

NEWSLETTER

UC BERKELEY DEVELOPMENTAL LABS

Who We Are

The UC Berkeley Developmental Labs are overseen by faculty in the Department of Psychology. We specialize in studying how children think, learn, and grow. Together, we discover how children develop language, mathematical, and reasoning abilities. Our discoveries are regularly covered by NPR, the BBC, the *New York Times*, the *Washington Post*, the *Atlantic*, *Scientific American*, and many others.

We are a collaborative of 8 different research labs, each overseen by a different faculty member with a distinct area of expertise. Each lab has its own team of researchers at a range of levels, from undergraduate students through postdoctoral scholars.



Contact us!

devlabs@berkeley.edu



Visit us!

Dev Labs Website

Facebook



Letter From Our Faculty

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 cognitive, linguistic, and social development in children from infancy to middle childhood. This newsletter highlights some of the studies that your child or student may have participated in over the past two years and gives an overview of our current findings.

We are very grateful for those of you who have been able to participate in our studies both remotely and in person.

If you have any questions about our projects, please feel free to contact us at devlabs@berkeley.edu. Please check our lab websites for recent publications.

Go bears! Fiat lux!

Drs. Fei Xu, Alison Gopnik, Celeste Kidd, Arianne Eason, Jan Engelmann, Mahesh Srinivasan

WHAT WE DO

UC BERKELEY DEVELOPMENTAL LABS

What are our studies like?

Studies involve your child playing a short game with a UC Berkeley researcher. Sometimes researchers analyze where a child **looks**, what a child **says**, or how a child **plays** with a toy.

One current game involves showing children a **puppet show** and seeing what they think will happen next, and another **uses toys to teach children** how to write simple code!

When do we play our games?

Throughout the school year, we coordinate with teachers to come back to school at times of the day that **work with the classroom's schedule** to play our games. We keep a list of children whose parents gave consent for them to participate. Then we **ask children from that list** if they would like to play our game. If they **say no**, we do not pursue it further.

Consenting

At the beginning of the semester, we ask parents to sign **consent forms** if they are okay with our researchers playing with their child.

Here are some things we emphasize about consent:

- **Confidentiality**
- **Anonymity**
- **The right to stop at any time**

Consent is an **ongoing process**. Signing the consent form gives your child the **opportunity** to play, but if they are not interested, we will not play.

Your child can also **choose to stop playing at any time** during the game; if they lose interest, our researchers will stop playing.



Berkeley Early Learning Lab

ABOUT US

Our lab researches children's learning: What types of learning mechanisms are available to infants and children, and how do they use them in different domains of learning, e.g., cognitive, language, and social development? We have found that young learners have remarkable learning capacities; they are rational, constructive learners who can evaluate evidence and build new knowledge and concepts, **much like scientists do.**

PROJECTS

We are interested in how young learners think about numbers and probabilities, inductive and deductive reasoning, social group reasoning, and how they acquire language.

For more details about particular studies running in lab, please visit the [Projects](#) page on our website.

INTERESTED IN PARTICIPATING?

If you are interested in having your child participate in our studies or if you know a friend who is, please contact the lab manager at babylab@berkeley.edu

LAB MEMBERS

Principal Investigator: Dr. Fei Xu
Lab Manager: Tina Tang
Postdoctoral Researchers: Rongzhi Liu and Elena Luchkina
PhD Students: Stephanie Alderete and Alyson Wong

RECENT FINDINGS

We have developed a computational model to understand how children generate hypotheses and actively test their own ideas. (Bramley and Xu, 2023)

It's the frequency of socially contingent interactions, not the amount of word input, that predicts early vocabulary. (Luchkina and Xu, 2022)

By age 5, children can make meaningfully compositional generalizations. (ongoing project)

READ ALL ABOUT IT

Please feel free to visit our lab website [here](#) for our publications!

CONNECT WITH US!

Website:
<https://www.babylab.berkeley.edu/>



Cognitive Development & Learning Lab

UC BERKELEY
DEPARTMENT OF PSYCHOLOGY



About Us



In the **Gopnik Lab**, we are particularly interested in how children learn **causal relations** - cases where one event causes another.

For example, we are all quick to understand that flipping a light switch causes a light to turn on, or that smiling at someone may make them feel happy. However, our world is chock full of causal relations - so full of them that it's sometimes hard to imagine how children come to understand their world so thoroughly in only a few short years!

