

Children and Technology Lab



CAT Lab Newsletter

Here is an update on some of the research studies currently underway in the lab. Thanks for your support; our research would not be possible without your participation. We hope you can join us for another research study soon!

For more updates and information about the research lab, please visit our lab website: [Children and Technology Lab](#)

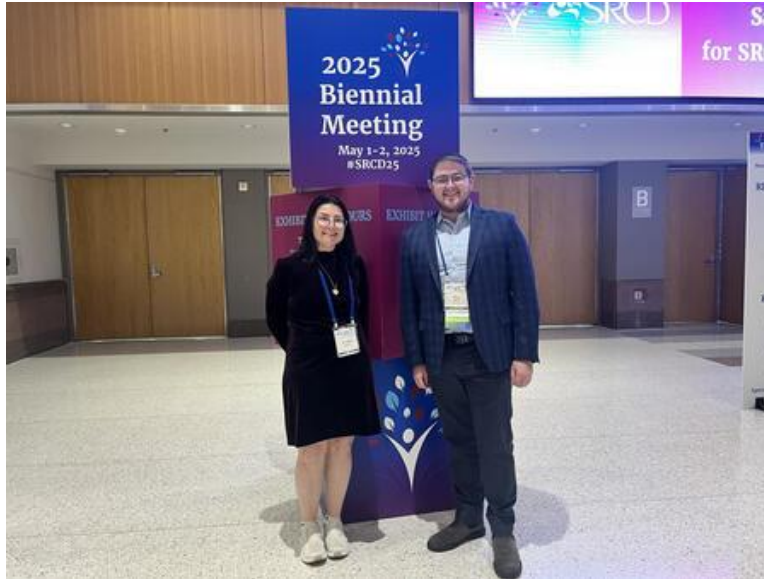


Lab News and Updates

- One of our research studies was recently published in *Scientific Reports*. You can read our latest publication [here!](#)
- Eliana Diamond completed her undergraduate Honors Thesis on a project that explores children's moral reasoning. Congratulations, Eliana! 🎉
- Research Assistant Beth Levin was named a Kressel Research Scholar for the 2025-2026 school year. Beth will be leading a project that explores children's abilities to form social categories and their preferences for members of an in-group. 🎉
- Research Assistant Miriam Sheinson received a Yeshiva University Summer Research Award. Miriam will be starting a new research study that investigates whether children attribute emotions to animals, objects, and humans. 🎉
- Dr. Goldman received the Dean's Award for Faculty Excellence for her dedication to her field of study, mentorship, and teaching of our students.

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- Dr. Goldman attended the Jean Piaget Society (JPS) research conference and presented research conducted with Research Assistants Deena Erdfarb and Orah Fischer. The project showed that children can learn information from a robot that points rather than speaks to communicate.
- Dr. Goldman and Research Assistant Harry Meister presented research at the Society for Research in Child Development (SRCD).



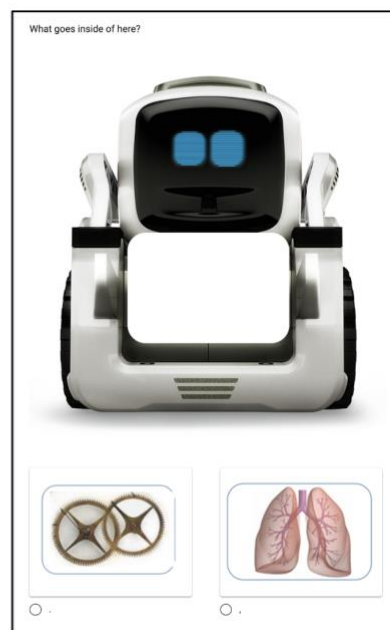
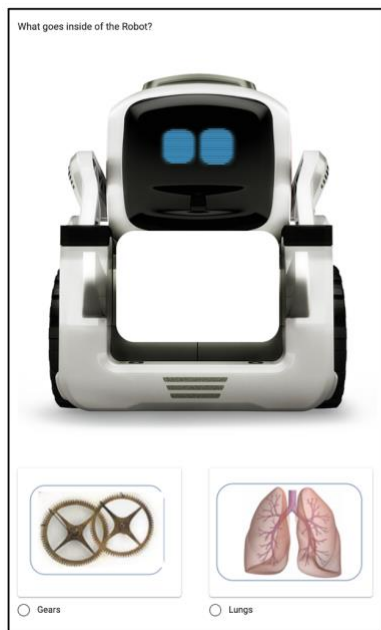
Ongoing and Completed Research Projects

