

FALL 2020 NEWSLETTER



LETTER OF THANKS

Dear Families, Teachers, and Directors,

Thank you very much for participating in our research this past semester! Our research is made possible by the generosity of families and communities like yours, and we greatly appreciate your support, especially during a year as challenging and unpredictable as 2020.

Our research focuses on how children learn different aspects of language, what this might tell us about the nature of cognitive and social development, and how these different aspects of development interact. This newsletter highlights some of the studies that your child or student may have participated in over the past year and gives an overview of our current findings.

In the midst of the COVID-19 pandemic, we have transferred our studies to being conducted online to ensure the health and safety of families and our lab members. We are so grateful for those of you who have been able to participate remotely in our studies.

If you have any questions about our projects, please feel free to contact us at (510)-664-4494 or lcdlab@berkeley.edu.

Best wishes,

A handwritten signature in black ink, appearing to read 'Mahesh Srinivasan'.

Mahesh Srinivasan
Associate Professor
Department of Psychology
University of California, Berkeley





MAHESH SRINIVASAN, Ph.D.

I am an Associate Professor in the Department of psychology and a member of the Cognitive Science Faculty at the University of California, Berkeley.

Previously, I was a post-doctoral researcher in the Department of Psychology at the University of California, San Diego. Before this, I received a Ph.D. in Developmental Psychology from Harvard University in 2011, and received a B.S. in Symbolic Systems from Stanford University in 2005.

Using empirical methods from developmental psychology and psycholinguistics, our lab's research explores how linguistic, cognitive, and social abilities arise and interact with one another during human development and across different cultures.



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MONICA ELLWOOD-LOWE

I am a fourth-year doctoral candidate in the Language and Cognitive Development Lab. Before this, I received a BA in Psychology from Stanford University. I'm interested in how children's early experiences shape their linguistic and cognitive development. Ultimately, I hope this research will help us understand the barriers some children face to performing well in school, and how they are able to adapt and thrive in the face of these barriers.



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COVID-19 AND CHILD-DIRECTED SPEECH

A pandemic is a decidedly weird time to parent. Life as we know it seems to be shifting, with new changes or considerations sometimes daily. Do these changes affect parents' and children's day-to-day routines? In this study, parents fill out a short survey each day for 30-60 days, and also use their phones or tablets to audio-record their child's bath time routine. We are interested in whether the broader context around families influences these more mundane parts of their lives.



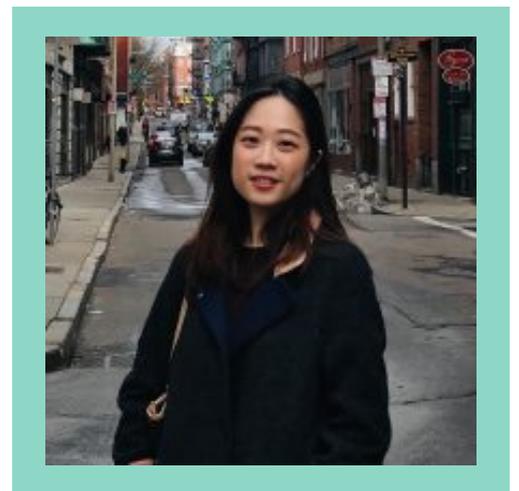
HOW DO CHILDREN ADAPT TO THEIR ENVIRONMENTS?

Some children grow up in noisy homes with lots going on around them; others grow up in quiet homes with plenty of direct instruction. In this study, we are interested in the ways children might adapt their learning strategies to best meet the demands of their early environments. Using eye-tracking to measure children's attention in real time, we explore whether kids who grow up in more noisy or chaotic homes develop a more broad attentional style, allowing them to learn from multiple noisy sources at the same time.



YE RANG PARK, Ph.D.

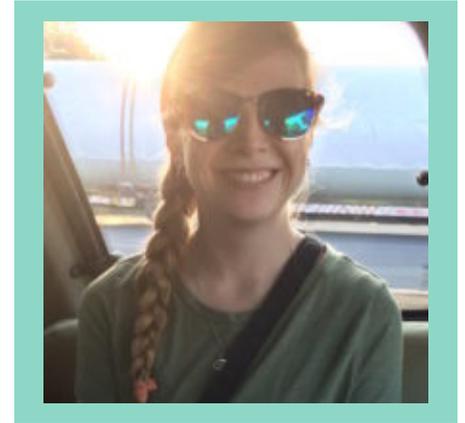
I'm a postdoctoral researcher supporting the Psychology and Economics of Poverty Initiative at the Center for Effective Global Action with Dr. Mahesh Srinivasan and Dr. Supreet Kaur. I completed my PhD in human development and family studies at the University of Wisconsin-Madison, focusing on resilient parenting in the context of poverty. I am interested in how parents navigate financial hardships and how we can empower parents to help their children develop important early skills for later adaptive cognitive and socio-emotional outcomes. My current research examines how financial scarcity affects family dynamics.



