

## Background

Evidence suggests that sensory sensitivity contributes to restricted interests and repetitive behaviours (RRBs) in Autism Spectrum Disorder (ASD).

The relationship between sensory sensitivity and RRBs is also apparent in typically-developed (TD) individuals.

Most of this research has utilized parent/self-reported measures which conflate sensory *sensitivity* with sensory *reactivity*.

We will use behavioural measures of sensory sensitivity to disentangle these two constructs.

1. Are self-reported and behavioural measures of sensory sensitivity related?
2. Are *self-reported* sensory sensitivity and RRBs related?
3. Are *behavioural* sensory sensitivity and RRBs related?

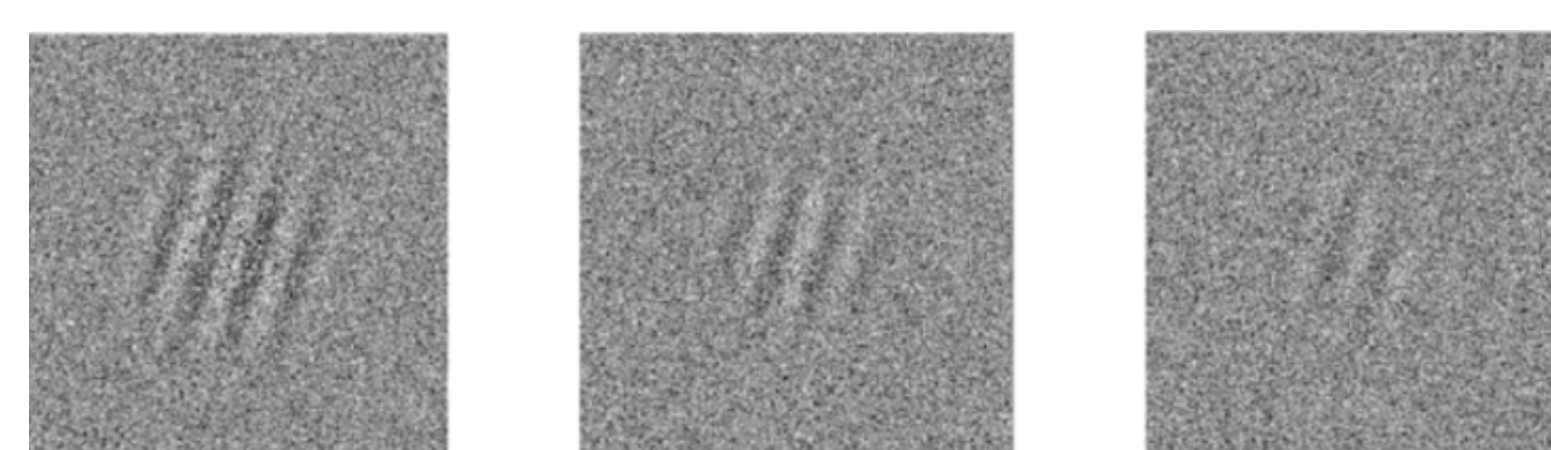
## Methods

Participants: TD adults

N	Age	Male	Female
95	18.51 (1.05)	47	48

Behavioural Task:

- Participants completed an auditory and a visual detection task at various signal-to-noise ratios
- Auditory Stimuli: Pure tone (45-65 dB) in noise (65 dB)
- Visual Stimuli: Gabor patch (.025-.5 Michelson contrast) in noise (.25 Michelson contrast)

