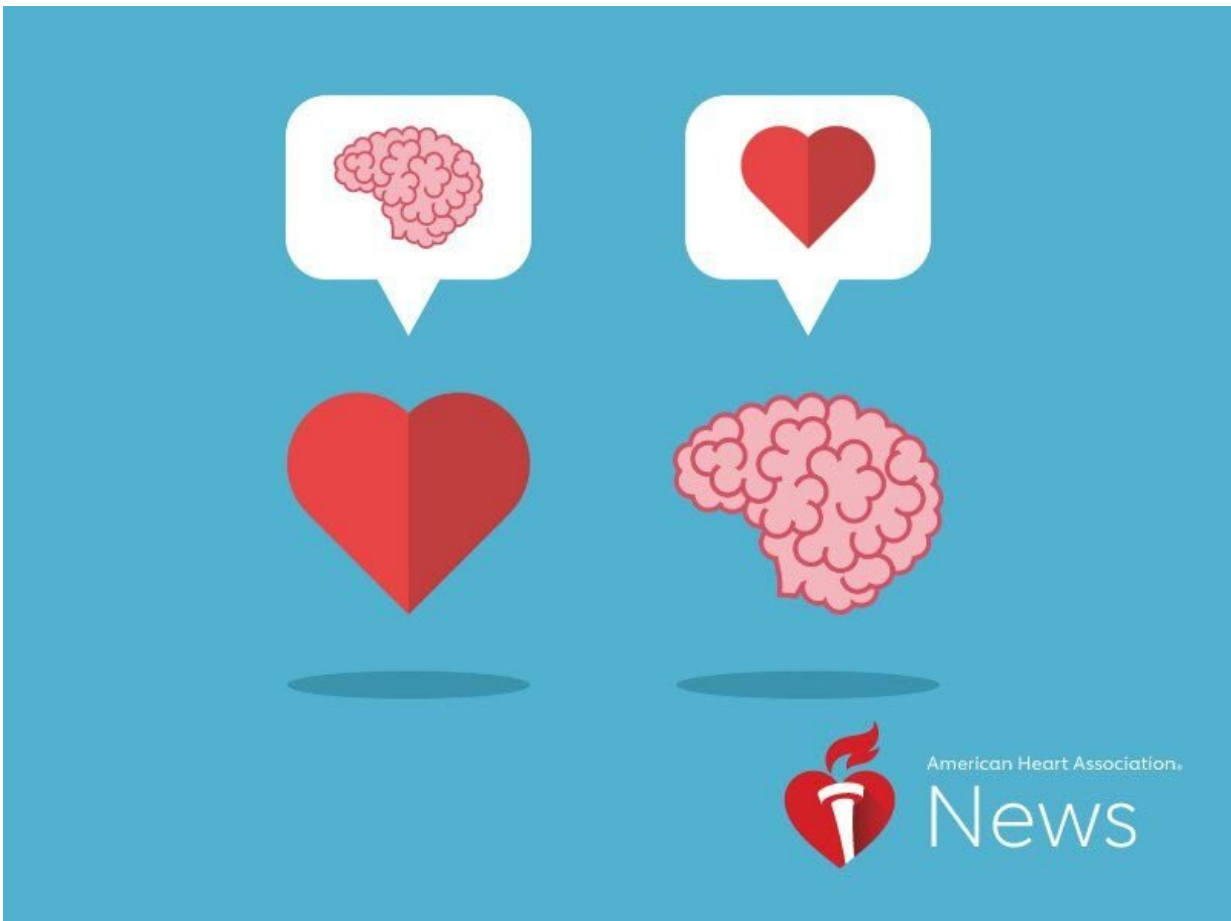


Higher cardiovascular risk score linked to lower cognitive function

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A risk calculator used to predict cardiovascular disease also may help

predict a person's poor cognitive function, new research suggests.

The study, published Tuesday in the *Journal of the American Heart Association*, found that the higher a person's 10-year cardiovascular risk score, the worse they scored on tests for cognitive function, adding to a large body of evidence suggesting that controlling [heart](#)-health risk factors may help protect brain health.

"We know that [cardiovascular disease](#) shares a lot of risk factors with cognitive decline or dementia," said study co-author Jingkai Wei, who holds a doctorate in epidemiology and is an assistant professor at the University of South Carolina's Arnold School of Public Health in Columbia. The results suggest every 5% increment in the cardiovascular [disease](#) risk score may be related to poorer cognitive functioning, he said.

Cardiovascular disease includes [heart disease](#), stroke, heart failure and high blood pressure. Heart disease is the leading cause of death in the U.S., with stroke at No. 5. About 5.8 million U.S. adults have some form of dementia.

Previous studies have shown an association between higher cardiovascular risk scores and poorer cognitive function in people with preexisting health conditions. The new study examined the link between cardiovascular risk scores and cognitive function in a larger sample of the general population and differences among racial and ethnic subgroups.

The Framingham risk score is used to calculate a person's 10-year and lifetime risk of developing cardiovascular disease. The score is calculated using age, sex, race, total cholesterol, "good" HDL cholesterol, [systolic blood pressure](#) (the top number), whether a person takes blood pressure-lowering medication, and whether they have

diabetes or smoke.

In the study, researchers analyzed data from the National Health and Nutrition Examination Survey from 2011 to 2014 for 2,254 adults, ages 60 and older, who had not previously been diagnosed with cardiovascular disease. Researchers calculated 10-year Framingham risk scores for participants using self-reported data from questionnaires and blood tests for cholesterol, glucose and hemoglobin A1C levels. Multiple blood pressure readings also were taken and averaged. The risk scores were then classified as low, medium or high.

Cognitive function was measured using three tests: the Consortium to Establish a Registry for Alzheimer's Disease Word List Memory Task, Digital Symbol Substitution Test and Animal Fluency Test.

Participants with medium and high Framingham risk scores had lower cognitive scores than those with low cardiovascular risk scores. As Framingham scores increased, overall cognitive test scores dropped.

"This adds to the growing body of evidence that shows it's important to take care of cardiovascular health, not just for cardiac outcomes, but for brain health outcomes," said Dr. Kristine Yaffe, a professor at the Weill Institute for Neurosciences at the University of California, San Francisco. Yaffe was not involved with the study.

"What's good for the heart is good for the brain," she said.

However, the results differed among subgroups. Cardiovascular risk factors were linked to poorer cognitive function among Hispanic people, but the link was strongest among non-Hispanic white people. The link between higher cardiovascular risk scores and lower cognitive function did not hold up among Black people.

That doesn't mean cardiovascular risk factors don't contribute to cognitive decline in Black people, Wei said, noting that participants in the decades-long Framingham Heart Study were predominantly white people of European descent.

"The calculator may not predict outcomes as well for African Americans," he said.

The findings may suggest that reducing cardiovascular risk factors could be a strategy for preventing [cognitive decline](#), Wei said.

While some of the risk factors in the Framingham calculator can't be changed, many can be, Yaffe said.

"There's not much you can do about your age," she said. "But you can make sure that if you have risk factors such as [high blood pressure](#), diabetes, high cholesterol or obesity, that you work with your health care professional to make sure you are getting treatment and also engaging in healthy lifestyle behaviors like exercising and eating a healthy diet."

More information: Jingkai Wei et al, Ten-Year Cardiovascular Disease Risk Score and Cognitive Function Among Older Adults: The National Health and Nutrition Examination Survey 2011 to 2014, *Journal of the American Heart Association* (2023). [DOI: 10.1161/JAHA.122.028527](#)

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