

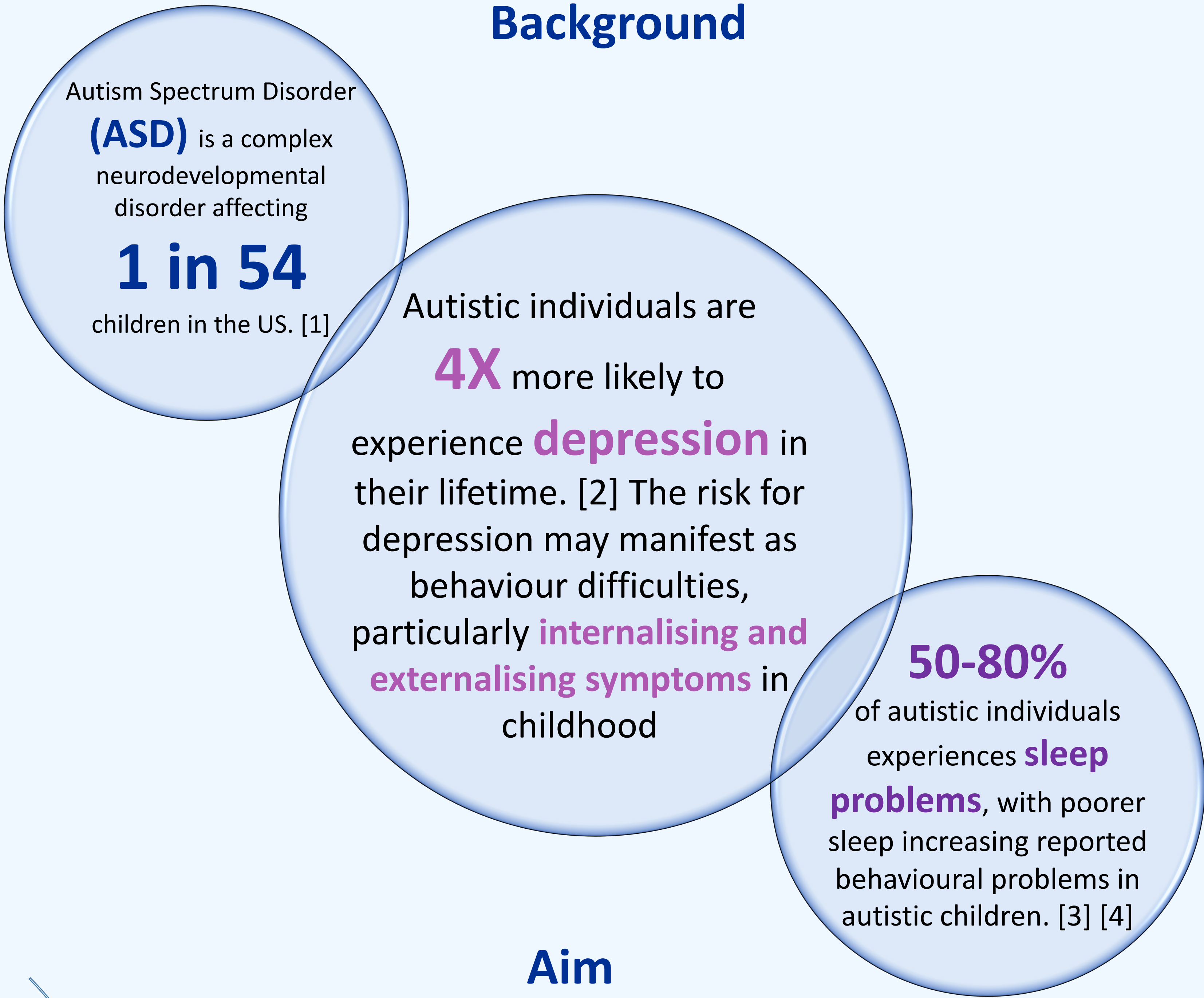
A cross-sectional study investigating sleep difficulties on internalising and externalising problems in autistic patients

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Background



Aim

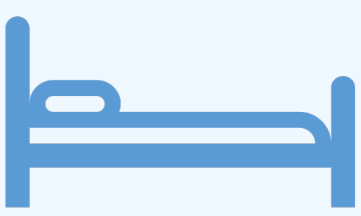
- 1 To confirm the role of sleep difficulties on the internalising and externalising problems in a large cohort of autistic children.
- 2 To explore the relationship of genetic liability to ASD, psychiatric diagnosis and sleep traits on the internalising and externalising problems

