ISLAND LAB

Newsletter

A Letter to Caregivers

We are excited to release the fourth edition of our annual newsletter where we share updates from this past year including our accomplishments, fun team moments, and what we're looking forward to in the upcoming year.

We are grateful for our families that make our research possible and appreciate the time and effort you have given us these past few years. Keep reading to learn more about the conferences we've attended this year, recent publications, and updates on our COPE, ORCA, and SHELL projects.

In This Edition

ISLAND LAB
Infant Studies of Language & Neurocognitive Development

Dedication to Dr. Natalie Brito

On behalf of all of us at ISLAND - congratulations on receiving **TENURE**! This year's newsletter is dedicated to you - thank you for creating a lab environment that fosters learning and curiosity. It's undeniable that you've made a wonderful impact on all your students and staff and it's been an honor to be part of your team since you started at NYU in 2017.

ISLAND is where my passion for research unfolded and I am incredibly grateful to have a mentor that exudes compassion and empathy so effortlessly. I've never wavered in speaking highly of you - your consistent devotion to mentoring and advocating for your students has shown me the type of leader and researcher I would like to be.

You've shown me the importance of prioritizing accessibility and inclusivity when working with our families and using critical thinking to inform the way we conduct and analyze research. I will forever be thankful that the majority of my college and young adult life has been impacted by you and the people at ISLAND. I think you're pretty awesome and I'm not to the only one who thinks so (some more words of affirmations below)!!

Sincerely,

Maggie Zhang

ISLAND Lab Manager

"Natalie! Congratulations on your tenure! You're the **best mentor** I could ever asked for and I'm very lucky to be able to learn from you. Thank you for all the support and guidance during these years." *Alejandra Lemus*

"Natalie is not only an incredible mentor, teacher, and researcher, but she's also **a wonderful person**. I am so grateful to get to work with her and take great comfort in knowing we will continue to collaborate for years to come." *Sarah Vogel*

"Congratulations to the best mentor of all time! It's so hard to put into words how grateful I am to be your mentee. You have been **transformative and instrumenta**l to my research journey ever since I stepped through those Steinhardt doors for interview day so many years ago. It has been a joy to watch our little lab grow - you've created an incredible community and are so beloved by students and staff alike. Thank you for your countless hours of manuscript revisions, conversations about professional aspirations, and endless support through periods of growth and transformation. You are beyond deserving of tenure and I can't wait to continue watching the ISLAND lab empire grow!" *Annie Aitken*

"Congratulations Natalie! I owe all of my growth within research to you, and am so grateful for your dedication, wisdom, and patience over the last two years. You're not only an **incredible mentor, but such a skilled and thoughtful researcher**. I'm so glad that is being recognized, and I can't wait to see what this next chapter brings for you! You will always be a STAR in my eyes."

Amy Hume

"Congratulations Natalie! There is absolutely no one more deserving of this accomplishment than you. Your **commitment to research and mentoring is inspirational** and the reason why the ISLAND Lab is the wonderful and achieving community it is. I am very lucky and grateful to have you as a mentor. A mentor that instills in her students a desire for knowledge, critical thinking, and a drive towards inclusive research. Congratulations once more and enjoy this moment - your moment." *Lissete Gimenez*

"Natalie, you are a **phenomenal mentor**. Not only are you a brilliant developmental scientist, you are also incredibly generous with your time. I appreciate that you prioritize mentorship of your students and that you gave me such helpful feedback on my K99, even though you weren't listed as a co-mentor (which I still think is silly because you have been a remarkable co-mentor to me over the last 3 years!). I know I can always count on you for constructive feedback, career advice, and for waylaying my climbing plans with rooftop drinks =) I'm thrilled for your tenure! Congratulations!!"

Cassie Hendrex

"Natalie!! Congratulations on this huge accomplishment!!:) I am so grateful to get to work with you as a mentor and am so proud of you! Your dedication to your students and genuine care in all you do is something I admire. I hope this year is filled with **many more celebrations** :)" *Gianina Perez*

STATEMENT OF DIVERSITY, INCLUSIVITY, EQUITY, ANTI-RACISM, AND ACTIVISM

*At the ISLAND Lab, we are committed to **fostering an inclusive and supportive environment** regardless of race, ethnicity, socio-economic background, sexual orientation, or gender identity. We take our roles seriously as students and researchers who are committed to promoting an **anti-racist agenda** within academia and our daily lives.*

Below are some ways our lab will be held accountable for promoting equity within our lab and developmental research.

1 We are committed to communicating our research and findings to the public using **inclusive and accessible language** for all.

Every semester we will have lab-wide group discussions on anti-racism and **addressing our own internal biases**, especially in the context of conducting research. We acknowledge these discussions must be ongoing and frequent in order to achieve change. 2

3 We are committed to prioritizing and deliberately learning about ways we can **include our participants** (i.e. providing a space for participants to provide feedback about our studies and their own input and **opinions of what they're curious about** as well).

