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Online processing of speech prosody in children with autism spectrum disorders: An eye-tracking study

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Abstract: This study examined autistic children's sensitivity to speech prosody in Japanese, which discriminates lexical contents (e.g. *áme* (rain) vs. *amé* (candy)) or speakers' certainty strengths (e.g. *hébi* (snake.) vs. *hébi?* (snake?)). Children between 6-9 years of age were presented with two images, followed by an utterance referring to either of them. Their looking behaviors for 2000 ms after the speech onset were analyzed.

The results showed that, even though the autistic group showed precise fixations in the phonemic condition as control (e.g. *kása* (umbrella) vs. *kába* (hippopotamus)), their looking-time proportions for the target image in the two experimental conditions (i.e. lexical and certainty prosody) were significantly smaller than those of typically-developing children, and did not reach above chance level. Although their off-line understanding of the verbal choice seemed to be intact (scoring significantly above chance in all three conditions), their immediate on-line processing was found to be compromised.