UVA Child Development Labs 2022 Newsletter

Your guide to everything that's been happening in our labs!

What's in this issue:

Letter from the Faculty

Dear Families,

We hope this newsletter finds you and your family doing well. We are happy to share with you the 2022 edition of the Child Development Labs at UVA's annual newsletter. We are thrilled to be writing to you from a beautifully renovated Gilmer Hall. We are still figuring out some of the quirks in the building, but the space is such an improvement over the old Gilmer. We look forward to welcoming families back to in-person studies (as well as zoom studies) in 2023.

On the following pages, we are excited to share with you some of the things we have been working on. Your child may have participated in one or more of the studies highlighted in this newsletter and for that we are grateful. Thank you for your time and continued support.

As many of you know, the Child Development Labs (CDL) is an umbrella group that includes four separate labs: the Early Development Lab, the Babylab, the Early Social Development Lab, and the Jaswal Lab. You can keep up to date on all things related to the CDL by visiting our website or following our Facebook page, where we will share news stories about our research and opportunities to participate in new studies. If you know of other families that might be interested in participating in our studies, please pass along our information to them. We're always looking for new families to join our efforts in helping us better understand child development!

Thank you again for your invaluable support of our research.

Dr. Angeline Lillard

Early Development Lab

Dr. Tobias Grossmann

Babylab

Dr. Anurisha Vaish

Early Social Development Lab

Dr. Vikram Jaswal

Jaswal Lab

Click below to visit each lab's website to learn more about what we study!

EARLY DEVELOPMENT LAB
University of Virginia

BABY LAB

Early Social Development Lab

JASWAL LAB
— UNIVERSITY OF VIRGINIA —

CDL Updates

New and Improved Gilmer Hall

Our building's renovations are nearly complete! We're busy putting the finishing touches on our lab spaces and making sure everything is perfect for your family's next visit to Gilmer Hall. We have several in-person study opportunities coming up in the spring, so keep an eye out for an email from one of our labs if you're interested in participating.

Out and About

Our team has had a blast getting back out in the community this year. You may have seen us handing out Halloween candy on the Lawn, playing fun science games at the IX's Farmer's Market, or spreading holiday cheer at Grand Illuminations. We love catching up with our families, so anytime you spot our CDL logo, feel free to stop by and say hello!

Living Lab Is Growing

We loved bringing our science to the public through Living Lab so much that we've added a third location – the Gordon Avenue Library! Plus you'll still find us at the Virginia Discovery Museum on Saturdays from 1-3pm and at the Science Museum of Virginia in Richmond on select Saturdays from 1-4pm. To stay up-to-date on all things Living Lab and find out when we'll be at each of our partnering locations, please follow us on Instagram @UVALivingLab.

CDL Friends, New and Old

This past year, we've welcomed new graduate students into the CDL family and said farewell to those who successfully defended their dissertations.

Sophie Clayton is a first-year graduate student in the Babylab and Early Social Developmental Lab. She earned her bachelor's degree in Psychology and Cognitive Sciences at Rice University. Her research interests include children's understanding of their social environment, including their sense of personal reputation and the impact of apologies on their decisions to forgive.

Olivia Allison is a first-year graduate student in the Babylab. She earned her bachelor's degree in Psychology and Cognitive Neuroscience at Temple University and completed a post-bach at the Children's Hospital of Philadelphia where she studied neural biomarkers of Autism Spectrum Disorder in infancy. Her plans to study social processing during infancy to understand how various environmental factors and underlying neural mechanisms give rise to individual differences in social behavior.

We also had 2 students graduate this spring! Dr. Stefen Beeler-Duden from the Early Social Development Lab Dr. Ian Becker from the Early Development Lab. Congrats to them both!

What's Happening in the Early Development Lab?

Teacher Beliefs about Students and Teaching

Christina Carroll

Each teacher possesses beliefs about the ideal way to support student learning. These beliefs consciously or unconsciously inform teachers' decision-making and influence classroom practice. This year, Christina Carroll conducted an online survey assessing teacher belief development across conventional and Montessori teacher certification training. She also completed pilot testing on a new measure of teacher- and student-oriented beliefs, the Teachers' Learning Orientation Scale, that takes multiple pedagogies into account.

