Emory Infant and Child Development Research Laboratory
Newsletter
Summer 2018

Letter to Parents:

Article by: Philippe Rochat Ph.D. Head of the Emory Infant and Child Lab

Yet another year has passed, so once again, let me start this letter by acknowledging the numerous parents, infants and children who visited the Lab in the past year. As for all the years, we could not do without you, as well as the joint effort of many individuals: the efficient and dedicated supervision of our Lab Coordinator, Natalie Eldred, who just finished her second year as Coordinator. Her dedication, kindness, and organization are all great assets to the Lab. I should of course not forget to acknowledge all the good work from our graduate students, as well as all the volunteering undergraduate students, close to 20 over the past year, who learn by helping us run experiments.

As always, our goal at the Emory Infant and Child Lab is to contribute to the scientific understanding of how the minds of children grow. We could not do it without you. Thank you.

Last Fall, the Lab team helped me in organizing here at the Emory Conference Center a well-attended interdisciplinary conference on the topic of lying and deception ("the Lying Conference", see our website for archived videos of the talks). This was a group effort and I am very grateful for all the help in putting together this event, especially the excellent work of Natalie, our Lab Coordinator, and Kate Coblin, the Department of Psychology Administrator and Assistant Chair.

Our 4 graduate students working at the Lab are progressing toward their Ph.D's. Cynthia Guo successfully defended her Master's thesis on the development of children's understanding of deception. Sara Botto, published her Master's in the prestigious Developmental Psychology journal. Shensheng Wang also published

his Master's on animacy perception in the journal, Perception. Maria Jones is finishing data collection to defend her Ph.D. by the end of this Fall on the origins and measures of implicit racial bias.

We presented our works at large conferences, the American Psychological Society and the Cross-Cultural Psychology Conference (Cynthia's work on lying understanding in children) as well as at the International Society for Infant Research (Sara on social dominance detection in 6-12 month-olds).

All four graduate students at the Lab continue their investigation of their respective topics, the understanding of deception in children across cultures (Cynthia Guo), the origins of self-consciousness and evaluative audience perception by young 1-2 year-olds (Sara Botto); the perception of face animacy in infants as well as adults (Shensheng Wang); and the emotional origins of implicit racial biases in young children and adults of various ethnicities (Maria Jones). They describe their research topic and progress in the following pages.

Once again, dear parents and colleagues, thank you for helping us in our effort to learn and contribute to the scientific understanding of children in their development, in the US and abroad. I hope that this newsletter will continue to convey both our appreciation and the sense of our effort and achievement in the past year to which you contributed in a fundamental way as parent. Don't shy away from reading our latest publications, all on PDF on our sites. Thank you, thank you.

Philippe Rochat, Ph.D.
Professor of Psychology, Head of the Emory Infant & Child Lab

How Does Your Child Think About Race & Space?

Article by Maria Jones

Stereotypes, or assumptions made about a person based on what social group they belong to, have a profound effect on how we view the world and interact with others. Whether it is the belief that boys are better at math or black boys are better at sports, stereotypes exist everywhere and everyone has them. We are more likely to believe that negative stereotypes about others are true if they are members of a social group that is not our own; this is an out-group bias. This bias often happens unconsciously so we are not even aware that it is affecting how we view other social groups, like race.

Race is a socially constructed category that is defined by a set of physical features (e.g. hair color & texture, nose width, etc.) that people think represent differences in intelligence, temperament, and physical prowess. In particular, black men are quickly and quite often described as threatening physical forces in both positive (e.g., athletic) and negative (e.g., criminal) ways. These stereotypes cause people to respond in fear when they encounter a new person, particularly a darker skinned male.

We were interested in examining how fear interacted with racial bias in school aged children. Since even babies are sensitive to physical differences that define social categories, it is important to explore how racial bias affects the way older children think about the people around them. In particular, the goal of this project was to determine whether spatial perception and racial bias were related in 8-to-10-year-olds. Since interactions with people of different races often happen in close proximity, it is important to understand how space representation is affected by racial bias.

The kids who participated in this study completed two computerized tasks designed to test spatial perception and implicit racial bias. For the spatial task, children saw faces increasing in size on the screen and were instructed to do a button press response when the face seemed so close to them that it would touch their face. Children were asked to categorize faces of black and white children as well as good and bad words for the racial bias task. The speed and accuracy of their performance allowed us to calculate their individual scores for each task and to see if they were related. We hypothesized that kids who perceived the black faces as moving faster than the white faces would also have greater racial biases.

