

Outrunning dementia with physical activity

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Regular exercise can improve brain function and may protect against dementia in middle-aged and older adults, with women benefitting almost twice as much as men, according to University of Queensland research.

The study used longitudinal data to investigate the [physical activity](#) behavior and cognitive function of 16,700 Europeans aged between 54 and 75 over 13 years.

UQ School of Economics and Centre for the Business and Economics of Health Ph.D. candidate Sabrina Lenzen said previous studies have followed people over time, but they only investigated the association between physical activity and cognition.

"Similar to other large studies, we used an [economic model](#) that took into account several social-economic and lifestyle influencing factors," Ms Lenzen said.

"However, our study is unique in that we measured individual changes over time and used statistical techniques to find a value closer to the real impact of physical activity on cognition."

The researchers found [regular exercise](#) improves cognitive function for both men and women—but the impact was greater for women.

"More specifically, what our research determined was weekly moderate physical activity increased older people's cognitive function on average by five percent for men and 14 percent for women," Ms Lenzen said.

"If a person scores 12 out of 20 in their cognitive function test and then started doing regular moderate exercise, we could see scores increase to 12.6 for men and 13.7 for women."

Study co-author and Ph.D. supervisor Professor Brenda Gannon said the effect increased again for higher intensity physical activity.

"We saw an increase in cognitive function of eight percent for men and 15 percent for women if they were both moderately and vigorously physically active every week," Professor Gannon said.

"Ultimately, we have found that physical activity has a potential, direct protective effect on cognitive decline and dementia, and [women](#) benefit more than men."

An example of moderate physical activity is going for a brisk walk, while vigorous physical activity might be running or circuit training.

Ms Lenzen said a growing aging population and the rising costs of dementia worldwide meant it was vital to invest in targeted efforts to prevent the disease.

"By 2050, estimates show that 900,000 Australians will be living with dementia, and a US study has projected that the annual costs of a dementia patient are around US\$50,000," Ms Lenzen said.

"Preventing dementia would reduce the burden on individuals, the health system and the economy—so our findings are important for a range of groups

including older people, doctors and policymakers."

Ms Lenzen said they hoped to encourage older people to be active and potentially prevent dementia at an early stage, rather than trying to manage the disease through the healthcare system when it's "too late".

Policymakers could assist by creating public health campaigns on the benefits of physical activity for brain health, and investing in more parks and recreational facilities.

"Taking some or all of these actions could reduce the high costs linked to [dementia](#), protect human life and prolong the participation of [older adults](#) in the labor force, enhancing the economy," Ms Lenzen said.

The study, co-authored by Ms Lenzen, Professor Gannon and Dr. Christiern Rose, is published in *Economics and Human Biology*.

More information: Sabrina Lenzen et al. A dynamic microeconomic analysis of the impact of physical activity on cognition among older people, *Economics & Human Biology* (2020). [DOI: 10.1016/j.ehb.2020.100933](#)

Provided by University of Queensland

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