

ABSTRACT

Increasingly longer lifespans present new challenges and risks for older adults and their families. One such risk is cognitive decline, a serious issue that leaves older adults both susceptible to making suboptimal financial decisions and vulnerable to financial exploitation and abuse. Researchers have consistently found a strong relationship between healthy executive functions and good financial decision-making. The significance of healthy executive functioning suggests that family members and financial professionals alike need to be on the lookout for signs of confusion, disorganization, impulsivity, and disorientation. If any such symptoms are present, these observers need to adjust their actions and recommendations accordingly. Importantly, someone with executive function deficiencies is unlikely to be able to complete a conventional risk tolerance questionnaire with any degree of reliability, and the results of any such questionnaire could in fact generate investment recommendations that are highly inappropriate.

AGING, COGNITIVE DECLINE, AND FINANCIAL DECISION-MAKING

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INTRODUCTION

Research also shows older adults are more likely to make questionable financial decisions while in a heightened emotional state, or while they are depressed, lonely, or overconfident. The increased social isolation brought on by COVID-19 has very likely made many older adults even more vulnerable to making poor financial decisions and being exploited. An important conclusion from the research conducted on the behavioral aspects of financial decision-making indicates that even individuals who can pass a cognitive screening test commonly used by medical practitioners could still be highly susceptible to poor financial decision-making or to being exploited.

LONGER LIFESPANS AND DEMENTIA

Populations in the United States and in many other countries are aging, in large part because people are living much longer than they did just a generation or two ago. For most of human history, life expectancy was around 28 years (Roser, Ortiz-Ospina, and Ritchie 2013). As recently as the late 19th century, the average person would be fortunate to reach their 40th birthday. But today a healthy 60-year-old man in the United States can expect to live another 23 years, while a healthy woman can expect to live another 26 years (Social Security Administration n.d.).

Living longer has many obvious advantages. But longer lifespans also present new challenges and risks for older adults and their families. Medical science has effectively eradicated many of the most historically deadly diseases. In 1900 the leading cause of death in the United States was pneumonia or influenza, followed by tuberculosis (Centers for Disease Control and Prevention [CDC] n.d.). Since 1950, heart disease mortality has declined by almost two-thirds, and deaths from breast cancer by about one-third, according to Statista (<https://www.statista.com/>).

One illness where there has not been much progress, however, is dementia. From 1998 to 2017 there were 146 unsuccessful attempts at developing

drugs to treat Alzheimer's disease; since then, several more trials have also failed (Terry 2019). Alzheimer's is the most common type of dementia and the only disease among the top 10 causes of death in the United States that cannot be prevented, cured, or even slowed. An estimated 11 percent of adults over age 65 in the United States are living with Alzheimer's (Alzheimer's Association 2019). An additional 3 percent suffer from related illnesses, including vascular or frontotemporal dementia. Another 15 percent of adults over 65 suffer from mild cognitive impairment (*ibid.*), which is defined as cognitive decline that goes beyond normal aging. The frequency of dementia doubles roughly every five years starting at age 60; by the time a person reaches their mid-80s, they have a better than 50 percent of having dementia or cognitive impairment without dementia (Laibson et al. 2009).

FINANCIAL MISTAKES AS EARLY WARNING SIGNS

Cognitive decline leaves adults both susceptible to suboptimal financial decision-making and vulnerable to financial exploitation and abuse. While it is inherently difficult to quantify, exploitation of older adults is undoubtedly on the rise. Estimates of the annual costs of fraud committed on older adults in the United States range widely, from \$2.9 billion to \$36.5 billion (Stanger 2015). According to the Consumer Financial Protection Bureau there were 180,000 cases of financial exploitation reported from 2013 to 2019, totaling more than \$6 billion. By one estimate, approximately 37 percent of older adults experience financial abuse in any five-year period (True Link 2015). In addition, 53 percent of Americans believe that financial abuse is likely to compromise their ability to live a long, financially secure life. Multiple studies now link elder financial exploitation to poor health outcomes (Burnett et al. 2016). Importantly, these financial fraud figures do not include the costs of poor personal decisions that are not associated with scams (e.g., impulse purchases, gut-based investment decisions, bill payment and credit card errors, or inadequate financial planning and organization).

