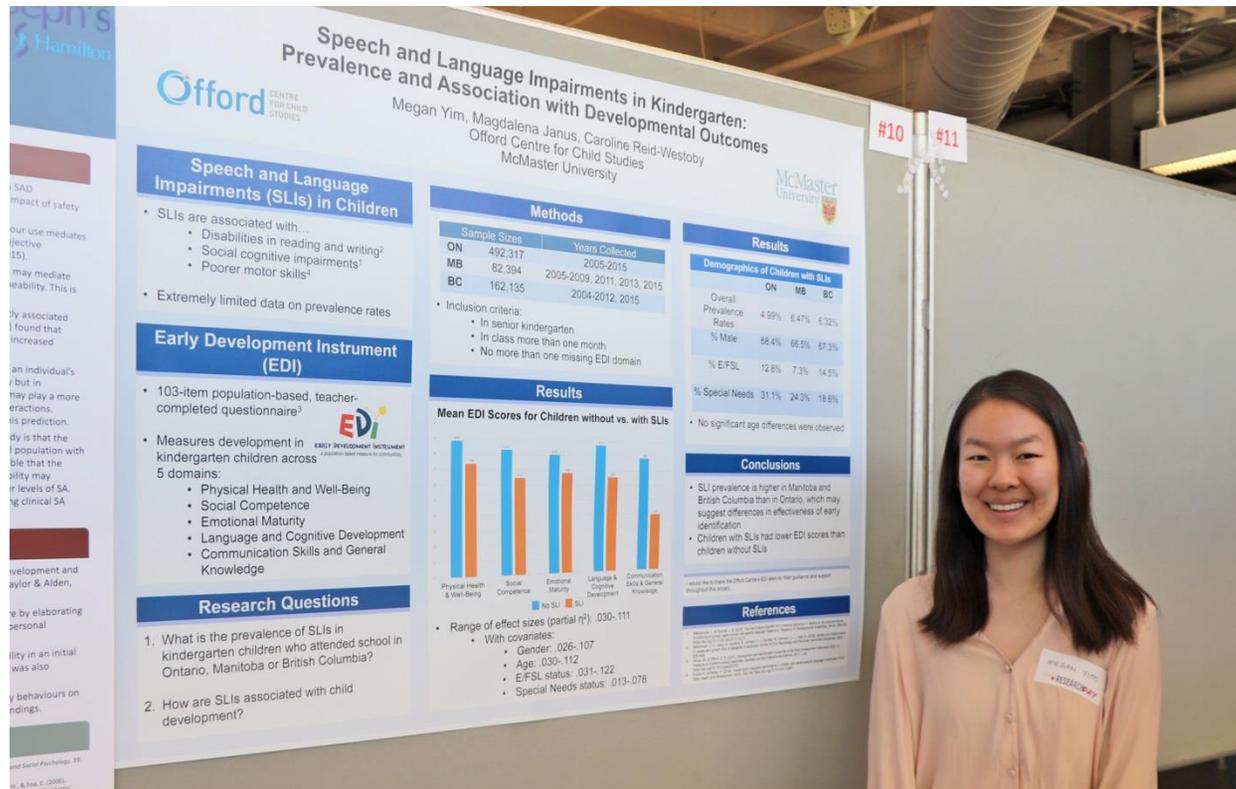




SPOTLIGHT ON RESEARCH

Research Day Top 3 Posters: Undergraduate – Non-Clinical



**First place Research Day poster competition award winner:
Megan Yim - Undergraduate (non-clinical) - supervisor: Magdalena Janus**

1st Place

Name: Megan Yim

Supervisors: Dr. Magdalena Janus & Caroline Reid-Westoby

Education Program and Level: Psychology, Neuroscience & Behaviour, Level 4

About Megan:

Hi, I'm Megan! I just finished my undergraduate studies in Psychology, Neuroscience & Behaviour with a minor in French. This coming fall, I will be heading to Cambodia where I will be teaching English at an orphanage for 10 months. Beyond that, I hope to continue my studies in the MSc. Global Health program at McMaster in order to set the foundation for a career in global health policy and implementation. I would love to work for an international organization/NGO such as UNICEF or World Vision.

