

# Every year of schooling counts for dementia risk in the US

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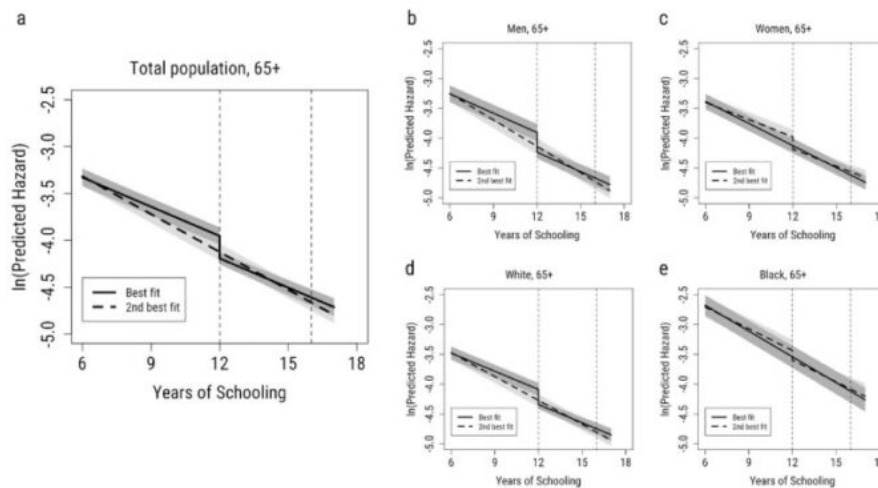
*In the US, each additional year of education is linked to a lower risk of dementia in later life, Hyungmin Cha notes. The decline is steady across the education spectrum, not limited to earning a degree. However, high school diplomas confer extra protection mainly for men and White Americans, revealing important inequality patterns.*

## **Education and the dementia divide**

For decades, researchers have observed a striking pattern: people with more education are less likely to develop dementia. Across countries, cohorts, and populations, schooling consistently appears to protect cognitive health in old age. But a few important questions have remained surprisingly underexplored: How exactly does dementia risk decline across the educational spectrum? Is the benefit concentrated among those who complete high school or college? Are there diminishing returns at higher levels? Or does every additional year of schooling matter?

Using nationally representative data on Americans aged 65 and older, my colleagues and I examined how dementia risk changes with each additional year of education (Cha, Farina and Hayward 2025). The answer is both simple and powerful: dementia risk declines steadily with each year of schooling (Figure 1).

Figure 1. Predicted log hazard of dementia risk by years of educational attainment adjusting for childhood and adulthood conditions, Health and Retirement Survey (USA) 2000-2018.



Source: Cha, Farina and Hayward (2025).

From as little as six years of education through advanced schooling, the pattern is remarkably linear: every additional year is associated with a lower risk of dementia. The protective effect does not plateau after high school, nor does it operate only at degree milestones. Education appears to function as cumulative exposure: more years mean more protection. This finding reinforces what many scholars have suggested but rarely quantified so clearly: educational exposure itself matters, not just credentials. At the population level, the implications are substantial: even modest increases in average educational attainment can translate into large reductions in dementia cases among older adults.

## Do diplomas matter, and why?

Although the overall pattern is linear, we also asked whether earning a high school diploma or college degree provides an additional “step-change” benefit beyond years of schooling alone. The answer is nuanced.

Among men and White Americans, obtaining a high school diploma is associated with an extra reduction in dementia risk beyond the steady year-by-year decline. In other words, completing high school appears to confer additional cognitive protection for these groups.

However, this step-change effect is not observed among women or Black Americans: for them, dementia risk declines steadily with each year of education, and the diploma itself does not appear to deliver an extra boost beyond accumulated schooling.

Educational credentials historically translated into different labor market and social opportunities across gender and racial groups. For mid-20th-century cohorts, the generations now entering older age, a high school diploma yielded especially strong economic returns for White men. These economic and occupational advantages may have produced downstream health benefits.

By contrast, women and Black Americans often faced discrimination in labor markets and unequal returns to credentials. A diploma may not have translated into equivalent occupational or income advantages, potentially limiting additional health benefits tied to credentials.

Importantly, this does not mean education is less protective for women or Black Americans. The linear decline in dementia risk is present across all groups. In fact, the year-by-year protective slope is at least as strong, if not stronger, among Black adults. What differs is the additional boost from crossing credential thresholds.

These patterns remind us that education operates both as cognitive exposure and as a social institution embedded within systems of inequality.

## **What this means for public health**

Dementia remains one of the most pressing public health challenges in aging societies. Effective treatments are limited, and prevention strategies are urgently needed. Education is increasingly recognized as one of the most important social determinants of dementia risk. But discussions often focus on “low” versus “high” education, implicitly treating schooling as a categorical variable. Our findings suggest this framing misses something crucial. The protective association of education is not confined to completing high school or college. It accumulates year by year. Each additional year of schooling is associated with a lower risk of dementia later in life. This has several implications. First, expanding access to education, even incremental improvements, may yield long-term cognitive health benefits at the population level. The gains do not depend solely on achieving degree milestones. Second, historical inequalities in educational opportunity continue to shape dementia disparities decades later. Cohorts educated during periods of racial segregation and gender discrimination carry those structural disadvantages into old age. Third, as educational attainment continues to rise, especially among women and racial minority groups, the shape of the association may evolve. Future cohorts may experience different credential effects than those observed today. Finally, these findings highlight the importance of understanding how education works. Is the benefit driven by cognitive development in childhood and adolescence? By occupational complexity in adulthood? By income and health behaviors? Or by some combination? While education is unlikely to be a simple causal lever, it is undeniably a powerful marker of life-course advantage. In a society seeking ways to reduce dementia burden, schooling stands out not merely as an early-life investment, but as a long-term protective factor whose effects echo across decades. Every year counts.

## **References**

Cha, H., Farina, M. P., & Hayward, M. D. (2025). How does the risk of dementia change with each additional year of education? *Demography*, 12231508.  
<https://doi.org/10.1215/00703370-12231508>