Here are some of the exciting studies we've been working on:

- **Do Labels Help Kids Learn?**

Recently, the lab conducted a study examining how labels can aid 3- to 6-year-old children in learning about the biology of animals, mechanical artifacts, and robots. In this study, we asked children to decide whether something biological, such as a heart, or something mechanical, like an engine, belongs “inside” unfamiliar animals, mechanical artifacts, or robots.

An example of a label (left) and a non-label trial (right).



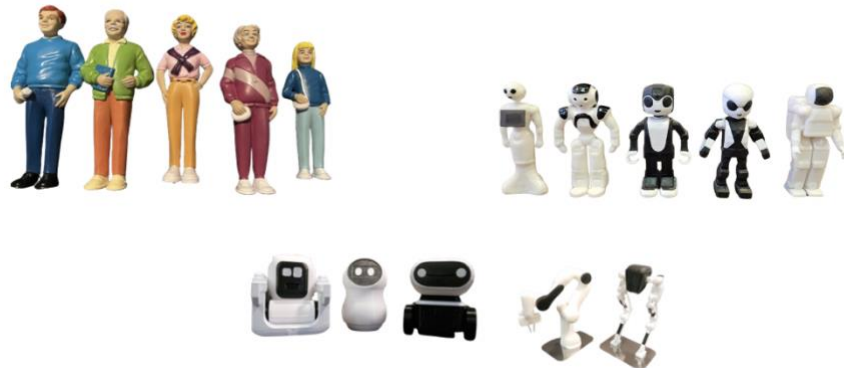
We sent out two different versions of this survey to families. One version included labels for the robots, animals, artifacts, and internal parts. The other version did not include labels for any of the images. Prior research has shown that labels can help children categorize the world around them; therefore, labels may also aid in correctly categorizing the internal biology of different types of objects and animals. We found that labels *did* make a difference! Children who saw labeled images were better at correctly identifying what they were looking at—especially when it came to tricky categories like robots. This research helps us learn how to support children's learning and make new information easier to understand. A follow-up study is now underway—stay tuned!

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- **Do Children Think Robots Have Feelings and Thoughts?**

Young children are still learning that others can think and feel differently than they do—a skill called Theory of Mind. But do they think *robots* can have thoughts, emotions, and beliefs too?

📷 *The human figurines (left), robot figurines human-like in appearance (right), and robot figurines that lacked a human-like appearance (second row).*



In this study, 5-year-olds listened to stories featuring either a human, a human-like robot, or a non-human-looking robot. The stories encouraged kids to think about the characters' preferences—for example, choosing between a carrot and a cookie. Kids then had to decide what the character would choose, even if it was different from their own choice.

Research Assistant Harry Meister during a testing session.



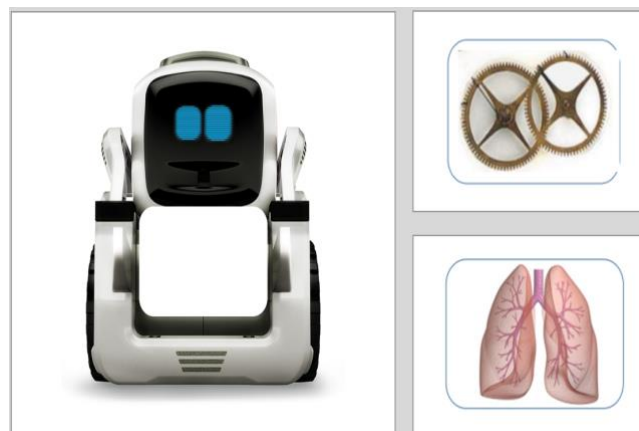
Surprisingly, children attributed thoughts and feelings to both humans and robots equally—no matter what the robot looked like. This suggests that storytelling may help children think of robots as having minds. Children were also asked whether various figures—a robot, person, rat, and toy car—could see, feel, or grow. While they answered clearly for the human, rat, and toy car, they were more unsure about the human-like robot. Thanks to all the families who participated! We're now partnering with colleagues in Singapore to see how kids there respond to the same questions. Stay tuned!