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RACHEL JANSEN

I am a Ph.D. student in the Computational Cognitive Science Lab, advised by Tom Griffiths and Anna Rafferty. I am passionate about employing methods from machine learning and probabilistic modeling to the study of mathematics cognition and education. I am specifically interested in understanding more about how people learn math so that I may work towards improving both teaching practices and online educational tools. One branch of my research is centered around math learning in adults using an online algebra tutor to explore ways in which we can influence motivation and alter students' perceptions of mathematics, to ultimately remove emotional and psychological barriers so that more people may appreciate and excel at the subject. I am fortunate to be funded by the UC Berkeley Chancellor's Fellowship and NSF GRFP.



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MATH CONCEPT

While we may talk about 'math' as if it were a universally well-defined subject, different people have different conceptions of what counts as 'math,' which we've already observed with adults, young children, and middle school-aged children in India. In this study, students will sort a variety of activities according to whether or not they believe these activities 'involve math.' We are interested in how individuals' definitions of 'math' may relate to their willingness to approach activities in the world that explicitly involve math.



ALEX CARSTENSEN, Ph.D.

I'm a postdoctoral researcher in the Language and Cognition Lab at Stanford University. I completed my PhD in psychology at UC Berkeley and postdoctoral research at Radboud University in the Netherlands, focusing on the nature of category systems across languages: how these semantic structures vary, evolve, and influence thought. My current research examines the joint roles of language and culture in the development of abstract reasoning. I'm collaborating with the LCD lab to study contributions from language to children's changing conceptualizations of space.



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NADYA VASILYEVA , Ph.D.

I'm a postdoctoral researcher working across three labs: Dr. Mahesh Srinivasan's Language and Cognitive Development Lab, Dr. Alison Gopnik's Cognitive Development Lab, and my primary advisor Dr. Tania Lombrozo's Concepts and Cognition Lab. In my research I explore connections between explanation, inductive inference, causal reasoning, and language processing. I examine how these cognitive processes are shaped in the process of development.



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ANTONIA LANGENHOFF

I am fascinated by how our causal, normative and linguistic cognition interact with our uniquely humane social reasoning skills. As a graduate student, I explore the role that engaging in social discourse and argumentation plays for children's developing cognition. Specifically, I am interested in the role of disagreement as a potential mechanism for cognitive development. I am gladly funded by the Berkeley Fellowship for Graduate Study.



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HOW CHILDREN CHANGE THEIR BELIEFS IN LIGHT OF DISAGREEMENT

A healthy public discourse requires that people respond to disagreement in reasonable ways. For example, we should update our beliefs when others have better evidence for an alternative view. We investigate children's developing ability to selectively adjust their beliefs when confronted with a disagreeing peer. In a fun searching-game, children formed an initial belief about where a bunny went and are then confronted with the opposing belief of a disagreeing other person. We are interested in whether children adjust their beliefs based on which of the two beliefs is supported by more evidence. So far, we find that already very young children (4 to 6 years) respond reasonably to many disagreements. Interestingly, however, they do not yet demonstrate the "intellectually virtuous" ability to suspend judgment when two beliefs are supported by an equal amount of evidence. In our current study, we are trying to understand why this might be the case.



HOW DO CHILDREN LEARN ABOUT WHICH WORDS ARE KNOWN BY OTHERS?

When engaging in a conversation, we have to monitor which of the words we could use are known by our conversational partner. This is to make sure that he or she understands us properly. Some words, like ‘chair’ or ‘dog’, are likely to be known by almost everyone, whereas others are only familiar to specific groups of people. For example, if you tell your friend that you are going to ‘the city’ and both of you live in the Bay Area, she will probably know that you are talking about San Francisco. A person who is not from here, however, might not understand which city you are talking about. In this study, we teach children new words like ‘dax’ and look at the circumstances under which they think that others will share their new linguistic knowledge.

Look at this one. Do you know what it's called?
It's a dax. Okay? This one is a dax.



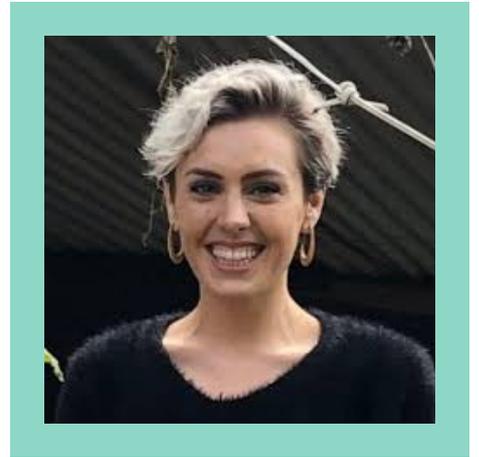
CAN CHILDREN LEARN FROM OVERHEARD SPEECH?

Most scientific literature today focuses on the benefits of speaking directly to your child, and how this positively impacts vocabulary size as children develop. The speech that children overhear from others, however, is less researched and evidence suggests that it may still be meaningful and helpful in the language learning process. This study focuses on the ability of children to learn word meanings from naturalistic overheard speech between two speakers.