Megan's Project:

Speech and language impairments (SLIs) have been associated with poorer developmental health in a wide range of areas, including language and motor skills, cognitive development, and socio-emotional/behavioural development. Although SLIs are among the most common childhood impairments, data on prevalence rates are extremely limited. The purpose of this study was to examine the prevalence of SLIs in kindergarten children in Ontario, Manitoba, and British Columbia, and the associations between SLIs and children's developmental outcomes.

This study examined data collected with the Early Development Instrument (EDI) – a population-based, teacher-completed questionnaire that measures developmental health in kindergarten children across five domains: 1) Physical Health and Well-Being, 2) Social Competence, 3) Emotional Maturity, 4) Language and Cognitive Development, and 5) Communication Skills and General Knowledge. Data from 736,846 children across Ontario, Manitoba, and British Columbia were analyzed using SPSS, version 25.

After controlling for sex, age, English/French-as-a-second-language status, and special needs status, EDI scores were found to be significantly lower for children with SLIs compared to children without SLIs across all five domains. In each of the three provinces, the greatest association was observed in the Communication Skills and General Knowledge domain (partial $\eta^2 = .111$ [a moderate-large effect size]), while the smallest association was observed in the Emotional Maturity domain (partial $\eta^2 = .030$ [a small effect size]). Overall SLI prevalence rates were 4.99%, 6.47%, and 6.32% for Ontario, Manitoba, and British Columbia, respectively. This may be reflective of provincial differences in the way that SLI services are delivered and/or accessed (e.g. differing wait times, fewer speech-language pathologists for every 100,000 people in Ontario than in Manitoba and British Columbia). There is currently no standardized methodology for SLI identification and intervention in Canada. However, we see that there is a wide range of negative developmental outcomes associated with SLIs beyond communication. This highlights the importance of ensuring that SLIs are identified as early as possible and that SLI services are available and accessible to children who may need them.



2nd Place

Name: Thipiga Sivayodanathan

Supervisor: Dr. Karen Rowa

Education Program and Level: B. Arts Science, Level IV

About Thipiga:

I recently completed my final year as an undergraduate student at McMaster University where I pursued a degree in the Arts and Science program with a combination in Psychology, Neuroscience, and Behaviour. Through my academic and extracurricular involvements, I have realized my interest in clinical psychology and hope to pursue a career in this field. I am particularly interested in researching effective therapies and interventions for individuals with anxiety disorders. I hope to continue to contribute to the exciting research being done at the Anxiety Treatment and Research Clinic and further develop my research skills in the next year.

Thipiga's Project:

Individuals with social anxiety disorder (SAD) often avoid social interactions for fear of negative evaluation from others (Voncken & Dijk, 2013). Indeed, individuals with SAD are more negatively evaluated in social interactions than individuals without SAD (Voncken & Dijk, 2013). Currently, a prominent area of research in SAD is the investigation of behaviours that contribute to and detract from positive social interactions (Voncken & Dijk, 2013).

As such, this study sought to identify predictors of likeability in an initial social interaction for individuals with a range of social anxiety symptoms. Participants were female undergraduate students from McMaster University who interacted with a female confederate in a videotaped getting acquainted task. Participants completed the Social Phobia Inventory (SPIN) to assess symptoms of social anxiety while the confederate completed the Desire for Future Interaction scale (DFI) to assess the likeability of the participant. Using the video recordings of the interaction, two raters independently coded participants' performance and propensity for self-disclosure using the Performance Questionnaire (PQ; Rapee & Lim, 1992) and a Self-Disclosure scale (SD) designed for the purpose of the current study respectively. The PQ included both specific items (e.g. stuttered) and global items (e.g. appeared confident) while the SD assessed frequency, depth, and reciprocity of self-disclosure. Total talking time was also measured for each participant.

Data were collected from 62 participants (M age = 18.31) who reported a range of social anxiety symptoms (M = 24.11 indicating mild severity on average). There was moderate to strong agreement between coders on the variables of interest, PQ (ICC = 0.69) and SD (ICC = 0.79), so scores were averaged across raters. We conducted a regression analysis with likeability as the dependent variable and social anxiety, coded performance, talking time, and degree of self-disclosure as predictor variables. A significant regression equation was found ($F(4, 57) = 6.9, p < .000$), with an R^2 of 0.326. Results indicated that the only significant predictor of likeability was performance ($p < .05$).

