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Sensory processing and associated behavioral outcomes of individuals with an Autism Spectrum Disorder (ASD) and an Intellectual Disability (ID): Preliminary results of a systematic review.

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Introduction

- ASD and ID each affect sensory processing.
- Consensus lacks on the effect of the combined occurrence.
- For the ASD population 40 to 90% experience atypical sensory processing (since the DSM-5 a possible symptom of ASD).
- 25-50% of individuals with ASD also have ID.
- The combination of ASD with ID could lead to more and/or different atypical sensory processing compared to ASD alone, of relevance for their functioning.
- Consensus lacks on the extent to which atypical sensory processing is associated with behavioral outcomes for individuals with both ASD and ID.
- Therefore, the *aims of this systematic review* were to investigate:
- 1. how individuals with ASD with ID differ in their sensory processing from individuals with ASD without ID, and
- 2. to examine how atypical sensory processing is related to behavioral outcomes for individuals with ASD with ID compared to individuals with ASD without ID (see figure 1).

Method

- A systematic review was performed (see figure 2).
- English language primary studies 2000 2017.
- Articles were selected for full text reading based on these inclusion criteria:
- 1. individuals with ASD was a distinct research group;
- 2. sensory processing was the main focus.
- 11 studies met the *final inclusion criteria of our review*:
- 1. the relation between sensory processing and behavioral outcomes was researched for the ASD population;
- a within group analysis of the role of ID/IQ for the association between 1) ASD and sensory processing *or* sensory processing and behavioral outcomes was performed for the ASD population.