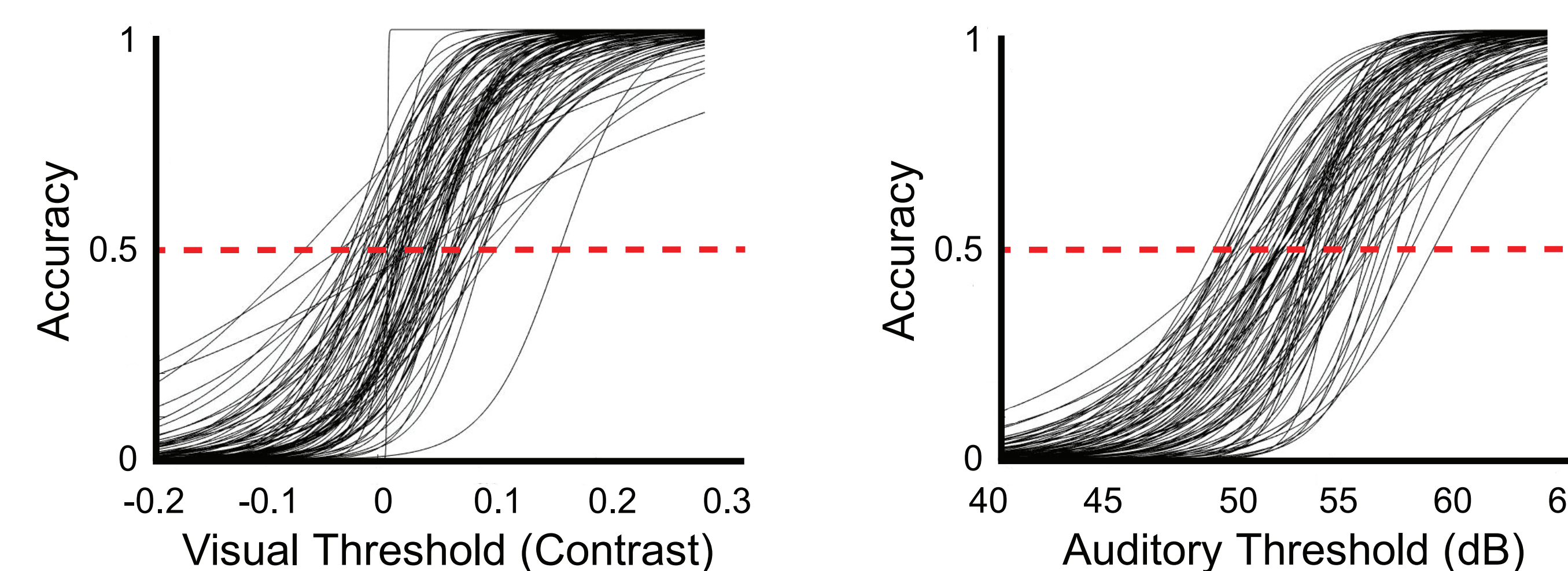


Questionnaires:

- Sensory Perception Quotient (SPQ)
- Adult Repetitive Behaviours Questionnaire - 2 (RBQ-2)

## Analysis

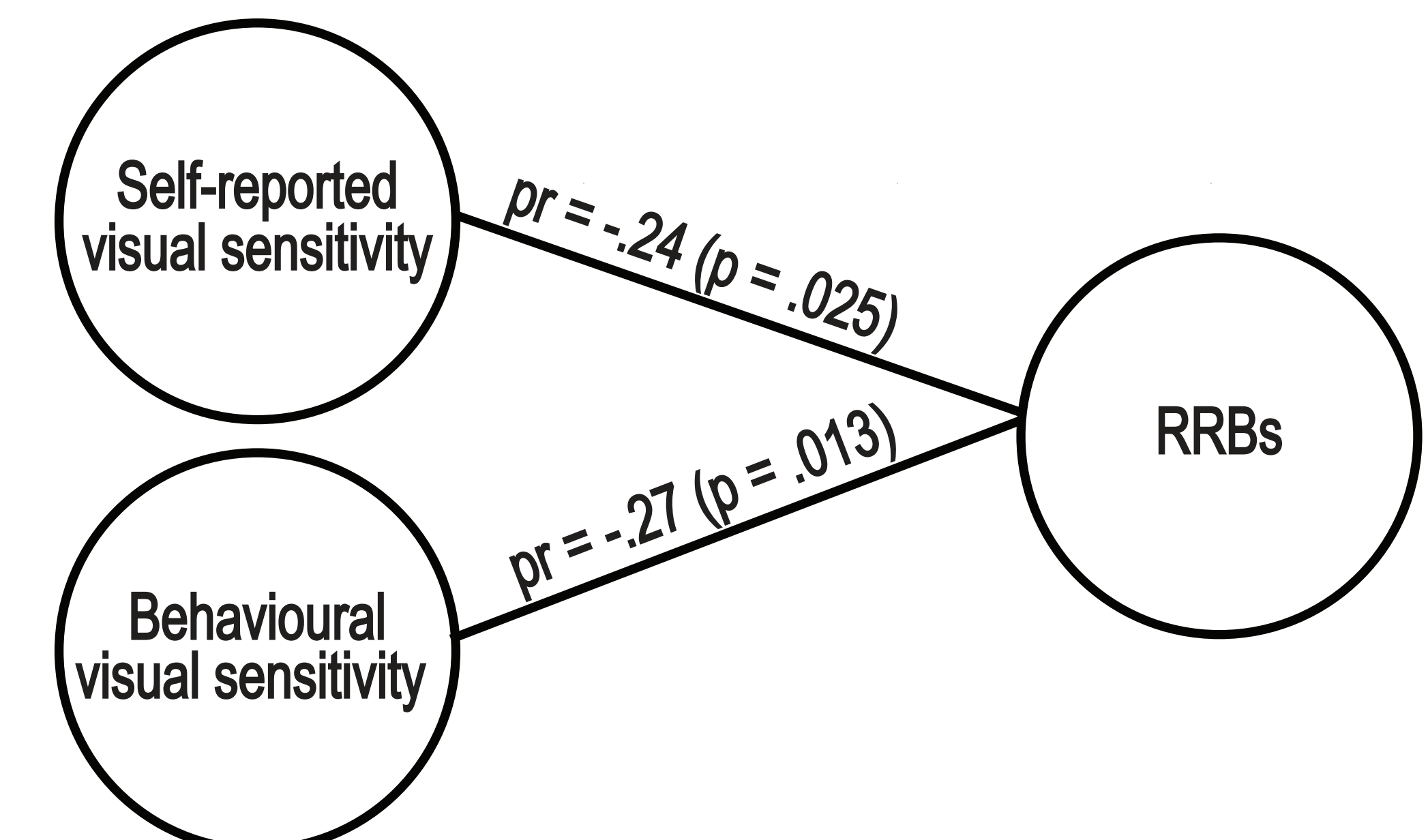
A psychometric function was used to fit participants' mean detection rates at each signal-to-noise ratio to determine the 50% sensory threshold for each participant.