- **Can Children Learn From a Robot That Points to Share Information?**

In this study, we tested 3-year-olds and 5-year-olds—to see how they understand the biology of robots vs. humans and whether they trust robots or people to give them accurate information.

In the first part of the study, children saw pictures of a robot or a person with a missing part and chose between a mechanical (e.g., gears) or biological (e.g., heart) replacement. Children were asked, “*What goes inside of here?*” and the experimenter pointed at each option as they said, “*The top*” or “*The bottom*?” The experimenter dragged the child’s selection into the white rectangle and confirmed the child’s response. While 3-3-year-olds struggled to tell the difference, 5-year-olds correctly chose mechanical parts for robots and biological ones for humans.

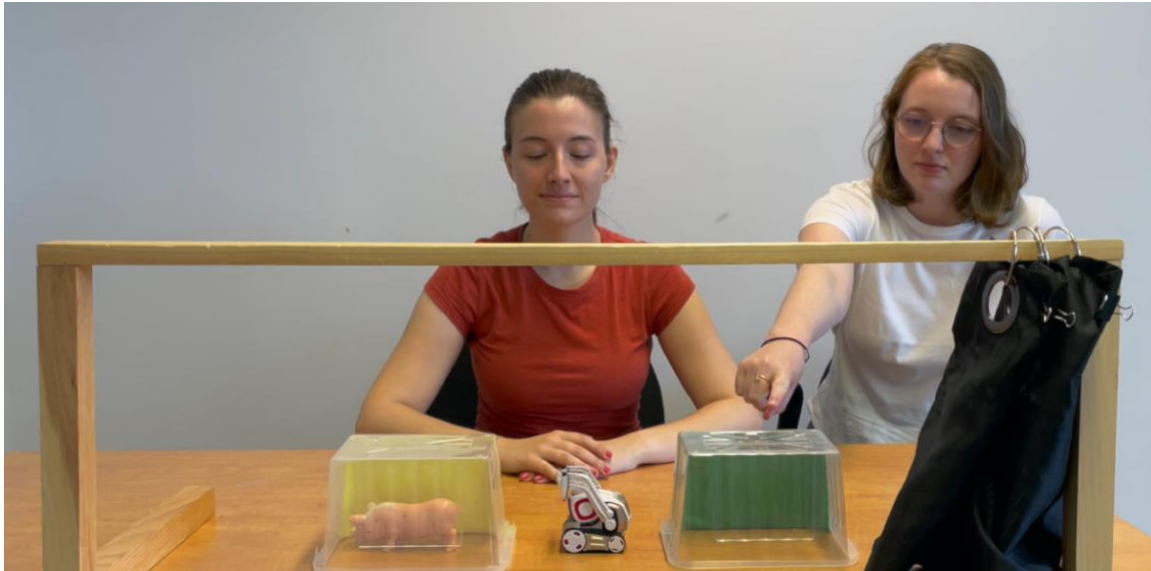
■ *A naïve biology trial where children were asked to select whether the robot had mechanical or biological insides.*



The second part of the study consisted of a series of videos with a hider and two informants (a robot and a human). The first part of this test was called the Familiarization phase, where the hider placed a toy in one of two transparent boxes while a curtain was drawn, obscuring the boxes from the child’s view. After the curtain was pulled back, both informants simultaneously pointed at one of the boxes to show where the toy was placed. Since the boxes were transparent, the children could see which box contained the toy. The robot consistently pointed at the box that contained the toy, while the human consistently pointed at the empty box. After, children were asked which box the toy was in.

