

Sensory subtypes in children on the autism spectrum

Background

Children on the autism spectrum experience a significant range of traits. A major research goal is to better understand the variation in the range of traits, to assist with identifying which practices and supports may be most effective for which children. Sensory traits including hyper-reactivity, hypo-reactivity and unusual sensory interests are behavioural characteristics of autism that may provide insights into clinically meaningful subtypes.

How we did the research



The parents of the participants completed the Short Sensory Profile – 2 (SSP-2) a standardised questionnaire assessing the sensory profile of children.



The item level responses on the SSP-2 were grouped by age and gender and compared for any specific patterns for the sensory profile.

Aim

This project aimed to identify sensory subtypes in children and adolescents on the autism spectrum aged 3-15 years and to evaluate the relationship between sensory subtypes and autistic traits and characteristics.

What we found

- Sensory subtyping conducted on the SSP-2 revealed differences that were largely linked to severity gradient in terms of sensory responsivity.
- We also found a subtype characterised predominantly by emotional regulation and attentional difficulties.
- The remaining subtypes could not be discriminated based on the nature/type of sensory modulation but were characterised by patterns of sensory modulation where the difference was more linked to degree rather than type of sensory responsivity.
- Sensory modulation traits, especially sensory sensitivity and avoidance peak in frequency during middle childhood. Further, compared to males, females showed more sensory sensitivity.

Who took part

919 Children aged 3-15 years and their families.

Participants were recruited via the Australian Autism Biobank (AAB) and the Longitudinal study of Australian Students with Autism (LASA) and from the NSW KU Autism Specific Early Learning and Care Centre (ASELCC)



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What this means

The long term objective is to utilise the results of these analyses to identify homogeneous subgroups and to inform whether supports for young children on the autism spectrum based on their sensory profile optimise outcomes in school participation, and independent daily living.

The findings of this project will help develop tailored practices that can support individuals who experience distress from different sensory experiences. For example, the sensory subtype with predominant emotion regulation and attention difficulties will be important to recognise in clinical practice, while consideration of differences in sensory traits depending on age and sex, may allow for better planning of support strategies.

Such ‘personalised’ approaches will be crucial in the comprehensive assessment and management of each individual on the spectrum, creating support that is tailored to their life and experience.

Find out more

Download the final report on the Autism CRC website: autismcrc.com.au/reports/SensorySubtypes

Who did the research



UNSW
SYDNEY



AutismCRC
Biobank

The Australian Autism Biobank is an initiative of Autism CRC, which receives funding from the Australian Government.

Acknowledgments

We would like to thank the children, families, and research staff who participated in this study.

Australian Autism Biobank

The Australian Autism Biobank is Australia’s largest collection of biological, behavioural, environmental and medical information of children on the autism spectrum and their families. Almost 3,000 autistic and non-autistic children and adults participated from across Australia.

Permission to recontact for future research was provided by parents or other guardians.

For more information, visit autismcrc.com.au/biobank