

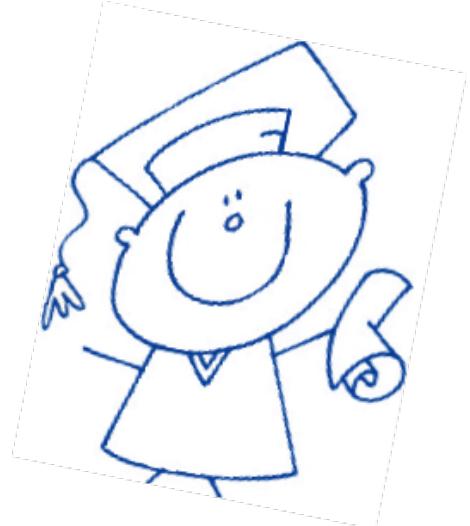


Infant and Child Studies Center

FROM THE DIRECTORS

The research team at the Infant and Child Studies Centre at the University of Toronto Mississauga would like to start off by thanking all the families who have participated in our studies. We are learning so much about early language, music, and social-emotional development in infants and children. Without your help, none of this

research would be possible. It is our pleasure to share some of our recent findings with you. Please share this newsletter with anyone else you feel would be interested in learning more about our studies or would like to participate.



DIRECTORS

Dr. Elizabeth Johnson
Dr. Sandra Trehub
Dr. Glenn Schellenberg
Dr. Tina Malti
Dr. Doug VanderLaan

POSTDOCTORAL FELLOWS

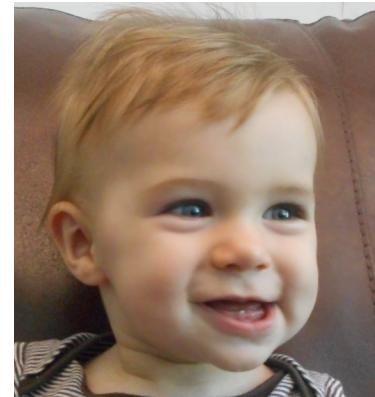
Dr. Natalie Fecher
Dr. Angela Cooper
Dr. Laura Cirelli
Dr. Ju-Hyun Song
Dr. Tyler Colasante
Dr. Connie Cheung
Dr. Linlin Zhang
Dr. Marc Jambon

GRADUATE STUDENTS

Melissa Paquette-Smith
Sebastian Dys
Joanna Peplak
Erin Acland

HOW DO I PARTICIPATE?

For more information on how your child can become a junior scientist call us at (905) 828 5446



NEWS & ANNOUNCEMENTS

- Congratulations to Postdoctoral fellow Laura Cirelli on accepting a position as Assistant Professor in the Department of Psychology at the University of Toronto Scarborough.
- Congratulations to former C.L.A.S.S. lab Postdoctoral researcher Helen Buckler on her acceptance of a tenure track faculty position in Psycholinguistics at the University of Nottingham!

UNDERSTANDING DIFFERENT VOICES

"Mommy! I want a dobby!" Parents will be very familiar with the unique and interesting ways their child pronounces certain words. However, the fact that children often pronounce things differently than adults ("dobby" instead of "strawberry") can sometimes make them difficult for adults to understand. Word recognition is a vital skill in language development, but we know relatively little about how children handle the wide range of pronunciations produced by their own



peers. In the Child Language and Speech Studies Lab, we are investigating whether children actually find other children difficult to understand. Would children have a hard time recognizing something like "dobby" as referring to "strawberry", or would they actually recognize it easier than adults because it sounds similar to something that they themselves would say? This work will help us understand the development of word recognition abilities in young children and the factors that contribute to successful speech comprehension.

GET A JUNIOR SCIENTIST T-SHIRT!

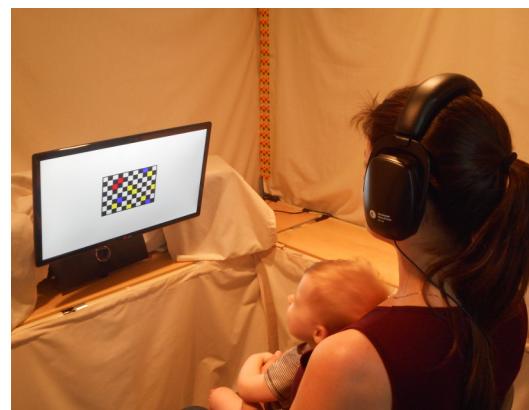
WHAT HAPPENS WHEN WE SING TO BABIES

In the Music Development Lab, we are investigating how infants and children respond to music. We are especially interested in the social and emotional effects of singing to babies. In one study with 8 to 11-month-olds, we asked moms to sing "Twinkle Twinkle Little Star" to their babies in a soothing way and also in a playful way. We measured the skin conductance of mom and baby, using sensors on their hands and feet. Skin conductance reflects sweat gland activity, which increases when we are excited and decreases when we are calm. When mothers sang the soothing song, they and their infants calmed down. During the playful song, mothers' excitement increased, and infants paid more attention to mom. In another study with 14-month-olds, a researcher began by singing or speaking rhythmically to a baby. We then observed how much the baby helped this person by handing her objects needed for simple tasks, like markers for drawing a picture. Both singing and speaking increased the usual rates of infant helping, but song familiarity also mattered. Infants who heard the singing helped the woman more if the song she sang was familiar. These findings suggest that singing conveys important emotional and social information, and that babies take notice of this information.



