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## **Impact of Multisensory Integration Deficits On Social Cognition in Childrens with Autism Spectrum Disorders**

**R. Curti<sup>1</sup>, S. Serret<sup>1</sup>, F. Askenasy<sup>1</sup>**

<sup>1</sup>Service de psychiatrie de l'enfant et de l'adolescent, Hôpital Lenval Nice CHU, Nice, France

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### **Introduction:**

Autism spectrum disorders (ASD) is characterized by deficits in three functional domains: language and communication, social reciprocity, and the presence of restricted interests/repetitive behaviours. There are also deficits in social cognition. When having a face-to-face conversation, a listener not only hears what a speaker is saying, but also sees the articulatory gestures. Speech signals needs then a multisensory processing. Impairments in multisensory perceptual binding given that hallmark features of the disorder include difficulties in speech, communication, and social interactions.

### **Objectives:**

We suggest that atypical multisensory processing in ASD may have an impact on speech perception and social processing.

### **Aims:**

Therefore we could observe differences in a delayed free recall, between an unisensorial and multisensorial stimulus.

### **Methods:**

Our pilot study measures free recall scores in 3 lists of words presentation after 30 minutes. In the first condition (CI) words are only listened to, in the second (CII) associated with the picture of a man's face and in the third (CIII) associated with the man speaking in video. Participants were 7- to 13-year-olds typically developing children (TD) (N = 19) and ASD children (N = 19).

### **Results:**

Our findings show that words recall is higher in CIII for TD children whereas ASD children recall more CI words.

### **Conclusions:**

Findings shows that multimodal information brings improvement in long term recall for TD children. In ASD group a better recall is observed with unimodale information. We suggest that multisensory integration deficits in ASD can impact learning of socials information and then social cognition.