



Emory Infant and Child
Development Research Laboratory
Newsletter
Summer 2017

Letter to Parents:

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

Let me start this letter by acknowledging the numerous parents, infants and children who visited the Lab in the past year. We could not do without you, as well as the joint effort of many individuals: the efficient and dedicated supervision of our new Lab Coordinator Natalie Eldred who just graduated from Emory, as well as all the good work from our visiting scholars, graduate students, as well as all the volunteering undergraduate students.

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.

In the past year, the Lab has been through a lab coordinator transition. Natalie is replacing our beloved Theresa Nettles who after over 6 years as Lab Coordinator, has been promoted lecturer at Chattahoochee Technical College, closer to her home, where she is now teaching developmental and general psychology classes on a full time basis. We are elated by her career success but she will be missed. However, we are very lucky to have Natalie Eldred as her replacement. Natalie had prior experience at the Lab as a volunteer and very active student. She has been carefully trained by Theresa and the transition has been as smooth as it could be.

Last Fall, we welcomed a fourth Ph.D. student, Cynthia Guo, who is joining us from UCLA where she obtained her Bachelors of Arts in 2016. Cynthia is developing a new research project on the topic of *lying and deception* in children and is currently collecting data that she will use for her Master's thesis. We are excited about this new project on a topic that is both timely in

both obvious political climate, and because it is obviously an important feature of social-cognitive development. As a matter of fact, we are putting together a large international interdisciplinary conference on the topic scheduled to take place at the Emory Conference Center by the end of next November.

The other 3 graduate students at the Lab continue their investigation of 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). Each Ph.D. student did contribute a brief article in this newsletter summarizing their research and progress.

In the meantime, the Lab has been on the road again this summer. Last April, many of us at the Lab contributed to various symposia and poster sessions at the large Society for Research in Child Development conference in Austin, TX, and some of the publications that came out of our work this year are listed in the Newsletter.

Finally, as part of a study abroad program, like last summer, I brought 12 students on a 5 week trip to the faraway island of Samoa in the South Pacific where we tested many school children on various projects related to those conducted at the Lab. The idea is enable cross-cultural comparisons between US children and Polynesian (Samoan) children living in a radically different cultural environment.

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 convey both our appreciation and the sense of our effort to which you contributed in a fundamental way as parent.

Meet the Lab: Philippe Rochat

Philippe Rochat was born and raised in Geneva, Switzerland. He was trained by Jean Piaget and his close collaborators, and received his Ph.D. from the University of Geneva, Switzerland in 1984. He then began a series of Post-Doctoral internships at Brown University, the University of Pennsylvania, and Johns Hopkins. The main focus of his research is the early sense of self, emerging self-concept, the development of social cognition and relatedness, and the emergence of a moral sense during the preschool years in children from all over the world. His research emphasizes differences in populations growing up in highly contrasted cultural environments, as well as highly contrasted socio-economic circumstances.



How Does Your Child Think About Race & Space?

Article by Maria Jones

Stereotypes, or assumptions about a person made 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 which are thought to be manifestations of inherent differences in intelligence, temperament, and physical prowess. The stereotype that people with darker skin are more dangerous has permeated the culture of the United States and abroad. 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 what type of effect racial bias has on 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. We hypothesized that kids who perceived the black faces as moving faster than the white faces would also have greater racial biases.

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 and see if they were related.

Results showed that overall, there was no significant difference in space perception based on the race of the faces. Each individual child's score, however, on the racial bias task was related to space perception. Specifically, children who had a strong association of negative words with black faces reacted much faster to the black faces than the white faces. Similarly, children with a strong association of negative words with white faces reacted much faster to the white faces.



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.



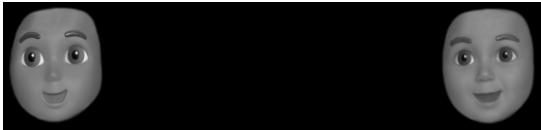
Exploring Face Animacy Perception in the First Year

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.

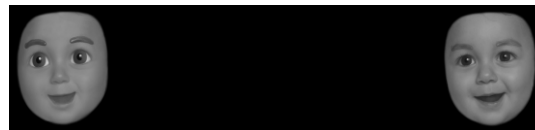
Despite its significance for social-cognitive functioning, face animacy perception has long been overlooked in mainstream psychology, particularly the development of face processing in infancy.

In the past year, I've focused on the development of face animacy perception during the first year. In one study, I



Within-category (inanimate) pair

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.



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.

