

Insights: Financial Capability

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This issue brief summarizes the findings from a paper titled [“Declining Financial and Health Literacy among Older Men and Women”](#) in *The Journal of the Economics of Ageing*.

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Does the Gender Gap in Financial and Health Literacy Close as We Age? Apparently Not

Summary

Financial and health literacy decline as we age, and loss of these abilities is associated with adverse outcomes. Prior research shows that, on average, men score higher than women on financial literacy tests. Nonetheless, it is unclear whether this gender gap changes with advancing age. This study uses data from more than 1,000 older adults collected over a 12-year period to investigate whether older men and women differ in the likelihood of and rate at which financial and health literacy deteriorate. While we confirm that men scored higher than women at the initial literacy assessment, we did not observe a gender difference in either the likelihood or the rate of decline over time. Our findings suggest that the financial and health literacy gender gap persists and remains stable as people age. Efforts to improve financial and health literacy among women and men prior to old age would benefit both, but might not close the gender gap.

Background

Age-related declines in financial and health literacy among older adults may render them vulnerable to mistakes that significantly impact their wellbeing. For example, older individuals face decisions related to retirement income, including when to claim Social Security payments, and whether to take a lump sum or annuity payments from a pension plan. Further, individuals often make these decisions under challenging financial circumstances (e.g., managing limited resources to generate retirement income), where there is little room for error and little opportunity to correct suboptimal decisions. Declining financial literacy can also increase susceptibility to scams, putting older adults at greater risk of losing money to fraud. This is especially troubling in view of the wide array of fraudulent offers targeting older adults. Beyond financial decisions, older adults must navigate a complex healthcare system and make important and difficult decisions about healthcare insurance, prescription drug plans, medical treatments and end-of-life care. These decisions, often irreversible, can significantly impact older adults' physical and financial wellbeing [1-6].

Declining financial and health literacy in older ages has been implicated in a number of adverse financial and health consequences [5]. Notably, the rate of decline in financial and health literacy varies from person to person, and little is known about the extent to which declining financial and health literacy differs across key demographic characteristics in later life, like race, income, and for the purposes of the current study, gender. If, over the course of aging, women's financial and health literacy decline at rates that differ from men's, gender-based gaps in literacy could shrink or widen over the life course. Therefore, understanding whether the rate of decline in financial and health literacy and the likelihood of decline differs by gender is essential to facilitate targeted efforts to improve literacy and associated financial and health outcomes.

Assessing Financial and Health Literacy

We assessed financial literacy via a 23-item instrument.¹ Briefly, eight questions assess numeracy (e.g., converting between numbers and percentages), while the remaining 15 questions assess knowledge of financial terms and concepts (e.g., mutual fund, stocks, bonds), financial institutions (e.g., the Federal Deposit Insurance Corporation), and financial investments (e.g., single stocks versus mutual funds, projected earnings from various financial products). We assessed health literacy via nine items that measure knowledge of health information and concepts (e.g., Medicare, Medicare Part D coverage, following prescription instructions). The financial literacy score was the percentage of total financial literacy items participants answered correctly, and the health literacy score followed a similar calculation. (The Appendix contains several examples of the financial and health literacy questions). We generated a composite score for total literacy, as the average of the domain-specific scores, with higher scores indicating higher financial and health literacy.

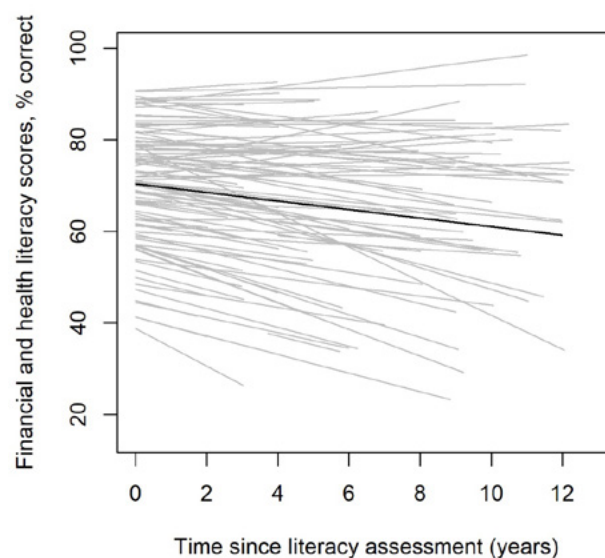
To investigate longitudinal change over time, we assessed 1,075 participants annually. The specific number of assessments varied for each individual, depending on when the participant entered the study and the number of years of follow up available, as this study has ongoing rolling admission. The average number of follow-up assessments was six; the minimum was two and the maximum was 12.