Are There Equitable Opportunities for Learning in Montessori Classrooms?

Lee LeBoeuf

Do students with different racial and gender identities receive equitable opportunities for learning in Montessori classrooms? Lee is working on answering this question using data from Montessori teachers' records of each lesson they presented to students in their class over the course of the 2021-2022 school year. In Montessori classrooms, nearly all lessons are given on a one-on-one or small group basis. This process allows teachers to tailor learning to each specific student, but we know from other research that teachers' decisions about their students education can be influenced by implicit bias based on stereotypes about race or gender. In this project, we will look at records of all lessons presented in multiple Montessori classrooms to see to what extent students with different identities are given equitable opportunities to learn and grow.

New Study Alert!

This spring, the EDL will begin a new study looking at working memory in children ages 4 to 6. We look forward to inviting children into our new space in the renovated Gilmer Hall!

The Largest Study of Public Montessori Preschool Ever Conducted

Angeline Lillard

The Early Development Lab is collaborating with the American Institutes of Research on the largest study of public Montessori preschool ever conducted. The number of publicly funded Montessori programs is growing rapidly in the United States, yet few rigorous evaluations of those programs have been undertaken. Parents, practitioners, and policymakers need sufficient data on the efficacy of the Montessori method to inform decision-making and properly allocate resources. With funding from the Institute of Education Sciences, AIR and the lab are in year two of three conducting An Efficacy Study of the Montessori Model for Preschool. The study compares longitudinal outcomes (both academic and non-cognitive) of Montessori preschoolers with those of a waitlist control group. Additionally, important questions regarding the fidelity of Montessori implementation in the public sector are being addressed through observational measures and a teacher survey.

What's Happening in the Babylab?

How Does the Infant Brain Shape Child Development?

Dr. Caroline Kelsey, Dr. Jessie Stern, Johanna Chajes & Kenn Dela Cruz

Are you part of our Mom & Baby Study family? Then you might have participated in our online follow-up visits this past year! We wrapped up data collection for this 3.5-year timepoint in November, so now it's time to explore the data. Will plan to test how differences in brain activity measured in infancy link to children's behavior as they grow and change, and we hope to have some exciting results to share with you over the next year. Additionally, we aim to invite all of our Mom & Baby Study families back for an in-lab visit this year so we can look at the similarities and differences in our data from when they were newborns to now.

There have been some new interesting findings that have come from the Mom & Baby Study data this year as well. For instance, we learned that moms who were better at detecting happy faces during the 1-month visit were also better at sensitively responding to their infant's cues during a free play activity at 5 months, suggesting that recognition of positive emotions may be a good predictor of sensitive caregiving . We also found that this same kind of sensitive responding from moms at 5 months was related to differences in their infants' brain connectivity, particularly in an area that supports social cognition, or thoughts about ourselves and others, which indicates that sensitive caregiving may be one of the key early experiences that helps shape brain development. We've still only scratched the surface of this incredible data, and we can't wait to share more findings with you soon.

Understanding Fear in the Virtual Reality Space

Kenn Dela Cruz

Do you have a fear of heights? What about confined spaces, sharp objects, or textures with densely packed holes? These common fears can catch us off guard when we encounter them within virtual reality (VR) games. Graduate student Kenn is collaborating with Computer Science graduate student, Kunlin Cai, to examine how participants experience the fear of heights, confined spaces, sharp objects, and textures within VR scenes. Participants are asked to wear a VR headset to engage with fear-inducing VR scenes as they wear a Fitbit watch to monitor their heartrate throughout the experiment. Participants are also asked to report their fear on various questionnaires. Data collection for this study is underway and is primarily focused on undergraduate students as the target population. Findings from this study will be the foundation for automation tools in VR applications to identify scenes and patterns that may potentially induce fear for VR users.

What's Happening in the Early Social Development Lab?

Our Study of Children and Nature Is Wrapping Up!

