

INTRODUCTION

❖ As a **spectrum disorder**, autistic traits associated with ASD extend in the general population [1].

❖ **Sensory specificities** are a **key component** of ASD diagnosis [2].

❖ **Multisensory (e.g., audiovisual) integration** in ASD has only been studied with static stimuli [3].

❖ **Depth movement (looming/receding)** informs us about **essential non-social** (e.g., avoid a danger) and **social information** (e.g., approaching to interact).

➔ **Aim : Study the integration of audiovisual depth movement in the autistic traits spectrum.**

METHOD

38 healthy young adults

❖ **Personality questionnaires :**

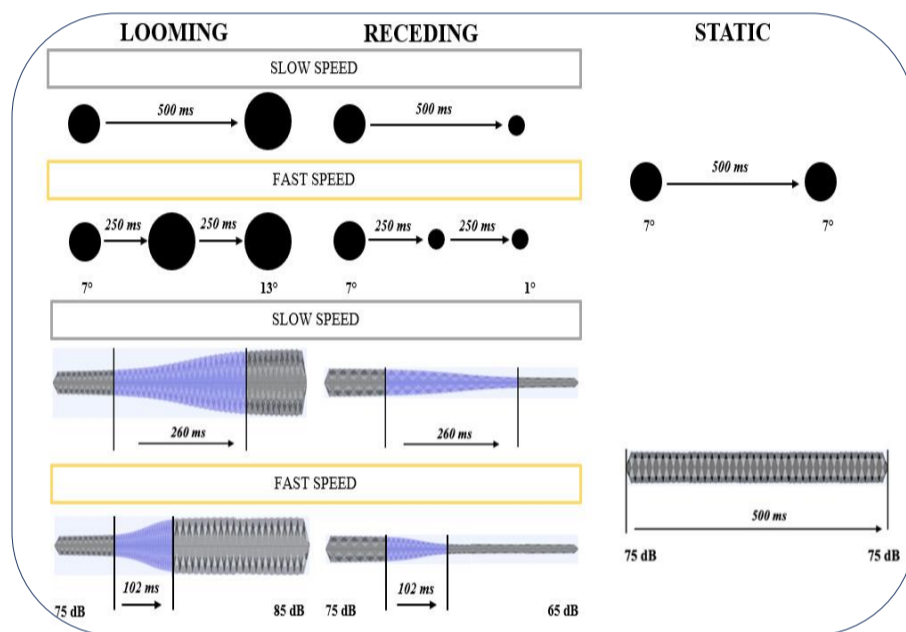
AQ [1] (autistic quotient) and AASP [4] (sensory profile).

➔ **Stimuli and paradigm came from the study of Cappe et al. (2009).**

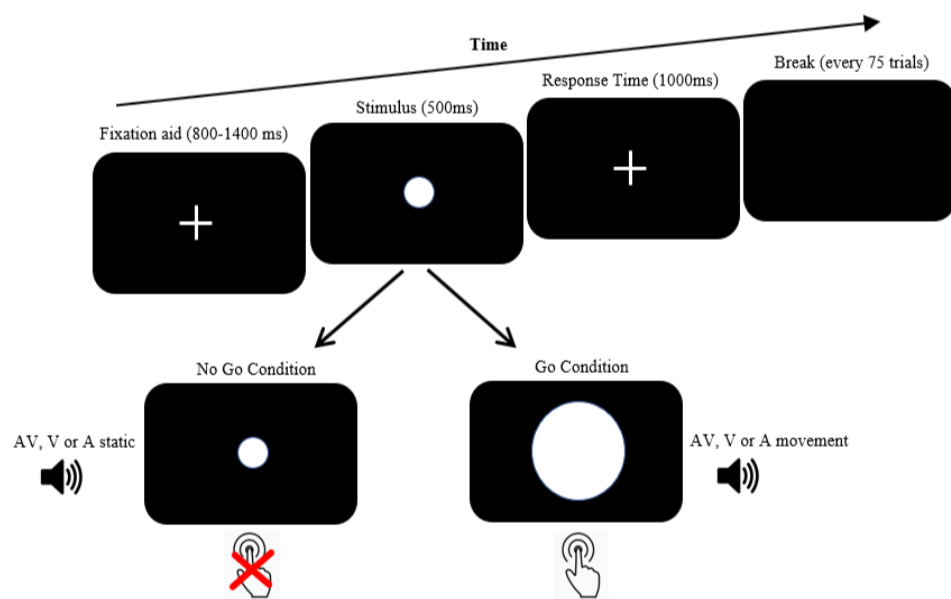
❖ **Stimuli :**

Consisted of :

