Insights: Financial Capability

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What's Inside:

This paper summarizes the findings from a white paper funded by the FINRA Investor Education Foundation titled "Overconfidence in financial knowledge associated with financial risk tolerance in older adults" which can be found at *https://psyarxiv.com/p5gec/* or by contacting the authors.

Does Overconfidence Increase Financial Risk Taking in Older Age?

Summary

Using data from the Rush Memory and Aging Project, this research provides new and updated evidence that overconfidence in financial knowledge may lead to excessive financial risk taking in older age.

Over 1,200 adults between the ages of 58 and 101 from the greater Chicago area completed surveys related to financial decision making including tests of financial literacy and ratings of confidence in their financial knowledge. They also reported their level of financial risk tolerance when managing their own money as well as other measures related to financial risk tolerance like scam susceptibility and financial fraud victimization. Although financial literacy was lowest among the oldest adults in the study, confidence in financial knowledge was similar across ages. By subtracting literacy scores from confidence scores, we quantified each person's level of overconfidence. Adults who were more overconfident reported being more financial risk tolerant but were not more scam susceptible or more likely to be victimized by fraud. The same association between overconfidence and risk tolerance was found in adults without cognitive impairment and with mild cognitive impairment (MCI). Overall, the study suggests that overconfidence may contribute to risky financial behavior. Calibration of confidence levels to actual literacy levels may be a potential target for future interventions aimed at protecting senior investors.

Background

Older adults manage an increasing share of national wealth in the United States and other graying nations. Risky decisions by aging investors may have effects on financial markets in general but certainly have critical effects on the long-term health and well-being of the individual decision maker. Taking excessive financial risk in older age can be devastating as opportunities to recover lost wealth are limited as an individual ages. The most extreme examples are individuals who lose a lifetime of financial savings to scams or fraud (DeLiema et al., 2017). Many researchers have been studying individual differences in financial decision making across adulthood to identify potential risk factors (personal or situational) or profiles of individuals who may be most vulnerable to scams and fraud (Spreng et al., 2016). Although a fraudulent investment may be one of the most detrimental financial mistakes an older adult can make, there are many opportunities to take excessive financial risk even with legitimate investments. A better understanding of the factors that contribute

to financial risk taking in older age is critically important for both identifying vulnerabilities in certain older adults and for developing interventions to empower aging investors to make wise financial choices into the most advanced ages. The goals of this project were to identify age differences in financial literacy, confidence in financial knowledge and financial risk tolerance, and how financial literacy and financial confidence were related to risk tolerance across older adults with and without cognitive impairment (ages 58–101).

In this brief, we investigate the following research questions:

Is financial literacy/knowledge preserved into very old age?

Some research has suggested that financial literacy and knowledge do not decline with age like other aspects of cognitive ability. Some researchers suggest that intact literacy may be a protective factor that allows elderly adults with cognitive impairments to function normally. However, other studies have documented declines in financial literacy in elderly adults even in individuals without major cognitive impairment. We examined whether literacy was similar across older adulthood or whether it was lower in the oldest adults.

Is confidence in financial knowledge preserved into very old age?

Past research on confidence and aging shows mixed evidence about whether confidence differs across adulthood. Many studies show no age differences in confidence. Older adults do not seem to be reliably more or less confident than younger adults. However, in the current project we were interested in how confidence differed among adults between the ages of 58 and 101 (an older range of age than most previous studies of confidence).

Does overconfidence differ among older adults?

Some past studies of aging and financial decision making show similar levels of confidence across ages even when there are age differences in knowledge. This suggests that the oldest adults may be overconfident relative to their actual levels of financial literacy and knowledge. We created a measure of overconfidence using a simple subtraction of literacy scores from confidence scores

(higher scores mean confidence levels were higher than literacy levels). We examined whether there were age differences in this measure of overconfidence.

### Does financial overconfidence lead to higher financial risk tolerance among older adults?

Using the same measure of overconfidence (higher scores mean confidence levels were higher than literacy levels), we also examined whether overconfidence was related to financial risk tolerance, scam susceptibility and fraud victimization, and whether this association differed for people with or without cognitive impairment.

Findings

In this section, we provide the results for each of the research questions listed above.

Is financial literacy/knowledge preserved into very old age?

Financial literacy (a measure of both financial knowledge and numerical ability) was similar among sixty- and seventy-year-olds but was lower in eighty-year-olds and even lower in ninety-year-olds. This curvilinear effect can be seen in Figure 1. Age accounted for about 7 percent of the variance in literacy.