Results showed that overall, children responded faster to the white faces than the black faces in the spatial perception task. On the racial bias task, children did not have a difference in the speed or accuracy in response to black or white faces. Scores on the implicit bias task were not related to the space perception task. We believe that since children essentially showed no bias on the implicit bias task, responding faster to the white faces in space perception was related to something other than the face's race. It is possible that children were responding to the gender of the faces instead. Data collection for a new project to further understand how children reason about race is ongoing.
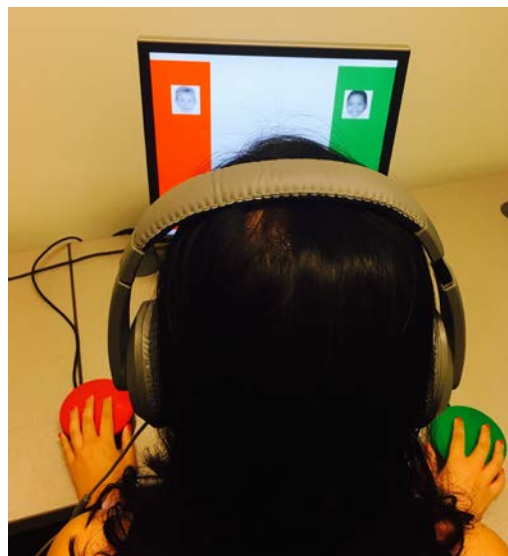
Meet the Lab:
Maria Jones

Maria is originally from Washing DC. She received her Bachelor of Arts Degree in Psychology with Honors from Spelman College in 2011. She has been a graduate student here since. She recently moved to the Rochat Lab in 2015.

She is broadly interested in the relations between the development of race, space, and memory. Specifically, she is interested in determining the mechanism by which children learn and process implicit racial bias and the ways in which this interacts with the development of spatial perception and memory abilities.

She was awarded the National Science Foundation graduate research fellowship and regularly provides guidance to those applying for the award each year as a NSF ambassador.

# Exploring Face Animacy Perception in the First Year

Article by ShenSheng Wang

As adults, we can quickly and accurately distinguish human faces from the faces of robots, mannequins or dolls. What underlies such cognitive proficiency is the face processing skill known as face animacy perception. Face animacy perception entails perceiving life or mind in a face, which proves crucial for humans to navigate the social world, reserving limited social-cognitive resources for interacting with living human beings.

Despite its significance for social-cognitive functioning, face animacy perception has long been overlooked in mainstream psychology, particularly the development of face processing in infancy.

In the past year, I've focused on the development of face animacy perception during the first year. In one study, I examined the extent to which infants perceive a categorical boundary along the continuum of animacy. This artificial continuum was created by morphing the picture of a doll face into the picture of a well-matched human face. Because adults perceive a categorical boundary along the continuum of animacy, I predict that if infants demonstrate higher discriminability to image pairs that straddle this category boundary than those that belong to the same category (see image pairs in the Figure below), it would suggest that these infants may acquire the skill for face animacy perception. With this measurement tool, researchers will be in a better position to examine the development of face animacy perception in preverbal infants. As we continue to collect data, we hope to present preliminary findings in our next newsletter.
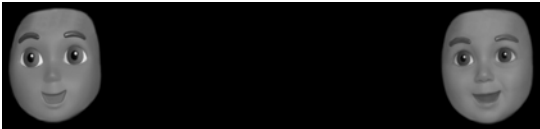
Within-category (inanimate) pair
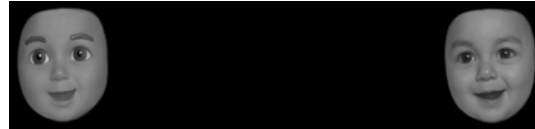
Between-category pair (L: inanimate, R: animate)

Meet the Lab: ShenSheng Wang

Shensheng Wang was born and raised in Tianjin, China. He came to Emory with a Bachelor of Science degree in Psychology from Nankai University (Tianjin) in fall 2012. Since then, he has been studying face perception in infants as well as adults under the supervision of Dr. Philippe Rochat.

ShenSheng received his Master's Degree in the Spring of 2014. He is now working on his PhD and continuing his work discovering the complexities of Schadenfreude.