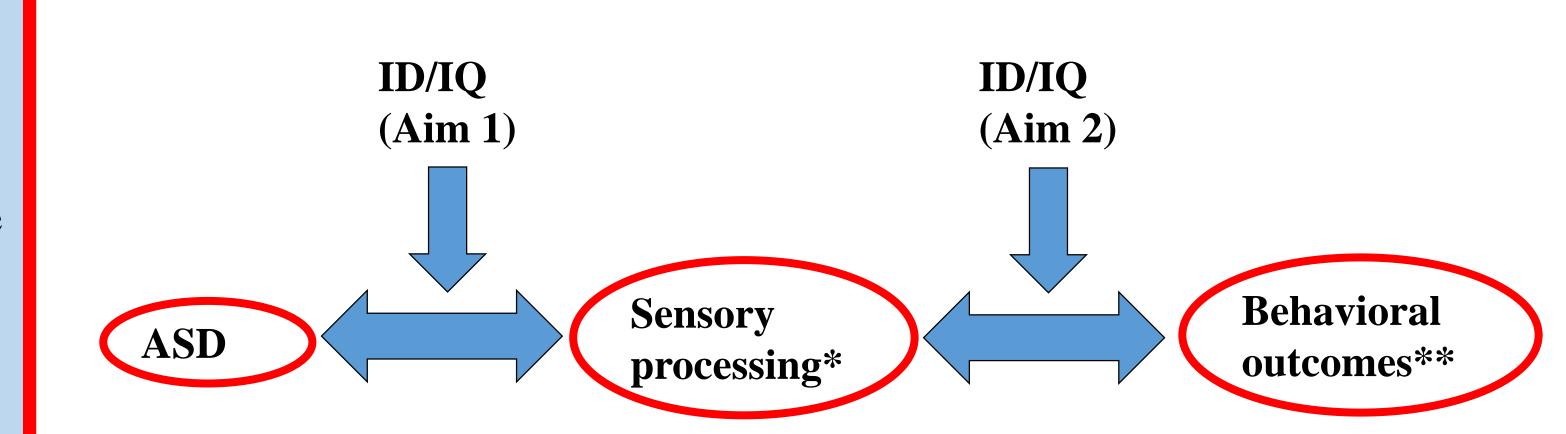
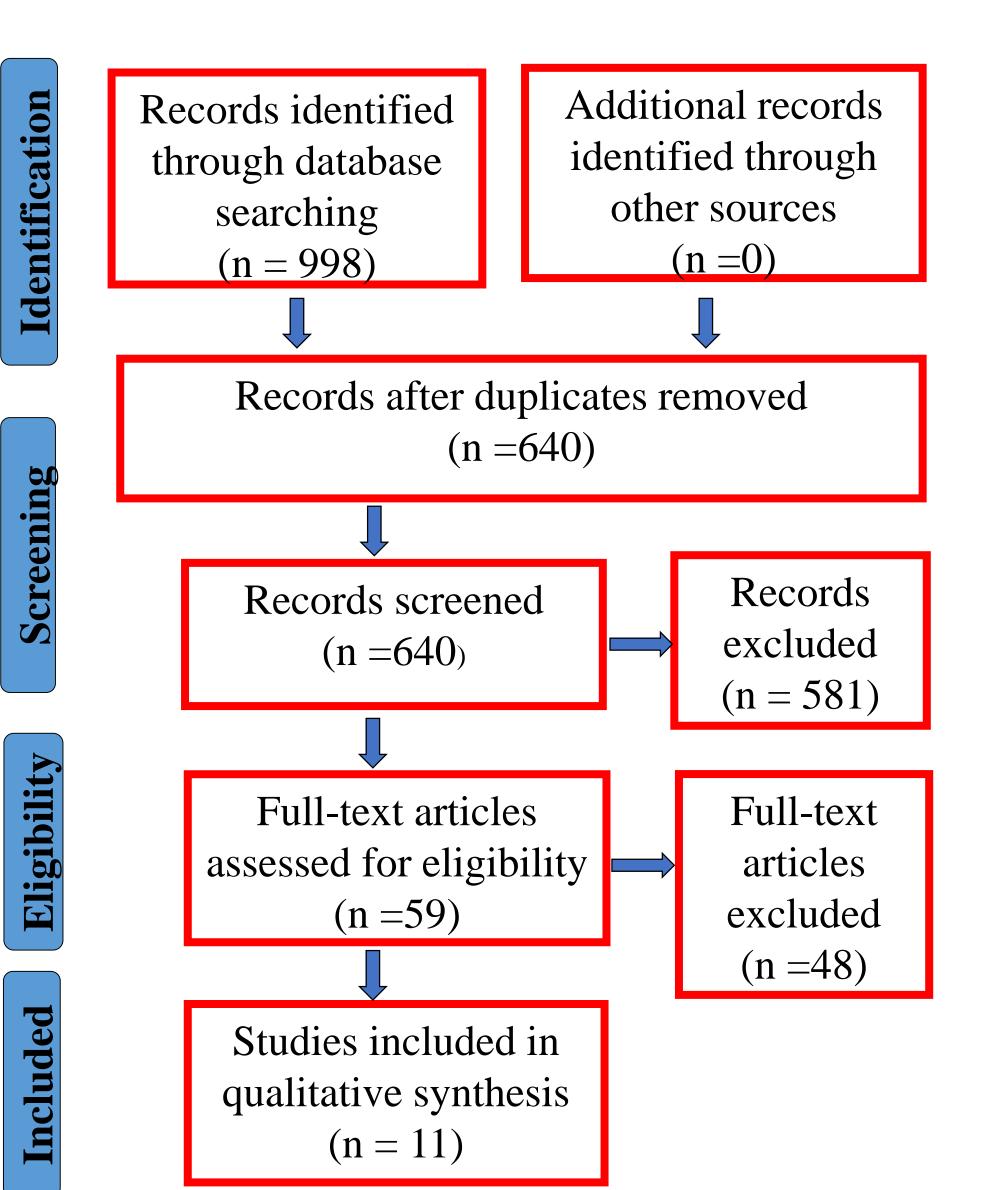


Figure 1. Aims review.

* = the registration and/or modulation of sensory
information and the internal organization of sensory input.
** = outcomes for the individual, e.g. adaptive behavior,

repetitive behavior.



'The Sensation of a Good Life' (SGL)

This PhD project is part of the Participatory Action Research project SGL. Figure 3 is developed by one of the participants with ASD. Ideally, sensory processing would be a perfect balance between under- and overresponsiveness.



Figure 3. Output SGL project. (Left image in the logo: designed by Marek Zamaro and with his permission included in the SGL logo. 'The Fifth Element, collection Special Arts'.

Preliminary findings

- Many studies have been published about the sensory processing of individuals with ASD since 2000 (640 articles).
- Studies about the sensory processing of individuals with both ASD and ID are scarce: of the 11 studies included in our review, 2 studies investigated the sensory processing of individuals with both ASD and ID. The other 9 studies made a differentiation in IQ within the ASD population for individuals with and without ID.
- Mixed results for aim 1. No impact of ID/IQ on the sensory processing of individuals with ASD, different sensory processing clusters.
- Atypical sensory processing is associated with behavioral outcomes.
- Mixed results for aim 2. No impact of ID/IQ on the relation between sensory processing and behavioral outcomes, differences between sensory processing subtypes, different types of analyses.
- More primary studies about the sensory processing of individuals with both ASD and ID are needed.



Figure 2. Flow diagram of the search and included studies.