Researchers

Principal Investigator

Dr. Alison Gopnik

Lab Manager

Emily Rose Reagan

Postdoctoral Researchers

Dorsa Amir, Josh Rule, Laura Lewis, Ny Vasil

PhD Students

Annya Dahmani, Eliza Kosoy, Eunice Yiu, Fei Dai

Recent Findings

Children as young as four can discover new uses in familiar everyday objects, such as using a T-shirt to mop the floor and using a fork to comb the hair. In fact, their ability to explore & consider alternative uses of tools vastly outperforms state-of-the-art AI models! (2023)

Children are incredibly exploratory, much more so than adults - so much in fact that they often disregard rewards, choosing to explore and do something novel even if it means they miss out on a prize!

Kids choose to explore even more if there is a caregiver present, in many different scenarios from who to play with to what food to eat!

Kidd Lab

@ University of California, Berkeley

ABOUT US

In the **Kidd Lab**, we study the processes involved in learning and belief formation, especially in young children, using a combination of computational and behavioral methods. We draw inspiration from classic learning theories in education and psychology, like those by Jean Piaget, Maria Montessori, and Lev Vygotsky. Our behavioral experiments measure how learners attend and explore throughout the process of learning. We employ a range of methods, including eye-tracking and touchscreen testing, in order to show how learners sample information from their environment and build knowledge gradually over time.

LAB MEMBERS

Lab Director:

Celeste Kidd

Lab Manager: Project Manager:

Holly Palmeri Justine Krieger

Grad Students:

Evan Orticio, Sarah Stolp, &
Alex Yang

Research Assistants:

Karina Avalos-De La Cruz,
Sarah Benedict, Maria
Castaneda, Gabrielle Cooke,
Anisha Dhakal, Eleanor Gao,
Aaraam Granera, Ian Ha, CiCi
Jiang, Jess Miller-Suchet,
Karina Murugesu, Emily
Nightingale

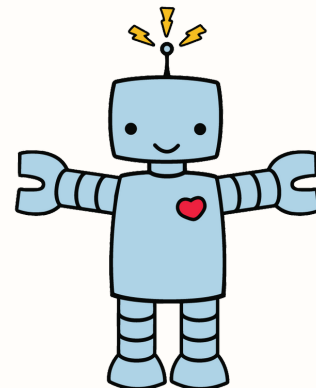
RESEARCH HIGHLIGHTS

- As kids get older, they get better at approximating the number of items in a large set. Surprisingly, this isn't just due to better number knowledge. In fact, improved attentional control and peripheral awareness is actually driving the improvement. (Yang et al., 2023)
- Children can spontaneously discover efficient strategies to solve a complex sorting task. We were surprised to find that kids' (4-9 years old) solutions were similar to those of adult participants! (Yang et al., in review)
- When kids are highly engaged in a video it doesn't always mean they are learning. Sometimes perceptual features like movement, high contrast, or saturation can draw children's attention but actually lead to worse learning outcomes than a simpler display of the same information. (Stolp & Kidd, in prep)

FIND OUT MORE

Visit our website to learn more and read our recent publications at kiddlab.com

Stay in touch! Sign up to participate in our fun research games by emailing us at kiddlab@berkeley.edu





Computation and Language Lab



ABOUT US

The **Computation and Language Lab** studies the basic computational processes involved in human language and cognition.

Our work utilizes computational modeling, corpus methods, and behavioral experiments.

Our current set of behavioral experiments are run in close collaboration with the **Kidd Lab**, examining the **development of early mathematical skills**.

LAB MEMBERS

Principal Investigator: Dr. Steven T. Piantadosi

Lab Manager: Holly Palmeri

Project Manager: Justine Krieger

Postdoctoral Researchers: Emily Sanford, Josh Rule

PhD Students: Mark Gorenstein, Dyana Muller, Karthikeya Kausik

CONNECT WITH US!

Website: colala.berkeley.edu

CURRENT PROJECTS

Attention & Early Math (ages 2-5): This study investigates the relationship between attention and early mathematical learning, specifically counting. It aims to understand if we are underestimating early number knowledge due to the attentional demands of counting tasks.

Algorithm Reasoning (ages 4-8): This study investigates how children reason about algorithms and their semantics. For example, we explore how children revise and edit algorithms to achieve specific goals, such as efficiency.

INTERESTED IN PARTICIPATING?

If you are interested in having your child participate in our studies or if you know a friend who is, please contact the lab at colala@berkeley.edu.



ABOUT US

In the **LCD Lab**, we focus 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.