Studies investigating the relationships between aging and cognitive impairment have concluded that financial decision-making is one of the first skills to decline. In fact, problems with financial decision-making, including reconciling checking, savings, and other accounts, are now widely acknowledged to be early

warning signs of dementia. One study found that older adults started missing bill payments six years before they had been given an official diagnosis of dementia, and subprime credit scores were recorded two and one-half years prior to such a diagnosis (Nicholas et al. 2020). Other research has shown that self-reported difficulties managing money and poor performance on financial capability tests predict a higher risk of dementia (Sudo and Laks 2017).

Perhaps most strikingly, a major study analyzed a large proprietary database of ten types of credit transactions and looked for errors, including suboptimal use of credit card balance transfer offers and excess interest rate and fee payments. That study concluded that middle-aged adults made fewer financial mistakes than either younger or older adults. It found that financial mistakes follow a U-shaped pattern, with the peak age of financial decision-making occurring at around age 53 (Laibson et al. 2009). Other researchers have also found evidence consistent with an inverse U-shape for financial proficiency, including a decline in financial knowledge after age 50 (Lusardi and Mitchell 2006). Similarly, there are findings of an inverse U-shape in the mastery of basic financial concepts such as the ability to calculate percentages or do simple division (Lusardi and Mitchell 2007).

THE IMPORTANCE OF GOOD EXECUTIVE FUNCTION

There is considerable evidence linking aging with poor financial decisions, with the peak age of good decision-making arriving earlier than many would expect. But what are the cognitive traits—and, as importantly, the behavioral traits—that make an older adult vulnerable to suboptimal financial decision-making? In recent years, a considerable amount of attention has been focused on Alzheimer's disease and memory loss, especially within the financial services industry. But Alzheimer's entails much more than memory loss. It is frequently accompanied by confusion, poor judgement, disorientation, and impulsivity, among other symptoms. Moreover, most people still have well-functioning memory capacity at age 53 and beyond. So why are they still making so many bad financial decisions?

One study sought to provide greater insights into the relationships among aging, cognitive capacity, and financial decision-making by administering a

battery of neuropsychological tests, financial literacy questionnaires, and delay-discounting quizzes to healthy primary care patients (Weiner et al. 2017). The results of that study indicated that executive functioning, specifically attention/working memory, organization, and impulse control, were the best predictors of financial knowledge and decision-making. The ability to control attention, plan and organize, inhibit impulses, and appreciate and organize complex visual information all appear to be more important than memory for financial decision-making. The study's finding of a close relationship between (high) delay discount rates and (low) levels of financial literacy also suggests that the ability to control impulses is a key determinant of sound financial decision-making. Other studies have reached similar conclusions, with one finding that performance on a standard test of attention and task switching (the Trails A test¹) was correlated with higher financial capacity scores in patients with or without Alzheimer's disease (Sherod et al. 2009). In a survey of possible causes of age-associated financial vulnerability, Lachs and Han cited "executive dysfunction," meaning the reduced ability to multitask, organize by time, and comprehend the future ramifications of current financial decisions, as likely risk factors (Lachs and Han 2015).

Good financial decision-making requires the ability to limit impulsive urges, to plan ahead, and to think abstractly, especially when it comes to being able to understand and predict the future consequences of a specific action taken today. Therefore, it is not surprising that researchers have consistently found a strong relationship between healthy executive functions and good financial decision-making. The abilities to organize, to connect the dots, and to control impulses might in fact be the most important cognitive functions underpinning good financial decision-making.

The importance of healthy executive functioning suggests that family members and financial professionals alike need to be on the lookout for signs of confusion, disorganization, impulsivity, and disorientation, and to adjust their actions and recommendations accordingly. This caution extends to the growing practice of administering questionnaires that seek to evaluate a person's risk tolerance level. Risk tolerance questionnaires are highly contingent

on a person's ability to understand the sometimes complex and often long-term consequences of their decisions. In other words, these questionnaires assume good executive functioning. Therefore, someone with executive function deficiencies is unlikely to be able to complete a risk tolerance questionnaire with any degree of reliability. In fact, their risk tolerance score is likely to be misleading, transitory, or both, and could generate investment recommendations that are highly inappropriate (Heye 2019).

