

ASSESSMENT OF SPEECH COMPREHENSION IN NONVERBAL CHILDREN ON THE AUTISM SPECTRUM USING EVENT-RELATED BRAIN POTENTIALS

Harpreet K. Jaswal^{1,2}, Adianes Herrera-Diaz^{2,3}, John F. Connolly²

¹Department of Psychology, Neuroscience, & Behaviour, McMaster University

²Centre for Advanced Research in Experimental & Applied Linguistics

³Neuroscience Graduate Program, McMaster University

Autism spectrum disorder (ASD) is a neurodevelopmental disorder that can affect communication. Some individuals on the autism spectrum are labeled as nonverbal, showing no outward signs of comprehension or language use. However, research in brain injury and coma has shown that the absence of behavioural evidence for language comprehension does not equate to its inability. Based on these findings, this study explored whether some nonverbal children on the autism spectrum can still process the semantic features of language. Language processing was assessed using cognitive paradigms including the Subject Own Name (SON) paradigm, Peabody Picture Vocabulary Test (PPVT), and sentence comprehension. These paradigms can evoke event-related brain responses (ERPs) specific to language processing, which can then be recorded using electroencephalography (EEG). In this study, the ERPs related to language processing of nonverbal children on the autism spectrum (n = 26) were collected using EEG. Language processing in nonverbal children on the autism spectrum was compared to language processing of verbal autistic children (n = 23) and typically developed children (n = 12). All children were within the biological age range of 6-17, but were matched for intellectual

age for between-group comparisons. Intellectual age was measured using the Wechsler Intelligence Scale for Children, the Mullen Scales of Early Learning, and the Stanford-Binet Intelligence Scales. It is hypothesized that there will be individual differences in semantic processing in nonverbal children on the autism spectrum, where some individuals will produce ERPs indicative of language comprehension. Between-group comparisons will be conducted to determine language processing abilities of each group relative to one another. Within-group comparisons will be conducted to examine individual linguistic abilities of participants. If cognitivelinguistic function at some level can be demonstrated in any of these nonverbal children on the autism spectrum, it may provide compelling evidence that: (1) the diagnosis of nonverbal autism may in some cases be misleading and potentially detrimental to the person's ability to receive appropriate treatment and resources; and (2) advanced measures, such as EEGs, must be used in conjunction with traditional behavioural measures to properly evaluate nonverbal autism. If our hypothesis is confirmed, the implications of our findings could be impactful not only at the service delivery level, but also for future policy reformation.

KNOWLEDGE TRANSLATION STRATEGIES TO SUPPORT SERVICE PROVIDERS' IMPLEMENTATION OF THE 'F-WORDS' IN CHILDHOOD DISABILITY

Alice Kelen Soper 1,2, Andrea Cross 1,3, Peter Rosenbaum 1,4, Jan Willem Gorter 1,4

CanChild Centre for Childhood Disability Research, McMaster University

²Faculty of Health Sciences, McMaster University

3School of Rehabilitation Science, McMaster University

⁴Department of Pediatrics, McMaster University

Purpose: Service providers are adopting the 'F-words' in practice as a strengths-based approach to childhood disability. This study aimed to gain insight into service providers' uses of the 'F- words', associated barriers, and knowledge translation strategies needed to support implementation.

Methods: Service providers were invited to participate in an interview after completing an online survey on their clinical implementation of the 'F-words'. Content analysis provided insight into the use of the 'F-words' and perceived barriers, as well as insight into identifying knowledge translation strategies to facilitate implementation.

Results: 21 service providers from nine countries participated in interviews. Applications of the 'F-words' included their use as a conceptual framework, directly in practice, and in teaching/training. Barriers included conflicting attitudes, insufficient

funding, language, and misalignment with organizational/government priorities. To support the adoption of the 'F-words', participants recommended knowledge translation strategies including local opinion leaders, linkage and exchange, educational outreach and meetings, and distribution of educational materials.

Conclusion: Understanding applications, barriers to use, and knowledge translation strategies will inform future directions to implement the 'F-words' in practice. A critical step in bridging this research-to-practice gap and encouraging greater widespread adoption requires collaboration with service providers to tailor knowledge translation strategies to fit the local context.

Key words: Childhood disability, F-words, International Classification of Functioning, Disability and Health, service providers, implementation, knowledge translation strategies

*F-words: Function, Family, Fitness, Fun, Friends, & Future



MENDING THE MATERNAL CARE GAP: UNDERSTANDING THE PRENATAL, CHILDBIRTH, AND POSTPARTUM EXPERIENCES OF RACIALIZED WOMEN

Raisa Ladha, BPH1, & Elena Neiterman, PhD1

¹School of Public Health and Health Systems, Faculty of Applied Health Sciences, University of Waterloo

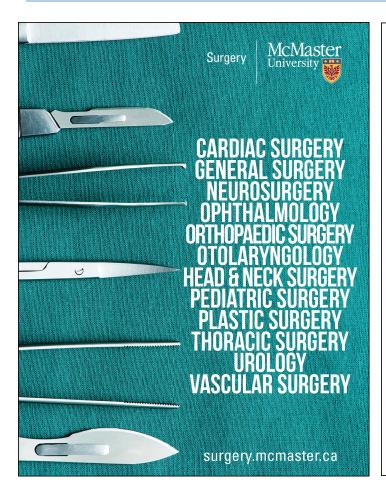
Purpose: Although racialized women are among the poorest individuals in North America and face a higher risk for adverse pregnancy outcomes, little is known about their experiences in utilizing prenatal, childbirth, and postpartum healthcare services. The objectives of this scoping review were to inform future policy initiatives and healthcare practices that would enable racialized mothers to have access to compassionate and culturally safe care as they embark on their journey to motherhood.

Methods: A scoping review of academic literature on racialized women in North America was conducted utilizing the Arksey & O'Malley framework.

Results: In the reviewed literature, 25 of 53 studies sufficiently detailed the experiences of racialized women with their respective healthcare systems in obtaining prenatal, birthing or postpartum care.

The majority of studies concluded negative experiences (16 of 25), with some featuring neutral experiences (8 of 25), and only 1 study detailing entirely positive experiences. Results were further categorized in 4 main categories to better understand the nature of experience: access, interaction, constraints, and attitudes.

Conclusion: This review supports the growing need for providing culturally safe maternity care to more efficiently address the needs of racialized women. Potential conceptualizations of this form of care may include standardizing protocol across birthing facilities, utilizing medical interpreters, training healthcare professionals to provide positive and supportive experiences, and adopting shared decision-making to incorporate patient preferences into the safe delivery and care of a newborn child.











WANT TO COMBINE YOUR PASSION FOR BUSINESS, HEALTH, AND TECHNOLOGY?

Earn an MSc in eHealth at McMaster University.

► What is eHealth?

McMaster's eHealth MSc program is a unique healthcare graduate program that immerses you in the world of digital health informatics. Offered through a collaboration by three prestigious McMaster Faculties and Schools – the Faculty of Health Sciences, the Faculty of Engineering, and the DeGroote School of Business – the eHealth MSc builds on theoretical foundations in healthcare, information technology and business. An 8-month internship offers firsthand perspective on how these fields intersect in the transformation of modern healthcare delivery and management.

To find out more about eHealth visit: mscehealth.mcmaster.ca or email: ehealth@mcmaster.ca