LAB MEMBERS

Principal Investigator: Mahesh Srinivasan

Lab Manager: Emily Chau

Postdocs: Paul Haward, Marina Ortega
Andres, Jenny Lu, & Ye Rang Park

Grad Students: Monica Ellwood-Lowe,
Antonia Langenhoff, Roya Baharloo, Victoria
Keating, Sophie Regan, & Nina Schoener

WEBSITE

To learn more about our research including studies your child may have participated in, please visit our website: lcdlab.berkeley.edu. To access a list of our publications, click [here!](#)

CONTACT

If you're interested in participating, please email us at lcdlab@berkeley.edu to be connected to a researcher or lcdmanager@berkeley.edu to be connected to the lab manager.

RESEARCH BLOG

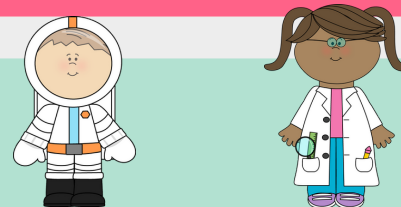


Interested in learning more about parenting in the time of COVID-19? For example, what factors lead parents to talk more or less with their young children? Check out our study update blog at bathtubtales.com.

RECENT FINDINGS



Infants who are rarely spoken to may understand many words through overhearing. Evidence from Tzeltal infants in Southern Mexico. Read [more here!](#)



Children are able to utilize subtle contextual cues to pick up negative evaluative messages about social groups even from statements that don't mention them. Read [more here!](#)



Social Origins Lab



ABOUT US

Our lab studies the evolutionary and developmental roots of human sociality. Specifically, we are interested in how children reason and cooperate to navigate their social environments. Most of our projects study children to learn how our social and cognitive abilities arise and interact with one another over the course of development. We also study our closest living relatives, chimpanzees, to see how these abilities are rooted in our evolutionary history. To read more about us, please visit socialorigins.berkeley.edu

Recent Findings

- Children and adults' intuitions of what people can believe (Confer, J., Schleihau, H., Engelmann, J.M., 2023).
- Children's developing ability to adjust their beliefs reasonably in light of disagreement (Langenhoff, Engelmann, & Srinivasan, 2023)

[READ MORE](#)

LAB MEMBERS

Director: Dr. Jan Engelmann

Lab Manager: Eliza Swindell

Postdocs: Laura Lewis & Emily Sanford

Grad students: Antonia Langenhoff,
Joshua Confer, Oded Ritov, Colin Jacobs, &
Calder Hilde-Jones

Participation

If you are interested in having your child participate, please contact the lab manager at socialoriginsmanager@berkeley.edu



Current Projects

Social Curiosity: Dr. Laura Lewis is currently investigating the development and evolution of social curiosity in children and chimpanzees. Curiosity, or the drive to gain new information, supports and enhances learning. Curiosity can be adaptive, as it allows an individual to retrieve novel information that reduces uncertainty and facilitates more comprehensive understanding of the environment. Historically, research on curiosity has focused on ecological and nonsocial domains both in humans and other animals. However, humans and our closest living phylogenetic relatives, chimpanzees, are deeply social beings who rely on social relationships for their survival and well-being. Therefore, this study aims to explore the evolution and development of social curiosity, defined as a drive to gain information about one's social environment, which adaptively guides social learning and the formation and maintenance of social bonds.

This project contains two studies which have just been completed! Children in the Bay Area aged 2-6 years and chimpanzees on Ngamba Island aged 2-40 years participated in each study. Preliminary results suggest that both species are socially curious, preferring to watch social videos over non-social videos. However, children watched both types of videos longer than the chimpanzees.



Pictures of chimpanzees studied on Ngamba Island taken by Laura





Thank You to Our Community Partners!

Museums

**Bay Area Discovery Museum
Lawrence Hall of Science
Children's Creativity Museum of San Francisco
Oakland Zoo
Exploratorium
Berkeley Public Library**

UC Berkeley Early Childhood Education Program Centers

**University Village Albany
Haste Street
Dwight Way
Clark Kerr Campus
Harold E. Jones Child Study Center**

Community

**Ecole Bilingue de Berkeley
East Bay German International School
Marin Elementary
Fairmont Elementary
Harding Elementary
Yerba Buena Gardens Child Development Center
Berkeley Youth Alternatives**

Make science happen.

You and your child can help developmental scientists discover how children learn, explore, and make decisions.

Bay Area families have helped us make world-famous discoveries for more than two decades. Help us keep learning. We have studies for **infants through teens**.

Sign-up to find out about new studies today: <http://devlabs.berkeley.edu>.

