

People with familial longevity show better cognitive aging

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If you come from a family where people routinely live well into old age, you will likely have better cognitive function (the ability to clearly think, learn and remember) than peers from families where people die younger.

Researchers affiliated with the Long Life Family Study (LLFS) recently broadened that finding in a paper published in *Gerontology*, suggesting that people who belong to long-lived families also show slower cognitive decline over time.

The Long Life Family Study has enrolled over 5,000 participants from almost 600 families and has been following them for the past 15 years. The study is unique in that it enrolls individuals belonging to families with clusters of long-lived relatives. Since 2006, the LLFS has recruited participants belonging to two groups: the long-lived siblings (also called the proband generation) and their children. Since they share lifestyle and [environmental factors](#), the spouses of these two groups have also been enrolled in the LLFS as a referent group.

To assess cognitive performance, the researchers administered a series of assessments to the study participants meant to test [different domains](#) of thinking, such as attention, executive function and memory, over two visits approximately eight years apart. This allowed researchers to ask whether individuals from families with longevity have better baseline [cognitive performance](#) than their spouses do and whether their cognition declines more slowly than does that of their spouses.

To study this question, LLFS researchers used a model to determine the change in score on several [neuropsychological tests](#) from one visit to the next. "This model allows us to assess both the cross-sectional effect of familial longevity at baseline visit and the longitudinal effect over follow-up time," says co-lead author Mengtian Du, a doctoral student in biostatistics at Boston University School of Public Health.

They showed that individuals from long-lived families performed better than their spouses on two tests: a symbol coding test, which has participants match symbols to their corresponding numbers and provides insight into psychomotor processing speed, attention, and working

memory, and a paragraph recall test, which asks participants to remember a short story and assesses episodic memory. The researchers from the LLFS also found that individuals in the younger generation (participants born after 1935) exhibited a slower rate of [cognitive decline](#) on the symbol coding test than did their spouses.

"This finding of a slower decline in processing speed is particularly remarkable because the younger generation is relatively young at an average age of 60 years and therefore these differences are unlikely to be due to neurodegenerative disease," explains corresponding author Stacy Andersen, Ph.D., assistant professor of medicine at Boston University School of Medicine. "Rather we are detecting differences in normal cognitive aging."

According to Andersen this suggests that people with familial longevity demonstrate resilience to cognitive aging. "By studying the LLFS families we can learn about the genetics, environmental factors, and lifestyle habits that are essential in optimizing cognitive health throughout the lifespan."

More information: Andersen et al. Slower Decline in Processing Speed Is Associated with Familial Longevity. *Gerontology*
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