumer Finances)

This age wave is expected to continue well into the next century. The population age 65 and over has increased from 35.9 million in 2003 to 44.7 million in 2013 (a 24.7 percent increase) and is projected to more than double to 98 million in 2060. By 2040, there will be about 82.3 million older persons, over twice their number in 2000. People 65 and older represented 14.1 percent of the population in the year 2013 but are expected to grow to be 21.7 percent of the population by 2040. The 85+ population is projected to triple from 6 million in 2013 to 14.6 million in 2040. This 'greying of America' will result in cognitive decline, which is frequently encountered at older ages, becoming one of the most significant health problems in the country.

The majority of assistance for older Americans is generally provided at home by informal caregivers, especially family and friends. Informal caregivers are the most familiar face of caregiving, and are often the primary lifeline, safety net, and support system for older adults. Although rewarding, caregiving can be demanding, and informal caregivers need to be supported and sustained with appropriate resources. With family structures changing as Americans are having fewer children and increasingly moving away from families of origin, the availability of family members to provide care is diminishing. Due to this and other factors, a growing demand for professional caregivers is expected, which raises issues of recruiting and retaining the direct-care workforce. Direct care is a demanding profession with low wages, long hours, and limited benefits. It is critical for there to be efforts to recruit and retain a sufficient number of direct-care workers to keep pace with the growing need.

Technology has transformed what it means to age in America. An increasing array of web-based technologies, robotics, and mobile devices help older adults access the services they need, stay connected to family and friends, and remain active and independent. It is time to shift the conversation about aging from one that assumes the coming age wave will overwhelm us, to one that recognizes that it can help lift everyone by tapping the power of experience to improve our families, our communities, and our society. Contributing to our society and communities in a meaningful way will be the new definition of aging in America as we go forward.

### **Cognition as we age**

There are two forms of intelligence – fluid and crystallized. Fluid intelligence (FI) is the ability to process new information and learn, such as the ability to solve abstract problems quickly. In addition to processing speed, FI includes working memory and attention. On average, FI peaks around age 20. Even the healthiest people experience diminished FI as they age. It declines on average about 30 IQ points from age 20 to age 70 (NEFE Columbia). In contrast, crystallized intelligence (CI), which is the wisdom obtained from skill building, knowledge accumulation, experience, culture, and education, improves over most of one's lifetime until it levels off around retirement age.

Fluid and crystallized intelligence combine to produce cognitive performance. Thus, together the resulting cognitive performance of a person typically declines during retirement years after peaking for most people in their early-to-mid 50s (Agarwal et al. 2009). Thus, this stage of life when financial decision-making ability is at its peak is an ideal time to develop a financial intervention plan for what to do if and when one's cognitive ability begins to suffer.

People can also proactively increase their crystalized knowledge by investing time and energy into financial education, including the developing research about what happens to financial decision making as we age. NEFE funded research from Columbia shows increased financial knowledge can help counteract the loss of fluid intelligence with age. Planning for cognitive decline during this stage of life can coincide with planning for when to begin retirement and how to draw down assets. Many individuals are spurred into considering their own potential for future cognitive decline during this period as they may be taking care of an aged parent who is suffering and the fallout.

The age when cognitive decline begins to take hold varies greatly, and it progresses at different rates (REF). Although the majority of older Americans report not cognitive difficulties, the risk of falling victim to cognitive decline increase with age. Mild cognitive impairment (MCI), dementia, and Alzheimer's disease (AD) are distinct but related types of cognitive decline. MCI consists of some lapses in short-term memory, such as misplacing an object and forgetting a commonly used word. People experiencing MCI take longer to process information than they used to. MCI may be the only version of cognitive decline that one experiences with aging. For some this condition leads to the more advanced cognitive difficulty described by dementia.

Dementia is a significant decline in cognitive ability that causes interference in the activities of daily living. People with dementia regularly feel confused and disoriented. There are different types of dementia with varying causes and symptoms. For example, vascular dementia is a result of oxygen deprivation in the brain during a stroke.