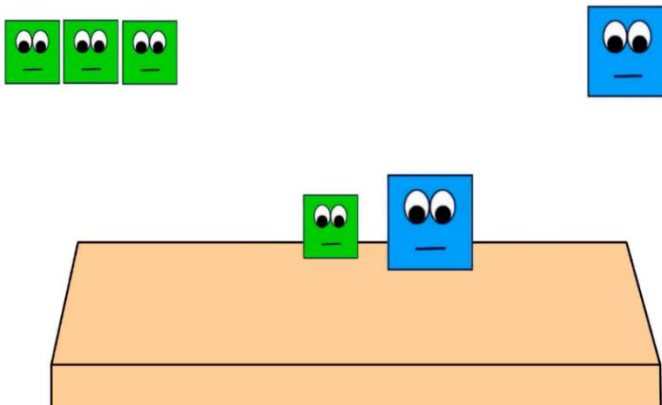


Cues Utilized in Infancy to Infer Social Dominance

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 6-9 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 at scenarios where a little guy "bows" for a big guy significantly longer than if the big guy were to bow down to the little guy, because this scenario would be more unexpected. Based on previous research, we expect that around 9 months, infants are able to determine social dominance utilizing size. However, we will further investigate whether or not infants also utilize number to determine social dominance. The current study is ongoing, and we will continue to recruit participants through the summer.

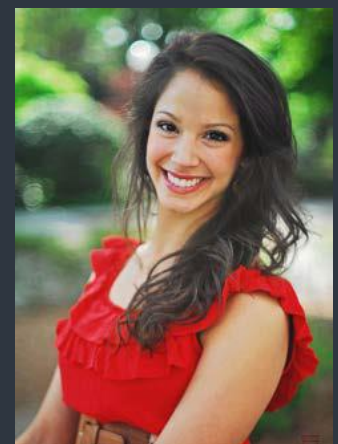


Meet the Lab: Sara Valencia Botto

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 as participating in "Roots and Shoots," a program that teaches basic science to third graders.



Audience Perception

Article by Sara Valencia Botto

The Social Psychology literature has consistently shown that the perceived presence of an audience (others watching) influences or modifies one's behavior. For instance, people are more likely to perform better, be more generous and conform to the majority when other people are watching. Such behavior modification suggests that we come to perceive others as evaluators. In

other words, we assume that our behavior will be evaluated by others and thus modify our behavior when others are watching in order to maximize self-presentation.

While there is ample evidence that we come to perceive others as evaluators, little is known as to when this emerges in development. Specifically, when do children begin to systematically change their behavior when another is watching as an index of an emerging sensitivity to others' evaluation?

This is what the Audience Perception Study aims to find. In our first study, we recruited 14-24 month-olds to observe when children would begin to change their behavior depending on whether or not they were being watched. We chose this particular age group because around 18 months, children begin to both recognize themselves in the mirror as well as display embarrassment and coyness.

In the first study, infants were given two tasks in which the experimenter was either attentive (audience condition) or inattentive (no audience condition). We wanted to measure whether the presence or absence of an audience would affect the way children behaved. In this study, children were given the opportunity to play with a remote that made a toy robot light up. Since no explicit instructions were given, we hypothesized that their behavior may change depending on whether or not the experimenter was watching. We found that children who can recognize themselves in the mirror as indexed by the mirror mark test were also more likely to modify their behavior when the experimenter was watching. Further, children were displaying inhibition in the mirror mark test when the experimenter was watching, taking significantly longer to pass the mirror mark test in the audience versus no audience condition.

Our second study further probed why children were modifying their behavior in our first study. We tested another group of 14-24 month-olds and also had them do the mirror mark tests well as the robot task. However, this time, we gave the child the option to play with two remotes instead of one. Importantly, each remote was given a value by the experimenter at the beginning of the robot task. So for example, the experimenter would grab one remote and say “wow isn’t that

great?” which posited a positive value, and grab the other remote and say “Oh oh! Oops oh no!” which was the negative value. Our rationale behind this manipulation was that if children were truly considering others’ evaluation, then they would be more likely to choose the positive remote when the experimenter was looking, but choose the negative remote when the experimenter was not looking. This would be consistent with past findings, which have found that both older children and adults choose to behave in ways that are consistent with what society values when they are being observed (i.e., share more and cheat less when being observed). Interestingly, we indeed found that overall infants would play with the positive remote significantly more when the experimenter was attentive, but were more likely to play with the negative remote when the experimenter was inattentive. Importantly, we had a control group who also got to play with two remotes, but no values were given to either remote by the experimenter. In this context, infants did not choose one remote over the other like in the experimental group, suggesting that infants in the experimental group were indeed being strategic in their remote choice depending on whether or not they were being watched. Because in both of our studies infants were both inhibited when being watched, as well as considering the different values given by the experimenter on different remotes, we interpret these results as evidence that children begin to be sensitive to others’ evaluation by their second birthday. We hope to continue exploring what contributes to such development as well as inter-individual differences.



