



Child Development Laboratories
at UVA

Dear Parents,

As we begin a new academic year, we'd like to take this opportunity to share with you some of the things we have been working on at the Child Development Labs at UVA, and to thank you for your continuing support.

On the following pages, you can read about a few of this year's projects—from how young children remember people who have misbehaved to how media that models kindness and helping can encourage children to behave in positive ways. Your child may have participated in one or more of these studies. Some of our research this year has been featured in the popular press, including *The Washington Post*, *New York Magazine*, and *C-Ville Weekly*! Visit childdevelopmentlabs.org to read the articles and to find links to our scientific publications.

As many of you know, the Child Development Labs is an umbrella group that includes four separate labs: the Early Development Lab, the Child Language & Learning Lab, the Early Social Development Lab, and the Babylab. Each lab is supervised by a different faculty member, but we regularly collaborate with each other. If your family has come to Gilmer Hall this year, you may have participated in multiple studies being conducted by different labs during your visit. And if you had to go from one room or floor to another, thank you for being willing to wade through the undergraduates in our hallways!

You can keep up to date on all things CDL-related by following us on [Facebook](#). If you know of other families who might be interested in participating in our studies, please pass our information on to them! We currently have studies for children 3 to 9 years of age, and we are always looking for additional families to join our efforts to better understand child development! The Babylab is also recruiting infants for the fall, so if you are expecting or have a child 12 months or younger, you can register at www.uvababylab.org.

Once again, many thanks! We look forward to seeing you and your family again soon.

Vikram Jaswal
Child Language and
Learning Lab

Angeline Lillard
Early Development Lab

Toby Grossmann
Babylab

Amrisha Vaish
Early Social
Development Lab

Visit us at the museum!



The Child Development Labs has recently established partnerships with the [Virginia Discovery Museum](#) in Charlottesville and the [Science Museum of Virginia](#) in

Richmond. We've enjoyed inviting visitors from Charlottesville and Richmond to participate in our studies and hear more about our work (including the studies in this newsletter!). Our mutual commitment to exploring how children think and learn has made these collaborations a perfect match. We appreciate that the museums have welcomed us and are incredibly grateful for their support!

About People

The Early Social Development Lab and BabyLab welcome new graduate students **Stefen Beeler** and **Cat Thrasher** and post-doctoral scholars **Kathleen Krol** and **Janine Oostenbroek** to the Child Development Labs! Stefen is interested in the development of social cognition and morality and Cat researches how emotional and physical co-regulation occurs between infants and their mothers. Kathleen is studying how early experiences, hormones, and genetics can influence infant social and brain development and Janine is investigating the role of forgiveness in young children, and when and how it develops in early childhood.

Popular Press

- [“Insight unseen: UVA labs study kids’ behaviors,”](#) (February 24, 2016) *C-Ville Weekly*
- [“Before the votes are cast: The presidential front-runners, as seen through the eyes of children,”](#) (February 1, 2016) *The Washington Post*
- [“Watch psychologists destroy kids’ creations – for science,”](#) (November 16, 2015) *New York Magazine*

Recent Publications

- Jaswal, V. K., Akhtar, N., & Burack, J. A. (2016). Building bridges: Cognitive development in typical and atypical

populations. *Journal of Cognition and Development*.

- Hopkins, E. J., Smith, E. D., Weisberg, D. K., & Lillard, A. S. (2016). The development of substitute object pretense: The differential importance of form and function. *Journal of Cognition and Development*.
- Vaish, A., Herrmann, E., Markmann, C., & Tomasello, M. (2016). Preschoolers value those who sanction non-cooperators. *Cognition*.
- Rajhans, P., Altvater-Mackensen, N., Vaish, A., & Grossmann, T. (2016). Children’s altruistic behavior in context: The role of emotional responsiveness and culture. *Scientific Reports*.
- Palmquist, C. M., Jaswal, V. K., & Rutherford, A. V. (in press). Success inhibits preschoolers’ ability to establish selective trust. *Journal of Experimental Child Psychology*.
- Lillard, A. S., & Eisen, S. (in press). Why Montessori is a facilitative environment for theory of mind. *Environmental influences on theory of mind development*.
- Vaish, A., Grossmann, T., & Woodward, A. (2015). Person-centred positive emotions, object-centred negative emotions: 2-year-olds generalize negative but not positive emotions across individuals. *British Journal of Developmental Psychology*.
- Jessen, S., & Grossmann, T. (in press). Neural and behavioral evidence for infants’ sensitivity to the trustworthiness of faces. *Journal of Cognitive Neuroscience*.
- Vaish, A., Carpenter, M., & Tomasello, M. (in press). The early emergence of guilt-motivated prosocial behavior. *Child Development*.