AD is the most common type of dementia. It is a debilitating form of cognitive decline, which significantly impairs memory and thought processes. The disease can be devastating for

both the individuals afflicted and their families. People with AD often need expensive health care and long-term support, which often includes continuous monitoring and assistance with the activities of daily living. Currently, more than 5 million Americans have been diagnosed with AD and related dementias. Although estimates are that only about 3% of people aged 65 to 74 have AD, this percentage rises to almost 40% of the population aged 85 and older. Projections estimate that about 13.2 million older Americans will have AD and related dementias by 2050 (HHS website). AD has been estimated to have a global cost of \$183 billion currently, which is about 1% of world gross domestic product (GDP). It has also been estimated to increase in cost to \$1 trillion or about 3% of world GDP by 2050 (Milken Institute). In 2011, the US government passed the National Alzheimer's Project Act, which aims to change this projected trajectory of the disease.

Hard to recognize one's own cognitive decline.

Heiss 2014 NBER – lots of heterogeneity in health outcomes over time (similar to heterogeneity in cognitive outcomes)

### **Impact of diminished cognition on financial decision making**

Financial decision-making is one of the first skills to deteriorate as cognitive abilities decline. The early warning signs of cognitive decline that can impact financial decision making quality include difficulty in completing financial tasks, missing important details when interpreting financial documents, difficulty in mental math, loss of financial knowledge previously understood, and inability to identify financial risks. Pottlow (2012) finds that bankruptcy filings among those age 65 and older is the fastest growing of all demographics.

Li et al. (2013) finds less cognitive ability hurts credit scores. Credit scores are a powerful measure of the quality of past financial decision making and the future financial costs that will be faced. Age, fluid intelligence, and financial literacy strongly related to credit scores. Credit scores are generally higher at higher ages. Credit scores are higher for those with better fluid intelligence and financial literacy. Of these, financial literacy had the biggest impact, even more than general crystallized intelligence. These results held even when the effects of time preference, risk preferences, and the big five personality traits were considered (openness, conscientiousness, extraversion, agreeableness, and neuroticism). The powerful effect of financial literacy also holds when controlling for financial experience. Knowledge matters, not just experience.

Cognitive changes: Weierich et al. (2011) Positivity affect – older adult brains are likely to focus only on the positive aspects of a decision → perhaps creates greater fraud risk, Boyle et al. (2013) cognitive decline impairs financial and health literacy (without dementia), Boyle et al. (2012) Poor decision making is a consequence of cognitive decline for though without dementia, and effect of mild cognitive impairment costs decision making quality as much as 10 years of typical aging; James (2015) more rapid cognitive decline predict higher levels of risk aversion and temporal discounting.

Recent studies find that older individuals are prone to worse financial decision making. For example, Korniotis and Kumar (2011) find that older investors exhibit less investment skill, and Agarwal et al. (2010) find that suboptimal credit behavior increases past age 53. Finke, Howe, and Huston (2011) suspect that financial decision making ability declines with age as financial literacy declines; indeed, they show that average financial literacy scores are lower by about 1% for each year after age 60. These existing studies indirectly examine the effects of

cognitive aging on financial ability by comparing across individuals of different ages. Such comparisons confound the effect of cognitive decline with other differences, such as cohort effects. For example, Malmendier and Nagel (2011) find the cohort effect of early-life economic conditions on risk taking decades later. Direct measures of cognition collected repeatedly from the same individuals are needed in order to identify the effect of a decrease in cognition on financial ability.

Gamble et al. (2015) uses longitudinal data from the Rush Memory and Aging Project, a large cohort study of aging, to identify, within individuals, the impact of decreases in cognition on financial literacy, financial confidence, and self-participation in financial decisions. In analyses restricted to persons without dementia based on a detailed clinical evaluation, we find that a decrease in cognition is a significant predictor of a decrease in financial literacy among older Americans. Drops in cognition are associated with decreases in each of the components of financial literacy we measure, both numeracy and financial knowledge. We use our rich cognitive assessment including measures of five domains of cognition to identify which components of cognition are driving these changes in financial literacy. We find that decreases in episodic memory and visuospatial ability are associated with a decrease in numeracy while a decrease in semantic memory is associated with a decrease in financial knowledge.