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.



Emergence of Deception in Preschool Children

Article by: Xinran “Cynthia” Guo

Contrary to what many people believe, children usually start to lie before the age of 3. As children get older, they become more competent liars. But what are the driving factors behind this emergence of deception? From the current literature, we hypothesized that preschoolers’ understanding of others’ mind and their understanding of social norms are precursors to the emergence of early deceit.

To test our hypotheses, we recruited 39 2 ½ to 5-year-old children, and engaged them in a series of game-like behavioral tests. The first test was a deception game, where the child was given a gift that was covered under a soft cloth. Experimenter 1 asked the child not to peep at the gift, and made an excuse to leave the room. After 15 seconds, Experimenter 2 entered the room, uncovered the cloth, and revealed the gift to the child. We were interested in whether children would cover up the gift to “restore it” to its original state, and whether they would later lie to Experimenter 1 about looking at the gift.

To examine whether children’s deceptive behaviors were related to their understanding of others’ mind, we also gave the children two theory of mind tests to investigate whether young children would apprehend the fact that different people have different desires (*Diverse Desires*), and that people have access to certain information after they see the information (*Knowledge Access*). For the *Diverse Desires* task, children were shown a toy cookie and a toy broccoli, and they were asked which food they preferred. After they chose their preferred food, the researcher would state that she preferred the food unchosen by the child. Then, the children would have to choose

either cookie or broccoli to offer to the researcher. A child had to understand that the researcher preferred a different food to pass the task. For the *Knowledge Access* task, children were first introduced to a puppet “Bobo” and an opaque box. Then, children were asked whether Bobo would know what was inside the treasure box if Bobo had never looked inside the box. To pass the task, children had to understand that people need to have access to certain information to learn the knowledge.

Furthermore, we wanted to explore whether children who were more sensitive to social norms are more likely, or less likely, to lie. On the one hand, truth-telling is established as a social norm in our society very early in development, and it makes sense that children who are more sensitive to norms are less likely to lie. On the other hand, if a child is sensitive to norms, the child might be afraid of the consequences associated with transgressions, and is thus more likely to use lies to cover up a transgression. To investigate this question, we played a sticker game with children. In the game, the researcher placed 10 stickers on the table, and the child and the researchers took turns taking one sticker at a time. After two rounds, the researcher would transgress the rule by taking two stickers in a row. Children’s reactions to the researcher’s transgression were to be analyzed with their performance in the lying game to see whether children who are more norm-sensitive are more likely, or less likely, to deceive.

Data collection and data analysis are still on going. Our data to date shows that half the children would lie to cover up the fact that they looked at the gift, and the other half would speak the truth. We are recruiting more children in the 4 to 5-year-old age range to study the developmental trajectory of deception in relation to theory of mind and normativity.

Meet the Lab:

Xinran “Cynthia”
Guo

Xinran “Cynthia” Guo grew up in Beijing, China. She received her B.A. degree from University of California, Los Angeles with Highest Honors in Psychology and a minor in Applied Developmental Psychology in 2016. She joined the lab in the fall of 2016.

Cynthia is broadly interested in moral and cognitive development in young children. Having been exposed to more than one culture, she is curious about early development across different cultural contexts. Currently, she is working on a project to explore the relations between early emergence of deception, theory of mind understanding, and normative understanding.

Cynthia is passionate about education and mentoring undergraduate students. She hopes to gain more teaching opportunities in graduate school. She will be a teaching assistant for the undergraduate course, Child Development in the fall.



Development of Inequity Aversion and Altruism

Article by: Jinyi Zhang

The issue of sharing and fairness is a central piece of understanding human social behaviors. From a developmental perspective, natural observations of family life show that more than 80% of all conflicts among young siblings revolve around issues of possession and resource distribution. So, what is the psychology behind such recurrent source of conflicts and group disharmony? How does our sense of fairness and consideration for others develop? Are children from one culture more fair or altruistic than children from other cultures? During the past year, we conducted a cross-cultural study in Samoa, China and the USA to explore the role of culture on the emergence of inequity aversion (the preference for fairness and disliking for inequality) and altruism in sharing both positive and negative outcomes.

