

# Regular crosswords and number puzzles linked to sharper brain in later life

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Older adults who regularly take part in word and number puzzles have

sharper brains, according to the largest online study to date.

The more regularly adults aged 50 and over played puzzles such as crosswords and Sudoku, the better their [brain function](#), according to research in more than 19,000 participants, led by the University of Exeter and King's College London.

The findings emerge from two linked papers published today (May 16th) in the *International Journal of Geriatric Psychiatry*. The researchers have previously presented their findings on word puzzles at the Alzheimer's Association International Conference in 2018. The new research builds on these findings and also reports the same effect in people who regularly complete number puzzles.

Researchers asked participants in the PROTECT study, the largest online cohort in [older adults](#), to report how frequently they engage in word and number puzzles and undertake a series of cognitive tests sensitive to measuring changes in [brain](#) function. They found that the more regularly participants engaged with the puzzles, the better they performed on tasks assessing attention, reasoning and memory.

From their results, researchers calculate that people who engage in word puzzles have brain function equivalent to ten years younger than their age, on tests assessing grammatical reasoning and eight years younger than their age on tests measuring short term memory.

Dr. Anne Corbett, of the University of Exeter Medical School, who led the research, said: "We've found that the more regularly people engage with puzzles such as crosswords and Sudoku, the sharper their performance is across a range of tasks assessing memory, attention and reasoning. The improvements are particularly clear in the speed and accuracy of their performance. In some areas the improvement was quite dramatic—on measures of problem-solving, people who regularly do

these puzzles performed equivalent to an average of eight years younger compared to those who don't. We can't say that playing these puzzles necessarily reduces the risk of dementia in later life but this research supports previous findings that indicate regular use of word and number puzzles helps keep our brains working better for longer."

The study used participants in the PROTECT [online platform](#), run by the University of Exeter and Kings College London. Currently, more than 22,000 healthy people aged between 50 and 96 are registered in the study, and the study is expanding into other countries including Hong Kong and the US. The online platform enables researchers to conduct and manage large-scale studies without the need for laboratory visits. PROTECT is a 25 year study with participants being followed up annually to explore how the brain ages and what might influence the risk of dementia later in life. PROTECT is funded by the National Institute for Health Research (NIHR) Bioresearch Resource, including through its NIHR Clinical Research Network (CRN). In addition to taking part in vital research, participants in the PROTECT study have access to a brain training programme that has already been shown to benefit brain function, as well as having the opportunity to take part in exciting new research studies into brain health and dementia prevention.

Clive Ballard, Professor of Age-Related Diseases at the University of Exeter Medical School, said: "PROTECT is proving to be one of the most exciting research initiatives of this decade, allowing us to understand more about how the brain ages and to conduct cutting-edge new studies into how we can reduce the risk of dementia in people across the UK. If you're aged 50 or over, you could sign up to take part in research that will help us all maintain healthy brains as we age."

**More information:** To sign up to PROTECT or to find out more, visit: [www.protect-exeter.org.uk](http://www.protect-exeter.org.uk)

Provided by University of Exeter

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