



Living Lab

at Science World at TELUS World of Science

Greeting from the Living Lab at Science World at TELUS World of Science!

Since the inception of the Living Lab exhibit at Science World in June, 2010, over ten thousand families have participated in one of our research studies.

We would like to take this opportunity to once again thank all of the family members and children for volunteering to help out with our research. We would also like to take this time to share some of our study results with you and to update you on some recent events within the Living Lab.

In this newsletter, we have summarized the studies we have been conducting in the Living Lab. The participation of so many families has allowed us to learn so much more about how children think, learn, and grow. This could not have been accomplished without your help.

If you have any questions about our research or the Living Lab more generally, please do not hesitate to contact the Living Lab Director, Dr. Andrew Baron. He can be reached via email either at abaron@psych.ubc.ca or abaron@scienceworld.ca.

We would be happy to hear your feedback.
For further information, please visit us online:

<http://childdevelopment.psych.ubc.ca>

<http://www.scienceworld.ca/lab>

We appreciate your continued support of our research and your contribution to advancing the science of child development!



Sincerely,

The Living Lab Research Team

Our Research

The Living Lab offers Science World visitors the opportunity to participate in real studies conducted by researchers from the Department of Psychology at the University of British Columbia. Our studies involve an average participation of 5-10 minutes with an interactive computer game or puppet show in which children are presented with different vignettes or animations and asked questions about what they observed. Our participants are mostly children ages 3-12. However, over the past 6-months we have been fortunate to expand the Living Lab research space to now include facilities to support research with infants and toddlers (as young as 6-months) through adolescence and to create a venue where adults (usually the parents of participating children) can also participate in a research study.

Research in the Living Lab primarily aims to better understand children's social and cognitive development. Much of this work has implications for policy making and education as we hope to gain a better understanding of how preferences for and beliefs about other people are acquired and change across development on a conscious and an unconscious level of processing.

Our research explores such questions as:

- Infants' social group preferences and how these change between 6 and 18-months-of-age
- Children's understanding of cooperation and competition
- The development of prosocial behavior
- Cultural differences in intergroup cognition
- The role of language in shaping thought
- Children's selective memory and how it changes over development
- The malleability of children's preferences and stereotypes
- Parental influences on children's preferences
- The relationship between children's attitudes toward science and careers in science and their performance in science, technology, and math related classes

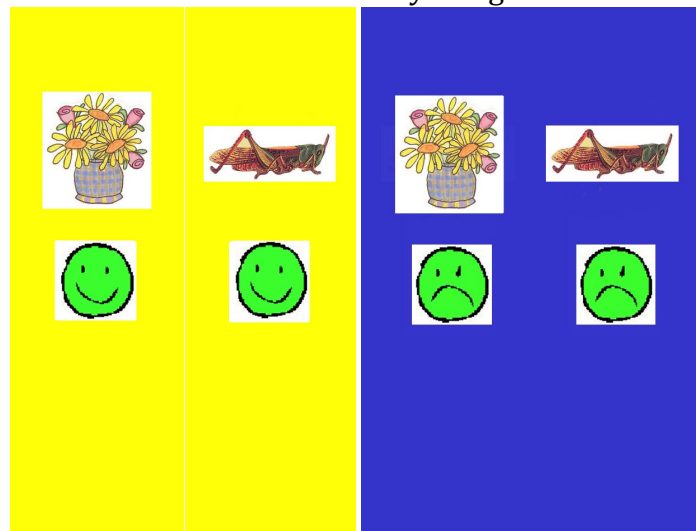
Most researchers in the Living Lab are part of the Early Development Research Group (EDRG) in the Department of Psychology at the University of British Columbia. We study similar topics in social, cognitive, and language development – from newborns on up, in our research facility at UBC. Below we provide additional information if you are interested in visiting one of our research centres at UBC's Vancouver campus.

Summary Results

Below is an update on current findings from studies we have run in the Living Lab.

