UBC Early Development Research Group

2021 Newsletter

About Us

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 centres in UBC's Department of Psychology. In our ongoing studies we are trying to answer many fascinating questions about how children learn at different stages of development.

What it's like to participate

Participating in a study involves either a visit to one of our centres or a computer at home from where you can access our online platforms. Both encompass an involvement of around 30-45 minutes and generally involve your child watching a video, puppet show, or playing a game with our researchers. At the end of your visit, your child will receive an honorary UBC degree certificate, as well as a gift (in-person studies), or gift card (online studies). For our in-person studies we provide free parking or compass tickets.

Sign up today!

On our website:
edrg.psych.ubc.ca
By e-mail:
edrg@psych.ubc.ca

The EDRG during COVID-19

Needless to say, the past year has been challenging. We had to close our doors and put a halt to our studies last March. Since then, our teams have worked incredibly hard to adapt to new ways of conducting research. Now in 2021, we are running most of our studies online, and have started some in-person visits again. A big thank you to all of your support of our research during these difficult times!

Follow us online!

UBC Early Development Research Group

@UBCEDRG

Congratulations to our award-winning directors!

Dr. Darko Odic: Jacobs Foundation Research Fellow

This fellowship is a globally competitive program for talented and innovative early career researchers whose work is dedicated to improving the development, learning and living conditions of children and youth. Congratulations, Dr. Darko Odic!

Dr. Janet F. Werker: National Academy of Sciences

This membership is a widely known mark of excellence in science, and is considered one of the highest honours that a scientist can receive. Congratulations, Dr. Janet F. Werker!

Centre for Infant Cognition

The Centre for Infant Cognition, directed by Dr. J. Kiley Hamlin, explores the early origins of social and moral thought from a developmental perspective in infants, toddlers, and preschoolers. Particularly, we explore the tendency to judge individuals' actions as good or bad, as deserving of reward or punishment, and as morally praiseworthy or blameworthy.

Last year, we launched a new research project which looks at infants' social development from birth through the third year of life and we are beyond grateful to be continuing this project this year. Previous research suggests that rudimentary forms of sociomoral cognition and evaluation are present early in life. For instance, infants as young as 3 months old display preferences for characters who were previously helpful rather than unhelpful. Through this particular research project, we have been examining the extent to which individual infant responses on a social evaluation task map onto other measures of morally relevant emotions, judgements, and actions (e.g., empathic concern, fairness expectations, prosocial behaviour), both concurrently and longitudinally. Our project will be one of the first to examine the long-term associations among distinct sociomoral responses during infancy and very early childhood.

Every few months, we continue to invite families to visit our Centre or through online platforms to partake in puppet shows and interactive activities that allow us to further understand how infants' early capabilities and environmental influences work in conjunction to produce early social and moral behaviours.

Lastly, we are extremely proud to share that Dr. Hamlin's research was recently featured in an episode titled "Relationships" in Part 2 of the popular Netflix docuseries, Babies. Congratulations, Dr. Hamlin!

Social Cognitive Development Lab

The Social Cognitive Development lab, directed by Dr. Andrew Baron, studies how infants and young children reason about social groups. This work is also conducted at Science World in the Living Lab, which is also directed by Dr. Baron.

Even though boys and girls perform similarly well in math classes, a cultural stereotype that math (and science) is more for boys appears to emerge during primary school. Further, across STEM fields there is a gender disparity in the representation of women and men in these careers. Contributing to our partnership with the Engendering Success in STEM consortium (https://successinstem.ca), recent studies in our lab are exploring when in development children internalize gender stereotypes about math and science and are focused on developing successful strategies to reduce these stereotypes. In one study we found that by age 7 we can change children's implicit gender-math stereotypes through a brief intervention that exposes them to positive exemplars of female math role models. In ongoing work, we are exploring the efficacy of these interventions by trying to understand how long these positive changes can last.

In another ongoing study we are developing a procedure for measuring children's gender science stereotypes and exploring how these stereotypes change with age and are related to academic performance and career goals. Be sure to follow our next update to see what more we discover!

Wonder Kids! Our 2021 Virtual Talk Series

Each month through June 2021, one of our Directors will present a virtual talk (with Q&A!) via Zoom. We invite you to join the conversation on language, learning and social development!

Date	Speaker	Title
Saturday, Jan 23 at 1pm PST*	Dr. Janet Werker	Bilingual Babies
Saturday, Feb 20 at 1pm PST	Dr. Kiley Hamlin	How do babies evaluate people?
Saturday, March 20 at 1pm PST	Dr. Geoff Hall	How do babies learn words?
Saturday, April 24 at 1pm PST	Dr. Susan Birch	How children's understanding of people's mental states fosters healthy development
Saturday, May 29 at 1pm PST	Dr. Darko Odic	What do babies know about numbers?
Satuday, June 19 at 1pm PST	Dr. Andy Baron	What do babies know about social dominance?"

*This talk has already taken place. If you would like to watch a recording of this talk (and all future talks) you can do so on our website: https://edrg.psych.ubc.ca/events/bilingual-babies/
For more info and to **RSVP** please visit: https://edrg.psych.ubc.ca/events/

Infant Studies Centre

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

This year, we completed a study, led by Dr. Sheri Dawoon Choi, about the learning mechanisms infants use to break into the 'code' of language. Recall the last time you heard an unfamiliar language – you probably found it difficult to pick out words! This is because natural speech doesn't have clear pauses to signal where one word ends and another begins. Statistical learning is the ability to learn patterns from the environment – interestingly, infants use statistical learning to learn where word boundaries occur before they know any words at all. For example, think about the phrase "pretty baby". In English, 'pre-tty' occur together more frequently than 'ty-ba'. Amazingly, the infant brain can detect and use this statistic to break into natural speech and learn that 'pretty' is a separate word from 'baby'.

