

Newsletter

Spring/Fall 2011, Issue 5



Childhood
Cognition and
Learning Lab



uOttawa

Dear Parents,

As always, it has been a busy and exciting year at the Childhood Cognition and Learning Lab! In addition to starting many new studies (some of which we outline below), we have also finished our move to our [new laboratory](#) on the main campus of the University of Ottawa.

A big thank you to all the children and parents who have participated in our studies this year! We look forward to seeing you again and also to welcoming all the new families to our lab!

Best wishes,
The CCLL Staff

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Dr. Cristina Atance with a participant

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Kool-Aid, Popsicle and Raisins, Optical Illusions, and Marshmallow Studies

Experimenters: Dr. Gema Martin Ordas, Sarah Paluck, Julian Caza

Description:

Kool-Aid study: In this study, the children are presented with a problem and two tools. Only one of the tools is useful to solve the problem. We are interested in finding out whether having the useful information (the problem) before showing your child the tools is helpful in improving the information recalled.

Popsicle and raisins study: In this study, children are presented with a platform with three boxes. Two items are then hidden under two of the boxes. The first food item is a highly desirable food (a popsicle), and the second one is a less desirable one (raisins). Your child either gets to uncover one of the 3 boxes after a short time (3 minutes) or a long time (1 hour) with the idea that after a long time, he or she will realize that the popsicle,

will melt. We are interested in finding out whether children can remember what we hid where we hid it, and when (how long ago) we hid the food items.

Marshmallow study: In this study, we hide two marshmallows under one of three cups and one marshmallow under another cup ("escape" cup). Two marshmallows are thought to be more desirable than one. In some cases, children see us hiding two marshmallows; however, in other cases, he or she does not see us hiding them. Children always see us hiding the one marshmallow under the "escape" cup. We want to investigate whether your child can monitor his or her own certainty level in order to make a decision.

Optical illusion study: Children are presented with optical illusions that have been widely studied in adults. We want to investigate whether children process visual information in the same way adults do.

Current status: Children are still participating in some of these studies.



Dr. Gema Martin Ordas



Desires Across Time

Experimenters: Michèle Bélanger, Anisha Varghese, Corrie Vendetti, Sarah Paluck

Description: If your child participated in this study, you may remember your child being presented with child-desirable items and adult-desirable items (e.g., Kool-Aid vs. coffee). Your child was then asked to choose the items that an adult would like best or that they would like best when they are “all grown up.” In this study, we were interested in young children’s understanding of the mental state of “desire.” There were two aspects that particularly interested us: (1) children’s understanding that different people can have different desires, and (2) children’s understanding that desires can change over time.

Results: Whereas 3-, 4-, and 5-year-olds all tended to choose child items for themselves and adult items for the adult, only 4- and 5-year-olds recognized that adult items would also be preferable for their grown-up selves. This suggests that children recognize that different people have different desires before they understand that their own desires can change over time.

Current status: Results from this study were presented at the Biennial Meeting for the [Society for Research in Child Development](#) in Montréal, Québec, Canada, in April 2011. A second related study will be underway later this fall.



Michèle Bélanger

Planning for the Future: Ernie’s Room, Big Bird’s Room, and Toys

Experimenter: Alyssa Louw

Description: In this study, children visit two rooms: “Ernie’s room”— which contains toys — and “Big Bird’s room” — which does not. Later, children are shown a basket of toys and are asked where they would like to put them for a future visit. We are interested in whether children can draw on their experience of visiting the two rooms and formulate a plan to avoid a negative future experience (i.e., boredom in “Big Bird’s room”).

Previous findings: Results of our previous experiments suggest that this ability develops across the older preschool years: 4- and 5-year-olds tend to succeed at this task, but 3-year-olds do not.

Current status: Children are still participating in this study.