## Results

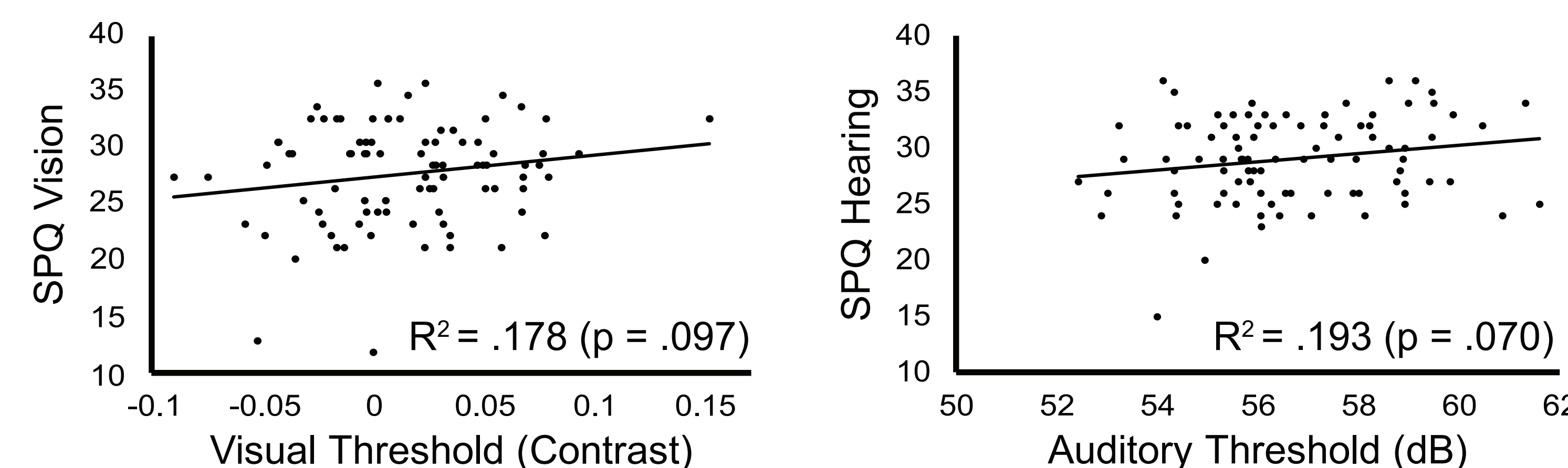
A hierarchical regression identified predictive factors of restricted interests and repetitive behaviours.

