



Western UNIVERSITY · CANADA

# Exploring Sensory Phenotypes in Autistic Children and Children with ADHD

A. Pourtousi, N. Scheerer, C. Yang, B. Stojanoski, E. Anagnostou, R. Nicolson, E. Kelley, S. Georgiades, J. Crosbie, R. Schachar, M. Ayub, R. Stevenson

<sup>1</sup>Dept. Psychology, Western University, <sup>2</sup>Brain and Mind Institute, Western University

## Background

- 1) Sensory difficulties are common in both autism and ADHD, but are highly heterogeneous.
- 2) Autistic individuals often have stable sensory phenotypes, which helps to parse this heterogeneity.
- 3) Sensory phenotypes have not been examined in ADHD.

The aim of this research is to:

- 1) Identify whether these sensory phenotypes exist in children with ADHD
- 2) Identify whether these phenotypes are similar to those observed in autism
- 3) Determine whether these sensory phenotypes are related to age, IQ, gender, ASD, ADHD, and OCD traits

## Methods

### Participant Information:

1) 495 autistic children, 461 children with ADHD.

2) Exclusions: Co-occurring ASD and ADHD.

### Materials:

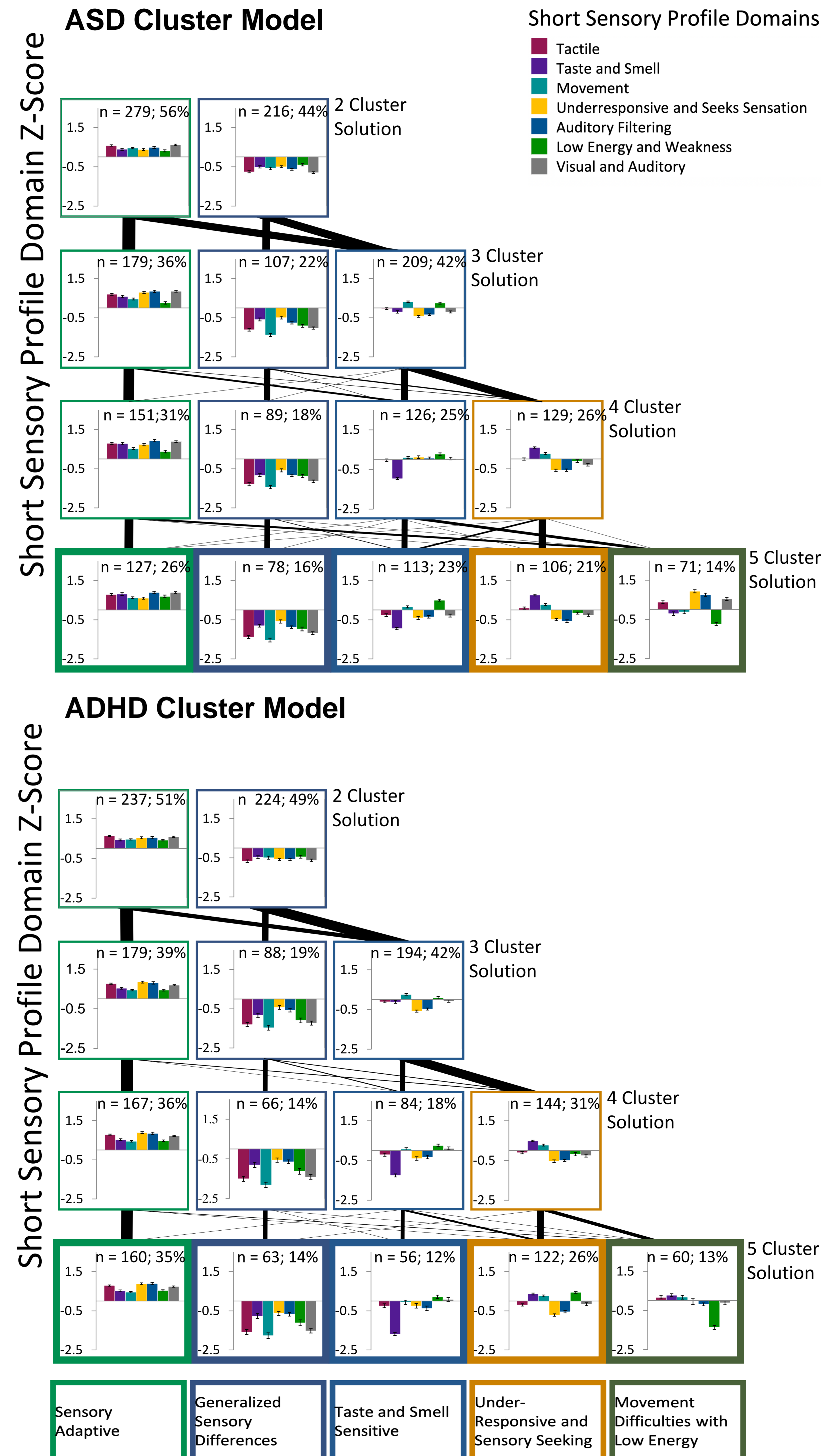
POND Network, SSP, Wechsler and Stanford-Binet Intelligence Scales, Social Communication Questionnaire, Repetitive Behavior Scale, Strengths and Weaknesses of ADHD-symptoms and Normal-behaviors Rating Scale, Toronto Obsessive-Compulsive Scale.

