

## Introduction

Previous studies have indicated that people with ADHD (PWADHD) and people who stutter, (PWS) show shared cognitive and other deficits, implying a link between the two neurodevelopmental conditions.

However, whether these overlaps reflect a single underlying condition with shared cognitive mechanisms or distinct cognitive architectures remains unclear.

Network Models (NMs) provide a novel approach for examining how cognitive symptoms interact and may reveal similarities or differences in cognitive organisation across groups.

## Aim

This study tested whether the underlying cognitive architectures of stuttering and ADHD differ. NMs were utilised to compare the relationships between attention, fluency and phonological working memory, (PWM).

## Methods

Controls (N = 67), PWADHD (N = 79) and PWS (N = 33)

### Measures:

- Adult ADHD Self-Report Scale (ASRS): ADHD traits
- Stuttering Severity Instrument-3 (SSI-3): speech fluency
- Universal Non-Word Repetition Test (UNWR): PWM

## Results

- Results showed that while controls and PWADHD exhibited broadly similar architectures, both differed from PWS.
- PWM emerged as a central node in all groups, but its connectivity varied.

## Conclusions

Findings do not support a unified network structure consistent with a single shared underlying mechanism, but instead support partially distinct cognitive architectures.

The results highlight network approaches and a differential mechanistic role of PWM across conditions.

NM is a valuable framework for investigating cognitive architecture in neurodevelopmental conditions.