Figure 1: Age Differences in Financial Literacy
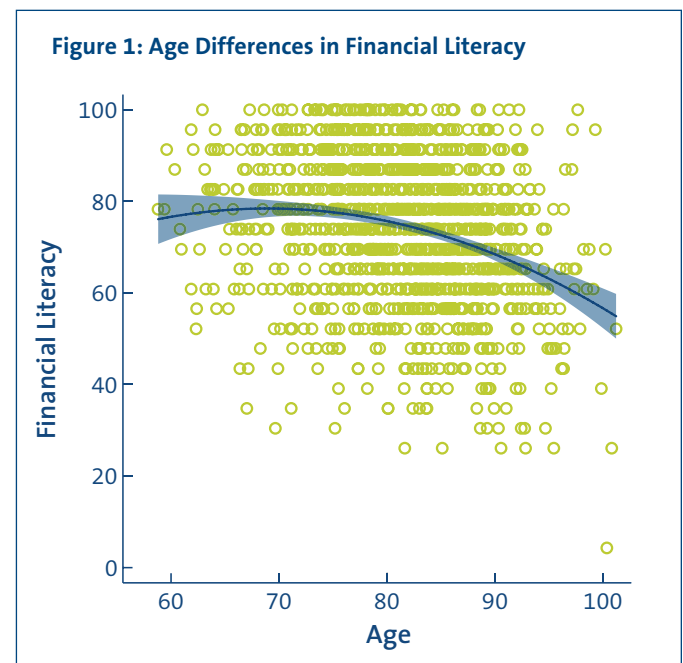
Is confidence in financial knowledge preserved into very old age?

Confidence levels were slightly lower in the oldest adults but the correlation of age and confidence was very weak. Unlike the curvilinear effect of age on literacy, age differences in confidence were linear but the differences were small as shown in Figure 2.
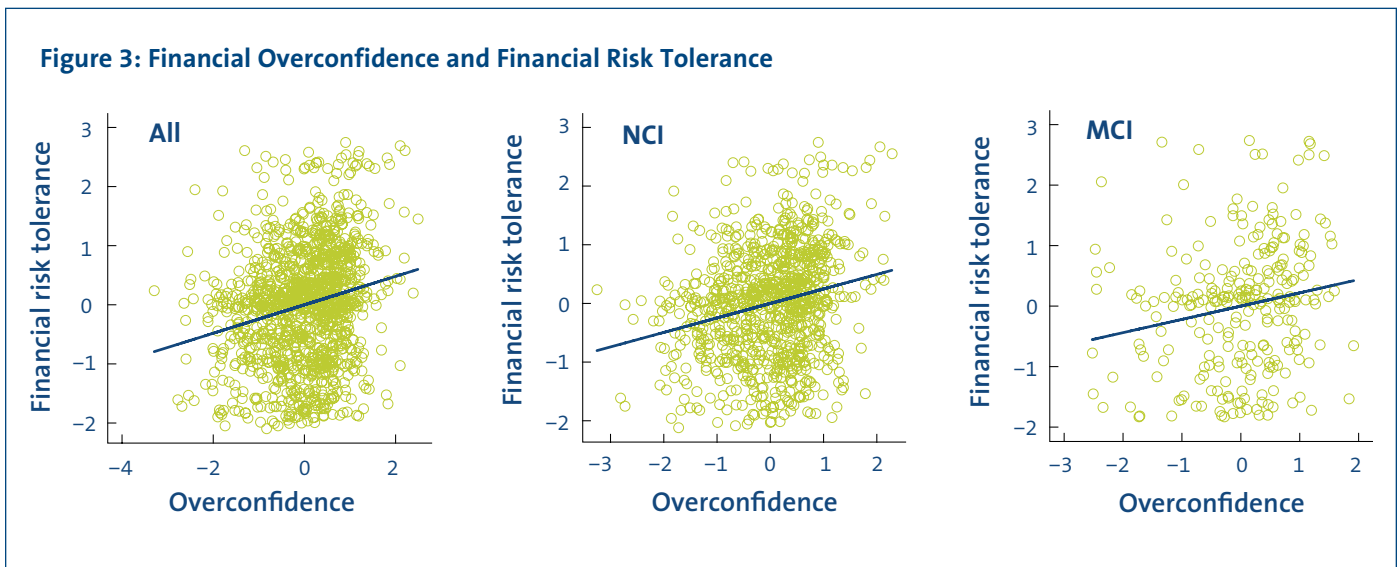
Figure 2: Age Differences in Confidence
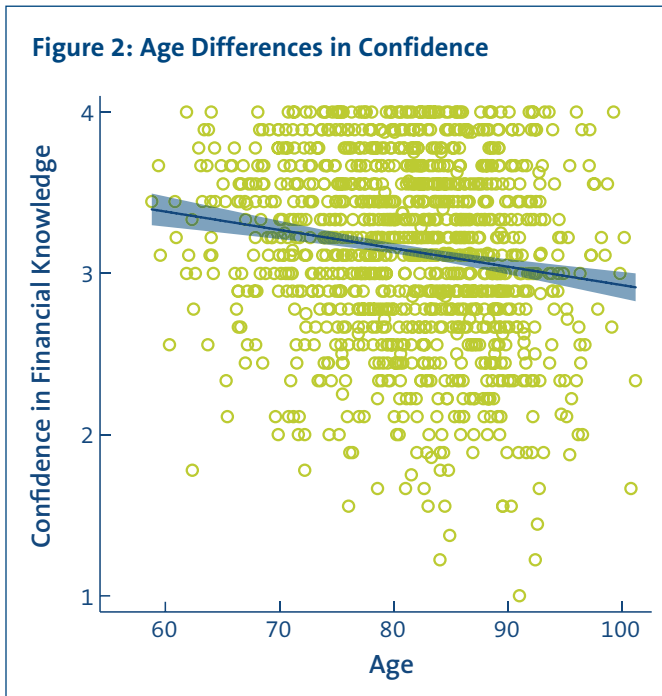
Does overconfidence differ among older adults?

