

Lay Summary

High levels of air pollution weaken the positive health benefits of neighbourhood environments

Cognitive health – the ability to clearly think, learn, reason, and remember- is critical to living a productive and independent lifestyle. However, as we age, our cognitive abilities steadily decline. Applying strategies to help maintain cognitive health is becoming increasingly important. The creation of ‘cognition-friendly neighbourhoods’ (neighbourhoods with features that support the maintenance and improvement of our cognitive health) is one such strategy. However, the requirements of these neighbourhoods are still unknown.

Our study explored how the built (density, streets, etc.) and natural (greenery, parks etc.) environments, traffic-related air pollution, and the socio-economic status of the neighbourhood can influence cognitive health in older adults. The results can help inform the creation of cognition-friendly neighbourhoods.

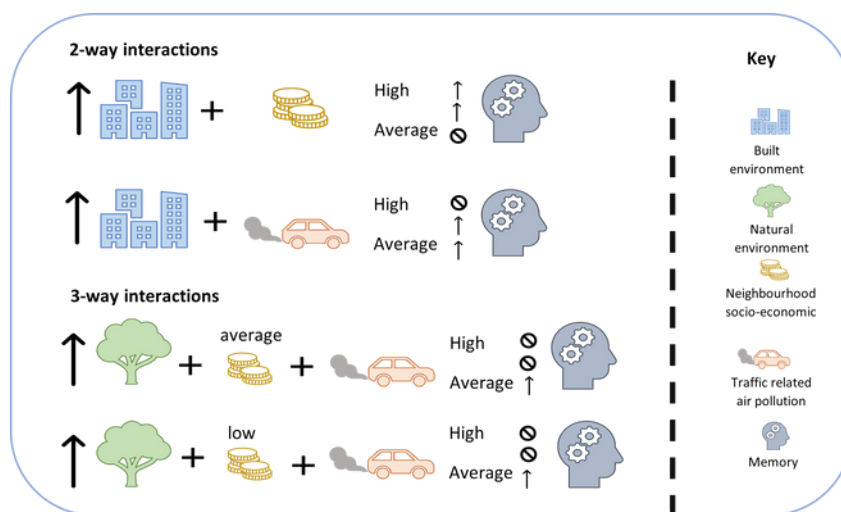


Image 1: Visual representations of the study's findings.

Our results show that:

- The built and natural environment only had a positive impact on memory when air pollution levels were average or low.
- The natural environment benefited memory in disadvantaged neighbourhoods with low air pollution.

Our study highlights how high levels of air pollution can offset the beneficial positive health impacts of complex and dense neighbourhood environments on memory in older adults. To create neighbourhoods that benefit cognitive health, our findings suggest:

1. The creation of compact neighbourhoods with good access to various amenities.
2. The creation of more quality outdoor spaces in disadvantaged neighbourhoods.
3. The implementation of effective policy interventions that reduce traffic related air pollution.

These findings could help inform the creation of cognition-friendly cities, that can assist in the maintenance of cognitive health in our rapidly growing population of older adults.

Research Title: Do neighbourhood traffic-related air pollution and socio-economic status moderate the associations of the neighbourhood physical environment with cognitive function? Findings from the AusDiab study

Authors: Ester Cerin, Anthony Barnett, Yu-Tzu Wu, Erika Martino, Jonathan E Shaw, Luke D Knibbs, Govinda Poudel, Bin Jalaludin, Kaarin J Anstey.

[Read Paper Here](#)