This study consisted of three games. In the first game we wanted to investigate how children develop inequity aversion and altruism when allocating positive outcomes. In this game, children were asked to choose between equitable and non-equitable allocations of candies with an anonymous partner in three trials. According to the choices they made, we categorized children into four behavioral types: egalitarian, altruistic, spiteful and conflicting interests (ambiguous). In the second game we wanted to investigate whether the developmental and cultural differences we observed in the first game still held true when allocating negative outcomes. The second game mirrored the first game, but instead of candies, we let children choose between equitable and non-equitable allocations of plastic bugs after telling them a scenario of bug invasion at school. We also categorized children into the same four behavioral types according to the choices they made in this game.



We found that when looking at age as a factor, when dividing candies, the older children (over 8 years old) were more egalitarian in that they preferred equitable allocations.

But when dividing bugs, the older children were more altruistic in that they preferred allocations that minimized the bug bites for the partner. This finding suggests that older children (potentially adults) utilize different thought processes when making moral decisions that involves harm instead of rewards. When looking at culture as a factor, we found that across all ages, American children were the most egalitarian, Chinese children were the most altruistic, and Samoan children were the most ambiguous (meaning they often made choices that contradicted each other).

The third game tested how much pain the participant was willing to inflict to himself or partner in exchange for different amount of rewards. Less pain (thinner rubber band snaps) was paired with smaller amount of candy, more pain (thicker rubber band snaps) was paired with larger amount of candy. We found that older Chinese children were willing to take more pain for themselves in exchange for more candies, but when the pain was to be inflicted on an anonymous partner, they chose significantly less pain for the partner, even doing so reduced the amount of candies they were able to get for themselves. No difference between the pain level chosen for self and partner were found among other combinations of culture and age.

This study filled the gap in the literature on the development of fairness that involves negative outcomes. It also informed us about the social norms in cultures that are less studied. Our finding indicates that both age and culture play important roles in children's development of inequity aversion and altruism. We hope to continue exploring sharing behaviors in adults from the three cultures, and answer the question of how adult norms influence children's emerging moral valuation.

We are excited to present this study in 29th Association for Psychological Science in Boston this summer.

Spotlight on the Students:

Jinyi Zhang

Jinyi Zhang was born and raised in Jinan, China. She received her Bachelor of Arts Degree in Psychology with High Honors from Emory University in 2017. She joined the lab as a Research Assistant in the fall of 2015, and conducted an honors project during her senior year under the mentorship of Dr. Philippe Rochat and Dr. Erin Robbins.

Her research focuses on the development of fairness and altruism from children of different cultures. She had the opportunity of going to Samoa, China and the US to conduct a series of studies with local children and adults.

She is also interested in the study of trauma and PTSD. While at Emory, she interned at Grady Trauma Project as a research screener. In her spare time, she enjoys cooking and baking cuisines from all over the world.



Student Research Assistants



Faith Bygrave – Class of 2019
Anthropology/ Human Biology/
Developmental Studies
New Jersey



Nicole Ciesinski -Class of 2017
Psychology/ Russian/ Applied Mathematics
Maryland



Maanasa Gade- Class of 2019
Psychology/ Nutrition
California



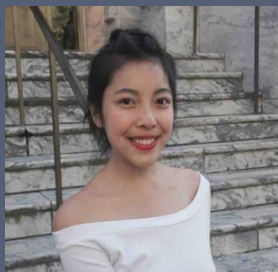
Alison Gartley – Class of 2019
High School Intern
Georgia



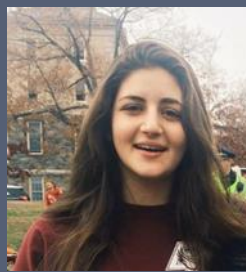
Rylee Hafitz - Class of 2019
Psychology/ Human Health
Georgia



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



Gloria Huang- Class of 2018
Psychology
California



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 your child is under the age of 10, and you would like to be contacted about 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.

36 Eagle Row,
Atlanta, GA 30322

Free Parking is available. Check our website for directions:

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

Student Research Assistants



Isha Kumar – Class of 2018
Psychology
India



Bahar Sener -Class of 2019
Psychology
Turkey



Tianshu Wang – Class of 2019
Psychology
China

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 your child is under the age of 10, and you would like to be contacted about 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.

36 Eagle Row,
Atlanta, GA 30322

Free Parking is available. Check our website for directions:

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

Our Year in Atlanta and in the South Pacific

