**JUDGEMENT ERRORS WHEN PROCESSING EMOTIONAL AND LINGUISTIC EVENTS IN ASD**

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**Objective:** The current study examines intermodal perception (IMP) - the integration of sensory information from different modalities (e.g., visual and auditory) - for emotional and linguistic stimuli among children with autism spectrum disorder (ASD). Response patterns on audiovisual synchrony judgement tasks (SJ) were analysed to assess the presence of atypical IMP in ASD and the potential contributing role of emotional and social-linguistic information.

**Methods:** The sample included 31 typically developing (TD) children (*M* = 11.9 years, *SD* = 3.05) and 20 children with ASD (*M* = 12.7 years, *SD* = 2.96). All participants took part in a task requiring them to determine whether audio and visual components of a stimulus were synchronous (SJ task). Five different types of stimuli were examined: social linguistic (SL: someone reading a story), social-non-linguistic (SNL: a person making popping sounds), non-social-non-linguistic (NSNL: e.g., a hand playing the piano), and emotion (EH: someone laughing or crying). Additionally, synchronous errors (responding that a stimulus is synchronous when it is not) were further coded base on the type of asynchrony of the stimuli (e.g., video leading or audio leading).

**Results:** On a SJ task, the TD group (*M* = 85.66%) performed significantly better than the ASD group (*M* = 77.36%), *F*(1,49) = 1.638, *p* = .026. A 2-way mixed model ANOVA looking at percentage of errors by group and stimulus type yielded a significant main effect of stimuli type (*F*(3,49) = 111.22, *p* < .001). Both groups made more judgement errors when processing the EH stimuli, and less errors on social stimuli, regardless of whether the stimulus was linguistic or not. In addition, a within-group post-hoc analysis indicated that the TD participants made more errors when processing positive affect (e.g., someone laughing) (*M* = 39.1% of total errors) versus negative affect (e.g., someone crying) (*M* = 24.4% of total errors), *t*(1, 29)=2.467, *p* = .019, whereas the ASD participants misjudged both EH stimuli equally (happy: *M =* 32.8%; sad: *M =* 31.8%).

A 2-way mixed model ANOVA of frequency of errors by group and error types, showed a main effect of error type where both groups were less likely to respond incorrectly to synchronous stimuli (e.g., misidentify synchronous stimuli as asynchronous), *F* (2,98) = 23.50, *p* < .001. However, the ASD group was more likely to inaccurately report asynchronous stimuli as synchronous, in response to visually leading stimuli as opposed to audio leading stimuli, *F*(1,19) = 7.069, *p* < 0.05. This difference was not observed in the TD participants, *F*(1,30) = 3.194, *p* = .84.

**Conclusion/Discussion:** This study supports previous findings that show differences in IMP in children with ASD. These findings are particularly important, as they help link sensory experiences and social-linguistic abilities in ASD and compare them with that of their TD peers. A deeper understanding of IMP in ASD can help provide insight into their processing difficulties for social and emotional stimuli, which in turn can help benefit interventions for them. Future research is needed to further understand the audiovisual IMP difficulties in ASD.

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