Although participants experiencing decreased cognition also show declines in their financial literacy, these participants may not recognize or may be reluctant to admit to this decline in their financial capability. We find that a decrease in cognition predicts a drop in self-confidence in general, but importantly, it does not predict a decrease in confidence in managing one's own finances. Similarly, Holland and Rabbitt (1992) find that individuals in their 70s do not rate their sensory abilities as poor any more so than individuals in their 50s despite

significant declines in their measured ability. Importantly, they find that those older individuals who recognize their decline in sensory ability adjust their road-use behavior and have fewer accidents. Perhaps there is an analogy between driving and financial choices, and older Americans who have a drop in cognition would be more likely to take precautions in their financial decision making if made aware of the connection.

The detrimental effects of cognitive aging on the financial choices of older Americans can potentially be mitigated with help for financial decisions provided within or outside of the household. We find that individuals who experience a decrease in cognition are more likely to stop managing their own finances and pass on this responsibility to their spouse, and they are more likely to get financial help from outside their household. However, there are still many participants who are experiencing cognitive decreases who are not getting help with their financial decisions. Even among the participants experiencing statistically significant decreases in cognition, about half are not getting help with their financial decisions. While these participants are likely to benefit from trustworthy, knowledgeable advice, knowing who to trust in financial matters can be problematic.

### **Preparation for the possibility of cognitive decline**

There is a lot about aging that cannot be predicted; however, preparing is essential to manage the increased risks associated with aging. Financial planners and elder law attorneys say that their clients routinely overestimate how healthy they will be as they age. They also tend to think they are financially protected than they really are. Finally, they also tend to overestimate how much their families will assist them if needed. These misperceptions lead many to delay on preparations for the possibility of cognitive decline.

Financial planning for cognitive decline needs to be discussed early and often. Along with planning for long-term care and death, these conversations are not pleasant, but necessary. Surprisingly few people discuss these scary possibilities with their family or even their financial advisors (REF, state street survey noted on p7). Family members who are expected to aid when their loved one becomes impaired need to have all the important financial information in advance. These transition plans should respect the older person's independence and outline the monitoring that is needed to know when assistance is needed. Failing to prepare is preparing to fail.

In the 1980s the corporate world recognized the large risk it was taking in giving out lifetime pension payouts to retirees. Prior to 1980, retirees relied on a combination of employer-sponsored defined benefit pensions and Social Security for monthly income. For these retirees institutions shouldered the responsibility and the risk of investing contributions and managing payouts. Since 1980, many defined benefits plans have been replaced by defined contribution plans, which leave the responsibility of managing investments and withdrawals to the individual retiree. Poterba, Venti, and Wise (2008) document that in 2000, 87% of personal retirement contributions went to individual accounts with the largest proportion of these going to 401(k) accounts. The next generation of retirees will have the responsibility and risk of managing the money in these individual accounts sensibly. As the baby boom generation of Americans begins to retire, there will be an ever larger portion of the population shouldering this great financial responsibility of managing their own retirement wealth.

After the massive shift from defined benefit pensions to self-directed defined contribution retirement accounts, economists documented the many heuristics and biases of these new retirement savers (Benartzi and Thaler (2007)). Research also helped to reveal solutions such as

automatic enrollment and default investment portfolios (Choi et al. 2004) that have greatly increased retirement savings. As this generation of workers begins to retire, we believe that research on the financial decision making of older Americans will be equally as important in revealing the heuristics, biases, and behaviors of this new generation of retirees. This information is essential to developing the innovations that will help them to maximize their well-being during this last period of their lives when many important and influential financial decisions are made.

Importance of nudge as a potential for developing solutions that aid aging, such as the suggested tip amounts being printed on the bill.

Ignorance is not bliss in the long run. Starting the conversation about cognitive decline with ones loved ones and financial advisors long before it begins can proactively manage the risks brought about by cognitive decline. Preparation can help people maintain control in a potentially stressful situation. Deciding to ‘cross that bridge when I come to it’ is dangerous because of the difficulty of one recognizing their own cognitive decline and then the difficulty of knowing what to do next when one does recognize it as their reality. It is a particularly stressful experience, and stress further hampers the quality of financial decision making.