Methods

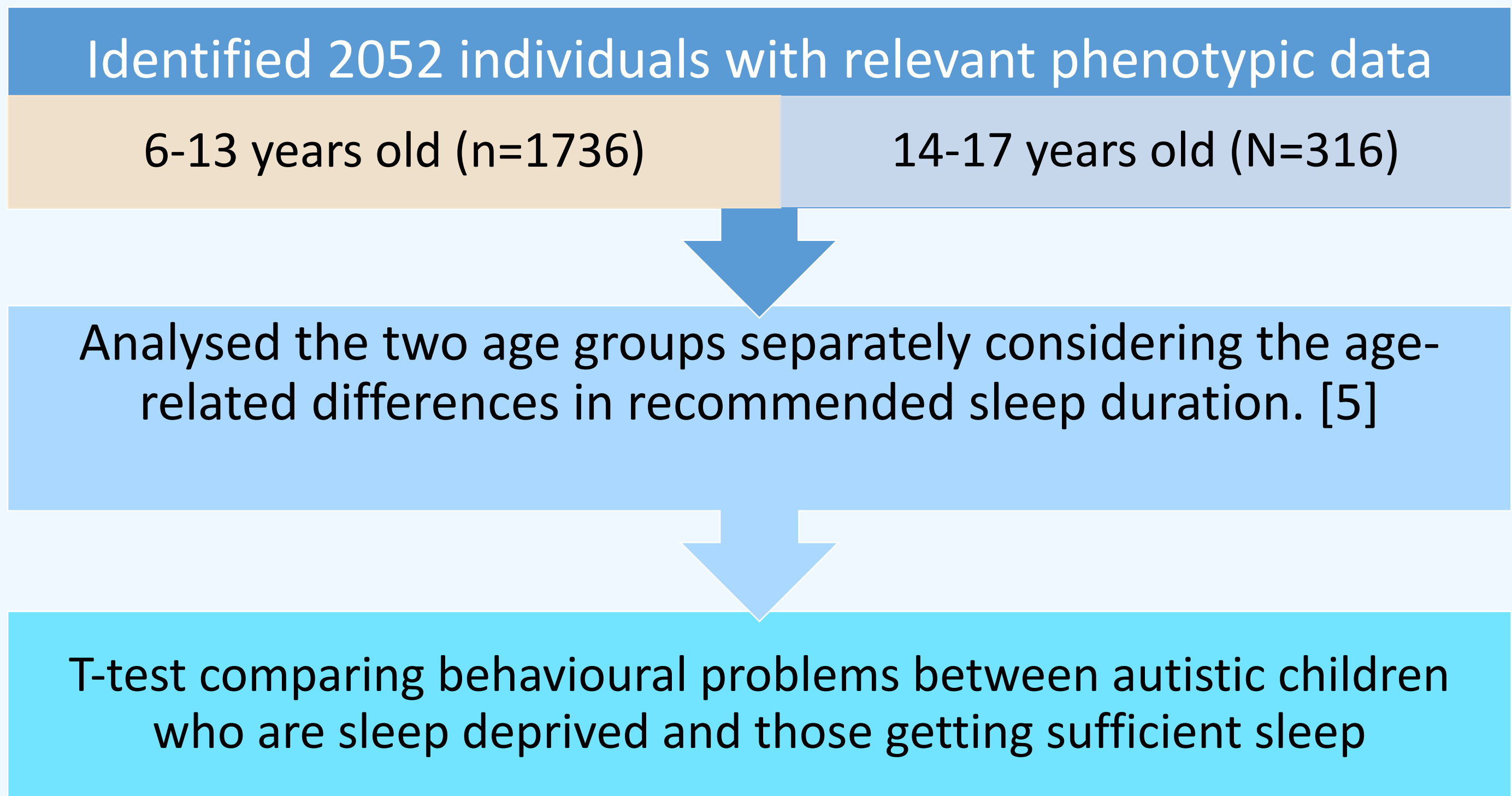
The study is based on data from the Simons Simplex Collection (SSC). The SSC is a large collection of autistic individuals and their families (n=2600) with associated genetic and phenotypic data.



