

Study uses eye tracking to assess receptive language in children

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A new study found that eye tracking (ET) can be explored as a modality for assessing receptive language (RL) in typically developing (TD) children and those with neurodevelopmental delay (NDD). The research findings will be presented during the Pediatric Academic Societies (PAS) 2018 Meeting in Toronto.

NDD assessment in [children](#) with significant motor delays (e.g., cerebral palsy), which is often associated with apraxia, is difficult. ET is a noninvasive tool that records where someone is looking and how they move their gaze, from which researchers can make inferences about cognition. However, there is limited data on its potential use in children with NDD.

In conducting the study, a Tobii Pro X3-120 eye tracker was used with Tobii studio software to present stimuli and collect data on recruited patients, aged 18 months to six years. Participants first completed calibration to measure participant-specific gaze data. Participants were then presented with a stimulus of a target image alongside a distracter, accompanied by audio instructions to direct their gaze at the target. Stimuli were derived from standardized developmental assessments. Word comprehension was measured as accuracy and fixation proportion.

The study found that ET is feasible in young TD pediatric patients and those with marked ELDs. Word comprehension as measured by accuracy significantly increases as a function for normal development. Accuracy in children with expressive [language](#) delay (ELD) is significantly lower compared to TD children of the same age, suggesting a more diffuse cognitive impairment.

"The goal of the study was to evaluate [eye tracking](#) as a tool for measuring receptive language ability in pediatric patients," said Dr. Mary Vernov, one of the authors of the study. "Findings show that eye tracking can be explored as a modality for

assessing [receptive language](#) in children. This has important implications for evaluating children with developmental delays and may be used as an alternative form of communication in those with expressive language delays."

Dr. Vernov will present the abstract, "Using Eye Tracking (ET) as a Tool to Assess Receptive Language (RL) in Typically Developing (TD) Children and Children at High Risk for Neurodevelopmental Delay (NDD)," on Monday, May 7 at 5:45 p.m. EDT.

Provided by Pediatric Academic Societies

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