Visit our website to download publications, see news coverage of our research, and view previous newsletters:

<http://www.virginia.edu/psychology/childdevelopmentlabs/news.html>

What's going on at the Early Development Lab

Do children learn from apps?

Educational touchscreen apps are often considered a fun and engaging way to teach children and have even been integrated into classrooms across the country. Can touchscreen apps educate children as well as traditional teaching materials? Graduate student **Sierra Eisen** presented 5-year-olds with either a physical puzzle of



Australia and a lesson about its states or a touchscreen app which taught about Australia's states. Children who used the puzzle learned more of Australia's state names than children who used the app. However, when children were allowed to bring home either the puzzle or the app for one week, the children who used the app learned just as much as children who used the puzzle! Children who brought home the app also spent twice as much time interacting with it as compared to children who brought home the puzzle. We are currently investigating whether these differences are due to the amount of social interaction that each material provides.

How prosocial is children's television?

Television can provide many different educational opportunities for children, including teaching young children prosocial behaviors, such as sharing and helping others. Viewing shows in which characters behave prosocially may even lead children to behave more prosocially themselves. Graduate students **Sierra Eisen** and **Jessica Taggart** wondered, how prosocial is the television that children are currently watching? To find out, we created a list of 53 popular children's television shows based on a media survey completed by

Charlottesville families. For each show, we watched four random recent episodes and coded the total number of prosocial behaviors, such as helping and sharing. Then we calculated how many prosocial behaviors occur per viewing hour. We found that children are exposed to many prosocial behaviors on television, but with a lot of variation between shows. On average, across the 53 television shows, approximately 18 prosocial behaviors occur per hour, but shows ranged from a high of 58 (almost one per minute) to just 8. Below are the top five most prosocial television shows:



Sheriff Callie's Wild West: 58 prosocial acts/hour
Dora the Explorer: 40 prosocial acts/hour
Little Einsteins: 30 prosocial acts/hour
Thomas and Friends: 30 prosocial acts/hour
Barney and Friends: 28 prosocial acts/hour

Charlottesville Montessori

Montessori is an educational system that was developed in Italy over 100 years ago by Dr. Maria Montessori. By observing how children naturally interact with and learn from their environment, Dr. Montessori developed a system of teaching children and a set of materials designed to teach specific concepts. Montessori classrooms typically allow children to have free choice in which materials they



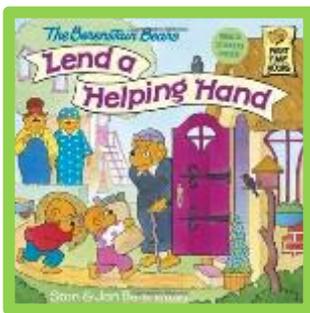
work with throughout the day and how long they spend engaging in each activity. We are

currently engaged in a 2-year longitudinal study at Mountaintop Montessori in the Pantops area of Charlottesville. We are interested in how children's self-motivated

concentration is related to their growth in social understanding, self-control, early reading and math, and creativity.

Prosocial media and behavior

One way to learn about the social world is through fictional media, such as books and television shows. Graduate students **Jessica Taggart** and **Sierra Eisen** are investigating whether media that models kind behaviors can actually encourage preschoolers to act kindly.