Social Preference Study (ages 3 and older)

One of our first studies examined children’s preferences for different categories of objects and people. We wanted to first establish that our methodology would work so we selected categories that we already know elicit a preference among children – flowers and insects. In this study, children were asked to quickly decide whether a face was smiling or frowning. If they saw one type of face, they pressed one button. If they saw the other type of face they pressed a different button. While responding to the faces, images of flowers and insects would appear one at a time on the screen. Children were asked to ignore these pictures and just focus on the faces. We were interested in understanding whether children were faster to recognize a face as smiling if the background image was a flower compared with when the background image happened to be an insect. If we observed this pattern it would suggest that children have formed a positive association with flowers relative to insects. Related, we sought to determine whether children were quicker to correctly identify a face as frowning when the background image was an insect compared with when it was a flower. Such a pattern would suggest that children have formed a negative association (or attitude) toward insects. After hundreds of children participated, we have learned that this method does indeed work! Children were faster to correctly categorize a face as smiling if a flower appeared in the background and they were faster to correctly categorize a face as frowning if an insect appeared in the background. This suggests that children have positive attitudes toward flowers and simultaneously negative attitudes toward insects. Of course, these results are determined by averaging across all participants so individual children might differ with this general pattern.

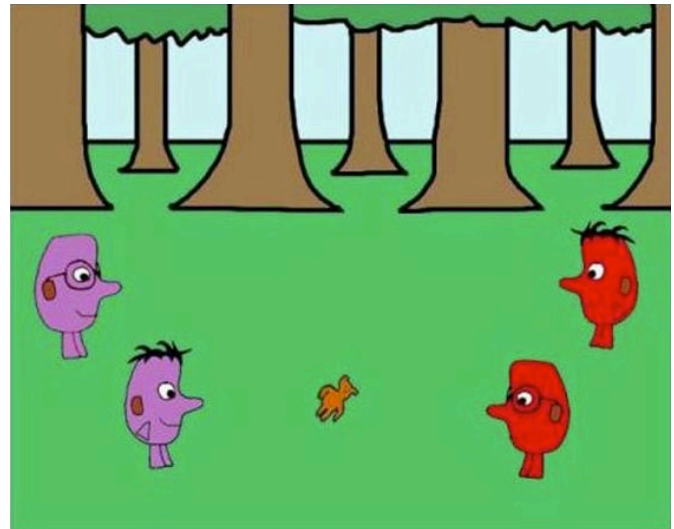


Next, we turned our focus toward social categories and asked whether children are faster to categorize a face as smiling when they hear a familiar language spoken through headphones (e.g. a person uttering a word in the child’s native language) and whether children were faster to categorize a face as frowning when they heard an unfamiliar language spoken through the headphones. Nearly 1000 children have participated and what we have learned is that children are indeed faster to correctly categorize a

face as smiling when they hear someone speaking their native language, suggesting they have formed a positive attitude toward their language ingroup. Interestingly, children show no difference in categorizing a face as frowning when the background language heard is familiar vs. foreign. This suggests that at this age children have not formed a negative attitude toward their language outgroup. This result is really interesting because to date most studies with less sensitive measures assumed children of this age likely held negative outgroup attitudes. They clearly seem not to based on our study. We are still exploring children's attitudes toward other social categories using this methodology. And, we are working to publish these findings.

Malleability of Children's Thoughts Study (ages 5-19)

In this study we were primarily interested in understanding whether it is easier for children's attitudes and stereotypes to change when they are younger or when they are older. We were primarily interested in understanding the flexibility of children's *unconscious* attitudes and stereotypes. To learn more about these types of thoughts, you can visit <http://implicit.harvard.edu>. For this study, children were introduced to two novel groups of people called the Zivs and the Zavs, and were told that some people in one group were helpful and considerate. Subsequently, we measured children's implicit (unconscious) attitudes toward these two groups using a child version of the Implicit Association Test (Baron & Banaji, 2006; 2009) based on tools at the Project Implicit website above. Not surprisingly, most children reported a positive attitude toward the group previously described favorably. Next, children were read a second story in which this same group was now described as being considerably less helpful and less considerate. Half the children who participated heard the positive story followed by the negative story. The other half heard the negative story followed by the positive story. The question of interest is whether children's first impression of the group would change and how much it might change. The second question of interest is whether the potential for change is greater at certain ages compared with other ages. We learned that older children have an easier time changing their first impression attitudes. While older children on average showed greater evidence for attitude change, a full reversal was never observed (e.g., going from clearly positive to clearly negative), suggesting that first impressions are still quite strong for children's implicit attitudes. We are working to publish these results.



