

Research shows evidence that bilingualism delays the brain's aging process

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The next time you get the urge to lapse into English while conversing in your other language, try not to and your brain will thank you for it.

Researchers from the Singapore University of Technology and Design (SUTD) examined and found that active bilingualism—the regular

balanced use of two languages and [language](#) switching—will offer protection against the [brain](#)'s aging process. The paper was published in the *Journals of Gerontology: Psychological Sciences*.

Current literature on the effects of bilingualism on the adult brain were inconsistent and lacking in clear trends—some reported that second language proficiency meant greater neural efficiency, whereas others concluded that it made no difference whatsoever. So the researchers from SUTD set out to explore the [executive](#) control mechanisms and context under which bilingualism can be a protective source against cognitive decline in the normal aging process.

Executive functions are complex, higher order processes that the brain performs. These functions mainly allow people to maintain their attention by focusing on [relevant information](#) and ignoring distractors, maintain information until execution as well as motor planning.

In the study that was conducted in Singapore, cognitively healthy seniors aged between 60 to 84 years old who were bilingual in Chinese and English were tasked to complete an array of computerized executive control tasks.

Tasks selected were commonly used in previous studies and identified with reference to well-established theories involving [older adults](#) that showed decreased performance with aging. For a more holistic examination, the researchers measured six different domains of executive control using four different tasks, all of which had been previously associated with bilingualism, while controlling for individual variables such as age, processing speed and fluid intelligence.

It was found that active usage of two languages with less frequent language switching predicted better performance in the goal maintenance and conflict monitoring aspects of executive control. This

suggests that bilingualism can be a protective source against cognitive decline in the normal aging process. Importantly, active [bilingualism](#) can be seen as a lifestyle factor that could buffer against cognitive declines that are associated with normal aging.

"The effort involved in not switching between languages and "staying" in the target language is more cognitively demanding than switching between languages while actively using both languages. Our study shows that the seniors developed more efficient neural organization at brain regions related to language control, which also overlap with areas involved in executive control," explained lead principal investigator and corresponding author Associate Professor Yow Wei Quin from SUTD.

More information: Clara G H Chan et al, Active Bilingualism in Aging: Balanced Bilingualism Usage and Less Frequent Language Switching Relates to Better Conflict Monitoring and Goal Maintenance Ability, *The Journals of Gerontology: Series B* (2020). [DOI: 10.1093/geronb/gbaa058](#)

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