For example, in *The Berenstain Bears Lend a Helping Hand*, two bear cubs repeatedly engage in helpful behaviors such as fetching their neighbor's cat out of a tree and

cleaning out an elderly neighbor's attic. Three- to six-year-old children either watch the television episode, read an audiobook version of the episode, or play with blocks without any media exposure. Then children's prosocial behavior, empathy, and emotion understanding are assessed. This study is ongoing, and we look forward to learning more in the months to come! We hope that this study will provide valuable information regarding which types of media are most effective in promoting prosocial behavior.

Learning tools

In a previous study, graduate student **Sierra Eisen** explored how children think about the functions of different media tools. She found that preschoolers considered books to be excellent tools for learning but they did not think touchscreen devices like iPads and iPhones could be used to learn! In a follow-up study, Sierra presented children with particular goals, such as wanting to learn about trees, and asked them to choose between using a real book or a real touchscreen to learn about them.

In contrast to the previous study, 3- to 5-year-olds presented with the two tools showed no preference between using books or touchscreens to learn; they chose equally between them! Six-year-olds preferred to use the touchscreen for several learning tasks, such as learning about trees or weather, and only preferred the book for learning how to cook. This study shows that even young children recognize that both books and touchscreens are excellent learning tools, but by the age of 6, children may begin to favor learning from touchscreens.

Whose perspective matters more?

Do stories that model positive, prosocial behaviors actually influence children's actions? Graduate student **Jessica Taggart** is interested in the role of perspective taking on prosocial behavior. Prosocial stories can be told from many perspectives, including the character who performs a prosocial action (e.g., the character who shares - the "giver"), or the recipient of a prosocial action (e.g., the character who is shared with - the "receiver"). Does the perspective from which the story is told influence behavior? In an initial study, 4- and 5-year-olds were read a story about two children: One child with a lunch (i.e., the giver) who shares that lunch with another child who forgot his own



(i.e., the receiver). Children heard this story from either the giver or receiver's perspective, or they did not hear a story at all. All children then completed assessments of prosocial behavior and empathy. We found that while story perspective did not impact children's prosocial behavior, reading a prosocial storybook did increase children's empathic concern when compared to not reading a story. Future work will explore perspective taking abilities in 6- and 8-year-old children using

new storybooks that encourage greater perspective taking. We look forward to determining the ways in which perspective taking might influence the way that children behave.

Prosocial imitation

Children are exposed to a variety of kind and helpful actions through television shows, storybooks, and watching peers and adults. This study examines whether the form of media in which a prosocial action is presented influences children's likelihood to imitate that action. Children were exposed to three different prosocial actions: feeding a doll, washing a doll's face, and giving a doll a hug. They observed these actions by either watching a video, reading a storybook, watching a live actor, or engaging in play with dolls. So far, we have found that



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What's going on at the Child Language and Learning Lab

True team players

Children are motivated by both material and social goals, but what happens when these motives conflict? Undergraduate student **Tiffany Hwang** wondered whether 6-year-olds would be willing to make personal material sacrifices in order to bond with members of their team. Children chose between receiving a

boring sticker from a teammate who was similar to them or an exciting sticker from a non-teammate who was dissimilar. Overall, children preferred the boring sticker because it came from their teammate and declined the exciting offer from the other team. This suggests that when group similarities and differences are highlighted, children prioritize social goals and prefer offers from group members, regardless of their quality. In follow-up work, Tiffany is now studying whether using money instead of stickers influences children to focus on material goals over social ones.



That's not fair!

Children believe everyone should be given an equal number of resources (e.g., toys and treats). But are unequal outcomes ever okay? In her work this year, graduate student **Marissa Drell** investigated whether 6-year-olds, 8-year-olds, and adults thought unequal outcomes were okay when one person wanted to take less than her fair share. Participants watched a series of animated scenarios where four pieces of candy were distributed between two characters. One character expressed a desire for just one candy and took only one; a second character took the remaining three. Afterwards, participants decided whether what happened was "okay" or "not okay." While adults thought it was "okay" for someone who wanted less to get less, 8-year-olds were mixed (around one-third thought it was "okay," two-thirds thought it was "not okay"), and 6-year-olds overwhelmingly thought it was "not okay." Children are so focused on fairness and equality that they have difficulty considering



when other factors, such as desire, justify a deviation from the norm of equality. Only with age do children take desire information into account when making fairness evaluations.

