



Sensory Sensitivity and Repetitive Motor Movements in Autism Compared to Typical Development

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Background

Repetitive behaviours (RBs) are a core feature of Autism Spectrum Disorder (ASD) and impact day-to-day life.

Atypical sensory processing is also a common ASD symptom, specifically hypersensitivity.

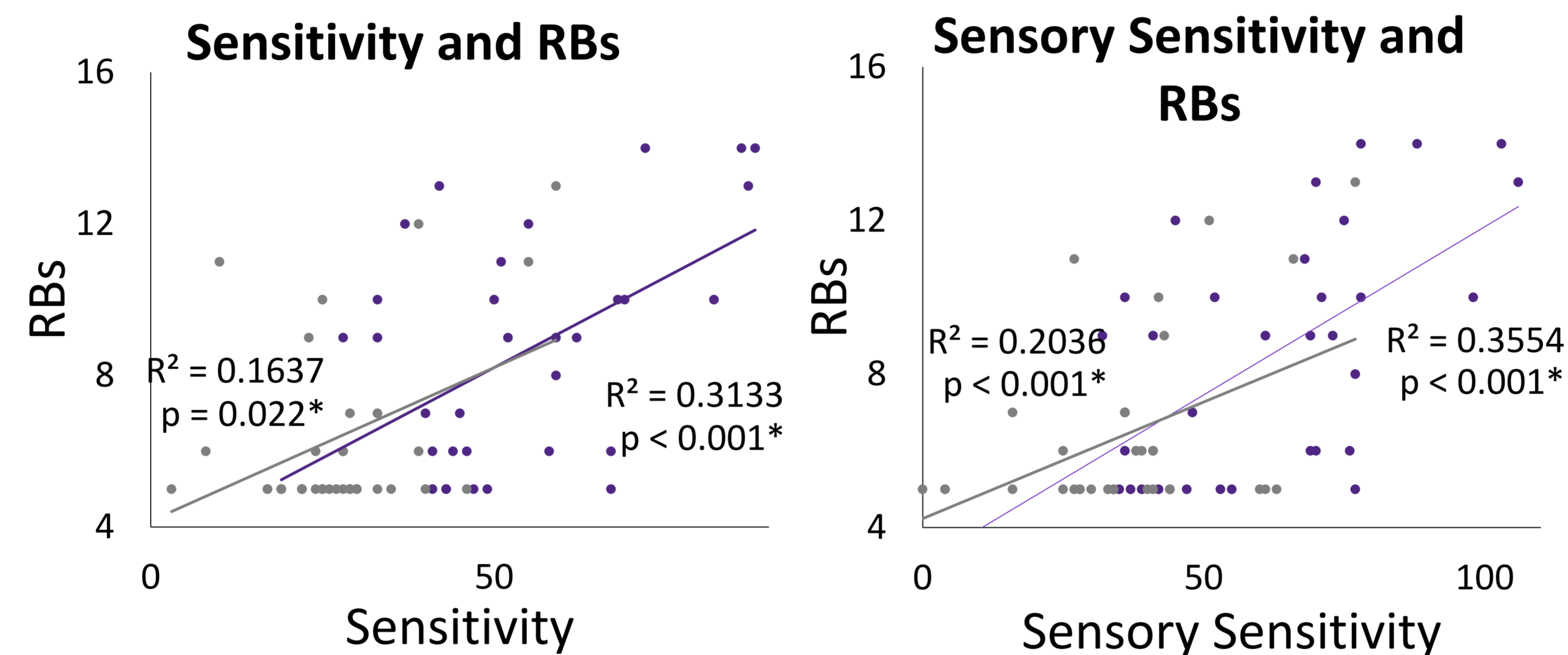
Evidence suggests a relationship between hypersensitivity and repetitive behaviours.

- 1) How are hypersensitivity and repetitive behaviours related?
- 2) Is that relationship consistent across sensory modalities?
- 3) Is this relationship specific to ASD?

Results

First, we correlated the *sensitivity* SP-2 subscale and the *Repetitive Motor Movements* RBQ-2 subscale in both ASD and in TD.

Second, we removed items not specifically measuring sensory sensitivities and correlated this variable with RBs, resulting in increased effect sizes.



Results

A hierarchical regression identified which individual sensory modalities predicted RBs while controlling for intelligence, age, and sex.