Behavioural Measures – The Child Behaviour Checklist (internalising and externalising problems)

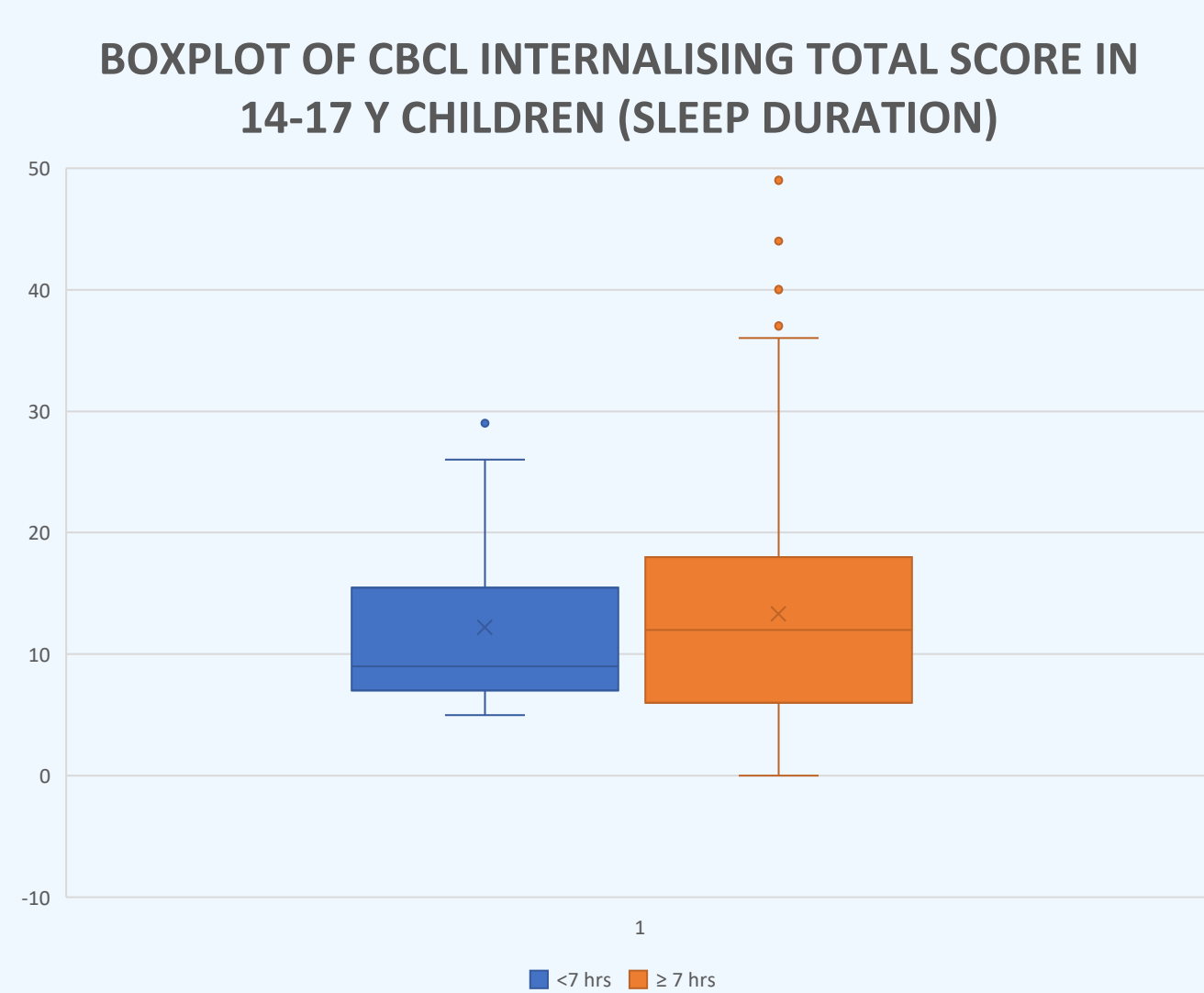
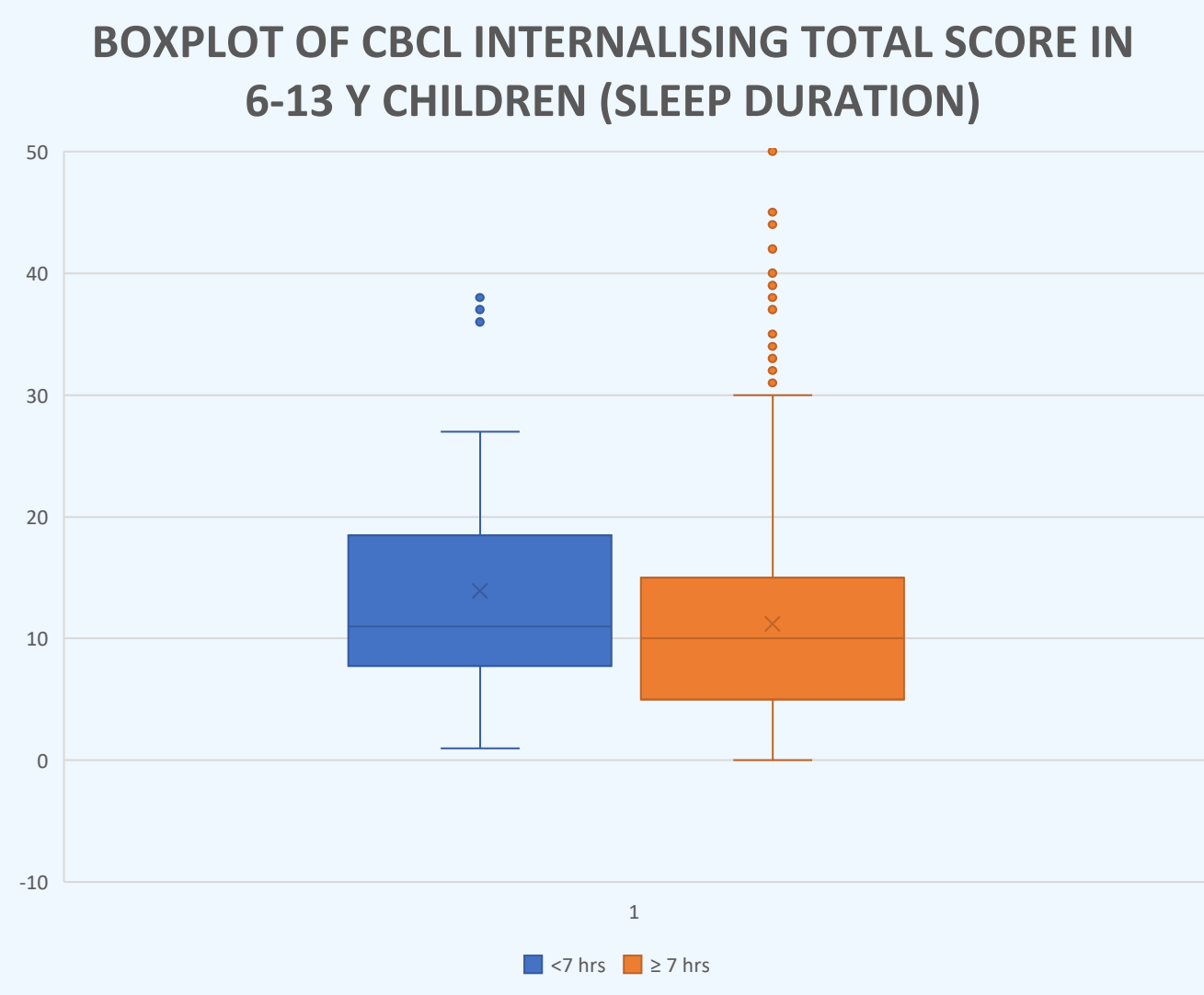