One recent survey of individual investors revealed that most do not have a plan for if and when they experience cognitive difficulty making financial decisions. Why? Some may not be aware of cognitive decline as a risk factor to the success of their portfolio decisions. They may not be aware of how widespread it is, nor how cognition impacts the quality of financial decision making. As with planning for one’s own passing, preparing for one’s own cognitive decline is psychologically fraught. Many older Americans greatly fear losing their independence and thus may be resistant to seeking out help even when they recognize they are making poor financial choices. Losing the ability to drive and losing control of your own finances are perhaps the two

greatest losses of independence older Americans experience. Continuing to make financial decisions while cognitively impaired is like continuing to drive when one's senses are impaired; doing so greatly increases the harm done when and if a mistake is made. Unlike experiencing blurry vision, those experiencing cognitive decline may not be aware that it is happening. Recognition is a cognitive ability. Having endured the pain and hardship resulting from experiencing a loved one with cognitive impairment does make people about twice as likely to plan for their own cognitive decline (state street survey). A recent survey of financial advisors found that about 3/4ths of financial advisors report that they provide information and support for the potential impact of aging on financial decision making, yet about a quarter of clients are satisfied with the information and support they get for the risks of aging.

Behavioral interventions can reduce one's risk to develop AD, lessen its symptoms, and slow the progress of the disease. Regular exercise and sleep, a balanced diet, cognitive exercises, and social involvement are recommended.

Hsu and Willis 2013 NBER – married couple switch financing decisions to cognitively intact spouse, couples with greater financial resources are more responsible

Treatment programs and lifestyle changes can help protect older people from the harmful effects of cognitive decline. These include exercise, stress management, adequate sleep, mental stimulation, balanced diet, and social engagement. Important to establish an network of care: medical, psychological, social, environmental, and legal.

### **Emotional vulnerabilities**

Check out standford center paper in references

Planning for the possibility of cognitive decline in the future is not fraught with the level of emotional problems brought about by the struggle of trying to act once impairment has taken

hold. The stigma of experiencing cognitive difficulty can cause emotional disturbance that can further cognitive impairment. AD and dementia have been ranked as the scariest age-related debilitating conditions, even more than arthritis, heart disease, stroke, and cancer (Merrill Lynch Health and Retirement Study). Financial advisors may be afraid to speak up to a client when they notice cognitive decline for fear of losing the client's business. Having a client who is experiencing cognitive decline, but has no plan of action to address it, can put the advisor in a legal position to act against the client's wishes when necessary to meet their fiduciary duty. Most of the time advisors will contact the client's spouse or partner about their concerns. Unfortunately, the spur for outside intervention is too often a situation that confused or overwhelmed the older person and caused them significant harm. At this point they may be distraught or exhausted and therefore struggle with implementing needed interventions. Unscrupulous people who notice that an older person is experiencing cognitive difficulties first may seek to exploit them.

### **Problem of senior fraud**

The Financial Industry Regulatory Authority (FINRA) finds that older Americans are the most targeted by scammers of any demographic group. They are also more likely to fall victim to fraud when targeted. A 2011 study by MetLife Institute using published fraud reports finds that elder fraud abuse currently costs about \$3 billion in the US (Metlife study of elder fraud abuse). This estimate likely understates the true cost of the problem because so much fraud goes unreported. True Link report in 2015 estimated the cost is over \$36 billion (True Link report). The problem includes both financial abuse of the elderly by friends and family as well as financial scams perpetrated by unrelated parties. There are numerous types of scams that target seniors including health care fraud, internet fraud, investment schemes, fraudulent anti-aging

products, sweepstakes and lottery scams, and the grandparent scam. The grandparent scam is particularly insidious because it prays on one of older Americans strongest loves, that of their own grandchildren. There are many grandparents who will act quickly without questioning when told that their grandchildren are in serious trouble and need immediate financial assistance. In the grandparent scam the story is simply made up to pray on the grandparent's emotions.

