

Early life experiences linked to racial disparities in cognition

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Negative early life experiences, such as attending segregated schools, contribute significantly to cognitive decline and cognition disparities between older Black and white Americans, according to a new study led

by researchers at the Yale School of Public Health.

The [study](#), published in *JAMA Internal Medicine*, is the first to look at the impact of school segregation upon later life cognition using a large representative sample of the U.S. population, said lead author Xi Chen, associate professor of public health (health policy) at the Yale School of Public Health (YSPH) and an associate professor at Yale's Institution for Social and Policy Studies.

Previous research in this area has focused on the length of schooling. The current study assessed the quality of education provided and individuals' personal experiences during schooling, including whether they attended segregated schools.

"This is a landmark study based on that aspect," Chen said.

The findings are important because disparities in dementia rates between Black and white Americans are stark: Black [older adults](#) are about twice as likely as white older adults to have Alzheimer's Disease or another form of dementia, according to the Alzheimer's Association.

The study could have important implications for policymakers and health professionals, Chen said. Many currently identified risk factors for dementia and cognitive impairment happen in midlife or later. But focusing on early life may be more efficient and equity-promoting.

"Our study shows that promoting education equity can reduce racial disparities in dementia later in life," Chen said. Studies show that the return on investment for education could be higher than managing midlife and later [risk factors](#), like diabetes and hypertension, he added.

The research could also be useful for primary care clinicians. Clinicians monitor measures of patients' health to understand their risk for

dementia, but understanding patients' childhood backgrounds may also be helpful.

"If a patient was educated in the South in segregated schools, that could be a strong signal to prioritize them for screening for cognitive impairment," said Chen.

For the study, Yale researchers gathered data from 1,634 non-Hispanic Black and 7,381 non-Hispanic white participants in the Health and Retirement Study, a longitudinal study of approximately 20,000 people over age 50 in the U.S. overseen by the University of Michigan.

The researchers analyzed results from the study's core survey, which assessed cognitive function and cognitive impairment, as well as a separate life history survey which asked questions about [childhood experiences](#), including [family relationships](#) and finances, traumatic experiences, and education. Information from face-to-face interviews and genetic factors related to cognition were also included in the analysis.

On a 27-point scale, Black participants' scores on cognitive tests were found to be 2.3 points lower than white participants' scores—13.5 points compared to 15.8 points, respectively. Black participants were also more than twice as likely as white participants to show cognitive impairment—33.6% compared to 16.4%, respectively, according to the study.

Black participants were also more likely to have had difficult life experiences in childhood, the researchers said. These challenges included having to move because of family financial difficulties, needing financial support from family members, and experiencing trauma. Black participants, and their parents, were found to have less education in general than white participants, according to the study. They also were

more likely to have had less "enriching" educational experiences, and nearly two-thirds of the Black participants attended segregated schools before college, the researchers found.

The researchers used a state-of-the-art statistical method for understanding disparities between groups to evaluate how total early life experience and specific early life experiences were associated with cognitive differences and cognitive decline among Black and white participants.

The study found total early life experiences were associated with 61.5% of the difference in cognitive scores and 82.3% of the higher rate of cognitive impairment among Black participants. The single life experience with the biggest effect was being in segregated schools until college, especially during the primary school period. Segregated schooling prior to college was associated with 28.8% of the difference in cognitive scores and 39.7% of the difference in [cognitive decline](#), according to the study.

In an accompanying [editorial](#) in *JAMA Internal Medicine*, Dr. Reagan W. Durant, the journal's associate editor for diversity, equity, and inclusion, highlighted the study's importance given the high level of de facto racial segregation in schools that continues to exist today—driven primarily by economic differences within communities.

"Although state-sponsored school segregation was legally eliminated by the U.S. Supreme Court's 1954 *Brown v. Board of Education* decision and the decades of tireless efforts to integrate schools, the effects of [early-life](#) school segregation are still relevant in our assessment of education and its modern-day and future effects on health outcomes," Durant wrote.

More information: Study: Zhuoer Lin et al, Early-Life Circumstances

and Racial Disparities in Cognition Among Older Adults in the US, *JAMA Internal Medicine* (2024). DOI: [10.1001/jamainternmed.2024.1132](https://doi.org/10.1001/jamainternmed.2024.1132)

Editorial: Raegan W. Durant, Early-Life Education Quality and Quantity, *JAMA Internal Medicine* (2024). DOI: [10.1001/jamainternmed.2024.1141](https://doi.org/10.1001/jamainternmed.2024.1141)

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