Results suggest a significant association between social performance and likeability in an initial interaction task. Individuals who performed better (according to ratings by coders) in the social interaction task were more liked by the confederate, irrespective of their level of social anxiety. However, it is possible that safety behaviours may mediate the relationship between performance and likeability. Safety behaviours are behaviours that individuals may use to alleviate the immediate stress or discomfort in a feared situation, but these behaviours may be maintaining the fear in the long-term by reinforcing the idea that the situation is dangerous. Indeed, Rowa et al. (2015) found that safety

behaviour use mediated the relationship between group status and objective performance in a speech task. Further research is necessary to examine these and other predictors of likeability to inform interventions for individuals with social anxiety.

- 1) Rapee, R. M., & Lim, L. (1992). Discrepancy between self-and observer ratings of performance in social phobics. *Journal of Abnormal Psychology, 101*(4), 728-731.
- 2) Rowa, K., Paulitzki, J.R., Ierullo, M.D., Chiang, B., Antony, M.M., McCabe, R.E., & Moscovitch, D. (2015). A false sense of security: Safety behaviors erode objective speech performance in individuals with social anxiety disorder. *Behavior Therapy, 46*, 304-314
- 3) Voncken, M. J., & Dijk, K. F. L. (2013). Socially anxious individuals get a second chance after being disliked at first sight: The role of self-disclosure in the development of likeability in sequential social contact. *Cognitive Therapy and Research, 37*(1), 7-17.

About Catherine:

I am a recently graduated student with a passion for child health. In the past, I have been involved in working and volunteering with children and families, such as working in the Ronald McDonald Family Room in the McMaster Children's Hospital, and teaching children Mathematics and English in Kumon centres. Since 3rd year, I have had the opportunity to do my Practicum and Thesis projects with the Offord Centre for Child Studies, where I was able to further my knowledge of child development. I will be entering the Michael G. DeGroot School of Medicine this fall, with the hopes of pursuing Paediatrics.

Catherine's Project:

Dental problems are the most prevalent chronic disease worldwide, with up to half of all children entering kindergarten having tooth decay. Despite a plethora of research being done on dental diseases, there is still a lack of evidence of whether unaddressed dental needs (UDNs) are directly associated with children's developmental health. To compare the development of kindergarten children with and without UDNs, we used responses from the Early Development Instrument (EDI), which is a teacher-completed questionnaire that explores whether children are meeting age-appropriate developmental milestones prior to Grade 1. It measures five developmental domains: physical health and well-being, social competence, emotional maturity, language and cognitive development, and communication skills and general knowledge. Among 629,107 children from which EDI information was collected, 2,465 were identified as having UDNs.

In the first part of our analysis, we explored whether there is an association between UDNs and some of the known risk factors of dental health. We saw that a greater prevalence of UDNs was found in children who are: older, male, of Aboriginal status, E/FSL status (having English or French as a second language), low socio-economic status, and have special needs. In the second part of our analyses, we determined whether there are associations between UDNs and the mean scores of the five EDI domains. Children without UDNs were shown to have higher EDI mean scores - and therefore better developmental outcomes - compared to children with UDNs in all domains. This suggests that UDNs are associated with poorer outcomes in all aspects of developmental health. Finally, an additional analysis explored whether there are differences in developmental outcomes among children with UDNs, based on how it was identified (i.e. observed by their teacher, informed to the school by parents, or both). It was observed that children who had their UDNs identified by their parents but not their teachers had better developmental outcomes compared to other children with UDNs.

Although it is too soon to determine whether there is a meaningful association between UDNs and child development, further research on UDNs and how they related to specific skills and behaviours of children may uncover new findings on how poor dental health may be linked to children's developmental concerns. More emphasis should be placed on addressing several barriers that families face in accessing dental healthcare services. Governments should also endorse parental monitoring of children's dental needs, and promote healthy diets and hygiene habits that would decrease the likelihood of developing dental problems. Early screening, diagnosis, and intervention before school entry could help identify whether kindergarten children in Canada are meeting their dental needs, and ensure that these issues would not affect their overall developmental health.