Seniors experiencing cognitive decline are particularly vulnerable to financial fraud, which can have a detrimental effect on their wellbeing. These vulnerable seniors make perfect targets for unscrupulous scammers because they often have money, are trusting, and may not be aware of what is going on when involved in a scam. This problem is further compounded by reluctance to report that they have been scammed because of humiliation and social stigma.

*Little is known about why many older Americans are susceptible to financial fraud and what factors contribute to this vulnerability. There is a lack of available data that include the required information about fraud victimization along with personal characteristics of victims and those not victimized. This research study utilizes the rich dataset collected by the Rush University Alzheimer's Disease Center's Memory and Aging Project, which provides a notable exception. This dataset includes yearly self-reports of fraud victimization along with demographic characteristics and measures of cognition, financial literacy, and decision making. Our analysis includes 787 participants without dementia, and 93 (12%) of these seniors report being recently victimized by fraud. We use this dataset to test two hypotheses concerning the causes of fraud victimization and one concerning the consequences.*

*Declining cognition presents a major challenge for current and future retirees. Agarwal et al. (2009) demonstrate that financial decision making ability peaks in the 50s and declines during typical retirement ages. In addition, Gamble et al. (2014) show that decreases in*

*cognitive ability are associated with decreased financial literacy and increased propensity to seek help with managing one's finances. We hypothesize that decreases in cognition predict an increased likelihood of being victimized by fraud. We use participants' self report to identify recent fraud victims. We find that a one-standard deviation decrease in cognitive slope is estimated to increase the odds of fraud victimization by 33%.*

*This increase in the likelihood of fraud victimization could be due to fraudsters targeting those with larger decreases in cognition more often, and it could also be due to those people with greater decreases in cognition becoming more vulnerable to financial scams. While we cannot address the former explanation with our data, we can address the later one. For this test we use a susceptibility to scam score, which employs a set of six survey questions designed to capture actions and beliefs that are consistent with providing an opportunity for scammers. For example, participants are asked if they have difficulty ending a phone call and if they believe persons over the age of 65 are often targeted by con-artists. Indeed, we find that a decrease in cognitive slope predicts a higher susceptibility to scam score.*

*Our second hypothesis is that overconfidence in one's financial knowledge is a significant predictor of the odds of becoming a victim of financial fraud. Our measure of overconfidence combines participants' answers to a set of standard financial literacy questions with their confidence in each answer. Overconfidence is defined as getting the literacy questions wrong while thinking that they are right. We find that overconfidence is a significant risk factor for becoming a victim of financial fraud. A one standard deviation increase in overconfidence increases the odds of falling victim to fraud by 26%. Financial knowledge, not just general knowledge, protects against fraud: years of education is not a significant predictor of the likelihood of being victimized by fraud.*

*Overconfidence is known to be a significant factor in explaining the poor investment decision making of households. For example, Barber and Odean (2000) show that households lose money by frequently trading stocks, and Barber and Odean (2001) connect this behavior to overconfidence. Goetzmann and Kumar (2008) show that investors who are overconfident diversify their investment portfolio less, thus taking on more risk than is necessary to achieve the same level of expected return. The present study contributes to this literature by showing that overconfidence is a significant risk factor for becoming a victim of financial fraud.*

*Our third hypothesis concerns the impact of financial fraud on victims' willingness to take on financial risk. Thaler and Johnson (1990) demonstrate that after taking losses many decision makers show an increased willingness to take on risk in an effort to break even. Indeed, we find that financial fraud victims show an increased willingness to take risk relative to those not victimized. We employ two measures of willingness to take financial risk. First, fraud victims report an increased assessment of their lifetime willingness to take on financial risk relative to the decline in non-victims' assessment of their lifetime willingness. Second, fraud victims become increasingly willing to accept a gamble with an equally likely chance of doubling one's annual income as cutting it by 10%. Taken at face value, this gamble is highly attractive due to the large potential gain and limited loss. However, such promises of large gains with ostensibly limited downside risk are characteristic of sales pitches of those peddling fraudulent investments. Thus, we interpret this result that fraud victims become more attracted to such a gamble as particularly concerning for the risk of repeated fraud victimization. Both of these results on the increased willingness of fraud victims to take on risk are robust to comparisons of fraud victims to propensity-matched non-victims.*