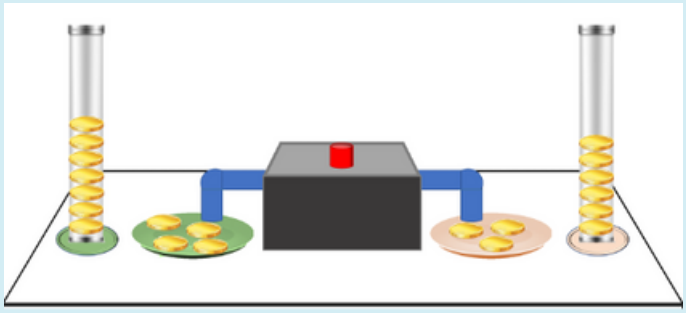
Dr. Jessie Stern

How do young children think about harmful and helpful actions toward the environment? Thanks to the wonderful families who visited us at the Virginia Discovery Museum and Gordon Avenue Library, we're getting close to answering this question! If your child is age 4–10, you can still participate in our short and fun study at one of our Living Laboratory locations. For more information, contact Dr. Jessica Stern at js4qb@virginia.edu.

How Do Children Respond to Inequality?

Yuhang Shu

Wealth inequality has been steadily increasing over several decades around the world. Do children understand inequality and would experiencing it change how nice they are towards others? Graduate student Yuhang is interested in exploring these questions through a recent online study with 4- to 9-year-old children. In this study, children play a distribution game where they may receive the same, a bigger, or a smaller number of tokens than another child. Afterwards, they are given the option to share some stickers with different child who is sick. We found that children become more generous with age and share more stickers with the sick child. However, experiencing inequality during the distribution game did not seem to affect their decision to share. We are now excited to explore some follow-up questions in a second study. If your child is aged 7-9, feel free to sign up for this online Zoom study here!



What's Happening in the Jaswal Lab?

Can Language Shape What We Think About Other People?

Zoë Sargent Robertson

Does language affect what we think about other people – including whether we think of them as human? Sometimes children say that other people (for example, kids who belong to a different racial or gender category than themselves) are less than fully human, but we don't fully understand why. This year, we conducted two studies to learn how language can change whether 8- to 10-year-old children think of their autistic peers as human. In two related studies, we told children stories about two autistic characters. One character was described with "humanizing" language ("their brain is different from other kids'"), and the other was described with "dehumanizing" language ("there's something missing in their brain"). In our first study, we found that children rated autistic characters as more human when they were described with humanizing language than when they were described with dehumanizing language. In our second study (which is almost finished!) we are investigating how dehumanizing vs. humanizing language can affect children's other attitudes, including how much they think autistic peers should be punished for breaking rules, or how much time they think autistic peers should spend in the same classrooms as other children. Stay tuned for those results!

Want to read more about what CDL has been up to? Check out the popular press and scientific publications from our labs below!

Popular Press

Early Development Lab:

- "Spending just a few years in Montessori education predicts well-being in adulthood." *UVA Today*, Jan. 12, 2022.
- "Montessori schools have a record of success." *Wall Street Journal*, Mar. 24, 2022.

Babylab:

- "Emotionally perceptive moms are more sensitive parents." *UVA Today*, July 22, 2022.
- "Mothers who recognize happiness in others are more responsive to their infants in first months of life." *Research feature by Dr. Jessica Stern for The Conversation*, Oct. 6, 2022.

Early Social Development Lab:

- "Can you ever forgive me? UVA research shows capacity begins in early childhood." *UVA Today*, May 17, 2022.

Jaswal Lab:

- "Believing in nonspeakers and the right to communicate: An interview with Vikram Jaswal." *Thinking Person's Guide to Autism*, Mar. 14, 2022.

Other:

- "Your baby's brain development: From womb to toddlerhood." *Dr. Stern contributed to this resource from Cradlewise*, Jun. 30, 2022.