Sleep Measures – Classified as being sleep-deprived if they reported sleep in the “not-recommended” range of <7 hours per night. [5]



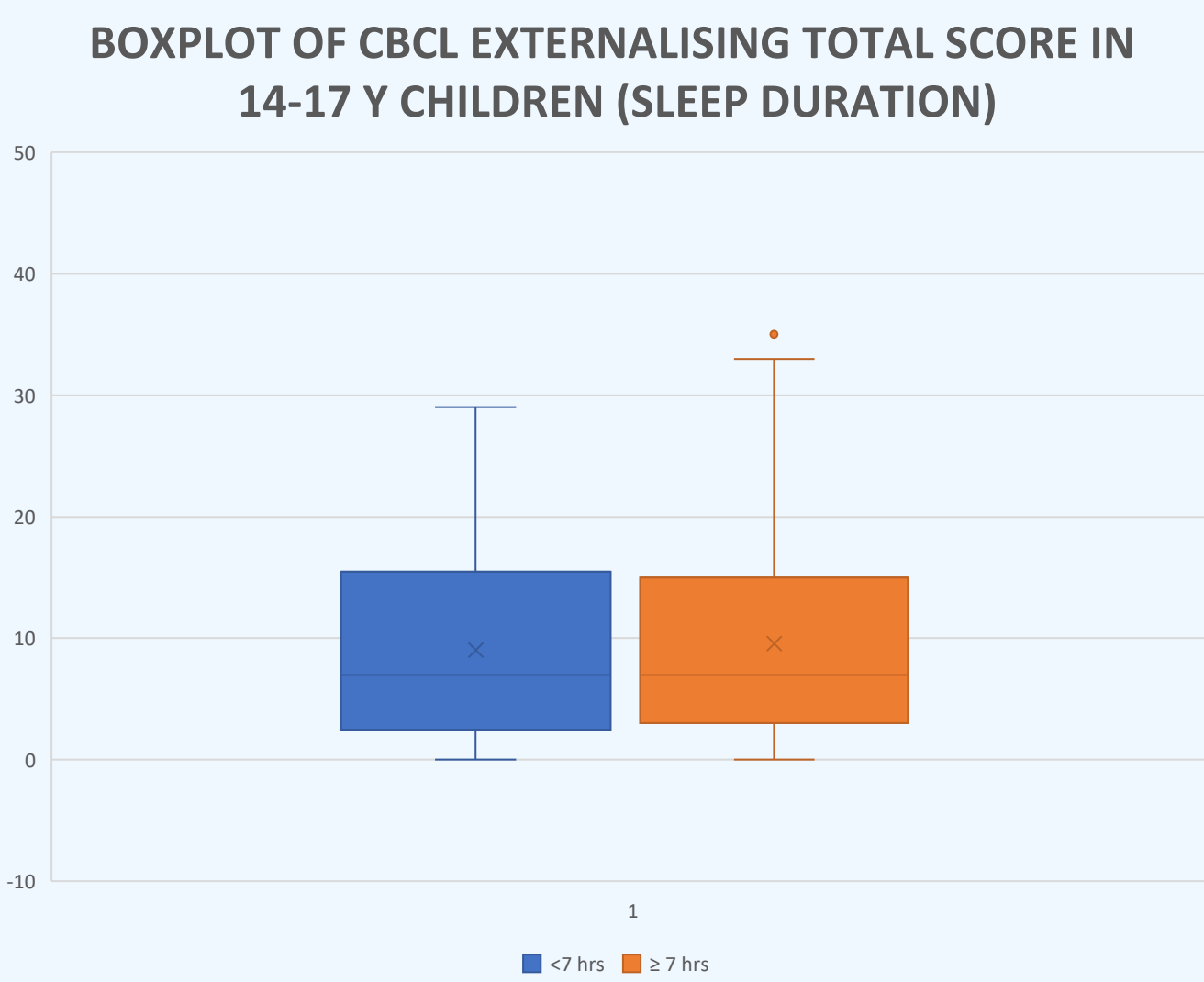
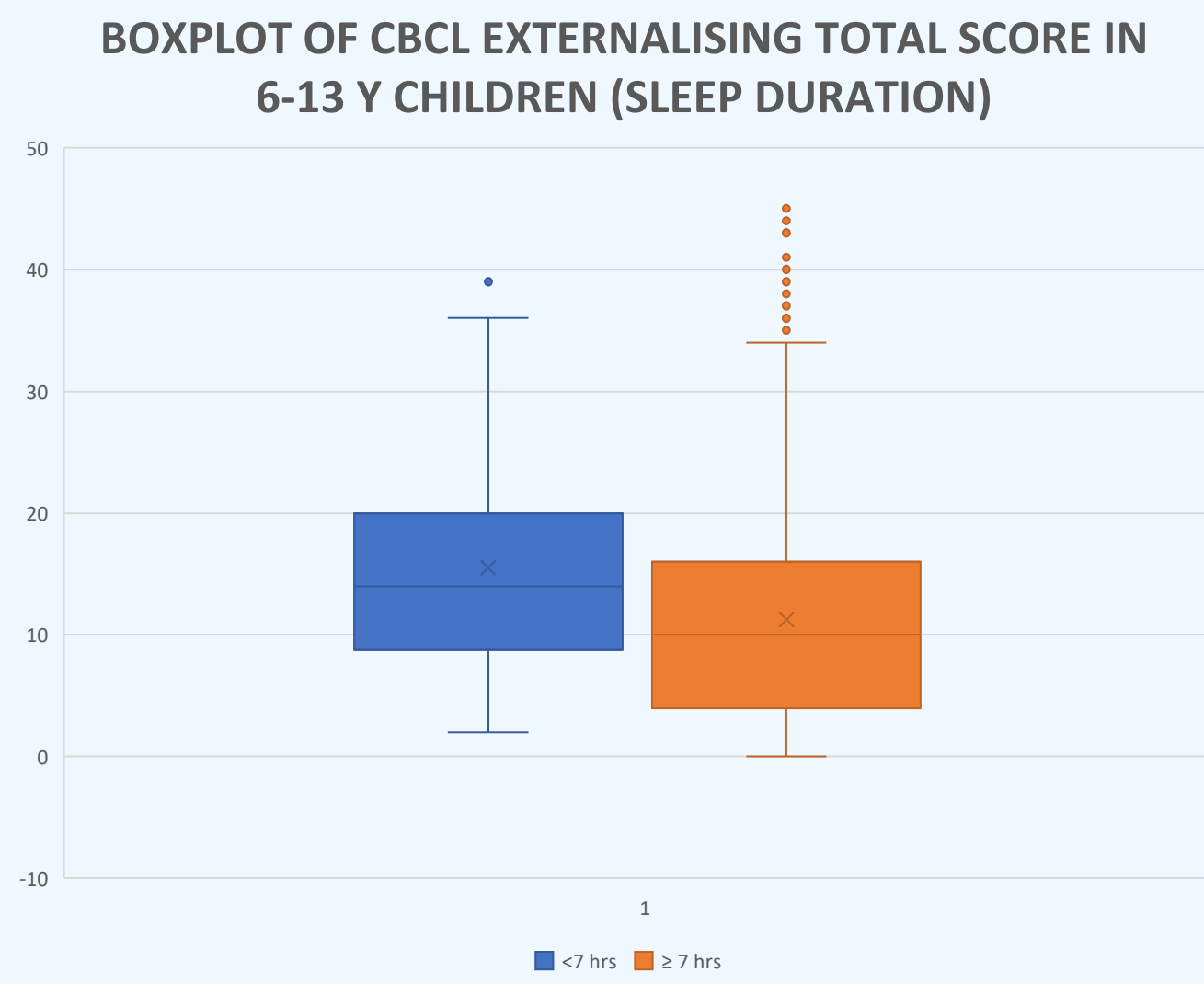
Results