Model:  $R^2 = .144$ ,  $F \text{ Change}_{(2,85)} = 7.14$ ,  $p = .001$

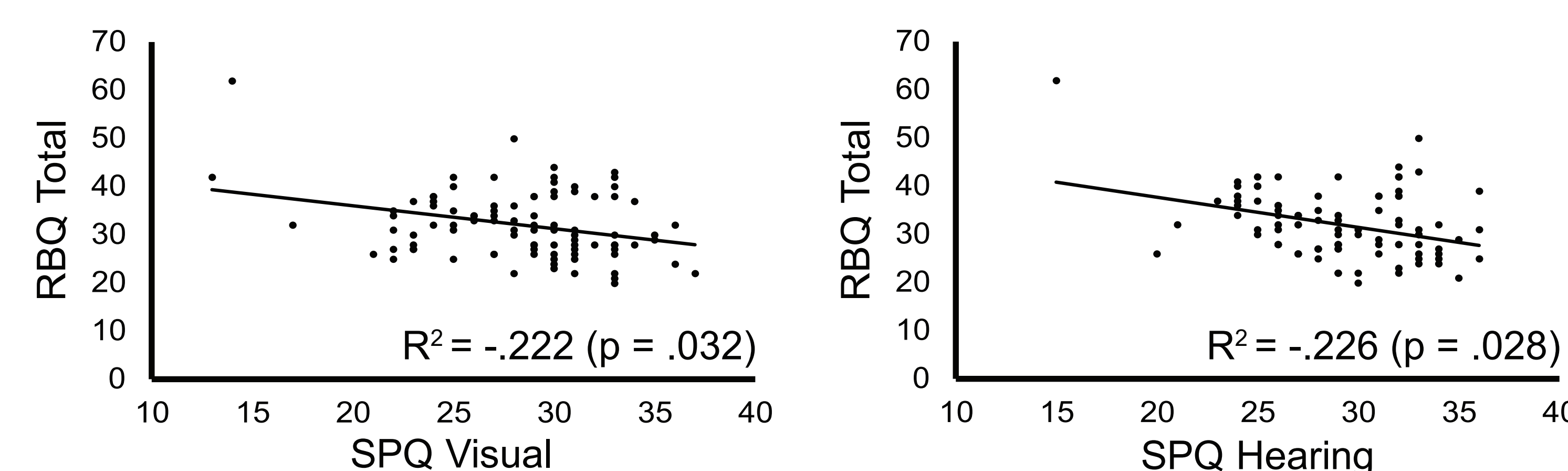


## Results

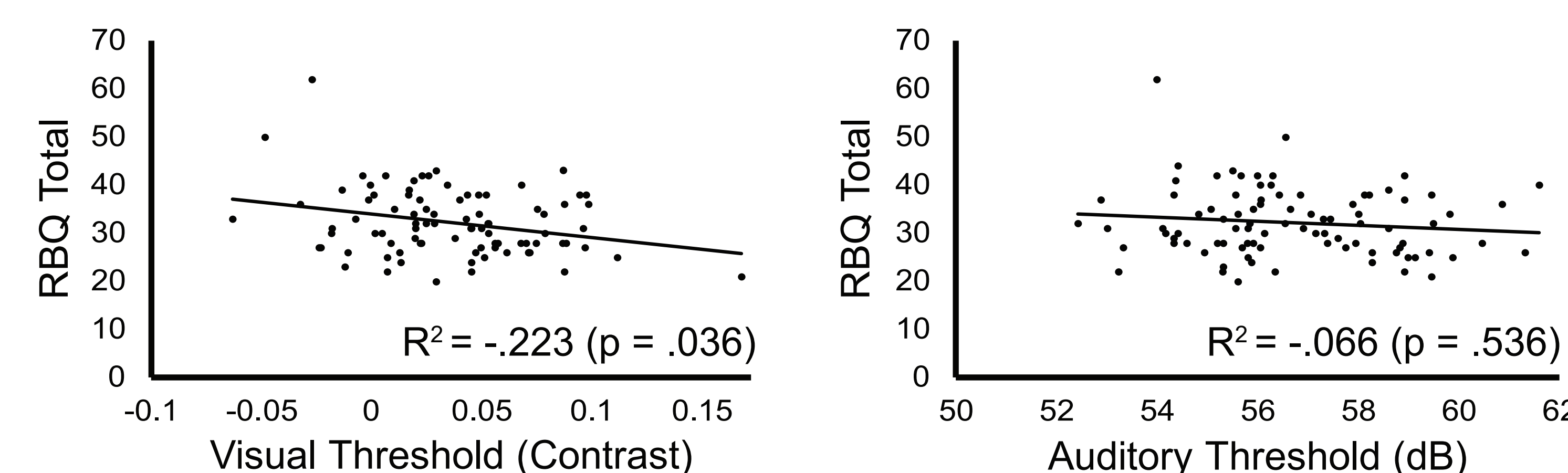
### Self-Reported and Behavioural Sensitivity



### Self-Reported Sensitivity and RRBs



### Behavioural Sensitivity and RRBs



## Discussion

1. Behavioural and self-reported measures are not significantly correlated in either the visual or auditory modalities.
2. As self-reported measures of visual and auditory sensitivity increase, so do RRBs.
3. As behavioural measures of visual sensitivity increase, so do RRBs. There is no relationship between RRBs and behavioural measures of auditory sensitivity.
4. Self-reported and behavioural measures of visual sensitivity predict different portions of the variance in RRBs.

These results suggest that *self-reported* and *behavioural* measures of sensory sensitivity measure distinct constructs.

We hypothesize that self-reported sensitivity is actually a measure of reactivity, whereas, behavioural sensitivity is a true measure of sensory sensitivity.

Future research should clearly differentiate between sensitivity and reactivity or include both when theorizing about the relationship with ASD traits.