

Cornell Lab Brings Research to Life for Sciencenter Families

By Sarah Cutler

"Doggy feels sad today," Nadia Chernyak, a Cornell graduate student, recently said as she showed a dog puppet to several children at the Sciencenter, a hands-on science museum in Ithaca. Chernyak '08, M.A. '09, was conducting an experiment with the children and had given them colorful stickers, which they presumably wanted to keep.

The kids -- between 2 and 4 years old -- could cheer up the puppet only by giving him a sticker. Some faced what Chernyak called an "easy choice": either share their sticker with the puppet or hand it to Chernyak, who would throw it away. Others had a tougher decision: keep the sticker for themselves or share it with the puppet. After making their decisions, the children received three more stickers and the choice to share some with a different toy, "Ellie," a stuffed elephant.

Chernyak found that most children shared their stickers with Doggy, and the ones who made difficult choices in the first stage were more willing to share a second time with Ellie. Her findings, part of her dissertation on children's moral development, suggest that kids may learn empathy in part by making difficult autonomous choices.

Chernyak's investigation is contributing to a larger study overseen by Tamar Kushnir, the Evalyn Edwards Milman Assistant Professor of Child Development and director of the College of Human Ecology's Early Childhood Cognition (ECC) Laboratory, which is investigating how young children develop a concept of choice and its influence on their behaviors and perceptions.

Through a novel partnership begun last February, undergraduate and graduate students in Kushnir's lab have conducted experiments with more than 500 children at the Sciencenter. The collaboration began after Kushnir, Michelle Kortenaar, Sciencenter director of education, and Charles Trautmann, the center's executive director and Cornell adjunct associate professor of engineering, explored a mutual interest in involving young children in research and creating more evidence-based programs at the museum focused on learning in early childhood.

"It's viewed as a benefit to our guests to have their kids take part in this research," Trautmann said.

The ECC lab's work at the Sciencenter has helped researchers share their findings, said Kushnir, who also examines how toddlers and preschoolers understand cause and effect.

"Parents are watching as you play with the kids, and they'll ask, 'What happened there?' and a researcher will explain it to them. Our researchers are disseminating directly to parents," she said. "So science gets done, museums get support, research gets support and students get trained."

The Sciencenter has shown its visitors "what research looks like," Kortenaar said, and Cornell graduate students have made two presentations on their study findings.

She also noted that parents and caretakers have largely been enthusiastic about involving their children in the experiments.

An exhibit based on the ECC lab's work and a plan to expand the partnership to include teaching along with research are under discussion. Kushnir added a service-learning component to her senior seminar to create interactive tools for young children and their parents to use the museum to learn about science in an age-appropriate way.

This partnership is part of a larger national trend encouraging informal childhood learning, Kushnir said: "We're part of a large group of museums and labs doing this kind of thing; it's happening in San Francisco, New York, Minnesota, Chicago -- every major urban center -- and tiny little Ithaca. As long as I'm around, this isn't going anywhere."

Sarah Cutler '16 is a student communications assistant for the College of Human Ecology.



Tommy Rucker '13 and graduate student Nadia Chernyak, both research team members of the Early Childhood Cognition Laboratory, work with Ruby Yantorno-France, 3, at the Sciencenter Nov. 1.