

# Fall 2021 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.

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 many of 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](mailto: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, PhD**

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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## **Ariel Starr, PhD**

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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## Ruthe Foushee, PhD

I'm a Postdoctoral Scholar in the Goldin-Meadow Laboratory at the University of Chicago and Faculty for The Developing Child Summer Minor and Certificate Program at University of California, Berkeley. I received my Ph.D. from UC Berkeley in 2020. 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.



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## Paul Haward, PhD

I'm a postdoctoral researcher working with Dr. Mahesh Srinivasan. Previously, I completed my graduate training with Dr. Susan Carey at Harvard University. My research focuses on the structure of human concepts. Humans are the only species to acquire such a vast stock of concepts—concepts like table, tiger, artist, universe, democracy, and hexagon. The concepts we possess have a profound impact on the way we think. My research investigates the structure of these concepts, how that structure then skews the way we see the world around us, and the role it plays when concepts are combined.



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## Ye Rang Park, PhD

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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## Jenny Lu, PhD

I'm a postdoctoral researcher working with Dr. Mahesh Srinivasan at UC Berkeley and Dr. Terra Edwards at UChicago. I investigate how we develop the ability to communicate in a variety of social environments and modalities. My current work focuses on how DeafBlind children develop the ability to coordinate and establish joint attention with others within the tactile modality. My research asks how our specific world experiences and learning biases influence the structure of our language on different timescales. To answer these questions, I examine how constellations of signs and their meanings within homesign systems and an emerging sign language within the DeafBlind community, protactile language, are developed over time.



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## Monica Ellwood-Lowe

I am a fifth-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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## Antonia Langenhoff

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 stereotypes? I hope my research sheds light on how we can reduce harmful intergroup phenomena, such as bias and prejudice.



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## Roya Baharloo

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## Victoria Keating

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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## Sophie Regan

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## Grace Horton

I manage the Language and Cognitive Development Lab. I graduated from UC Berkeley with a B.A. in Psychology in 2020. I'm interested in learning more 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 don't hesitate to reach out.



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# LANGUAGE AND COGNITIVE DEVELOPMENT LAB RESEARCH ASSISTANTS

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**Nicole Ru**

**Prisciella Janet**

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**Aldo Esparza**

**Isabel Rangel**

**Selina Rae Torres**

**Aylen Bonel**

**April Mariko Salazar**

**Yasmine Rayyis**

**Lydia Qu**

**Elizabeth Nuñez**

**Emily Chun**

**Ren Weber**

\* Honors Thesis Students







## Tseltal Mayan infant's 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 Tseltal 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.

## 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 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. In our first experiment, we found that children ages 5-7 associate smartness and niceness with White people more than Black people, but that this tendency decreases with age. In a second experiment, we saw that by the time children are 7, they associate smartness with Asian people more than White people, and Niceness with White people more than Asian people. These findings are important as they shed light on when children develop racial stereotypes.

## 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.





## Judging Storybook Characters

Children have surprisingly rich knowledge about the social world. Even young children have beliefs and expectations about different social groups—for example, children may believe that boys are better than girls at math. However, it is unknown how children learn these beliefs since it is unlikely that they are hearing explicit statements such as “girls are bad at math.” This study investigates if children use subtle cues during social interactions to form their beliefs about social groups. Children are presented with a storybook in which a protagonist interacts with members of two different groups—Purpleys and Greenies. The protagonist interacts with the Purpleys and Greenies in slightly different ways. After reading the story, children are asked to make judgements about the Purpleys and Greenies. It is expected that children will form beliefs about these groups’ smartness and niceness, even though nothing was explicitly mentioned about these traits.

## How do 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 to Predict What Others Will Say?

The meanings of a lot of words are context-dependent. For example, listeners judge “a lot of crumbs” to be more than “a lot of mountains.” Further, an important part of the context in this case is the specific person saying the words. In this study, we look specifically at how children think about quantifiers (words like some, many, a lot, all, none, etc.). We present children with various proportions and ask which words they think best describe the proportion. For example, they may see a jar with six pieces of candy and four rocks, and then they are asked whether someone should describe it by saying, “Some of them are candy” or “Many of them are candy.” Then, we introduce them to characters who use these words in a specific way. Finally, we see if children can then correctly predict how the characters will use the words. During the preschool years, children are learning how to use information about the context of a statement to figure out what the statement means. Our study is trying to see if children understand that the person producing the statement is a very important part of understanding what was meant.

## How Do Children Learn About Which Words Are Known by Others?

In this study, we explore children’s ability to use their knowledge of whether a word is mutually known when talking to others. Adults 5-year-olds were tasked with requesting objects from a puppet. We varied whether the puppet was absent or present while participants learned the object’s label. Adults were more likely to use a description of the object (“the blue one”) as opposed to only the label (“the bem”) when the puppet had been absent than when the puppet had learned the label with them. Children, in contrast, most often used labels to request the objects, even when the puppet had been absent, although they were able to track whether the puppet knew the label or not. Thus, children appear to have difficulties resisting using a newly-learned label with a conversation partner. In a follow-up study, we are exploring potential explanations for what might make this task so difficult for 5-year-old children.



**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>**

Scan me!



**contact us at [lcdlab@berkeley.edu](mailto:lcdlab@berkeley.edu) to  
learn more about our studies**