*The dataset analyzed in this paper is collected by the Rush Memory and Aging Project (MAP), an ongoing longitudinal study of aging (Bennett et al. (2005)). Beginning in 1997, the project has enrolled more than 1,500 participants from the Chicago metropolitan area who have completed the baseline evaluation. Participants in the project are provided risk factor assessments and clinical evaluations each year, which include medical history, neurological, and neuropsychological examinations. MAP collects demographic information for each participant, including age, sex, and education.*

*Cognition is measured each year in MAP using a battery of the same 19 tests. The names of each specific test are included in Appendix A. These tests examine five domains of cognition: episodic memory, semantic memory, working memory, perceptual speed, and visuospatial ability. Episodic memory is the memory of specific events whereas semantic memory refers to the knowledge of concepts. Working memory is the ability to store and process transitory information. Perceptual speed is the ability to process information quickly and make mental comparisons. Visuospatial ability is about understanding visual representations and the spatial relationships among objects. The results of these cognition tests are compiled into a global cognitive function score that equals the average z-score among the 19 tests. For each test the raw scores are converted to z-scores using the baseline mean and standard deviation of the entire MAP cohort. A decision making assessment was added to the project in 2010.*

*The decision making assessment includes a question asking participants whether or not in the past year they were victimized by financial fraud or have been told they were a victimized by financial fraud. We identify fraud victims as those participants who answered affirmatively in any of their yearly assessments. Naturally, this self-report measure is imperfect since participants who are fraud victims may not realize that they have been victimized and may report*

*a false negative answer. In addition, a participant may be aware of being victimized by fraud, but may choose to hide it. Finally, a participant may have incorrectly perceived a loss as fraudulent when it is not. We only include data from participants not diagnosed with dementia at the time of the evaluation using the procedure specified by Bennett et al. (2005). The reason for the exclusion is that participants diagnosed with dementia have difficulty answering recall questions, including the question required to identify fraud victims.*

*This paper identifies two of the causes of financial fraud among older Americans and one of the consequences for victims' future decision making. We find that decreasing cognition is predictive of higher susceptibility to scam and future fraud incidence. Cognitive changes may be evident to those spending time with and caring for affected seniors, and our results show these changes provide a warning sign for fraud vulnerability. In addition, we find that overconfidence in one's financial knowledge is a significant risk factor for seniors becoming a victim of financial fraud. This result makes an important contribution to existing research connecting overconfidence with poor investment decision making. Increasing the financial knowledge of older Americans is likely to help protect them from becoming victims of financial fraud. In cases where increasing financial knowledge is not possible, increasing awareness of one's limitations may help protect against the harmful effects of overconfidence. Finally, this study identifies increased willingness to take financial risk as a consequence of fraud victimization. This increase in risk acceptance may make victims vulnerable to subsequent exploitation, though our results also show that victims may not be more willing to take on particularly large risks following victimization.*

*How to protect one's finances from abuse should be an important part of the late life planning of seniors; however, money is often kept out of the conversation with caregivers. The*

*Investor Protection Trust's 2010 Elderly Investment Fraud and Financial Exploitation Study*<sup>1</sup> found that just 2% of seniors reported being asked about their ability to manage money by their health care provider. While 19% of adult children of senior parents who were in touch with their parent's health care provider had raised concerns about mental comprehension, only 5% had raised concerns about the handling of money.