WHY DO SOME COMBINATIONS OF NOTES SOUND PLEASANT AND OTHERS UNPLEASANT?

Most scientists believe that preferences for sounds that occur simultaneously (e.g., two notes played or sung together) are “natural” or rooted in biology. By contrast, scholars of music contend that experience shapes such preferences. To address this question, we examined the preferences of 6- to 10-year-old children and adults for a variety of sound combinations. Although 6-year-olds liked sound combinations that occur frequently in Western music more than those that occur infrequently, their preferences differed substantially from those of adults. In fact, children’s preferences became more adult-like with increasing age. At 10, children’s preferences were like those of adults in some respects but different in others. However, the 10-year-olds who had 2 or more years of music training were most similar to adults. Our results indicate the importance of experience in the emergence of simple musical preferences.



NOT FEELING SORRY FOR OTHERS: UNDERSTANDING THE DEVELOPMENT OF BULLYING

Do children bully others because they lack sympathy? Or because they have trouble expressing their concern for others in positive ways? In Dr. Tina Malti's Social - Emotional Development and Intervention Lab, we investigate children's physiological (i.e., bodily) responses to situations that involve bullying others. We want to understand if and how the regulation of arousal in these situations promotes feelings of sympathy that help children avoid bullying others. This knowledge will help treatment efforts determine when and how to target these skills and reduce the risk of bullying as children develop.

Have you ever wondered whether your baby recognizes your voice? We have known for some time that even newborns show a preference for listening to their mom's voice over a female stranger's voice, and that they can distinguish between mom's or dad's voice and the voice of a stranger. But what about the voices of people that they have not heard before? Can infants tell them apart and recognize them later on? Voice recognition is an important linguistic and social skill, but surprisingly little is known about when and how this ability develops in infancy and early childhood. In Dr. Johnson's Child Language and Speech Studies lab, we are testing children across a wide age range (4 months to 8 years) to fill this gap in our knowledge and find out which factors influence successful voice recognition across ages and languages.

**THAT
SOUNDS
LIKE YOU!**

ONGOING STUDIES AT THE MUSIC DEVELOPMENT LAB

We are currently engaged in several studies involving 6- to 10-month-old infants, most of them focusing on infant preferences for various aspects of song and speech. One study, part of a collaborative effort involving more than 60 universities, is examining the nature of infants' preference for infant-directed speech (i.e., speech in the primary caregiver's style) over adult-directed speech (i.e., conventional speech). We record how long 6- to 9-month-olds listen to audio clips of moms speaking to babies or to adults. We are also recording infant skin conductance by means of a sensor placed on each baby's foot. This will reveal whether positive arousal or excitement contributes to infants' preferences. In another study, we are examining 8-month-olds' preference for different types of music. We do so by observing how long babies remain calm while listening to vocal and instrumental music, as reflected in their behaviour (facial expression) and skin conductance (arousal level).

HOW ARE CHILDREN'S EMOTIONS FORMED?

Why might one child feel good for committing a transgression, such as stealing a chocolate from another child, while another feels bad or guilty? Why might two children feel such different emotions in response to the same situation? In Dr. Tina Malti's Social - Emotional Development and Intervention Lab we examine how emotions, such as sympathy and guilt, are formed in childhood and adolescence. More specifically, we investigate how children's attention influences their feelings of sympathy and guilt. To do this, we observe children's eye movements during social conflict scenarios in relation to their emotional responses. This research will help us understand how to shift their focus in a way that promotes the development of moral emotions.

RECENT PUBLICATIONS

- Colasante, T., & Malti, T. (2017). Resting heart rate, guilt, and sympathy: A developmental psychophysiological study of physical aggression. *Psychophysiology*.
- Diepstra, H., Trehub, S. E., Eriks-Brophy, A., & van Lieshout, P. H. H. M. (2017). Imitation and non-speech oral gestures by 8-month-old infants. *Language and Speech*, 60, 154-166.
- Song, J.-H., Colasante, T., & Malti, T. (2017). Helping yourself help others: Linking children's emotion regulation to prosocial behavior through sympathy and trust. *Emotion*.
- Paquette-Smith, M. & Johnson, E.K. (2016). Toddlers' use of grammatical and social cues to learn novel words. *Language Learning and Development*, 12, 328-337.
- Paquette-Smith, M. & Johnson, E. K. (2016). I don't like the tone of your voice: Infants use vocal affect to socially evaluate others. *Infancy*, 21(1), 104-121.
- Trehub, S. E., Plantinga, J., & Russo, F. A. (2016). Maternal vocal interactions with infants: Reciprocal visual influences. *Social Development*, 25, 665-683.

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