	ASD	TD
Predictor	Partial Correlation	
Intelligence	-0.198	-0.134
Age	-0.212	0.227
Sex	-0.147	-0.078
<i>Audition</i>	0.243	0.426*
<i>Vision</i>	0.137	-0.092
<i>Touch</i>	0.412*	-0.099
<i>Oral</i>	-0.011	0.108

Methods

Participants: Parents of 70 children

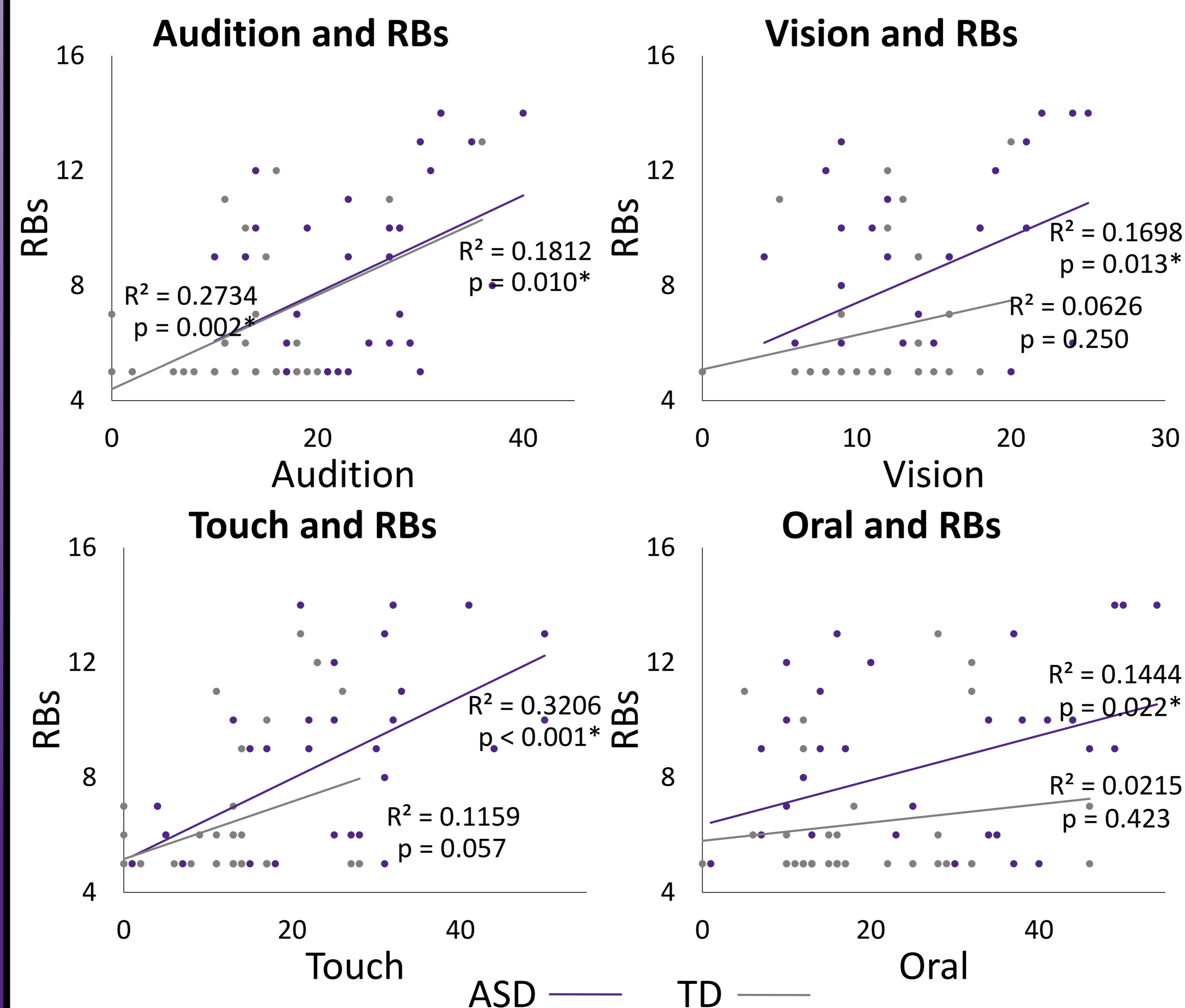
	N	Females	Males	M Age	IQ
ASD	38	9	29	12	93.53
TD	32	23	9	12	102.75

Measures:

Sensory Profile 2
Repetitive Behaviours Questionnaire 2

Results

Atypical sensory processing for each sensory modality was then correlated with RBs in ASD and TD groups.



Hypothesis

- 1) There will be a positive relationship between hypersensitivity and repetitive behaviours.
- 2) This relationship will be observed across sensory modalities.
- 3) This relationship will be seen in ASD and TD, but autistic individuals will show more severe hypersensitivity and repetitive behaviours.

Discussion

- 1) We found a significant relationship between hypersensitivity and RBs in both ASD and TD.
- 2) In TD, this relationship was significant for only audition. In ASD, all modalities were significant, with sensitivity to touch accounting for the largest percentage of the variance in RBs.
- 3) The relationship between hypersensitivity and RBs did not differ across groups, but the absolute levels of these symptoms did, showing more severe scores in ASD.
- 4) Follow up studies are currently underway to determine if sensory sensitivities play a *causal* role in repetitive behaviours in ASD.

Hypersensitivity is significantly predictive of repetitive behaviours in ASD, with a predictive pattern across sensory modalities that is unique to ASD.

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