In his spare time, he enjoys music and sports. In college, he was a member of the Student Choir and participated in numerous choir competitions and performances worldwide. At Emory, he joined the GSPN and serves as the coordinator of "Thinking Thursday" an event for promoting intellectual conversation in the psychology community.

Inference of Social Dominance in Infancy

Article by: Sara Valencia Botto

Both humans and non-human animals are able to determine social hierarchies and social dominance between individuals fairly automatically. For example, we are able to know that a big guy is more dominant physically than a little guy. At the same time, we also know that there is strength in numbers, where a little guy may beat the big guy if he has a lot of friends by its side. A remaining question is, when in development do we begin to understand social hierarchies based on size and number? The Social Dominance study aims to explore this question using eye-tracking technology. By testing 6-11 month olds and measuring looking duration between computer-animated social scenarios, we are able to see which social scenario an infant is more "surprised" by as indexed by longer looking times. For example, we would expect infants to look longer at scenarios where a little guy "bows" for a big guy as opposed to the big guy bowing down to the little guy, because this scenario would be more unexpected. So far, we have found that 6-8 months olds use an agent's size to determine who should win in a competitive exchange, whereas 9-11 month olds tend to rely on the agent's number of group members, regardless of their size. This study is currently ongoing, and we will continue to recruit participants through the summer.
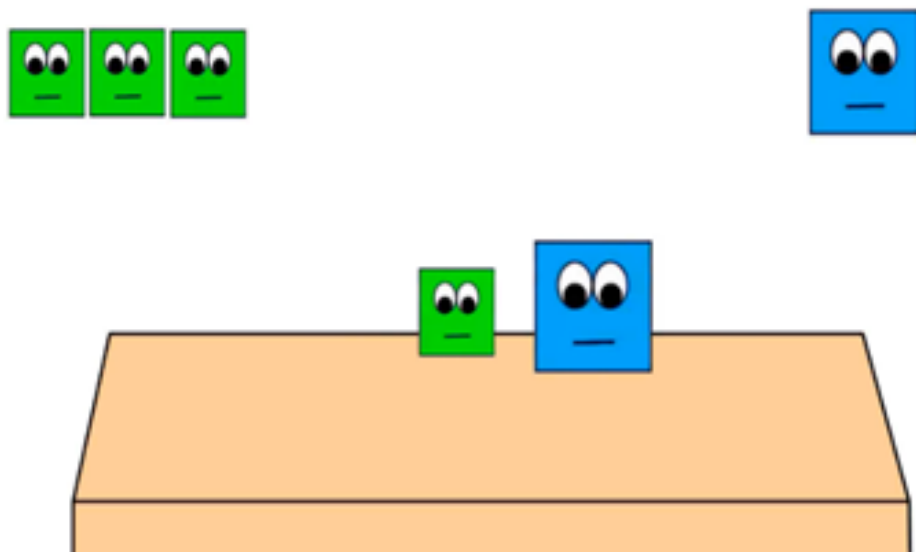
Meet the Lab:
Sara Valencia Botto

Sara joined the lab in the fall of 2014. She graduated from the University of Georgia with a BS in Psychology in May of 2014, and received her Master's degree from Emory University in 2016.

While in graduate school, Sara plans to explore when and how we begin to be sensitive to how we are perceived and evaluated by others. Currently she is running the audience perceptions study and the social dominance study.

Sara is also passionate about encouraging young students to pursue careers in STEM by sharing her research in schools as well a participating in "Roots and Shoots," a program that teaches basic science to third graders.

Infants are Sensitive to Others Evaluations

Article by Sara Valencia Botto

Adults report the fear of public speaking more often than any other fear, including fear of death (Dwyer & Davidson, 2012). This intriguing finding highlights a defining human characteristic; we are sensitive to how others might perceive and evaluate us. While we know that adults do indeed become sensitive to the evaluation of others, little is known about when and how this sensitivity emerges in development. To address this gap in the literature, the Audience Perception Study explores when this phenomenon emerges and how it unfolds throughout the lifespan.

