We have had a busy semester! With your help, we have continued to explore how infants and children think and behave, and have discovered some pretty interesting findings. Take a look inside and see what we have learned. We couldn’t have done it without you!

What has the BU Developing Minds Lab been up to?

How does our social world affect babies’ memories?
Lab findings presented at the 2015 Cognitive Development Society Conference, and at the BU UROP Symposium

Are young children able to “solve for X”?  
Fun new findings from our work at the Museum of Science

How can we help babies remember more than they usually can? 
Our study results in new publication

Can children distinguish between different types of fiction? 
Interesting results from one of our ongoing projects
What do 17-month-olds remember about the features of objects and the categories of objects?

In our lab, we played a hide-and-seek game with 17-month-olds in which infants saw one toy go into a box, and then reached in and grabbed one toy out of the box. Sometimes, the toy switched identities. The toys belonged to two categories: animate toy dolls, and inanimate toy cars. We measured how long infants searched in the box for any “missing” objects.

We found that infants noticed if the toy changed to another toy from a different category, but that they did not notice if it changed to a toy from the same category. This finding suggests that even when infants forget what exactly an object looks like, they still remember what kind of object it is (in this case, whether or not the object is animate). Lab Manager Michaela Buckley presented a poster explaining these findings at the Biennial CDS Conference in Columbus, Ohio (shown above).
Can children distinguish between different types of fiction?

Children love being read to, but how exactly do they interpret the different stories that they hear? This study explores children’s abilities to distinguish between different types of fiction. With the help of over 90 lab visitors, we learned about four- to six-year-olds’ understanding of fantasy, science fiction, and realistic stories.

Past studies have shown that children tend to have a “reality bias,” meaning that even when stories contain fantastical events, children still generally expect stories to end in a realistic way. In our study, we tried to create stories that were very consistent to their genres, to see if this would lessen this reality bias. We read children a story from one of these genres, and then asked them to pick a matching ending.

Children were always given the choice of an either a genre-matched ending, or another ending from a different genre. We found that children are very good at distinguishing between fantasy and science fiction, but that distinctions become a bit more difficult when a realistic ending is thrown into the mix.

Children show a very strong reality bias when read a fantasy story (i.e. most children choose the realistic ending). Children also seem to choose endings at random when read a science fiction story and given the choice of a matching or realistic ending.

Predictably, when children are read a realistic story, they almost always choose the realistic ending.
DML at the Museum of Science!

Children generally are not taught about algebra until middle school, but current research shows that children may develop these abilities much earlier! Through the Living Laboratory at the Museum of Science in Boston (shown left), we are exploring 4- to 6-year-olds’ abilities to “solve for x” when problems don’t have numbers and letters, but instead are presented as fun games with groups of objects and a “magic cup” that acts as the x variable. This year, we asked the following questions:

1. **Can children solve for hidden variables?** When problems are presented with objects and magic cups instead of numbers and letters, children can!

2. **Can children distinguish between multiple variables?** We have found that children estimate values of hidden quantities so successfully, that they are able to distinguish between multiple variables of different values.

3. **Can children apply these variables to more complex computations?** We have found that children successfully understand the principles of addition and subtraction with two variables, but find multiplication more difficult.

To summarize, young children have an aptitude for algebra before they learn algebra in school! Feel free to visit us at the Museum of Science to see us in action. You can also visit the Living Lab’s website for more information: legacy.mos.org/discoverycenter/livinglab
Thank You!

We are so grateful to all of the families who participated in our research throughout the year. You have helped us learn so much, and we hope you had fun along the way!

We always love meeting new families, and are thankful to anyone who helps. You can learn more about our lab and our research at our website: bu.edu/cdl/developing-minds-lab

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