Memory Differences (ages 5-7)

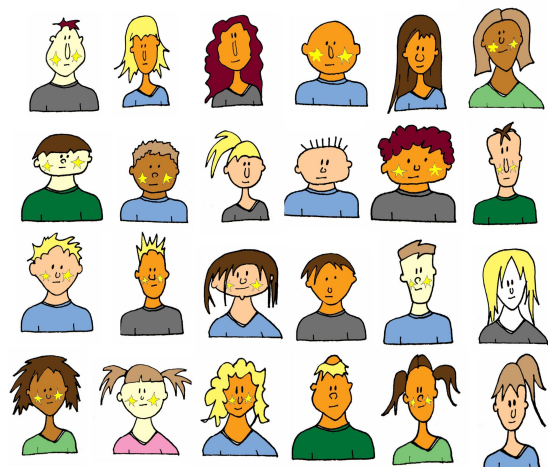
In this study we were interested in understanding how children’s group identity might influence their memory for events. To begin, children were randomly assigned to Group A or Group B using a sticker. Subsequently, children were read a vignette in which individuals from one of the groups were said to have engaged in a combination of helpful and less helpful behaviours. Subsequently, children were asked to report on the events from the story that they could remember. We wanted to understand whether children exhibit memory biases in what they recall. Specifically, we wanted to determine whether children are more likely to remember the positive behaviours of ingroup members and more likely to forget the negative behaviours of ingroup members. Results from this study show that children are more likely to remember the positive behaviours performed by ingroup members and more likely to remember the not so positive behaviours performed by outgroup members. Think about what happens when you attend a hockey game and observe aggressive plays by both teams. As adults we are more likely to think the “other” team was more aggressive – surely, everyone can’t be right. What we show hear is that this sort of memory bias is present much earlier in development than previously thought.

Additional Studies

We have a number of additional studies in the Living Lab that are currently on-going so it is too soon to share those findings. These studies require working with several thousand children in order to paint a clear picture of how children think at different ages. These studies examine infants’ reasoning about social groups, toddlers’ and preschoolers’ responses to cooperation and competition between groups, parental influences on children’s attitudes and stereotypes, and evaluation of the positive impact participation in the Super Science Club at Science World has on children’s academic performance in science, technology, engineering and mathematics courses as well as their attitudes toward these fields.



**Infants love to look at people.
Especially people of the same gender
as their primary caregiver.**



**Children love to think about the
similarities and differences
between group of people.**

What's New in the Living Lab?

In the summer of 2011 the Living Lab received funding from the Canada Foundation for Innovation, the British Columbia Knowledge Development Fund and the University of British Columbia to construct a larger exhibit space where families could participate in a variety of new research studies. This new space was built during the fall and officially opened in December, 2011. This new area now includes two large research rooms supporting studies with children from infancy through adolescence and a more comfortable waiting area where families can easily view their children participating in a study via a large TV display screen. To see some pictures of this new area, you can visit us at www.scienceworld.ca/lab.

More and more research teams from UBC are bringing their projects into Science World for visitors to experience. Check us out each time you visit to discover what is new.

During your next visit, we invite you to view the display monitors outside our research rooms for current updates on past projects and the summary findings from those studies.



Opportunities to Participate in Research at UBC

We are always looking for new parents and children who may be interested in participating in our studies on campus at UBC (Vancouver). At any given time, we have between 30-40 studies for children of various ages and language backgrounds. Our studies typically involve a one-time 30-minute to 1-hour visit where your child may participate in one to three different studies.

Each study lasts anywhere from 5 to 15 minutes. During this time your child might listen to language sounds while watching pictures on a television screen, watch a puppet show, perform simple tasks with toys, or play a game with a researcher using stuffed animals and puppets.

We always welcome siblings to come along as well. We might have a study for them, or they can play in our supervised waiting room while your other child participates.

To thank you for your participation, we offer your child a small gift such as a bib, T-shirt, stuffed animal or a book. We also provide a free parking spot in our conveniently located parkade or reimburse you for bus fare.

Appointments are available Monday to Friday, 9 am to 6 pm. Weekend visits can also be arranged for families who are unavailable during the week.

If you and your child(ren) would be interested in participating, or if you have any questions, please do not hesitate to contact us!

The Early Development Research Group



Invites you and your child to be part of our exciting research!

Contact us if you are interested in participating and learning more about child development or if you have any questions:

604-822-9540

earlydev@psych.ubc.ca

Visit our website at
<http://edrg.psych.ubc.ca>

2136 West Mall, D.T. Kenny Building,
Vancouver, BC V6T

Contact Us

Once again, we sincerely appreciate your support of the Living Lab at Science World!

If you have any questions about our research or about child development more generally, please feel free to contact us!

We look forward to seeing you during your next visit to Science World ☺

The Living Lab at Science World at TELUS World of Science



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Visit us on the web

<http://www.scienceworld.ca/lab>

