Dear Parents and Families,

Welcome to the annual publication of the Child Learning and Development (CLAD) Lab’s newsletter! This summer, we are celebrating our eighth year of research in the lab, and are excited to share some of our recent work with you! This newsletter reports on several of the studies conducted during the past year. I hope you enjoy reading about this work, especially the studies in which you and your children participated.

Thank you for participating in the research being conducted in the lab. Without your support and participation, I would not be able to carry out my research or train the next generation of developmental scientists. We have faced some unprecedented challenges this past year, but we truly appreciate your continued support of our research. To keep up to date on all things CLAD Lab-related, visit our website at bitly.com/cladlab.

Carolyn Palmquist
Director, Child Learning and Development Lab

Research Updates

Do children have skeptical personalities?

Recently our lab has been exploring a phenomenon called “hostile attribution bias.” Hostile attribution bias, or HAB, is the tendency for individuals to interpret ambiguous situations in a negative way. For example, a person with a hostile attribution bias will assume that an ambiguous action (someone knocking over their glass of water) was intentional, even though it could easily have been accidental. Whether or not someone has a hostile attribution bias has implications for how they will interact with others, and kids typically start to show signs of this bias around preschool-age.

This past year, we explored the relationship between children's own HAB and that of their parents, as there is some research to suggest that parents model this kind of thinking for their children. To do so, we asked 4- and 5-year-olds to take part in our own measure of hostile attribution bias, in which children were asked to interpret a series of videos depicting ambiguous actions with negative outcomes. After watching each video, children were asked whether the child acting ambiguously was “making a mistake” or “wanted [the event] to happen” and whether the child acting ambiguously was “mean” or “not mean.”
this task, children with stronger HAB are more likely to answer that the individual “wanted [the event] to happen” and was being “mean.” We also asked parents to complete a few surveys on their own social information processing to assess the extent to which they demonstrate HAB.

We found interesting relationships that support previous research. Specifically, children who were more likely to view the ambiguous interactions in our task as the result of an intentional act on the part of the "perpetrator", had parents who were more likely to demonstrate hostile attribution biases themselves. Relatedly, children who were less likely to view the "perpetrator" of the ambiguous interactions as mean, had parents who demonstrated less of a hostile attribution bias. This suggests that parents with HAB may indeed model this thinking for their children, making their children more likely to exhibit HAB.

Previous studies conducted in the lab have also explored how children’s HAB influences their trust of various individuals. Our theory was that children with greater HAB might be more skeptical of questionable sources than children that do not demonstrate this bias. Participating children watch a series of videos in which an actor labels common objects with the wrong name (calling a flower a shoe). Children are then presented with a few unknown objects and given the option to ask either the incorrect actor or an unfamiliar actor for the names of these objects.

We found that overall, children tended to avoid learning about the names of new objects from the previously incorrect actor, opting instead for the new actor they knew nothing about. Also, children’s hostile attribution bias scores significantly predicted their interpretations of the incorrect actor, such that those with greater HAB were more likely to say that the incorrect actor was trying to trick them, rather than simply making a mistake. Surprisingly, we did not find any associations between HAB and decisions about trust. Children with greater HAB were no more likely to avoid the incorrect actor than were children with less HAB. Our findings suggest that although hostile attribution plays an important role in children’s interpretations of others’ behavior, there may be other factors that children consider when deciding whether someone is trustworthy.

We are currently extending this research to further explore the relationship between HAB and trust. In the previous study, we asked children who they would rather trust to provide epistemic information (i.e., the names of unknown objects). Because children with and without HAB did not differ in their trust decisions for this task, we hypothesized that HAB may inform trust decisions in other contexts. Specifically, we are now exploring whether children’s variation in HAB predicts their social trust in others. To study this, we created some additional questions for this study that the children are asked after the epistemic questions. For example, we now ask children questions such as “who would you rather be friends with?” and let them choose between the incorrect actor or the unfamiliar actor. If HAB does predict children’s social trust, we might expect that children with greater HAB will be less likely to choose a previously inaccurate informant as a friend than children with less HAB. We’re excited to see how and if HAB influences these decisions, and we hope to use these findings to better understand the role hostile attribution bias plays in trust.
How do facial features affect children’s inferences about others?

