

# Eye tracking as an alternative access method for children with complex communication needs: A scoping review

Project Summary

Centre for Leadership in Participation and Inclusion

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## SHARING OUR WORK

- Manuscript to be finalized and submitted to peer-reviewed journal
- Study findings to be presented to:
  - Ontario AAC clinics
  - TDSB clinicians
  - BRI Family Engagement Committee

## WHAT WAS THIS STUDY ABOUT?

Eye-tracking technology shows promise as a direct access method to communication systems for individuals with complex communication needs. In order to enable our clinical teams to make evidence-based decisions in their assessment and support of eye tracking, we conducted a scoping review of the literature on the use of eye-tracking technology as an alternative access solution for communication. Our review focused on i) the factors that contribute to successful use of eye-tracking technology; ii) current practices for assessment, provision, setup, and training; and iii) the impact of eye-tracking technology on communication.

## WHAT DID WE DO?

Our scoping review was guided by the methodological framework proposed by Arksey and O'Malley (2005), and updated by Levac et al. (2010). After identifying research questions, we devised a search strategy with the help of an experienced librarian, and conducted a comprehensive literature search using electronic databases. We then selected relevant articles through an iterative process, following inclusion/exclusion criteria previously determined by our team. Finally, we charted and analyzed the data from all selected articles. Stakeholders were consulted at key points throughout the project in order to ensure relevance and faster translation of knowledge.

## IMPACT FOR CLIENTS, FAMILIES AND CLINICAL PRACTICE

This multidisciplinary project will provide a better understanding of the key factors that contribute to successful use of eye tracking as an access solution for communication for children with complex communication needs, helping us deliver evidence-informed services to our clients and their families to further enhance their participation and quality of life.

## WHAT DID WE LEARN?

This scoping review has confirmed that there is no standard in terms of assessment and intervention when it comes to eye-tracking systems for communication. We have also found that, despite the involvement of multidisciplinary teams, additional support is often required, in particular at the systemic level.

## NEXT STEPS?

It is our hope that this project will further lead to the collaborative development of an assessment and intervention guide, which would help simplify and accelerate assessment and provision of eye-tracking technology for our clients and their families, in addition to preventing technology abandonment.

## TO LEARN MORE ABOUT THIS STUDY, PLEASE CONTACT:

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## WHO ARE WE?

We are an interdisciplinary team with expertise in access methods, augmentative and alternative communication, special education, and engineering.

- Sheri McClement, Occupational Therapist
- Paula Adam, Speech-Language Pathologist
- Katherine Barron, Special Education Teacher
- Fanny Hotzé, Pediatric Assistive Technology Specialist
- Dr. Deryk Beal, Clinician-Scientist
- Judy Gaudreau, Family Leader
- Kathryn Corbett, Research Assistant
- Zahra Emami, Research Assistant
- Petra Karlsson, Research Fellow

## THANK YOU!

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