The low levels of financial literacy in the oldest adults combined with minimal age differences in confidence might contribute to higher levels of overconfidence in the oldest age group. We computed an overconfidence score by subtracting literacy levels from confidence ratings (higher scores mean higher confidence ratings than literacy scores). Initial analysis of the data suggested a small increase in overconfidence in the oldest adults but after controlling for literacy levels the difference was not significant. The small age difference in overconfidence was due primarily to the age differences in literacy.

Does financial overconfidence lead to higher financial risk tolerance among older adults?

Although financial overconfidence was not strongly associated with age, overconfidence was positively correlated with financial risk tolerance. Individuals with the highest overconfidence scores (higher scores mean higher confidence than literacy) reported being more willing to take financial risks in their lives. This pattern emerged across everyone in the data set and also within subgroups of adults who varied in cognitive status. Older adults with no cognitive impairment (NCI) showed the same positive correlation between overconfidence and risk tolerance as did the older adults with MCI as shown in Figure 3.

Figure 3: Financial Overconfidence and Financial Risk Tolerance

Discussion

In a large sample of adults (>1200) from the greater Chicago area, our research identified relatively small adult age differences in financial literacy and financial risk tolerance, and no substantial age differences in confidence in financial knowledge. There were large individual differences in risk tolerance that were independent of age. The findings suggest that knowing someone's age alone is not diagnostic of their financial risk tolerance. The most interesting finding was that individuals who had high confidence in their financial knowledge relative to their actual financial literacy (*i.e.*, overconfidence) reported being more tolerant of taking financial risks in everyday life. The effect of overconfidence on financial risk tolerance did not vary between healthy adults and adults with MCI.

The sample provides updated evidence that at the oldest stages of adulthood, financial literacy may decline (Boyle et al., 2013). The effect was non-linear such that literacy levels were similar among 60- and 70-year-olds but literacy levels were lower in 80-year-olds and even lower at older ages.

Despite age differences in financial literacy, there were not consistent age differences in confidence in financial knowledge (independent of age differences in actual financial literacy). On average across the ages, individuals' confidence levels were well calibrated to their actual levels of literacy. However, despite financial literacy and confidence being strongly correlated, there were many older adults with high confidence relative to their literacy (overconfident) and low confidence relative to their literacy (underconfident). A measure of overconfidence in financial knowledge was positively correlated with self-reported financial risk tolerance. Individuals who were the most overconfident were more likely to take the most financial risks. This correlation between overconfidence and risk tolerance is consistent with several prior studies of overconfident financial traders, business managers and corporate executives taking greater risks (Broihanne et al., 2014; Minggui et al., 2013; Niu, 2010).

Financial risk tolerance was lower at the oldest ages in general, but age was not very strongly related to risk tolerance. Age explained only about 1 percent of the variance in financial risk tolerance whereas overconfidence explained about 6 percent of the variance in risk taking. The overconfidence effect is larger than the age effect but it is not a large effect. The vast majority of individual differences in risk tolerance were unexplained by the variables we examined. Many other factors contribute to financial risk tolerance (such as long-term financial experience, financial advice and financial stability).

The overconfidence association with financial risk tolerance was also independent of cognitive status. The correlations were almost identical in individuals with no cognitive impairment and individuals with MCI. Across the sample, the most overconfident individuals were more likely to say they were willing to take financial risks.

Additional analyses examined whether overconfidence increased scam susceptibility and fraud victimization but there were no consistent effects. It is unclear whether subjective perceptions of confidence in financial knowledge are related to falling victim to scams or fraud.

The results highlight the importance of assessing perceptions of confidence in financial knowledge in addition to actual financial literacy. With few exceptions, studies have mostly ignored confidence in knowledge and willingness to take financial risk. Future financial literacy interventions may consider at least measuring confidence or changes in confidence after an intervention. Of course, confidence alone should not be a target of an intervention. Critically, the present results suggest that overconfidence could contribute to excessive financial risk taking. Confidence levels that are well calibrated to actual knowledge may be a more appropriate target for future interventions aimed at protecting senior investors.

This research may be useful for financial advisors. For example, advisors might want to consider ways to help calibrate portfolio risk for clients they perceive or assess to be overconfident (Pan & Statman, 2012). Perceived overconfidence could be used to identify clients where an advisor might want to spend additional time covering portfolio/investment risk or updating risk profiles. Even though many of the adults in this age group (over 60) are likely to be primarily decumulating wealth, overconfidence could affect the strategic spend-down process and how remaining invested funds are managed.

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Notes

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