Currently, we have conducted 3 studies that investigated when children began to be sensitive to the evaluation of others. Specifically, we explored whether 14-24-month-olds, like older children and adults, would also modify their behavior depending on whether or not they were being observed. In Study 1, we allowed children to play with a novel toy while systematically manipulating the attention of an adult observer. We expected children to have differential behavior (i.e., show more restrain or inhibition) toward an attractive novel toy when the experimenter was watching. Study 2 further probed whether children in their exploration of the toy are not just sensitive to the attention of the observer, but also to how the observer evaluated possible outcomes of the toy

during an initial toy demonstration. We predicted that if children are indeed sensitive to the evaluation of others by 24 months, then they should modulate their behavior as a function of not only audience *attention,* but also audience *evaluation* of different outcomes, reproducing the positively valued outcome more frequently when the experimenter is watching, but the negatively valued outcome more frequently when the experimenter was *not* watching. Lastly, Study 3 extended the findings by probing whether toddlers would factor both the differential feedback (positive versus negative) of two different experimenters toward a toy's action, as well as the attention of each experimenter when the child proceeded to interact with the toy.

Thus far, we have found that by 2 years, children factored both the experimenters' attention and the value they had previously expressed toward the remote. Together, these three studies provide the first demonstration that evaluative audience perception is evident before a child's second birthday. This study was published in the APA journal, *Developmental Psychology,* in August. This study was also featured in [Emory eScience Commons.](#)

We are running a follow-up study with 12-24-month-olds and 4-5 year-olds.

Meet the Lab:
Natalie Eldred

Natalie Eldred is originally from Palm Desert, California. She graduated May 2017 from Emory University with a Bachelor's of Arts Degree in Psychology and a minor in Jewish Studies.

She moved to Atlanta in 2013 and worked as a Research Assistant in the Infant and Child Lab before starting as the Lab Coordinator in August 2016. She has been involved in many projects in the lab. She is mainly interested in research about social development in children.

Natalie plans to continue working in the lab as the lab coordinator before moving on to graduate school to obtain her PhD in Psychology with a focus in child development in a few years.

A Cross-Cultural Investigation of Children's Understanding of Various Types of Lies

Article by: Xinran "Cynthia" Guo

Honesty is an important moral value communicated to children very early in development; we constantly discourage our children from telling lies and from associating with people who are untruthful. However, not all lies are bad – there are lies that we tell to make others feel better and to help another person. How do children learn to navigate the complicated social world when they are told two pieces of conflicting information: to never tell a lie and to tell white lies when they need to be polite?

Decades of research shows that children's understanding of lies becomes more nuanced with age. For example, preschoolers often view lies as "all bad," whereas school-age children typically know that some lies are good (e.g. white lies). In addition to age, researchers have also found that culture influences children's understanding of lies. For instance, children from eastern collectivistic cultures often views modest lies more positively compared to children from western individualistic cultures.

In our lab, we want to investigate how children from different cultural backgrounds would judge various types of lies, and whether children's understanding of different lies changes with age. To reach this goal, we created six stories about lie-telling: three stories about antisocial lies (i.e. lies to benefit the self), and three stories about prosocial lies (i.e. lies to benefit another). We also added a story about truth-telling, so there were seven stories in total. We told these seven stories to children age 4-11, and after each story, we asked children to judge the character who lied in the story (in this case, a puppet). Children could choose to reward the lying puppet by giving that puppet 1-5 candies, punish the lying puppet by giving the puppet 1-5 spanks, or do nothing to the puppet.

To examine the cross-cultural differences in children's understanding of different lies, we studied children in three distinct cultural contexts. For our participants, we recruited children through Emory Child Study Center for our American sample. We also sampled children from Beijing, China, and two villages in Samoa in the South Pacific. Altogether, we had 257 children who participated in the study.

The three cultures we selected have very distinctive ways of socializing children. American culture is the most individualistic, and children are expected to be independent from a young age. Compared to the U.S., Chinese culture strongly values modesty and respect for the elderly. As for Samoan culture, it is highly collectivistic – children are expected to follow adult instructions, and corporal punishment is also very common.

Our data show that, with the increase of age, children judge prosocial lies more positively, but their understanding on antisocial lies do not change with age. Additionally, children across all three cultures judged prosocial lies similarly. But for antisocial lies, culture has a significant effect – Samoan children judged antisocial lies significantly more negatively compared to Chinese children, and Chinese children judged antisocial lies significantly more negatively compared to American children. Therefore, children's understanding of prosocial lies is driven by age, and their understanding of antisocial lies is driven by culture.