THE BEHAVIORAL UNDERPINNINGS OF UNSOUND DECISION-MAKING

Empirical research in the field of behavioral finance has consistently demonstrated that most people do not make decisions based on a rational analysis of all available information as postulated in traditional microeconomic theory textbooks. Instead, most people's decisions are influenced by biases, personal histories, and other often highly emotional factors.

Overconfidence appears to be one emotional state that has especially powerful, and detrimental, consequences for financial decision-making in older adults. One study found—not surprisingly—that decreases in cognition are associated with decreases in financial literacy (Gamble et al. 2015). However, those researchers also determined that, despite showing significant drops in their self-confidence in general, older adults' confidence in their ability to manage their finances, as well as confidence in their overall financial knowledge, did not decrease with declines in cognition. This suggests that overconfidence is a risk factor for poor financial decision-making (ibid.). Another study found strong evidence of a link between overconfidence and unwise financial decisions (Shin and Hanks 2019). Specifically, the researchers found that overconfident people are less likely to hold assets in most types of financial accounts. Finally, a recent study found a link between older age and overconfidence, especially among less-educated individuals, non-Whites, and women (Finke, Howe, and Huston 2017). These results are in line with studies that have found that older adults in general tend to be more overconfident than their younger counterparts (Cauvin et al. 2019; Hansson et al. 2008).

1. The Trail Making Test is conducted in two parts, part A and part B. It is a commonly used neuropsychological test of attention and task switching. The test can provide information about visual search speed, scanning, speed of processing, mental flexibility, and executive functioning. It is sensitive to detecting cognitive impairment associated with dementia, including Alzheimer's disease.

Additional research conducted in the fields of psychiatry and behavioral science has concluded that older adults may be more inclined than younger adults to make financial decisions based on emotional factors. Researchers at the Stanford Center on Longevity devised an experiment designed to test whether older adults are more likely to make questionable financial decisions while in a heightened emotional state (Kircanski et al. 2018). They found that inducing emotional states such as excitement and anger in older adults (ages 65–85) increased their intention to buy falsely advertised products. They further concluded that positive (excited) and negative (angry) emotional states equally affected the propensity to purchase items, even when older adults expressed concerns about the credibility of the offer (*ibid.*). These same tendencies were not observed in younger adults (ages 30–40).

Anxiety could be another strong emotion with negative consequences for financial decision-making. Since 2007 the American Psychological Association has conducted an annual survey that seeks to better understand the nature and scope of stress in the United States. Every year “money” is consistently at or near the top of the list of stressors. People in the United States are more anxious about money than they are about their health, personal relationships, or family responsibilities (American Psychological Association n.d.). These high levels of anxiety do not appear to be good for financial decision-making. A study investigating relationships among financial management behavior, financial knowledge, and anxiety concluded that anxiety had a negative impact on good financial behavior (Grable et al. 2020).

Arguably the heightened emotional states that constitute the greatest threats to sound financial decision-making are the levels of depression and loneliness caused by social isolation. Older adults are at increased risk for social isolation since they are more likely to live alone (e.g., if they have lost family members and/or friends) and have difficulties leaving their residence (e.g., if they are ill or lack safe transportation). Increased social isolation among older adults is now associated with a wide range of poor health outcomes, including higher rates of heart disease, obesity, anxiety, dementia, and even death (National Institute on Aging 2019). Social isolation is currently viewed as “a risk that may rival those of smoking, obesity, and physical activity” (National Academies of Sciences, Engineering, and Medicine 2020, 17). Surgeon General Vivek Murthy has declared loneliness to be the number one disease in America (Murthy 2017).

One study seeking to identify psychological determinants of susceptibility to financial fraud found that the combination of (high) depression and (low) social status needs fulfillment was associated with a 226 percent increase in financial fraud (Lichtenberg, Stickney, and Paulson 2013). Being socially isolated usually means having fewer people around who can act as a check on an older adult’s financial decisions; that lack of trusted oversight in and of itself is a major risk factor. The increased social isolation brought on by COVID-19 has very likely made many older adults even more vulnerable to poor financial decision-making exploitation (see, e.g., Iacurci 2020). Finally, because social isolation typically results in higher health-care costs (Shaw et al. 2017), it presents a threat even to older adults who do not have cognitive or behavioral traits that make them otherwise vulnerable to poor financial decision-making (Sullivan and Papietis 2020).