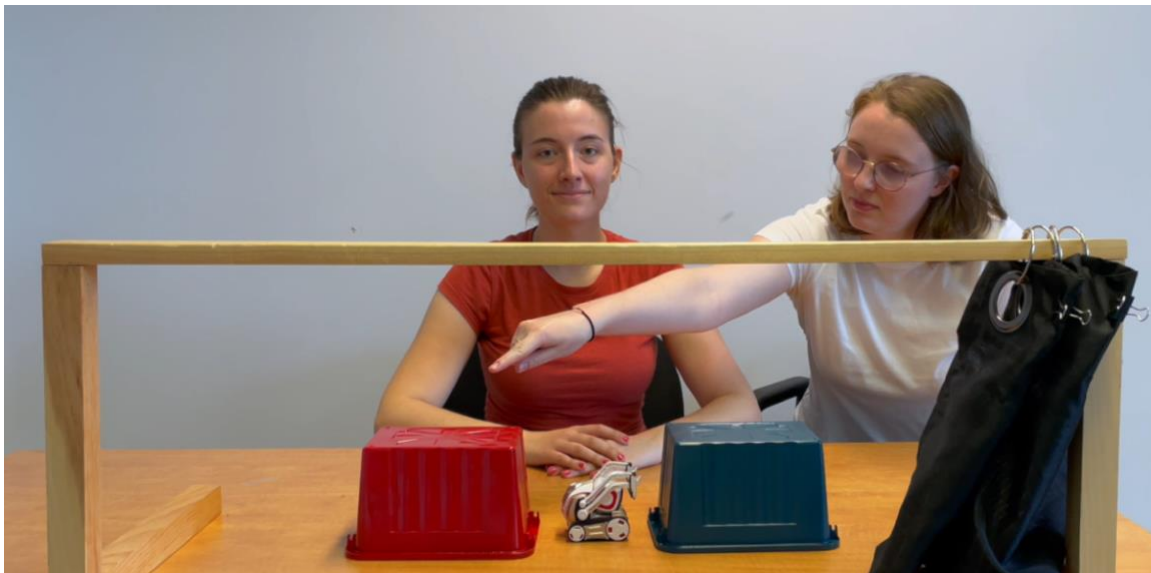
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The Familiarization Phase, where the toy was hidden in the transparent boxes.



The Test Phase was identical, except that the transparent boxes were replaced with opaque ones. Therefore, children could no longer see where the toy was hidden. The three-year-olds knew to ask the robot to help them find the toy, but when asked where the toy was, they didn't favor one informant over the other. The five-year-olds also knew to ask the robot to help them find the toy and knew which box it was in.

The Test Phase of the study. The transparent boxes were replaced with opaque ones.

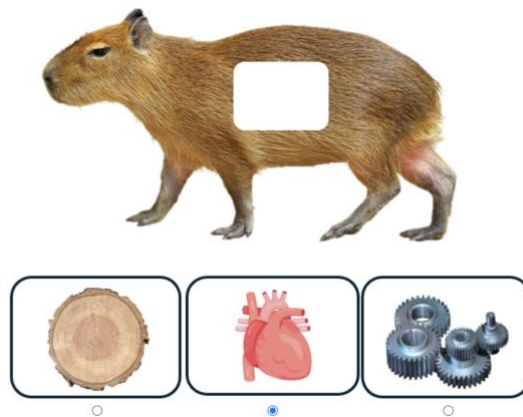


Special thanks to Research Assistants Oran Fisher and Deena Erdfarb for running all the testing sessions. This study has been submitted for publication in a scientific journal.

- **Exploring Children's Understanding of Animals, Plants, and Robots!**

Our research team collaborated with researchers at the University of Calgary to conduct a study testing children aged 3-6 on their understanding of the distinctions between plants, animals, and robots. The study assesses children's knowledge of biology, with each question presenting a picture featuring a white rectangle that indicates a missing part. Children are presented with three answer choices: an organ, a plant part, or a mechanical part. Parents receive a personalized survey link and can complete the survey with their child at home. This study is ongoing, and we are excited to share our findings with you in our next newsletter.

📷 *A sample question from the survey.*



- **Do Children Think Robots Have Morality?**

Around ages 3-4, children begin to understand right from wrong and can guess what others are thinking—a skill called Theory of Mind. But do they think robots can be moral, too?