### Statistical Analysis:

1) SSP z-scores from participants were subjected to a K-means cluster analysis to determine whether meaningful phenotypes could be modelled.

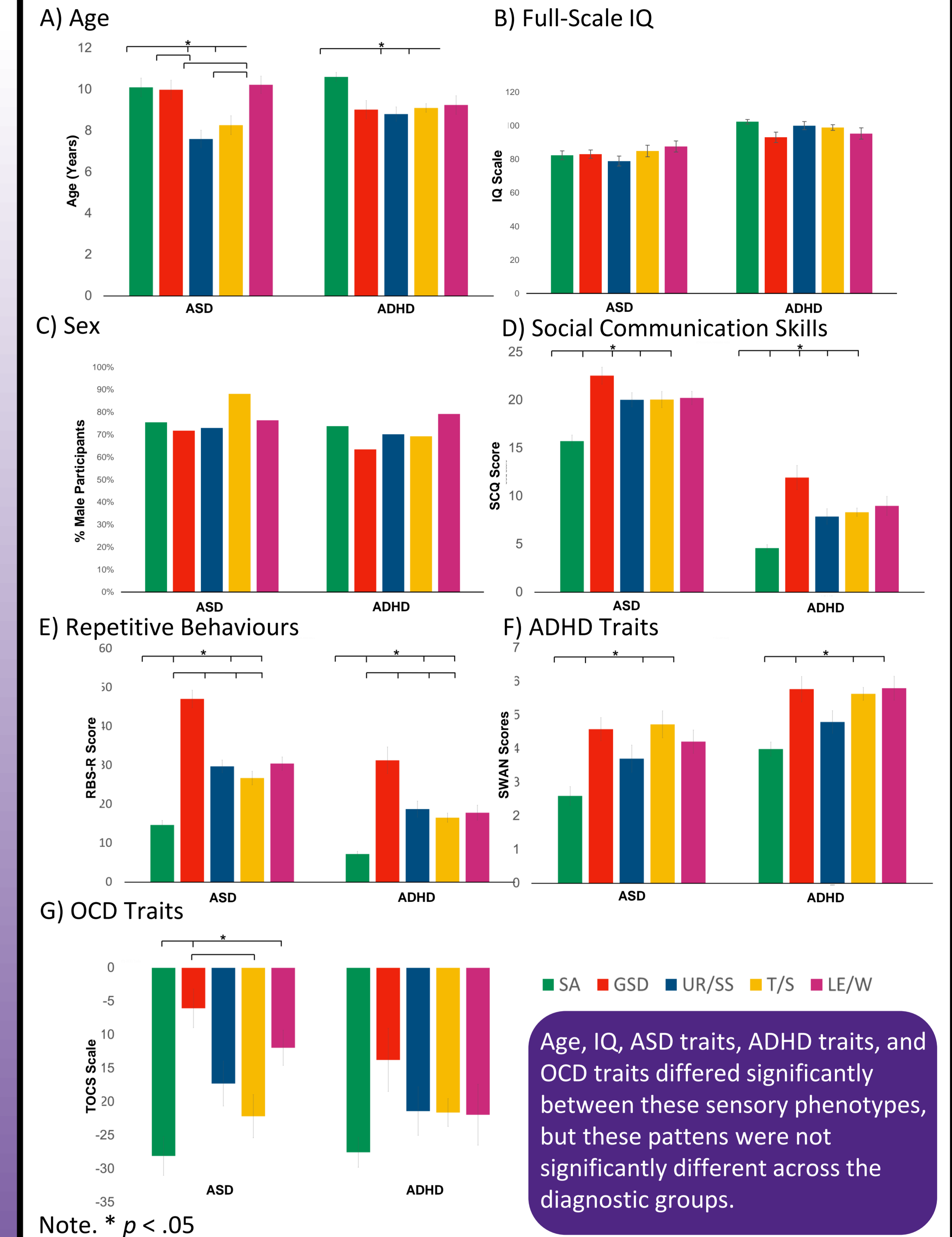
2) Follow up ANOVAs were used to compare age, IQ, sex, ASD, ADHD, and OCD traits across the resultant phenotypes.

## Results



## Results

Sensory Phenotypes and age, IQ, gender, Social Communication Skills, Repetitive Behaviours, ADHD traits, and OCD traits



## Discussion

- 1) Autistic children and children with ADHD demonstrated highly similar patterns of sensory phenotypes.
- 2) These sensory phenotypes help to explain variance in behavioural difficulties often observed in these diagnostic groups.
- 3) These results suggest that transdiagnostic etiologies may underlie sensory difficulties in these groups.