Remembering being good

Have you ever noticed that it's easier to remember your own good deeds and harder to remember your bad deeds? Graduate student **Shaina Rowell** is investigating whether children also have this positivity bias in how they remember. In the study, 6- and 9-year-olds heard mean and nice verbs, such as "hit" and "share." For half of these verbs, children were asked whether they do that action themselves. For example, they were asked, "Do you share?"



For the other half of the verbs, children were asked whether another child does that action. By answering these questions, children made a temporary link between each

verb and themselves or the other child. Afterwards, children did a memory task where they heard all the verbs again along with several new verbs, and they tried to identify which verbs they heard before and which were the new verbs. Supporting a positivity bias, children were better at remembering the nice verbs, like "share," when they had linked it to themselves compared to when they linked it to another child. In contrast, children were actually worse at remembering the mean verbs, like "hit," when they linked it to themselves. Remembering more of their own good deeds could reinforce children's views of themselves as good people, motivating them to keep doing good deeds in the future.

Learning from others

In general, children expect adults to be good sources of information. But what happens when someone says something that conflicts with children's existing beliefs? For many years, we have been investigating how children resolve conflicts between what someone says and what



they already believe. In this study, 3-, 4-, and 5-year-olds chose the right way to say several irregular

forms of words in the plural or past tense. For example, children heard one character say "two feet" and another say "two fooks," and they had to decide who was "saying the right thing." We found that preschoolers generally preferred the over-regularized form ("fooks"), even when they were told that the correct form ("feet") was something their mother had said! Children's expectations that the plural involves "-s" and the past tense involves "-ed" are so strong that they will sometimes ignore information an adult (even Mom!) provides.

What's going on at the Early Social Development Lab

She did it!

When young children see a peer break a rule, they are quick to let a teacher or caregiver know. In some cases, children tattle because they are afraid they will be blamed. But why are children motivated to tattle on their peers even when it's clear who committed the crime? Graduate student **N. Meltem Yucel** ran a study to find out. In her study, she devised a scenario in which it was clear that someone's art project

was destroyed not by the child but by a peer (in this case, a puppet). More than half of the children tattled on their peer! Results from this study suggest that children do not necessarily tattle to protect themselves against punishment. Rather, they often tattle because it's important to them that rules be followed and maintained. Rules are extremely important to children because they provide the foundation for social order.

How do children know when to help?

One way that children know when others need help is by using perspective taking—thinking about the other person's situation. Graduate student **Shaina Rowell** is studying different types of perspective-taking and how they influence children's willingness to help others.

For example, imagine that someone fell down. One type of perspective-taking is direct: A child could think, "That person just fell down, they must



feel upset." Another type of perspective taking is more indirect: A child could instead think, "If I had fallen down, I would feel upset so that person must feel upset." In our study, 4-year-olds listen to a storybook where good and bad things happen to a character. For example, one day the character has a birthday party with all her friends and another day she trips and falls down. The experimenter guides the child to think about the story events either from a direct perspective or from an indirect perspective. Afterwards, children have a chance to help the experimenter with a boring task—sorting cards into a box. We want to know whether one type of perspective-taking leads children to help more. This study is ongoing, so stay tuned to hear about how it turns out!

What's going on at the Babylab

The eyes have it!

Eye contact is an important component of social interaction, but can the presence of eyes influence our behavior? Graduate student

Caroline Kelsey explored whether presenting children with images of eyes encourages



them to share. She found that children who interacted with the eye images were more likely to share stickers than children who interacted with other types of images. We are currently exploring whether the length of time that children look at facial features versus other body parts predicts how likely they are to be prosocial and share. This study helps us understand the development of attention to human features.

CDL Diaper Drive

We are hosting a diaper drive to help local Charlottesville families in need!

Why donate?

Diapers can cost families up to \$100 a month and 1 in 3 families struggle to buy diapers. This often forces parents to re-use diapers, which can cause rashes and infections.

How can I donate?

Just bring in your extra diapers to any CDL appointment!

From all of us at the Child Development Laboratories at UVa, we thank you again for your interest and participation in our research!