Alyssa Louw



Marble Run

Experimenters: Jennifer Metcalf, Andrea Thiessen, Anisha Varghese, Sarah Paluck

Description: These studies examine children's use of saving strategies. Saving is an important future-oriented process that motivates much of adult behaviour. We save money for retirement and save room in our stomachs for dessert. We also save objects that are useful for novel, future uses (e.g., saving grocery bags to use as liners in garbage bins).

Inspired by studies documenting the saving behaviours of animals, we are conducting research examining the extent to which young children engage in saving behaviours. Specifically, we're interested in whether children will save items (i.e., avoid "using them up" in the present) to benefit themselves in the future.

To assess children's saving, we developed a marble game task in which children are shown that they will spend three minutes in one room containing a little marble game, followed by three minutes in a second room containing a bigger, more entertaining marble game. Children are given a few marbles (3 in the first study and 5 in our second, current study) and told that these are the only marbles they'll get. Of interest is

whether children avoid using up all of their marbles in the first room in order to save some for the second room.

Results: In the first study, only 39% of 3- to-5-year-olds saved one or more marbles when presented with the situation described above. However, when we "surprised" children with another set of marbles and had them experience the two-room sequence for a second time, 72% saved at least one marble.

This finding suggests that children may be more likely to act in a way that benefits their future selves (i.e., to save marbles in order to play with the big marble game in the second room) when they can draw on a recent past experience (i.e., the consequences of failing to save marbles for the second room the first time around) to guide their behaviour. Interestingly, older children did not save more than younger children in this study. Please see the article "[Do Preschoolers Save to Benefit Their Future Selves?](#)"

Current status: In a second marble game study, we are studying the effect of verbal prompting (e.g., "If you want to, you can save marbles") on children's saving as well as the relationship between saving and of other cognitive skills that develop considerably during the preschool years (theory of mind, impulse control, working memory, and language).



Jennifer Metcalf



Future Thinking Skills in Typically Developing Children and Children with Autism

Experimenters: Laura Hanson, Sarah Paluck

Description: This project has two goals; the first is to explore the patterns of relation between future thinking skills (the ability to think about the future), theory of mind skills (the ability to think about thinking), and executive function skills (the ability to regulate our thoughts and behaviour) in a group of typically developing preschoolers. All three of these cognitive skills have been explored separately in preschoolers and have been found to undergo significant development during this period. However, the three sets of skills, although thought to be related, have yet to be explored together in one group of children in order to determine whether they are in fact related.

The second goal is to test these same skills in a group of children with autism between 3 and 7 years old. In the past, children with autism have shown deficits in theory of mind,

executive function, and preliminarily in future thinking. By testing these three abilities together in both groups of children, we will gain a clearer picture of how they are related. Additionally, the more we know about which skills are impaired in autism, the better we can tailor interventions to meet these needs.

Results: Previous studies examining these skills in our lab have found that future thinking skills are related and develop during the preschool period. For more information, please see the article "[The Development and Coherence of Future-Oriented Behaviors During the Preschool Years.](#)"

Additionally, a preliminary study with children with autism showed that they are better at thinking about the physical future than about how they will feel or think in the future. For more information, please see the article "[Future Thinking in Children with Autism Spectrum Disorders: A Pilot Study.](#)"

Current status: Data is still being collected for Laura's current project. For information about participating, please [visit our website.](#)



Laura Hanson



Are you looking for a fun and interesting activity to do with your child?

- If you have a child **between ages 2 and 5**, we invite you to participate in an hour-long study at the **University of Ottawa**.
- We study children's **planning, memory, and problem-solving**.
- Our studies consist of a series of **fun activities** that help us discover how children think.
- **Parking is free**, and your child will receive a **thank-you gift** at the end of your visit!
- To participate, please fill out our [online form](#).

Questions

- Call us at 613-562-5800 x **4475**, or email us at ccll@uOttawa.ca.
- Please feel free to pass along our [pamphlet](#) to your family and friends.
- Visit us on the web at www.socialsciences.uOttawa.ca/ccll and facebook.com/uottawa.ccll.

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