- the **sensory modality** :
Visual, auditory, audiovisual
- the **movement**
Looming, receding, static
- the **speed**
Fast, slow



❖ **Paradigm :**

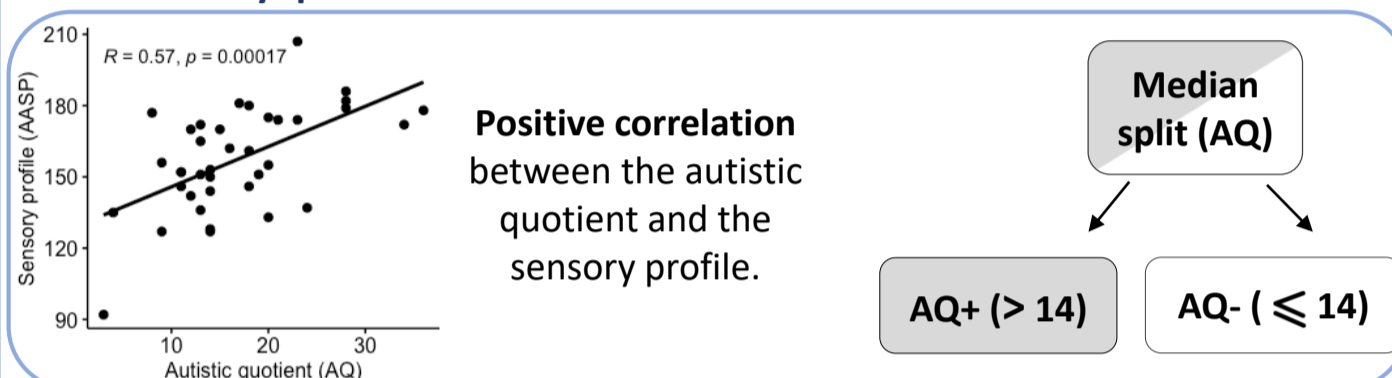


- **No Go condition :**
Static stimulus.
Participants did not have to press a response button.

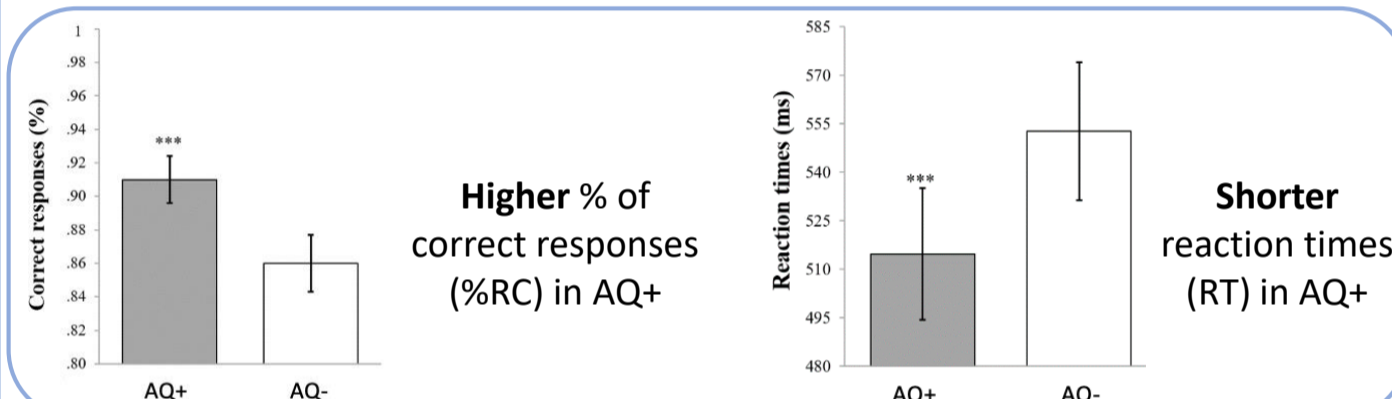
- **Go condition :**
Moving stimulus (looming/receding).
Participants had to press a response button.