Adults frequently use others’ appearance to make inferences about what kind of traits they have and how they might behave in the future (e.g. associating a strong jaw line with a dominant personality). Children also demonstrate this tendency, and our lab is interested in understanding exactly how this process works and develops. Specifically, our previous work explored whether these face-based associations were rooted in the traits depicted in the faces (e.g., competency or trustworthiness) or the general valence of the face (e.g., positive or negative). This work highlighted specific age differences in children. Although 4-year-olds tended not to discriminate between trustworthy-looking and competent-looking faces (viewing both as equivalent despite depicting different traits), 5-year-olds did distinguish between these faces. Indeed, 5-year-olds were more likely to say competent-looking faces would be knowledgeable and trustworthy-looking faces would be nice. This shows that 5-year-olds not only associate unique traits with the faces in each pair, but that they also are able to select the “appropriate face” for the type of question asked (e.g., showing a preference for a trustworthy-looking face when tasked with identifying a better sharer). More broadly, this suggests that there is a distinct developmental change in the way children interpret others’ facial features: 4-year-olds appear to rely more on valence and 5-year-olds appear to rely more on specific traits apparent in the faces.

This research helps us understand many aspects of children’s face-trait understanding, but it does not tell us why we see these differences between 4- and 5-year-olds. Last year, we completed a study that was designed to explore the mechanism underlying this age difference. We developed two possible explanations. The first is a low-level explanation: 5-year-olds are better than 4-year-olds at perceiving subtle differences in others’ facial features. The other, trait-based, explanation requires more cognitive effort: 5-year-olds have a better understanding of traits and how they can be used to make inferences about others. To explore each of these explanations, we designed a study with two components: a face perception task to target the low-level explanation, and a trait task to target the trait-based explanation.

Our results support the second, trait-based, explanation. There was no significant difference between 4- and 5-year-olds’ performance on the face perception task, suggesting that both age groups were relatively good at identifying subtle differences in the faces. On the trait task, however, 4- and 5-year-olds’ responses differed. Four-year-olds did not appear to use trait information to make predictions about characters’ future behavior, but 5-year-olds did. Specifically, 5-year-olds were more likely to say that someone who had been labeled as “smart” would know the names of unfamiliar objects and someone who had been labeled as “nice” would be a better sharer. Taken together, these results indicate that 5-year-olds may have a better understanding of traits than 4-year-olds, and can use that understanding to make inferences about a person’s behavior.
How do young children learn to evaluate deception?

For several years, our lab has been exploring why it is that young children, 3-year-olds in particular, have so much difficulty ignoring others’ deception. There is a lot of research to suggest that despite being able to lie themselves, 3-year-olds can’t help but seem to trust deceptive information from others.

Our previous research has demonstrated that both the source of the deception (human vs. machine) and whether children have their own first-hand knowledge that contradicts the deceptive information (knowledge vs. no knowledge) affect their ability to correctly interpret deceptive information as false. Specifically, 3-year-olds have more difficulty ignoring deception from a human than they do a machine, even when they have their own knowledge that contradicts the deception. This winter, we explored what it is about a human source that is so difficult for young children to ignore. Is it simply seeing a human that makes them trust? Or is it something about their expectation that humans will be truthful? To do so, we asked 3-year-olds to take part in a searching task where they watched an actor drop a ball through one of two clear, crisscrossing tubes. These tubes ended in opaque cups so children could not see where the ball had landed. For some children, the tubes were visible and they could watch the ball as it fell through the tubes (i.e., they had knowledge about the event); for other children, a screen blocked the tubes so they could not see the ball as it travelled through them (i.e., they had no knowledge about the event). Importantly, prior to searching, children heard incorrect information about the location of the object from a human source who was described as "broken" rather than deceptive. Interestingly, this modification improved children's performance! They were more likely to search correctly, ignoring the incorrect information from the "broken" human than they did the deceptive one in the previous studies. This suggests that it is the deceptive intentions, not the humanness of the source, that interferes with young children’s ability to correctly interpret inaccurate information.

This summer, we are wrapping up this series of studies by conducting a control experiment in which children do not encounter any deceptive or inaccurate information during the searching task. In this version, the 3-year-olds merely watch the ball get dropped down one of the crisscrossing tubes, either with the tubes visible or obscured, and are asked to identify its location. This control group allows us to, first, determine whether children can correctly identify where the ball was going when another source does not provide any information about its location. Second, the control group acts as a comparison baseline for our previous findings. This allows us to determine the extent to which the kind of source and prior knowledge impact children’s success in finding the ball. We hope to be able to share updates on this research with you next year!

Register with us

If you are interested in learning more about the lab, you can contact us by calling 413-542-5670 or emailing cladlab@amherst.edu. If you are interested in participating in future research, visit our website at www.bitly.com/cladlab to register your family with our lab. If you register
your family, we will contact you when there is a study that your child is of the right age to participate in.

Meet our Researchers

Julia Ruggiero ('21) presents her thesis research at Amherst College.

Our research assistants for the 2020-2021 academic year gather for a final meeting over Zoom.

The CLAD lab summer research assistants pose for a selfie outside of The Science Center. From left to right: Professor Palmquist, Jasmine Shehni ('23), Sylvia Lanni ('22), and Megan Taketa ('23).

Thesis student, Heather Scott ('21), presents her research at Amherst College.