

# How does built environment scale affect cognitive performance and neurophysiological measures in healthy adults?

ACTRN12624001227583

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**Status** RECRUITING  
**Sponsor** University of South Australia  
**Enrollment** 55 participants

## Plain Language Summary

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We spend most of our waking lives inside buildings, but very little research has looked at how the design and scale of indoor spaces affects our ability to think and concentrate. This study explores whether the size of a room — specifically whether the ceiling height is normal or enlarged — influences brain activity and performance on cognitive tasks. Prior laboratory research using virtual reality has suggested that room scale does matter; this study tests whether the same effect occurs in real physical spaces.

Healthy adults will spend time in two differently sized rooms and complete computerised thinking tasks while having their brain activity measured using EEG (a painless method of recording electrical signals from the scalp). The results from each room will be compared.

You may be eligible if you are 18 to 40 years old, have normal or corrected-to-normal vision, can read and understand English, and have no diagnosed psychiatric or neurological conditions requiring medication treatment. People with professional training in building or environmental design are not eligible, as prior knowledge of these effects could influence the results. This study could eventually inform how schools, offices, and healthcare spaces are designed to support human performance.

## Key Eligibility Criteria

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### Inclusion (3)

- Aged between 18 to 40 years
- Normal or corrected to normal vision.
- Able to read and understand English proficiently.

### Exclusion (3)

- Based on self-report, no prior diagnosis and/or undergoing treatment for, a psychiatric (other than depression or anxiety), neurological or neurodevelopmental condition, particularly excluding those undertaking pharmacological treatment.
- No prior training in built environment design as this has been shown to effect results.
- Ability to climb a few stairs to access the study location.

## Locations (1 total)

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SA, Australia

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<https://www.anzctr.org.au/Trial/Registration/TrialReview.aspx?ACTRN=ACTRN12624001227583>

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