DEMOGRAPHY AS DESTINY

There are currently 98.8 million Americans over age 54, and more than 56 million Americans over age 64. By 2030 these totals will rise to 112.2 million and 73.1 million, respectively. Between today and 2035, the number of people 65 and over is expected to grow more than six times faster than the number of those under 55. In 2035 there will be more people in the United States over age 65 than people under age 18 for the first time in our history (US Census Bureau 2020). In just two years, in 2024, we will reach what is called “Peak 65,” when more Americans than ever before will turn age 65, which is the traditional age of retirement (Fichtner 2021).

Absent a major breakthrough in the treatment of Alzheimer’s disease and other forms of dementia, this implies that the proportion of the US population made up of individuals who are likely having difficulty making financial decisions will be increasing for the foreseeable future. And even as dementia treatments become available, as long as older adults continue to demonstrate overconfidence, feel lonely or depressed, or act impulsively, they will remain vulnerable. An important conclusion from the research conducted on the behavioral aspects of financial decision-making indicates that even individuals who can pass a cognitive screening test commonly used by medical practitioners could still be highly susceptible to poor financial decision-making or abuse.

Research tells us that financial decision-making is one of the first skills to be affected by cognitive decline. This means that financial professionals are on the front lines of the battle against financial exploitation and just plain bad decision-making. Based on the available statistics on the frequency of Alzheimer's, other forms of dementia, and mild cognitive impairment, upwards of 25 percent or more of an average firm's clients are already at risk. And these figures do not include the otherwise cognitively healthy individuals with behavioral issues. Protecting older adults from financial predators—and from themselves—needs to become a core component of the delivery of financial advice and management services. Spending time and money to protect clients and prepare them for the day they can no longer safely manage their own finances is likely to be an investment with valuable benefits over time. Protection of older adults and their families is clearly a win-win result for both professionals and the clients they serve.

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REFERENCES

- Alzheimer's Association. 2019. "Alzheimer's Disease Facts and Figures." Alzheimer's Association, Chicago. <https://www.alz.org/media/documents/alzheimers-facts-and-figures-2019-r.pdf>
- American Psychological Association. n.d. "Survey: The Stress in America." American Psychological Association, Washington, DC. https://www.apa.org/news/press/releases/stress/index?gclid=Cj0KCQjw3IqSBhCoARIsAMBkTb1fDsb_m6-aaWc8tyUJcw5mMHECEWJanMzbLmM6RxvZEYYu-XW6mwgaAlf-EALw_wcB
- Burnett, Jason, Shelly L. Jackson, Arup K. Sinha, Andrew R. Aschenbrenner, Kathleen Pace Murphy, Rui Xia, and Pamela M. Diamond. 2016. "Five-Year All-Cause Mortality Rates Across Five Categories of Substantiated Elder Abuse Occurring in the Community." *Journal of Elder Abuse and Neglect* 28 (2): 59–75. <https://pubmed.ncbi.nlm.nih.gov/26797389/>
- Cauvin, Stéphanie, Christopher J. A. Moulin, Céline Souchay, Matthias Kliegel, and Katharina M. Schnitzspahn. 2019. "Prospective Memory Predictions in Aging: Increased Overconfidence in Older Adults." *Experimental Aging Research* 45 (5): 436–59. <https://pubmed.ncbi.nlm.nih.gov/31518214/>
- Centers for Disease Control and Prevention (CDC). n.d. "Leading Causes of Death, 1900–98." Centers for Disease Control and Prevention, Atlanta, GA. https://www.cdc.gov/nchs/data/statab/lead1900_98.pdf
- Fichtner, Jason J. 2021. "The Peak 65 Generation: Creating A New Retirement Security Framework." White Paper, Alliance for Lifetime Income, Washington, DC. <https://www.protectedincome.org/wp-content/uploads/2021/04/ALI-White-Paper-PEAK-65-Update-4.22.21.pdf>
- Finke, Michael S., John S. Howe, and Sandra J. Huston. 2017. "Old Age and the Decline in Financial Literacy." *Management Science* 63 (1): 213–30. https://econpapers.repec.org/article/inmormnsc/v_3a63_3ay_3a2017_3ai_3a1_3ap_3a213-230.htm
- Gamble, Keith J., Patricia A. Boyle, Lei Yu, and David A. Bennett. 2015. "Aging and Financial Decision Making." *Management Science* 61 (11): 2603–10. <https://www.jstor.org/stable/24551548>
- Grable, John E., Kristy L. Archuleta, Megan R. Ford, Michelle Kruger, Jerry Gale, and Joseph Goetz. 2020. "The Moderating Effect of Generalized Anxiety and Financial Knowledge on Financial Management Behavior." *Contemporary Family Therapy* 42: 15–24. <https://psycnet.apa.org/record/2019-72538-001>
- Hansson, Patrik, Michael Rönnlund, Peter Juslin, and Nilsson Lars-Göran. 2008. "Adult Age Differences in the Realism of Confidence Judgments: Overconfidence, Format Dependence, and Cognitive Predictors." *Psychology and Aging* 23: 531–44. <https://pubmed.ncbi.nlm.nih.gov/18808243/>
- Heye, Chris. 2019. "Understand Client Actions and Expectations with Risk Assessment Tools." *Journal of Financial Planning* December. <https://www.financialplanningassociation.org/article/journal/DEC19-understand-client-actions-and-expectations-risk-assessment-tools>