*Additional research is needed to inform these conversations and planning. Financial victimization of seniors is a large and growing problem, yet the availability of data to study this problem is very limited. New data sources would allow for additional research needed to better understand the factors that predict fraud victimization and the consequences of it. Additional research is an important first step in order to design effective solutions to limit the impact of fraud. The rise of financial fraud is just one of the many threats to the financial security of American retirees. James Poterba's Richard T. Ely Lecture (2014) at the Annual Meeting of the American Economic Association highlights several of the challenges and threats to the retirement security of the aging U.S. population. Longer life-expectancy means prospective retirees must save more or retire later. The uncertainty of future health-care costs looms large as well as the uncertainty of future investment returns. Increasingly individuals rather than institutions are tasked with making financial decisions in this challenging environment. The shift from pension plans to individual retirement accounts puts individuals in charge of managing more of their own financial assets, thus enabling bigger frauds. Furthermore, after decades of saving for retirement, many of these future retirees will enter retirement at their peak level of wealth, which attracts scammers. Understanding how individuals make these important financial decisions will continue to be a valuable area of inquiry for retirement research.*

---

<sup>1</sup> Study results available at [http://investorprotection.org/downloads/EIFFE\\_Survey\\_Report.pdf](http://investorprotection.org/downloads/EIFFE_Survey_Report.pdf)

Sharp drops in one's retirement investment portfolio cannot be easily made up. There often is not enough time, nor can the person just continue working to replenish their nest egg.

### **Key outstanding questions**

Age of Reason: This paper makes three different points. First, we reported evidence that older adults experience substantial declines in analytic cognitive function (longitudinally). Then, we reported evidence that economic behavior and economic mistakes show strong age-based patterns (in the cross-section), even among a population of individuals who are screened to be prime borrowers. Finally, we discussed nine potential policy responses. Throughout the policy discussion, we emphasized that we are agnostic about what regulatory interventions (if any) should be adopted. We don't think that the jury is in on many different dimensions of the problem. Economic behavior among older adults is still poorly understood. Moreover, even if older adults are making substantial financial mistakes, it is not clear what a well-intentioned policymaker should do about it. We need a lot more research — including field experiments that study different regulatory regimes — before the best solutions can be identified.

How widespread and important are the losses due to poor financial decision-making?

What demographic characteristics predict poor financial decision-making?

To what extent do people anticipate and/or recognize their own cognitive decline?

Does financial education help with this?

Do third parties help?

What is the market response to this situation?

What is the appropriate regulatory response?

### **Conclusion**

*The importance of studying financial decision making in the older population has never been greater.*

brief summary of 'takeaways'

Plan ahead. Planning ahead can protect your own self from risk and help protect loved ones as well.

Transparency. People should have current directives on file with their financial advisor and keep copies in a safe place that is known and accessible to close family members. Today's elderly can be better off by helping them maintain their dignity and remain connected in their community while feeling secure and engaged in a purpose for each day.



## References

- Agarwal, Sumit, John C. Driscoll, Xavier Gabaix, and David Laibson, 2009, "The Age of Reason: Financial Decisions over the Life-Cycle and Implications for Regulation." *Brookings Papers on Economic Activity* 2:51–117.
- Benartzi, Shlomo, and Richard Thaler, 2007, "Heuristics and Biases in Retirement Savings Behavior," *Journal of Economic Perspectives* 21: 81–104.
- Bennett, David A., Julie A. Schneider, Aron S. Buchman, Lisa L. Barnes, Patricia A. Boyle, and Robert S. Wilson, 2012, "Overview and Findings from the Rush Memory and Aging Project," *Current Alzheimer Research* 9: 646–663.
- Bennett, David A., Julie A. Schneider, Aron S. Buchman, Carlos Mendes de Leon, Julia L. Bienais, and Robert S. Wilson, 2005, "The Rush Memory and Aging Project: Study Design and Baseline Characteristics of the Study Cohort," *Neuroepidemiology* 25: 163–175.
- Choi, James J., Brigitte C. Madrian, and David Laibson, 2004, "Plan Design and 401(k) Savings Outcomes," *National Tax Journal* 62: 275–298.
- Finke, Michael S., John Howe, and Sandra J. Huston, 2011, "Old Age and the Decline in Financial Literacy," working paper, Available at SSRN: <http://ssrn.com/abstract=1948627>.
- Holland, Carol A., and Patrick M. A. Rabbitt, 1992, "People's Awareness of Their Age-Related Sensory and Cognitive Deficits and the Implications for Road Safety," *Applied Cognitive Psychology* 6: 217–231.
- Korniotis, George M., and Alok Kumar, 2011, "Do Older Investors Make Better Investment Decisions?" *Review of Economics and Statistics* 93: 244–265.
- Li, Y., M. Baldassi, E. J. Johnson, E.U. Weber (2013). 'Complementary Cognitive Capabilities, Economic Decision-Making, and Aging,' *Psychology and Aging*, 28(3): 595-613.
- Li, Shu-Chen, K. Richard Ridderinkhof, and Gregory R. Samanez-Larkin, eds. 2011. *Frontiers of Neuroscience. Volume 5. Decision Making Across the Life Span*.
- Lusardi, Annamaria, and Olivia S. Mitchell, 2011, "Financial Literacy Around the World: An Overview," *Journal of Pension Economics and Finance* 10: 497–508.
- Lusardi, Annamaria, and Olivia S. Mitchell, 2011, "Financial Literacy and Planning: Implications for Retirement Wellbeing," NBER working paper 17078.
- Malmendier, Ulrike, and Stefan Nagel, 2010, "Depression Babies: Do Macroeconomic Experiences Affect Risk Taking?" *Quarterly Journal of Economics* 126: 373–416.

