Early Development Research Group

2020 Newsletter

What is the EDRG?

Since 2004, the Early Development Research Group has been advancing knowledge of how language, learning, and social understanding develop in infants and children. We're composed of six research centers in UBC's Department of Psychology, and in ongoing studies, we are trying to answer many fascinating questions about how children learn at different stages of development.

A Typical Visit

Participating in a study typically involves a one-time visit to UBC of about 30 minutes. The studies themselves are quite short (5 to 10 minutes) and usually involve watching a video or a puppet show for infants, and playing games for older children. At the end of your visit, your child will receive a UBC degree certificate and a gift from a selection of UBC infant and child scientist merchandise! We also provide free parking or compass tickets for our families.

Want to Participate?

Sign up online : EDRG.PSYCH.UBC.CA

Email us: EARLYDEV@PSYCH.UBC.CA

Exciting News!

Andy Baron Wins the Knox Award!

Dr. Andrew Baron, Director of the Social Cognitive Development Lab, has been awarded the Robert E. Knox Master teaching award! This award recognizes psychology faculty and lecturers whose teaching practice is exceptional and inspires student learning. Please join us in congratulating Dr. Baron on this outstanding achievement!

Darko Odic Wins the APA Rising Star Award!

Dr. Darko Odic, Director of the Centre for Cognitive Devlopment, has won the APA Rising Star Award! It recognizes outstanding psychological scientists in the earliest stages of their research career post-PhD. Amazing job Dr. Odic!

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Centre for Cognitive Development

The Centre for Cognitive Development, directed by Dr. Darko Odic, studies how children intuitively represent the world around them, especially how they think about number, time, and space, and how the acquisition of language enriches these basic concepts to allow children to think about math and science.

In one study recently published by our Centre's Carolyn Baer, we show that young children have a robust sense of certainty in their intuitive sense of number: given two questions on which children have to reason about number, they can, with surprising accuracy, decide which question they are more sure of answering correctly. This sense of certainty is also "domain-general" and shared across time and space: children who are good at reasoning about their certainty on number questions are also good at reasoning about their certainty time and space questions, too.

In another ongoing study conducted by Denny Dramkin, we have been exploring how children acquire novel words in conflicting contexts, such as a speaker who labels an object children have never seen before as "a ball", while pointing at it. While previous work has suggested that children will readily overwrite previous expectations about word meanings given a sufficiently strong cue (such as pointing), our work instead shows that children can acquire word meanings that they tie to specific people (e.g., this person calls this a ball, but others do not), showing higher sophistication in their word acquisition strategies than previously thought.

Social Cognitive Development Lab

Dr. Andrew Baron currently directs the Social Cognitive Development Lab at UBC and the Living Lab at TELUS Science World. Our Centre focuses on trying to learn more about how infants and young children think about other people.

At the Living Lab at Science World, we are participating in a 7-year Canada-wide research project exploring the psychological barriers to greater participation in STEM among women (www.successinstem.ca). We are currently exploring when in development children internalize gender stereotypes about math and science and how these stereotypes can influence their interest in and engagement in math and science. We are particularly interested in developing strategies to increase children's interest in and engagement with math and science.

Recent studies by other research teams suggested that during primary school children may come to think that math is more associated with boys (even though boys and girls perform similarly well in math classes!). Recently, our researchers have completed a project that looks to change these math-gender stereotypes so children come to realize that math is for everyone.

In other research, we aim to understand how infants reason about social dominance relationships – where one individual is viewed as more dominant over another individual. This kind of reasoning contributes to children's emerging understanding of social status and social hierarchies. In these studies, we often show brief videos of individuals interacting – where one individual achieves their goal at the expense of another. We then look to see what kinds of expectations children form about the relationship between these individuals. Be sure to follow our next update to see what we discover!

Language Development Centre

The Language Development Centre, directed by Dr. Geoffrey Hall, studies how infants and young children learn the meanings of words in their native language.

As adults, we can flexibly categorize manufactured objects (e.g., shoes) based either on their intended function (e.g., sneakers, loafers) or on the identity of their maker (e.g., Nike, Adidas). In a recent study, we investigated the origins of these categorization abilities in 4- to 8-year-old children. Children heard a novel word for a manufactured object (e.g., a thick glove intended to be worn in the winter, with an attached shamrock logo indicating its maker). We asked them to extend the word to either (1) another object with the same intended function but a different maker or (2) another object with the same maker but a different intended function. Children heard the label modeled linguistically either as a common noun (e.g., "a POGON") or as a name (e.g., "POGON").