Iacurci, Greg. 2020. "Americans Have Lost \$145 Million to Scams Linked to Covid-19." CNBC, September 22, 2020. <https://www.cnbc.com/2020/09/22/americans-have-lost-145-million-to-fraud-linked-to-covid-19.html>

Kircanski, Katharina, Nanna Notthoff, Marguerite DeLiema, Gregory R. Samanez-Larkin, Doug Shadel, Gary Mottola, Laura L. Carstensen, and Ian H. Gotlib. 2018. "Emotional Arousal May Increase Susceptibility to Fraud in Older and Younger Adults." *Psychology of Aging* 33 (2): 325–37. <https://pubmed.ncbi.nlm.nih.gov/29658750/>

Lachs, Mark S., and S. Duke Han. 2015. "Age-Associated Financial Vulnerability: An Emerging Public Health Issue." *Annals of Internal Medicine* 163 (11): 877–78. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4769872/>

Laibson, David, Sumit Agarwal, Xavier Gabaix, and John C. Driscoll. 2009. "The Age of Reason: Financial Decisions Over the Life-Cycle with Implications for Regulation." *Brookings Papers on Economic Activity* (Fall): 51–101, Brookings Institution, Washington, DC. <https://www.brookings.edu/bpea-articles/the-age-of-reason-financial-decisions-over-the-life-cycle-and-implications-for-regulation/>

Lichtenberg, Peter A., Laurie Stickney, and Daniel Paulson. 2013. "Is Psychological Vulnerability Related to the Experience of Fraud in Older Adults?" *Clinical Gerontologist* 36 (2): 132–46. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3755896/>

Lusardi, Annamaria, and Olivia S. Mitchell. 2006. "Financial Literacy and Planning: Implications for Retirement Wellbeing." Working Paper 170078, National Bureau of Economic Research, Cambridge, MA. <https://www.nber.org/papers/w17078>

Lusardi, Annamaria, and Olivia S. Mitchell. 2007. "Financial Literacy and Retirement Preparedness: Evidence and Implications for Financial Education." *Business Economics* 42 (1): 35–44. https://econpapers.repec.org/article/palbuseco/v_3a42_3ay_3a2007_3ai_3a1_3ap_3a35-44.htm

Murthy, Vivek. 2017. "Work and the Loneliness Epidemic." *Harvard Business Review* September. <https://hbr.org/2017/09/work-and-the-loneliness-epidemic>

National Academies of Sciences, Engineering, and Medicine. 2020. *Social Isolation and Loneliness in Older Adults: Opportunities for the Health Care System*. Washington, DC: The National Academies Press. <https://nap.nationalacademies.org/catalog/25663/social-isolation-and-loneliness-in-older-adults-opportunities-for-the>

National Institute on Aging. 2019. "Social Isolation, Loneliness in Older People Pose Health Risks." Research Highlights, National Institute on Aging, National Institutes of Health, US Department of Health and Human Services, Washington, DC. <https://www.nia.nih.gov/news/social-isolation-loneliness-older-people-pose-health-risks>