Findings

Changes in financial and health literacy over time

Overall, participants' mean financial and health literacy scores declined by approximately one percentage point per year, indicating an overall decline with advancing age. At the individual level, however, participants experienced differing degrees of decline, with some declining faster, some slower, and a small proportion of individuals (n=135, 13 percent) showing no decline or even an improvement in their total literacy score. Figure 1 shows changes in financial and health literacy over time, with the dark black line indicating the mean level of decline.² As noted above, the primary measure of our study is the combined financial literacy and health literacy score, but it is worth noting that the results are generally similar for financial and health literacy separately.

Figure 1: Declining financial and health literacy



Note: Dark black line is the average rate of decline.

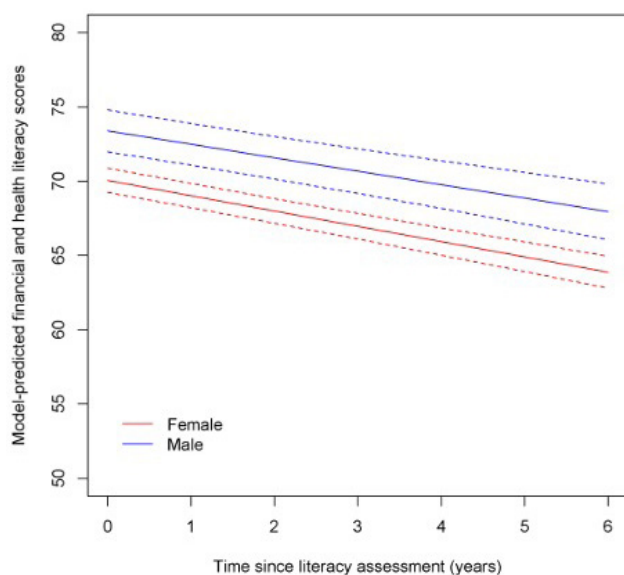
1 For the complete list of questions, see James, B.D., Boyle, P.A., Bennett and J.S., and Bennett, D.A., 2012. The impact of health and financial literacy on decision making in community-based older adults. *Gerontology*, 58, 531-9.

2 For more information about how we calculated changes in financial and health literacy, see Boyle, P., Mitchell, O.S., Mottola, G. R., and Yu, L. (forthcoming). Declining financial and health literacy among older men and women, *Journal of the Economics of Ageing*.

Men and women differed in their starting levels of literacy, but not their rate of decline

Adults who were the oldest at the outset of the study, those with less education and people with lower incomes all had lower starting total literacy levels. After controlling for age, education, income and medical conditions, male participants scored an average of three percentage points higher at the first assessment compared to female participants. Interestingly, with the exception of age, no demographic variables were significantly associated with declining literacy. In particular, we observed no gender difference in the rate of decline in financial and health literacy. Therefore, while there was a significant level difference, the decline for men and women over time was essentially parallel (Figure 2).

Figure 2: Rates of decline in financial and health literacy for older men and women



Note: The dotted lines are the 95 percent confidence intervals.

Men and women were equally likely to experience a decline in financial and health literacy

Approximately 87 percent of the participants experienced a decline in their financial and health literacy. We explored which factors were associated with the likelihood of declining financial and health literacy and found that older persons and those with lower initial levels of financial and health literacy were more likely to experience declines in their literacy scores. Importantly, we did not observe a gender difference in the likelihood of decline. That is, men

and women were equally likely to experience a decline in their financial and health literacy.

Conclusion

Financial and health literacy are important determinants of financial and health outcomes for adults of all ages, and even more so among the older population. It is well established that, on average, men tend to have higher levels of financial literacy compared to women. This study extends prior research by examining the gender differences in older persons' rates of decline in financial and health literacy over the course of aging and the likelihood of decline. Specifically, we tracked over 1,000 older community-dwelling residents with up to 12 annual literacy assessments. We found that older men answered more financial and health literacy questions correctly at the outset of our study than did women. Regarding the trajectories of declining literacy, however, we found no significant differences between men and women. That is, there was no difference in the likelihood of decline in literacy between men and women, and both older men and women experienced a similar rate of decline in literacy over time.

The finding that women perform worse than men in financial and health literacy, and that this gap does not close with age, should be a matter of concern not only for healthcare providers and policymakers, but also for financial institutions and organizations engaged in efforts to enhance older adults' financial wellbeing. Older persons with lower literacy are often ill-prepared to make appropriate financial and healthcare decisions and are more vulnerable to financial scams. Further, women's longer lifetimes, lower incomes and lower literacy levels put them at greater risk of financial fragility in later life [7-8], as well as worse health-related outcomes [9,10].

Additional research is needed to identify the strategies that can help both men and women maintain or even enhance their financial and health literacy in older age. It is possible that women might benefit relatively more due to their initially lower literacy levels and longer lifespans. Prior research has found that building human capital via educational and retirement planning programs, particularly when started early in adulthood, builds financial resilience in later life [11]. The same is likely true regarding health knowledge and awareness, although data confirming this are lacking.