- Poterba, James, Steven Venti, and David Wise, 2008, "The Changing Landscape of Pensions in the United States," in Annamaria Lusardi, editor, *Overcoming the Saving Slump: How to Increase the Effectiveness of Financial Education and Savings Programs*. Chicago, IL: University of Chicago Press.
- Samanez-Larkin, Gregory R., ed. 2011. *Decision Making Over the Life Span*. Volume 1235. New York: Annals of the New York Academy of Sciences.
- Samanez-Larkin, Gregory R., and Brian Knutson, forthcoming 2014, Reward Processing and Risky Decision Making in the Aging Brain, in Valerie F. Reyna and Vivian Zayas, eds.: *The Neuroscience of Risky Decision Making*. Washington, DC: American Psychological Association.
- Agarwal, Sumit, John C. Driscoll, Xavier Gabaix, and David Laibson, 2009, "The Age of Reason: Financial Decisions over the Life-Cycle and Implications for Regulation." *Brookings Papers on Economic Activity* 2:51–117.
- Barber, Brad M., and Terrance Odean, 2000, "Trading is Hazardous to our Wealth: The Common Stock Investment Performance of Individual Investors," *Journal of Finance* 55: 773-806.
- Barber, Brad M., and Terrance Odean, 2001, "Boys Will Be Boys: Gender, Overconfidence, and Common Stock Investment," *Quarterly Journal of Economics* 116:261-292.
- Bennett, David A., Julie A. Schneider, Aron S. Buchman, Carlos Mendes de Leon, Julia L. Bienais, and Robert S. Wilson, 2005, "The Rush Memory and Aging Project: Study Design and Baseline Characteristics of the Study Cohort," *Neuroepidemiology* 25: 163–175.
- Blanton, Kimberly, 2012, "The Rise of Financial Fraud: Scams Never Change but Disguises Do," Center for Retirement Research working paper.
- Boyle, Patricia A., Lei Yu, Aron S. Buchman, David I. Laibson, and David A. Bennett, 2011, "Cognitive function is associated with risk aversion in community-based older persons," *BMC Geriatrics* 11: 53.
- Gamble, Keith Jacks, Patricia A. Boyle, Lei Yu, and David A. Bennett, 2014, "Aging and Financial Decision Making," forthcoming in *Management Science*.
- Goetzmann, William N., and Alok Kumar, 2008, "Equity Portfolio Diversification," *Review of Finance* 12: 433-463.
- Poterba, James M., 2014, "Retirement Security in an Aging Population," *American Economic Review: Papers & Proceedings* 104: 1-30.

Pottow, J. 2012. "The Rise in Elder Bankruptcy Filings and Failure of U.S. Bankruptcy Law." *The Elder Law Journal* 19: 220–257.

Thaler, Richard H., and Eric J. Johnson, 1990, "Gambling with the House Money and Trying to Break Even: The Effects of Prior Outcomes on Risky Choice," *Management Science* 36: 643-660.