In our latest study, we asked children ages 5-6 and 8-9 to listen to short stories where a human, a humanoid robot, or a non-humanoid robot faces a moral dilemma. Each story focused on a different moral theme: Honesty, generosity, or compassion. After each story, children predicted what the character would do—tell the truth, share the swing, or help a hurt friend.

We also explored how kids feel about robots more generally. Would they give a toy to a robot or a human? Who would they rather be friends with? We think older kids may be more skeptical about robots having morals, while younger ones might be more open to the idea. We're still analyzing the data and can't wait to share more soon!

- **Do Children Think Objects Have Beliefs?**

Building on our earlier research about how children understand others' thoughts and feelings, we asked: Could kids believe *objects*—like popsicle sticks—have thoughts too? In this study, 5-year-olds listened to stories featuring either a non-human-like robot or a popsicle stick.

A picture of the robots and popsicle sticks used in the research study.



For example, in one story, children were told the object shown (e.g., a robot or a stick) had lost its cat and wanted to find it in one of two hiding places (bushes or the garage). Children were asked to pick the place they believed the animal was hiding and then told that the character thought the opposite. Children were then asked to answer which hiding location the character in the story would select. Children had to recognize that the character thought differently from them.

Early results show that kids attributed thoughts and beliefs to both robots *and* popsicle sticks—just as they do with humans. These findings suggest that storytelling can lead children to treat even inanimate objects as if they have minds.

We want to thank all the families who participated in this research project. This study was led by our laboratory director, Dr. Elizabeth Goldman. The lab would like to acknowledge Harry Meister for running the testing sessions, and Ariel Lotman, David Deutsch, and Nossan Freed for their assistance with data checking. We look forward to sharing the final findings with everyone after this study is fully completed.

Thank you to all the wonderful families who participated—your children were thoughtful, imaginative, and a joy to work with!

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Meet the Lab Team

Here are the amazing people behind the research!

Deena Erdfarb



Eliana Diamond



Ellie Minsky



Maya Chen



Rivky Kolodny



Harry Meister



Miriam Sheinson



Orah Fisher



Dr. Elizabeth Goldman



Leora Schramm



Dvir Sabag



Beth Levin



New Studies Starting Now

Are you interested in participating in another research study? We have several new projects and are looking for participants. Check out this list below and email us (please include the study name in your email) if you are interested in participating in a specific study.

- **ANTR SURVEY:** Honors Student Maia Purow has designed a survey that asks parents about their children's experiences with nature, animals, and technology. We are seeking parents with children aged 3 to 12 years old.
- **BIOLOGY STUDY:** Elisabeth Gurtman's thesis project is seeking parents to complete a survey with a child between the ages of 3 and 6 years. The survey asks about children's understanding of plants, animals and robots!
- **INACCURATE ROBOT STUDY:** Students Ellie Minsky and Mikaela Amos are testing children aged 3 and 5 years for a Zoom study. The study explores whether children can learn new words from a robot.
- **GROUP MEMBERSHIP STUDY:** Students Beth Levin and Maya Chen are recruiting for an in-person research study. If you are in the New York City area, join us on campus for a study examining children's preferences for in-group members, looking for participants aged 4 to 5 and 7 to 8 years.
- **ADULT STUDY:** Honors Student Shirelle Maged is conducting a short Zoom study with college students. If you know anyone interested, please have them get in touch with our team.

Share Your Feedback

We'd love to hear from you! Let us know what you thought about your experience with the CAT Lab. You can complete a brief [survey](#) about your experience participating in our research studies.

Or you can send your questions & feedback via email: yucatlab@gmail.com

Join Our Participant List

Want to hear about future studies? Join our [participant list](#) to stay in the loop! Our team will reach out when your child is eligible to participate in another study.

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Support the lab

Our research lab space was under renovation and is now open! For families in the New York area, you can now participate in person or continue to participate via Zoom. For other families, you can continue to participate online.

We need some supplies for our research. These supplies are used to create stimuli and materials used in our studies. We are also looking for toys and books to have in the lab to make the space more welcoming for families who participate in person. If you'd like to support us, please check out our [research lab wish list on Amazon](#).

Thank you for being part of our research journey!

-The CAT Lab Research Team at Yeshiva University ♥