RESULTS

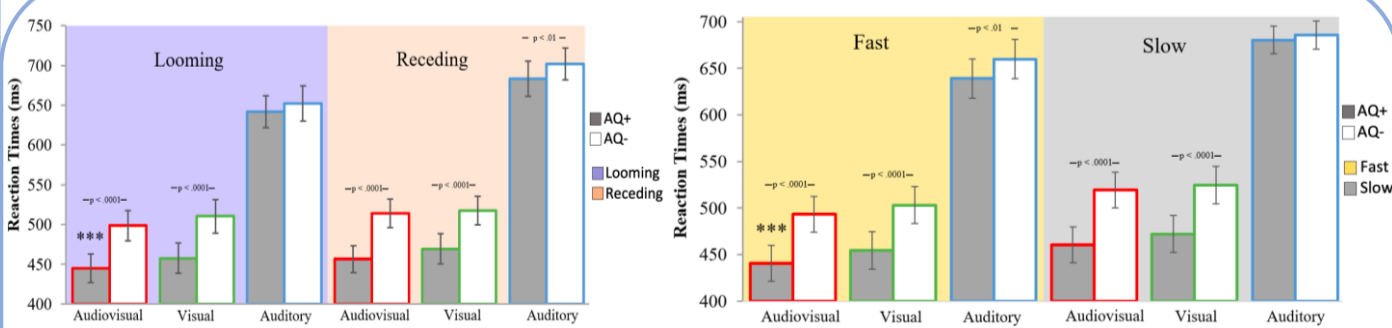
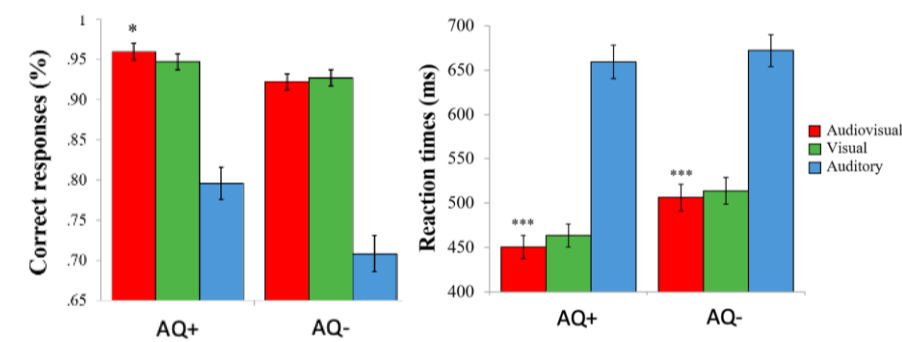
❖ **Personality questionnaires :**



❖ **Integration of depth movement and autistic personality :**



Multisensory benefit in %RC for AQ+ only and in RT for AQ+ and AQ-.



AQ+ was particularly faster to detect **audiovisual looming** stimuli and **audiovisual fast** stimuli

TAKE HOME MESSAGE

❖ There was a relationship between the sensory profile (AASP) and the autistic profile (AQ).

❖ AQ+ presented reduced detection times and enhanced discrimination of depth movement.

❖ Selective integration of audiovisual looming and audiovisual fast movements in AQ+, which could implicate distinct multisensory process than AQ-.

REFERENCES

- [1] Baron-Cohen, S., Wheelwright, S., Skinner, R., Martin, J., & Clubley, E. (s. d.). (2001). *The Autism-Spectrum Quotient (AQ) : Evidence from Asperger Syndrome/High-Functioning Autism, Males and Females, Scientists and Mathematicians*. 13.
- [2] American Psychiatric Association. (2013). *Diagnostic and Statistical Manual of Mental Disorders* (Fifth Edition). American Psychiatric Association.
- [3] Feldman, J. I., Dunham, K., Cassidy, M., Wallace, M. T., Liu, Y., & Woynarowski, T. G. (2018). Audiovisual multisensory integration in individuals with autism spectrum disorder : A systematic review and meta-analysis. *Neuroscience & Biobehavioral Reviews*, 95, 220-234.
- [4] Brown, C., & Dunn, W. (2002). Adolescent/Adult Sensory Profile manual. San Antonio, TX: *Psychological Corporation*.