By the age of six years, children who heard the label presented as a common noun systematically extended the label on the basis of shared intended function. By the age of seven years, children who heard the label presented as a name systematically extended it on the basis of shared maker. By the early school years, children use the linguistic cues that accompany words to categorize manufactured objects based either on their intended function or on the identity of their maker.

K.I.D. Studies Centre

The K.I.D. Studies Centre, directed by Dr. Susan Birch, examines children's social perspective-taking and selective social learning.

How do children go about determining whether someone is a trustworthy source of knowledge? What kinds of cues assist children in making decisions about who is a credible source to learn from? In recent experiments, we investigated whether children appreciate that one's level of confidence should relate to one's knowledge when deciding who is a credible source. In other words, it's not always best to trust a confident person and distrust a hesitant person—the person's level of confidence should be justified by whether or not they are knowledgeable in a given situation. For example, someone who has a history of being overconfident when not being informed is less trustworthy than someone who has a history of being confident only when informed.

In each experiment, during a 'history phase' we presented children with videos of actors that were either informed or uninformed about the contents of boxes and confident or hesitant when identifying the contents. In the test phase, both actors confidently labeled unusual animal pictures using new labels (e.g. one calling it a Modi and the other a Toma). Children were then asked questions such as "what do you think it's called—a Modi or a Toma?" and "who do you think is smarter?".

We found that by 4 years of age children preferred to learn from the confident actor when her confidence was justified (i.e. she was knowledgeable about the boxes' contents) over someone who is unjustifiably confident (i.e. she did not see inside the box), and over someone who is informed but hesitant. However, children ages 7 and 8 were unsure whether to favor new information (stated with confidence) from a person who was previously hesitant when informed or one who was previously hesitant when uninformed.

In sum, young children are able to critically evaluate credible sources to learn from when it comes to confidence vs. overconfidence, but children's' understanding that not all hesitant sources should be equally distrusted appears to develop much later.

Infant Studies Centre

The UBC Infant Studies Centre is directed by Dr. Janet F. Werker, and our research focuses on the amazing process of language acquisition and speech perception throughout the first few years of life.

We recently began a new study to learn more about infants' understanding of their first words and the nature of this early word comprehension. In this study, 9- and 13-month-old infants hear a word for a familiar animate (e.g. "mommy") or inanimate (e.g. "banana") object and then see either an image that matches the word or a mis-matching image. During the study, the infant's brain responses are measured using electroencephalography (EEG for short). When infants notice a mismatch or error, there is a predictable neural 'surprise response' that can be detected in the EEG signal. Using this methodology, we can look at which mismatches 'surprise' the infant, and thus determine which words they know!

We further want to explore how infants' word representations change across development and specifically whether infants have representational categories for animate and inanimate object words. To do this, we will compare brain response patterns between infants to see if there are any predictable neural patterns for animate versus inanimate object labels, and if so, at which age(s) these patterns appear. This will not only reveal whether (and when) infants begin distinguishing categories amongst their first-understood words, but can also tell us about what kinds of word features are being accounted for in these early representations.

We are currently looking for babies who are 8- to 9-months-old, and babies who are about 12- to 13-months-old to participate in this exciting study! If you would be interested in participating, please email infants@psych.ubc.ca for more information.

Centre for Infant Cognition

The Centre for Infant Cognition, directed by Dr. Kiley Hamlin, investigates social and moral development in infants, toddlers, and preschoolers. This year, we are thrilled to announce the start of a new research project which explores infants' social development from birth to 3 years of age.

In this study, we are interested in what babies understand about social interactions, when they develop a sense of "good" and "bad", and how they learn to be prosocial individuals. We expect that babies already understand many aspects of our social world, and we are interested to see how this early understanding gets more complex over time.

Currently, newborn babies participate in three tasks during which they follow a face-like image, mimic silly facial expressions, and respond to the sound of another baby crying. Past research suggests that these newborn tendencies may be related to later social understanding and prosocial behaviour.

Every few months, we will invite families to return to the Centre to take part in puppet shows, interactive games, and classic activities that allow us to further understand how infants' early capabilities and environmental influences work in conjunction to produce early social and moral behaviours. We are so excited to learn from and grow up with our new baby scientists!

Thank you to all of our amazing families

The EDRG would like to take this opportunity to thank all of the wonderful families that have particpated in our research throughout the years! Our research would not be possible without all of the continuous support from our community. Thank you very much, we hope to see you again sometime this year!