Scientific Publications

Early Development Lab:

- Doebel, S. & Lillard, A. S. (2022). How does play foster development? A new executive function perspective. *Developmental Review*.
- Lillard A. S. & Taggart, J. (2022). Reimagining assessment in a large lecture: Alternative assessment inspired by Thomas Jefferson and Maria Montessori. *College Teaching*.
- Eisen, S. L., Taggart, J., Salehi, P., Liller, A., & Lillard, A. S. (2022). Children prefer fantasy, but not anthropomorphism, in their storybooks. *Journal of Cognition and Development*.
- Basargekar, A., & Lillard, A. S. (2022). Motivation and self-determination in Montessori education. In *Bloomsbury Handbook of Montessori Education*.
- LeBoeuf, L., Snyder, A., & Lillard, A. S. (2022). "My name is Sally Brown, and I hate school!": A retrospective study of school liking among conventional and Montessori school alumni. *Psychology in the Schools*.
- Lillard, A. S. (2022). Ignored no more: The second century of Montessori education. In *Perspective on Montessori*.
- Lillard, A. S. (2022). Pretending at hand: How children perceive and process puppets. *Cognitive Development*.
- Lillard, A. S. (2022). Montessori as an alternative early childhood education. *The Influence of Theorists and Pioneers on Early Childhood Education*.

- Snyder, A. L., Tong, X., & Lillard, A. S. (2022). Standardized test proficiency in public Montessori schools. *Journal of School Choice*.
- Skyberg, A. M., Beeler-Duden, S., Goldstein, A. M., Gancayco, C. A., Lillard, A. S., Connelly, J. J., & Morris, J. P. (2022). Neuroepigenetic impact on mentalizing in childhood. *Developmental Cognitive Neuroscience*.

Babylab:

- Chajes, J. R., Stern, J. A., Kelsey, C. M., & Grossmann, T. (2022). Examining the role of socioeconomic status and maternal sensitivity in functional brain network connectivity in 5-month-old infants. *Frontiers in Neuroscience*.
- Stern, J. A., Kelsey, C. M., Krol, K. M., & Grossmann, T. (2022). Maternal recognition of positive emotion predicts sensitive parenting in infancy. *Emotion*.
- Stern, J. A., & Grossmann, T. (2022). The neuroscience of social relationships in early development. In *Child development at the intersection of emotion and cognition*.
- Farris, K., Kelsey, C. M., Krol, K. M., Thiele, M., Hepach, R., Haun, D. B., & Grossmann, T. (2022). Processing third-party social interactions in the human infant brain. *Infant Behavior and Development*.
- Grossmann, T. (2022). The human fear paradox: Affective origins of cooperative care. *Behavioral and Brain Sciences*.

Early Social Development Lab:

- Yucel, M., Drell, M. B., Jaswal, V. K., & Vaish, A. (2022). Young children do not perceive distributional fairness as a moral norm. *Developmental Psychology*.
- Beeler-Duden, S., Pelletz, K., & Vaish, A. (2022). Recipient identifiability increases prosocial behavior in young children. *Journal of Experimental Child Psychology*.
- McElroy, C. E., Kelsey, C. M., Oostenbroek, J., & Vaish, A. (2022). Beyond accidents: Young children's forgiveness of third-party intentional transgressors. *Journal of Experimental Child Psychology*.

Jaswal Lab:

- Jirout, J., Eisen, S., Robertson, Z. S., & Evans, T. M. (2022). Mother-child synchrony is high across child executive function levels for both physical and digital spatial play. *Trends in Neuroscience and Education*.
- Sargent, Z., & Jaswal, V. K. (2022). "It's okay if you flap your hands": Non-autistic children do not object to individual unconventional behaviors associated with autism. *Social Development*.
- Lampi, A. J., & Jaswal, V. K. (2022). Parenting an autistic child is not associated with the amount of facial emotion information needed to perceive happiness or sadness from faces. *Collabra: Psychology*.
- Alabood, L., Krul, E., Shahidi, A., Jaswal, V. K., Krishnamurthy, D., & Wang, M. (2022). HoloType-CR: Cross reality communication training for minimally verbal autistic persons. *2022 IEEE International Symposium on Mixed and Augmented Reality Adjunct*.
- Krishnamurthy, D., Jaswal, V. K., Nazari, A., Shahidi, A., Subbaraman, P., & Wang, M. (2022). HoloType: Lived experience based communication training for nonspeaking autistic people. *CHI Conference on Human Factors in Computing Systems Extended Abstracts*.
- Stockwell, K. M., Bottini, S., Jaswal, V. K., & Gillis, J. M. (2021). Brief report: Social behavior and special interests in the stigmatization of autistic college students. *Journal of Autism and Developmental Disorders*.