Nicholas, Lauren H., Kenneth M. Langa, Julie P. Bynum, and Joanne W. Hsu. 2020. "Financial Presentation of Alzheimer Disease and Related Dementias." *Journal of the American Medical Association* 181 (2): 220–27. <https://pubmed.ncbi.nlm.nih.gov/33252621/>

Roser, Max, Esteban Ortiz-Ospina, and Hannah Ritchie. 2013. "Life Expectancy." Last revised October 2019. OurWorldinData.org. <https://ourworldindata.org/life-expectancy>

Shaw, Jonathan G., Monica Farid, Claire Noel-Miller, Neesha Joseph, Ari Houser, Steven M. Asch, Jay Bhattacharya, and Lynda Flowers. 2017. "Social Isolation and Medicare Spending: Among Older Adults, Objective Social Isolation Increases Expenditures While Loneliness Does Not." *Journal of Aging Health* 29 (7): 1119–43. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5847278/>

Sherod, Megan G., H. Randall Griffith, Jacquelynn Copeland, Katherine Belue, Sara Krzywanski, Edward Y. Zamrini, Lindy E. Harrell, et al. 2009. "Neurocognitive Predictors of Financial Capacity across the Dementia Spectrum: Normal Aging, Mild Cognitive Impairment, and Alzheimer's Disease." *Journal of International Neuropsychological Society* 15 (2): 258–67. <https://www.cambridge.org/core/journals/journal-of-the-international-neuropsychological-society/article/abs/neurocognitive-predictors-of-financial-capacity-across-the-dementia-spectrum-normal-aging-mild-cognitive-impairment-and-alzheimers-disease/5B17A1-0CAE979C26A99BEABA23817C32>

Shin, Su, and Andrew Hanks. 2019. "Effects of Overconfidence on Asset Holdings among Older Adults." Academic Research Colloquium for Financial Planning and Related Disciplines. Available at SSRN <https://ssrn.com/abstract=3253215> or <http://dx.doi.org/10.2139/ssrn.3253215>

Social Security Administration. n.d. Life Expectancy Calculator. <https://www.ssa.gov/oact/population/longevity.html>

Stanger, Tobie. 2015. "Financial Elder Abuse Costs \$3 Billion a Year. Or Is It \$36 Billion?" *Consumer Reports*, September 29, 2015. <https://www.consumerreports.org/cro/consumer-protection/financial-elder-abuse-costs-3-billion-or-is-it-30-billion-#:~:text=More%20on%20Financial%20Elder%20Abuse&text=Another%20recent%20estimate%2C%20published%20last,fall%20victim%20of%20financial%20fraud.>

Sudo, Felipe Kenji, and Jerson Laks. 2017. "Financial Capacity in Dementia: A Systematic Review." *Aging and Mental Health* 21 (7): 677–83. <https://pubmed.ncbi.nlm.nih.gov/27647045/>

Sullivan, James, and Julie Papievis. 2020. "The Financial and Human Cost of Loneliness in Retirement." *Journal of Accountancy*, Newsletter January 21, 2020. <https://www.journalofaccountancy.com/newsletters/2020/jan/financial-consequences-isolation-senior-clients.html>

Terry, Mark. 2019. "A Long Line of Alzheimer's Failures: Roche Drops Two Drug Trials." BioSpace.com, January 30, 2019. <https://www.biospace.com/article/a-long-line-of-failures-roche-drops-alzheimer-s-drug-trials/>

True Link. 2015. "Financial Report on Elder Financial Abuse." True Link Financial, San Francisco. <https://truelink-wordpress-assets.s3.amazonaws.com/wp-content/uploads/True-Link-Report-On-Elder-Financial-Abuse-012815.pdf>

US Census Bureau. 2020. "Current Population Survey: February." US Census Bureau, Washington, DC. <https://www.census.gov/programs-surveys/cps.html>

Weiner, Anthony, Christopher Heye, Lee Baer, Maurizio Fava, and Janet C. Sherman. 2017. "Cognitive Function as a Proxy of Financial Decision Making in Older Primary Care Adults." *Alzheimer's and Dementia* 13 (7): P1558–P1560. <https://www.semanticscholar.org/paper/COGNITIVE-FUNCTION-AS-A-PROXY-OF-FINANCIAL-DECISION-Weiner-Heye/8d0a3362731e0dea981534332a9a3a43320ba1ec>