In our study, we examined 6-months-old babies' brain responses using electroencephalography (EEG) while infants listened to a continuous speech steam made up of nonsense words. By looking at their neural response, we saw that infants initially processed speech at the rate of the syllables, but within two minutes, their brains began to respond at the rate of the words, indicating they were learning to perceive the multi-syllable words within the nonsense speech stream. Moreover, we found a relationship between babies' neural response and their preference for completely novel words versus the nonsense words.

That is, infants were more likely to show they had learned the words if they also displayed a strong neural indicator of learning, for the first time providing a window into the link between infants' brain responses during learning and behavioural responses afterwards.

How neat is it that at just 6-months-old, we see infants using the same learning mechanisms used by the adult brain? And, how cool that the brain will respond in a different way to the exact same information once it has learned to extract a higher-order pattern! Yet more evidence for how amazing the infant brain really is.

Click here to have the recently-published academic paper e-mailed to you.

Centre for Cognitive Development

At the Centre for Cognitive Development, directed by Dr. Darko Odic, we are interested in why children learn some things quickly and yet struggle with others. We are especially interested in understanding how children learn language, mathematics, and metacognition (understanding how their own minds work). We hope that our findings will enrich both our theoretical understanding of how minds develop, but also offer practical and applied advice for how children can become more successful learners.

This year, we have completed a number of studies that we are excited to share with you! One study - recently completed by our very first-ever Ph.D. graduate (Dr.) Carolyn Baer - shows that children's ability to judge how confident they are in seeing the world is different from their ability to say how confident they are in remembering. For a long time, developmental science has known that children vary quite a lot in their ability to interpret their confidence, but it has remained unclear if children tend to be over- or under-confident in all their abilities, or if confidence is something children think about differently for different abilities. Carolyn's work shows that while some children are excellent judges of their confidence on a simple size task (judging which circle is bigger), this ability does not predict how well children will judge their confidence on whether they remember a particular picture. This implies that confidence in one domain is quite separate for kids than confidence in another.

In another study, we have been examining how children learn to associate number words with their intuitive, visual sense of number (e.g., estimating how many items are in your shopping cart). Previous research has argued that children learn to associate number words with their sense of number through slow practice - memorizing how, for example, three dots might look on the screen, and therefore almost automatically saying "three" whenever they see three things. Contrary to this, however, our work has been showing that children are far more clever and advanced in their number estimation ability: we gave children a collection of three dots and asked them to pretend that it is called "one". When we then showed them 15 dots on the screen and asked them "how many", most 5- and 6-year olds estimated "five!", despite having no formal training in multiplication or division! This suggests that young children do not just automatically associate number words with their visual sense of number, and can fluidly change their estimates on a dime.

K.I.D. Studies Centre

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

Our centre is investigating how the current pandemic and the measures put in place to stop the spread of COVID-19 (e.g. social distancing, school/daycare closures), has affected parents and children.

So far over 120 parents have completed our online survey assessing different aspects of their, and their child's, social cognition, social functioning, and social-emotional health. For example, parents were asked to report on their level of stress and feelings of loneliness, and on changes in their, and their child's, behavior since the pandemic began. Parents also reported the number of hours they, and their child, spent in in-person versus virtual interactions before the pandemic versus recently, so we can examine whether changes in the amount and type of social interactions is affecting well-being.

A huge THANK YOU to everyone who participated! Your responses are providing vital information about how the pandemic is affecting your, and your child's, social emotional health. Our hope is that this research will provide important insights for researchers and policy-makers that can be used to improve adults' and children's quality of life.

The research is ongoing so that we can examine changes over time. Participants choose to receive a $5 giftcard or enter a draw for a $50 giftcard (1 in 25 chance of winning). If you're interested in participating for the first time, visit: https://ubc.ca1.qualtrics.com/jfe/form/SV_e2ReRVNvVaj9Ac5

If you've already completed our survey and can complete a follow-up, please email kidlab@psych.ubc.ca. We look forward to sharing the results upon completion!

Thank You, Families!

We would like to take this opportunity to thank all of the wonderful families that have participated in our research throughout the years! Our research would not be possible without the continuous support from our commmunity. We hope to see you again sometime this year!

Language Development Centre

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

Children are amazing word learners: They add several new words to their vocabulary each day during the preschool and early school years. In our research, we are trying to understand how they accomplish this impressive feat!

In an ongoing project, we are investigating when and how children learn the meanings of labels for the countless manufactured objects they encounter in their daily lives – things like shoes, cars, and computers. One challenge children face in this task is to recognize that these labels belong to two different types. One type (kind terms) refer to the objects' intended functions. For example, "running shoes" are shoes that are intended for the purpose of running. Another type (brand terms) refer to the objects' makers. For instance, "Nike shoes" are shoes that are made by the Nike company. Adults grasp the distinction between these two types of labels, but we know little about whether young children have this understanding.

In a recent study, Master's student Erica Dharmawan has been investigating whether 4- to 8-year-old children understand simple linguistic cues that indicate whether a novel label for a manufactured object – such as a glove or a bowl – refers to objects with a particular intended function or objects with a particular maker. By the age of six years, children who heard a noun for an object's "kind" systematically extended it to another object with the same intended function, rather than to another object with the same maker. By the age of eight years, children who heard the label presented as a name for the object's "brand" systematically extended it to the object with the same maker, rather than to the object with the same intended function. By the early school years, children have this knowledge that helps them to distinguish between labels for manufactured objects' intended functions (kind terms) and labels for their makers (brand terms). This understanding can serve as one of the tools they use to learn the meanings of new words.