Meet the Lab:

Xinran "Cynthia" Guo

Xinran (Cynthia) Guo was born and raised in Beijing, China. She moved to the U.S. in 2012 and graduated from University of California, Los Angeles with highest honors in Psychology in 2016. In the Infant and Child Lab, her research interests involve investigating the production and understanding of deception from a cross-cultural perspective, as well as examining the mechanism underlying conformity.

In addition to her role as a graduate researcher, she also sees herself as an educator and life-long learner. Outside of research, she enjoys various outreach opportunities to provide service to students and families, such as engaging underprivileged high school students in metro Atlanta area through the Pipeline mentorship program as a graduate mentor.

Outside of lab, Cynthia enjoys barre, hiking, any kind of travelling, and tasting various cuisine.

As parents and educators, we want to socialize our children in ways that they would view antisocial lies as negative to promote honesty and truthfulness. But we also want our children to view prosocial lies as positive, as prosocial lies communicate kindness, and make social relationships smooth. The current findings show that children's understanding of prosocial and antisocial lies follows different developmental trajectory, and therefore, our results add to the argument that not all lies are the same.

Face Animacy: Are Faces Real or Unreal?

Gordon Waldman, an undergraduate student who graduated from Emory University this past May, conducted a study with 6-8 year-old children and groups of adults on the judgment of animacy in faces varying systematically in realism (a series of 12 morphed faces, from clearly avatar looking to 100% real). This was a continuation of a study we conducted in Samoa with villagers in the summer of 2017.

The data are being currently processed but first analyses reveal that children and adults, depending on age and their culture (Samoan vs. US) tend to have a different threshold at which they view a face becoming real as opposed to unreal (% avatar). We are currently trying to explore what might explain these apparent developmental and cultural differences. We will keep you posted in future newsletters.

Student Research Assistants

Nick Furci – Class of 2020
Psychology/Philosophy
New York

Maanasa Gade- Class of 2019
Psychology/ Nutrition
California

Alison Gartley – Class of 2019
Neuroscience and Behavioral Biology
Georgia

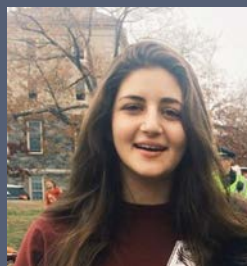**Rylee Hafitz - Class of 2019**
Psychology/ Human Health
Georgia

Alex Harris- Class of 2018
Psychology/ Women's Gender Studies
Florida

Gloria Huang- Class of 2018
Psychology
California

Mia Jin- Class of 2020
Psychology/ Quantitative Social Science
China

Arielle Kahana- Class of 2019
Psychology/Theater
Switzerland

We couldn't do this without you:

You are receiving this newsletter because you and your child have participated in one of our studies or have expressed interest in taking part in one. We invite you to involve yourself in our current studies. If you have friends who might also be interested in participating in our studies, please call or email us at:

(404) 727-6199 or (404) 727-2979

Infant.and.child.lab@gmail.com

Your visit will take less than half an hour, and your child will be given a small token of appreciation at the end. Thank you again; we cannot do it without you!

We are located on the Emory Campus, near Druid Hills, Decatur, Candler Park and other nearby Atlanta Neighborhoods.

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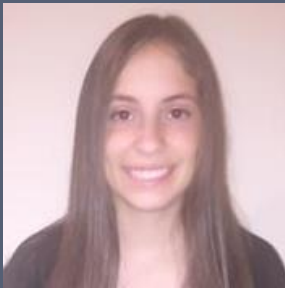
www.psychology.emory.edu/cognition/rochat/lab

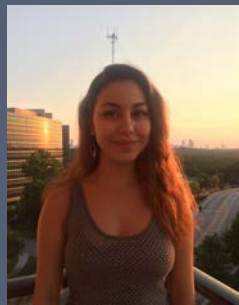# Student Research Assistants

Isha Kumar – Class of 2018
Psychology
India

Jordana Mancini- Class of 2018
Psychology/ Linguistics
Colorado

Jackie Moses- Class of 2020
Psychology/ Russian
New York

Bahar Sener -Class of 2019
Psychology
Turkey

Azar Tuerxuntuoheti- Class of 2019
Psychology/ Quantitative Social Science
China

Gordon Waldman – Class of 2018
Psychology/ Philosophy
New York

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