RUTHE FOUSHEE

As a graduate student, I'm interested in what language learners can tell us about the composition of meaning, what their performance on linguistic tasks reveals about their conceptions of language itself, and the implications of those developing linguistic assumptions for methodologies in the field. Many of my projects explore how we negotiate the meaning of vague or subjective language in conversation, and how children leverage their implicit social and statistical knowledge to understand these terms. I'm also interested in qualitative differences in linguistic input, experimental methods in linguistic fieldwork, sociolinguistic development, and applications of cognitive science in museums. I am grateful to be funded by the NSF GRFP and the Center for Childhood Creativity.



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TSELTAL MAYAN INFANTS' EXPOSURE TO OVERHEARD SPEECH

While we may tend to think of language development as happening through caregiver-child interactions where the caregiver is speaking directly to the child, in many communities, infants' primary linguistic experience is through overhearing. In this study, we worked with mothers and infants in Chiapas, Mexico to capture infants' earliest knowledge of words and a specialized system of greetings used in the Tselstal language. Infants are carried in a sling on their mothers' backs for the first year of life, suggesting that any knowledge they show in our experiments will necessarily be from overhearing their mother's voice, rather than being taught.



ARIEL STARR, Ph.D.

I am currently an assistant professor at the University of Washington in the Department of Psychology. I was previously a postdoctoral researcher in the Language and Cognitive Development Lab and in Dr. Silvia Bunge's Building Blocks of Cognition Lab. Previously, I received a Ph.D. from Duke University in 2015 and a BA from Wesleyan University in 2007. I am interested in how language influences the way children represent and reason about the world. My research focuses on interactions between language and other cognitive domains, including reasoning, memory, and numerical cognition.



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HOW DO CHILDREN LEARN TO UNDERSTAND AND USE MODAL VERBS?

This study researches the development of children's ability to map epistemic modal verbs (i.e. verbs like 'can' and 'should') to probabilistic situations and what the nature of this mapping is. Research done with adults has found people tend to have categorical representations of these verbs in relation to the likelihood of events. That is, adults group "strong" modals (e.g., will, must, or should) together and "weak" modals (e.g., might, may, could) together and don't see any difference in these groups. Given that young children are also developing an understanding of probability and inference skills, the simultaneous development of an understanding of modal verbs is expected to help support these other skills in complex ways.

ROYA BAHARLOO

As a graduate student in the lab, I am interested in social cognition in childhood. I am fascinated by how children—even as early as infancy—reason and make sense of our complex social world. Further, I am curious about how this reasoning is shaped by our environment. My current research investigates how children conceptualize and make inferences about social groups. For example, when do children start to endorse common racial stereotypes? I hope my research sheds light on how we can reduce harmful intergroup phenomena, such as bias and prejudice.



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HOW DO YOUNG CHILDREN FORM BELIEFS?

Young children form their beliefs about the world in many ways—for example, through media, school, friends, etc. In this study, we explore children’s beliefs about certain traits—such as smartness and niceness—and see how they generally change throughout childhood. In this study, children play a series of guessing games in which they hear stories about different people and then asked to guess who the person from the story was. We are interested in seeing when common beliefs about these traits emerge in childhood.



VICTORIA KEATING

As a first-year graduate student working in the LCD Lab and the Mind and Society Lab, I am interested in how the people and cultures children are exposed to affect how they think about the world and others. My current research interests are focused on how children learn to think about those that are different from themselves. For instance, how does the way we communicate about race with children shape their concepts of their own race and others? Additionally, I am curious about the multiple ways we can think about diversity and its various impacts.



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GRACE HORTON

I'm a recent Berkeley graduate and have been working with the Language and Cognitive Development lab for many years as a research apprentice—now I'm managing it! I find language development in children fascinating and unique, and love learning about how children navigate word polysemy—when words have multiple distinct meanings—as well as how different types of speech input can affect speech development in young children. If you have any questions about the lab—whether it be working in it or participating in one of our studies—please feel free to reach out.



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LANGUAGE AND COGNITIVE DEVELOPMENT LAB RESEARCH ASSISTANTS

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Heather Held

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Margaret Asperheim

Nicole Ru

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Jayde Barber

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Gevorg Mailyan

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Jacob Marks

Cori Kumamoto

Maayan Ziv

Aneesa Conine Nakano

Stanley von Ehrenstein-

Smith

* Honors Thesis Students



We greatly appreciate all of the museums and preschools that continue to support our research. Our work would not be possible without your generosity and commitment to furthering the field of psychology!

University Village Child Development Center

Bay Area Discovery Museum

Lawrence Hall of Science

Clark Kerr Campus Child Development Center

Haste Street Child Development Center

The Discovery School

Habitot Children's Museum

The Berkeley School

Ecole Bilingue de Berkeley

Harold E. Jones Child Study Center



For more information about our research and how to get involved, please go to our website <https://lcdlab.berkeley.edu>

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