About the Study

Study Participants

Participants averaged 81 years of age at their initial assessment (standard deviation [SD]: 7.5 years, range: ages 58-100). Three quarters were women, and almost all the participants were white (94.1 percent). Participants averaged 16 years of education, or the equivalent of a bachelor's degree (SD: 3.0, range: 5-29), with a median annual income between \$35,000 and \$49,999. At first assessment, the mean total financial and health literacy score was 70 percentage points (SD: 14.0, range: 28.5-100).

Participants were drawn from the Rush Memory and Aging Project (MAP), a study of common chronic conditions of aging, which recruits older adults throughout the Chicago metropolitan area. Most participants reside in continuous care retirement communities, while others are recruited from Section 8 and Section 202 subsidized housing as well as through local churches and social service agencies that serve minority groups and low-income older adults. Participants agreed to annual home visits that include detailed clinical evaluations, financial and health literacy assessments, and documentation of experiential and personality risk factors.

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All results, interpretations and conclusions expressed are those of the research team alone and do not necessarily represent the views of the Rush University Medical Center, the University of Pennsylvania, the FINRA Investor Education Foundation, FINRA, or any of its affiliated companies.

References

1. Mitchell, O. S., & Lusardi, A. (2023). Financial literacy and financial behavior at older ages. In *The Handbook on the Economics of Ageing*, Eds David E. Bloom, Alfonso Sousa-Poza, and Uwe Sunde. Oxfordshire, UK: Routledge: 553-761.
2. Kim, K. T., & Yuh, Y. (2018). Financial knowledge and household saving: Evidence from the survey of consumer finances. *Family and Consumer Sciences Research Journal*, 47(1), 5-24.
3. Baker, D. W., Wolf, M. S., Feinglass, J., Thompson, J. A., Gazmararian, J. A., & Huang, J. (2007). Health literacy and mortality among elderly persons. *Arch Intern Med*, 167(14), 1503-1509.
4. Kobayashi, L. C., Wardle, J., Wolf, M. S., & von Wagner, C. (2015). Cognitive function and health literacy decline in a cohort of aging English adults. *Journal of General Internal Medicine*, 30, 958-964.
5. Yu, L., Mottola, G., Bennett, D. A., & Boyle, P. A. (2021). Adverse impacts of declining financial and health literacy in old age. *Am J Geriatr Psychiatry*, 29(11), 1129-1139. <https://doi.org/10.1016/j.jagp.2021.02.042>
6. Senate Special Committee on Aging. (2021). Fighting Fraud: Top Scams in 2021. https://www.aging.senate.gov/imo/media/doc/aging_committee_fraud_book_20221.pdf
7. DeLiema, M., Deevy, M., Lusardi, A., & Mitchell, O. S. (2020). Financial fraud among older Americans: Evidence and implications. *J Gerontology B Psychol Sci Soc Sci*, 75(4), 861-868.
8. Lusardi, A., & Mitchell, O. S. (2017). How ordinary consumers make complex economic decisions: Financial literacy and retirement readiness. *Quarterly Journal of Finance*, 7(03), 1-31.
9. Hanoch, Y., Rice, T., Cummings, J., & Wood, S. (2009). How much choice is too much? The case of the Medicare prescription drug benefit. *Health Services Research*, 44(4), 1157-1168.
10. Levy, H., & Janke, A. (2016). Health literacy and access to care. *Journal of Health Communication*, 21(sup1), 43-50.
11. Lusardi, A., Mitchell, O. S., & Oggero, N. (2020). Understanding debt in the older population. NBER Working Paper 28236.

Appendix—Examples of Financial and Health Literacy Questions

Financial Literacy

What does the FDIC do?

- ☐ Approves new drugs for clinical use
- ☐ Protects the funds people or depositors place in banks and savings institutions
- ☐ Underwrites mortgages and other loans

A store is offering 15% off a television that is normally priced at \$1000. How much money would you save on the TV during this sale?

- ☐ 15
- ☐ 150
- ☐ 1500

True or false. Buying a single company stock usually provides a better return than a stock mutual fund.

- ☐ True
- ☐ False

Health Literacy

True or false? Medicare routinely covers costs associated with extended long-term care such as nursing home care lasting more than 1 month.

- ☐ True
- ☐ False

Suppose your doctor has given you a new prescription with the following instructions, 'Take 2 pills twice daily with food for 7 days.' Which of these choices represents the BEST way for you to take this medicine?

- ☐ take 2 pills when you wake up and 2 before bed
- ☐ take 2 pills daily for 7 days
- ☐ take 2 pills with breakfast and 2 with dinner for 7 days

Please name the 3 leading causes of heart disease and stroke that are treatable with medication.

[Choose all that apply.]

- ☐ high blood pressure/hypertension
- ☐ high cholesterol
- ☐ diabetes
- ☐ other