Demographics Table		
Variables	6-13 years old (N = 1736)	14-17 years old (N = 316)
Mean Age (in Years)	9.3	15.8
Gender (N)		
Male	1514	265
Female	222	51
Proportion of individuals sleeping < 7 hours a night (%)	12.8%	6.6%
Mean Internalising Problem Score	11.3	13.2
Mean Externalising Problem Score	11.4	9.6



6-13-year-old: The 1682 children with enough sleep (M = 11.2, SD = 7.7) compared to the 54 children with insufficient sleep (M = 13.9, SD= 8.8) demonstrated significantly better internalising problems scores (t(56)=-2.23, p=.0296).

14-17-year-olds: The 295 children with enough sleep (M = 13.3 , SD= 8.7) compared to the 21 children with insufficient sleep (M= 12.2, SD= 7.3) demonstrated no significant difference in internalising problems (t(24)=0.640, p=.528)



The 1682 children with enough sleep (M = 11.2, SD = 8.5) compared to the 54 children with insufficient sleep (M= 15.5, SD= 9.3) demonstrated significantly better externalising problems scores (t(56)=-3.35, p=.00146)

The 295 children with enough sleep (M = 9.6, SD= 7.9) compared to the 21 children with insufficient sleep (M=9.0 , SD=8.1) demonstrated no significant difference in externalising problems (t(23)=0.296, p=.770)

Conclusion

We confirm our hypothesis in the 6-13-year-olds children, but not with the 14-17-year-olds.

Considering the prevalence of sleep problems in autistic children, investigating these relationships will provide us with a better understanding of the impact of sleep difficulties. Leading to the implementation of a timely interventional strategy to prevent the development of further complications.

We have calculated genetic liability (polygenic score) from large contemporaneous independent genome-wide association studies of Autism, Major Depressive Disorder, Schizophrenia, Chronotype and Height. We are expanding our analysis to incorporate genetic liability as a risk for internalising and externalising behaviours.

Ethics and acknowledgements

Data used in this study is from a publicly available data set (Simons Simplex Collection). Participants in the SSC have consented to their data to be used by researchers who have access to the data. Use of the data is guided by a data access application and an ethics waiver granted by the Simons Simplex Collection to Prof. Louise Gallagher

This study is funded by Laidlaw Foundation as a part of the Laidlaw Undergraduate Leadership and Research Programme. As a part of my scholarship, I have shown some results from the dataset as a poster with other Laidlaw scholars on a scholars community webpage. However, it has not been published or presented at any scientific conference.

References

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