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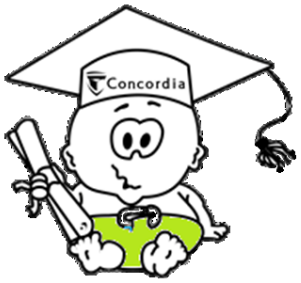
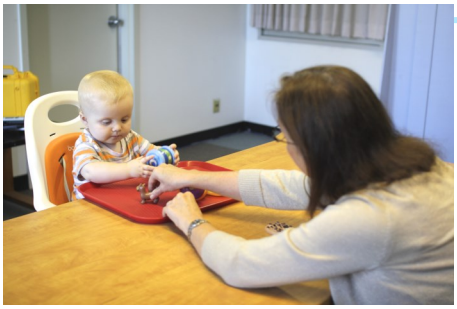
SOME NEWS FROM THE COGNITIVE AND LANGUAGE DEVELOPMENT LABORATORY



Young children are amazing!

Young children learn about objects and people in the world around them at a surprisingly early age! They also learn new words very quickly and with little effort! How children manage these tasks and the strategies they use is the focus of our research at Concordia University. We would like to provide you with an update on some current findings from the lab. We appreciate the support and enthusiasm of the parents and children who have participated in our studies!



A fresh look at a classic theory of mind task

For a little over a decade, research has shown that young infants understand other people's thoughts (called theory of mind). Understanding that someone might have a false belief is an example of theory of mind. This ability is measured in young infants by analyzing their looking time while an actor is looking for an object. If infants understand that an actor holds a false belief, they will be surprised (e.g., look longer) if s/he searches in the correct location.

In one experiment, Ph.D. student Kimberly Burnside found that infants behave the same when a non-living "actor" (a toy crane) was used, indicating that infants attribute false belief to entities that do not have thoughts. In a second experiment, Kimberly asked: Do infants attribute false beliefs to human actors who do not know the location of an object at all? To test this, she replicated the same task but introduced a new human actor during the trial when false belief understanding is measured. Infants first watched as an actor repeatedly showed interest toward a plastic cup. When the actor left, the cup changed location. At test, a new actor was introduced. Half of the infants watched a scene where the new actor searched for the cup in its prior location, and half of the infants watched the new actor search in the cup's actual location. Infants' looking pattern in the original study using a single actor was replicated.

This finding means that infants believed that the new actor held the same false belief as the first actor, despite never seeing the location of the toy. These results show that false belief is not a mature construct in infancy, as previously believed.

The findings from Experiment 1 are submitted for publication and those from Experiment 2 will be presented at the annual meeting of the Société Québécoise pour la Recherche en Psychologie in March.

"One of these is not like the others": Do words boost object categorization?

We have known for several years now that the addition of a label when teaching monolingual infants about object categories helps them form categories. Labelling objects highlights the similarities between objects given the same name and differences between those that are labelled differently. We also know that, while monolingual infants learn that each object is associated with one word, bilinguals, as a consequence of learning two languages, do not expect each object to have only one possible label. Yet, little is known about how this difference in word-to-object association between monolingual and bilingual infants affects their categorization abilities.

For her Master's thesis, Alexa Ruel has examined if monolinguals differ in how they learn about object categories, and if this is affected by their expectations about the relations between words and object categories. Eighteen-month-old-infants participated in one short activity. In this game, infants recognized that a series of objects were from the same group after an experimenter labeled them with a single novel word, two novel words, or no word. Our findings show that monolingual infants successfully categorize when presented with 1 label, 2 labels as well as no label, even though the objects and their labels are novel. Contrary to what we expected, monolingual infants did not experience more difficulty forming categories when presented with 2 labels for the same category.

A current study is now examining why monolinguals had no difficulty categorizing with 2 labels, as well as the differences between monolingual and bilingual infants, specifically whether categorization is due to their differential expectation of how words refer to objects.

Come join us!

We have many studies in the lab that are ongoing or about to begin!

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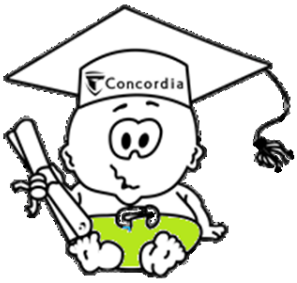

Who knows best?

Young children are actively engaged in selective learning – the ability to trust reliable sources of information over unreliable sources. Recent research findings suggest that there is variability in selective social learning abilities in preschool-aged children; some researchers argue that these differences may be related to metacognition, or thinking about thinking. This is very important because metacognition is predictive of successful learning in adults and school-aged children. However, there is little research dedicated to understanding exactly which cognitive mechanisms may specifically explain selective social learning in young children.

Catherine Delisle, now a PhD student at UQAM, and Jessy Burdman-Villa, the recipient of a Concordia summer research award, explored how metacognitive and theory of mind may underlie selective social learning. Children around 4 years of age participated in two interactive activities. In the first, two puppets spoke to the child, one correctly naming familiar objects and the other providing incorrect labels (for example, a toy car was called a dog). The ability for learning new words preferentially from the reliable puppet was examined. In the second task, the child needed to find a star hidden in a tube, with either a visual or verbal clue, or no clue at all. The child had the opportunity to search for more clues if s/he was not certain of the star's location. A questionnaire to evaluate the child's level of theory of mind was also completed by the parent.

As expected, children with better developed metacognition and theory of mind were more likely to learn from the reliable source in a word learning paradigm.

We will present these findings at the annual conference of the Société Québécoise pour la Recherche en Psychologie in March.

Can Infants detect incompetent speakers?

Infants are exposed to a wealth of information from their surroundings. However, to effectively learn from others, infants cannot be indiscriminate in their learning. It is well known that infants are sensitive to a speaker's accuracy in labeling familiar objects, and therefore prefer to learn from reliable sources of information. However, little is known about how infants become selective in their learning.

Shawna Grossman, an Honours Psychology undergraduate student, and Cristina Crivello, a Ph.D. student, examined whether infants who have a better understanding of others' mental states (e.g., beliefs, desires, and intentions) were better able to differentiate between a reliable and an unreliable speaker in a word learning game. Eighteen-month-old-infants were exposed to a speaker who correctly labeled a familiar object (reliable) and another speaker who incorrectly named the same object (unreliable). Subsequently, the infants were asked to learn a novel word from the speakers. Infants then played a series of games to assess their abilities to understand the experimenter's beliefs and knowledge that were different from their own.

Interestingly, the results demonstrated that infants tended to learn a novel word more from the reliable speaker than the unreliable speaker. Furthermore, this ability was found to be related to their understanding of the experimenter's knowledge. Therefore, these findings suggest that infants' social-cognitive skills are related to their ability to selectively learn from others.

These findings were recently submitted for publication in a prestigious journal.

For more information about the lab, please consult our webpage: **cldlab.com**

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