We will **prioritize open, rigorous, scientific methodology**. We will analyze how our data collection could be favoring certain groups of families over others (e.g., EEG signal quality based on hair type, the language used in surveys, how we code caregiver behaviors, what ideologies are endorsed as normative, etc.). 4

Meet Our TEAM

Natalie Brito, PhD
Principal Investigator

Denise Werchan, PhD
Postdoctoral Fellow

Annie Brandes-Aitken, PhD
Postdoctoral Fellow

Gianina Peréz
Graduate Student

Lissete Giménez
Graduate Student

Maggie Zhang
Lab Manager

Amy Hume
Research Associate

Research Assistants:

- Alejandra Lemus
- Lucy Yan
- Hillary Allison Ortiz
- Paloma Castillo
- Michelle Masiello
- Sophie Lehmann
- Nicole Sampaio
- Nikita Ghodke
- Tahyla Holness

Summer 2023 RA Spotlights

Jenna Katz, Smith College

Amelia Almonte, Barnard College

Aissata Diallo, Bronx Science High School

Rodney Jerome, QUEST

ISLAND LAB
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SNAPSHOTS OF OUR YEAR








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REASONS TO CELEBRATE!

DENISE, YOU'RE INCREDIBLE!

Dr. Denise Werchan was one of the twelve recipients of the 2022 Small Grants Program for Early Career Scholars. We're so proud of her and are thrilled that she is recognized for her innovative research involving naturalistic methods for capturing infant attention through remote eye tracking.

Another wonderful reason to celebrate is because Denise's paper on "Effects of prenatal psychosocial stress and COVID-19 infection on infant attention and socioemotional development" has been accepted by the journal of *Pediatric Research*!! We're so proud of you!

ANNIE, YOU'RE AMAZING!

Dr. Annie Brandes-Aitken was awarded the Steinhardt Dissertation Finishing Award, a competitive $10,000 award to complete her dissertation and she graduated May 2022. On top of that, Annie also won the University wide Outstanding Dissertation award for the Social Sciences. How awesome!

Annie continues with ISLAND as a postdoctoral fellow, specializing in EEG and heart rate research and methodology.

EVEN MORE REASONS TO CELEBRATE!

CONGRATULATIONS, SARAH!

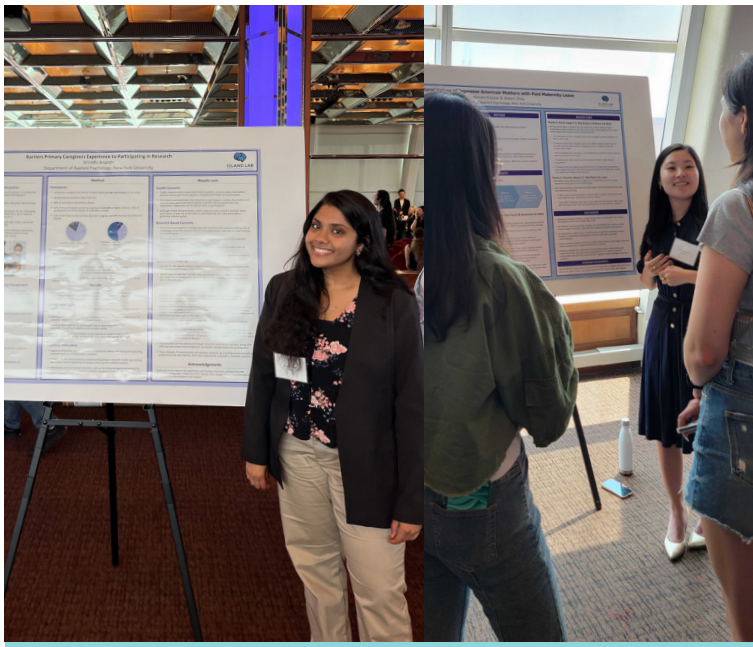
A huge congratulations and kudos to Dr. Sarah Vogel for successfully defending her dissertation and graduating from the Developmental Psychology PhD program. She is the winner of the Steinhardt Dissertation Finishing Award and the Felix M. Warburg Memorial Reward. These two recognitions highlight Sarah's amazing academic contributions and her dedication to mentoring students and fostering community.

We are so incredibly proud of you and we can't wait to hear all about your post doctoral journey with Dr. Wagner at the Boston University BASE Lab.

STUDENT ACCOMPLISHMENTS

Congratulations to our students Srinidhi Ananth and Haruka Kozake for presenting at the Applied Psychology Undergraduate Research Conference in May 2023.

Congratulations as well Srinidhi for winning the Community Service Award as well! We are so proud of you both and all of our seniors!



Project Update: COPE Study

The aim of the COVID-19 and Perinatal Experiences (COPE) study is to understand the experiences of stress and resilience during the pandemic and potential impacts on infant development. We are currently following over 150 families across multiple stages of their baby's life, collecting survey data, behavioral observations, neuroimaging and biospecimens.

6 & 12 Months

Families are invited into the first part of our longitudinal behavioral visits. This entirely **remote part of the study** is conducted at 6 and 12 months and includes **surveys**, a **mother baby Zoom visit** and remote **biospecimen sample collection** for both mom and baby.

9 & 18 Months

At 9 and 18 months - families are invited to complete more surveys and have their babies wear **LittleBeats**, an at-home wearable device with sensors that measure your child's heart rate and audio in their environment. The sensors are very safe and child-friendly!

42 Months

At 42 months, we are conducting **home visits** where families do similar activities as they would at 30 months, but this time in their home environment. We are also collecting brain activity (**fNIRs)** and **heart rate** data as well.

30 Months

Along with online **surveys**, families are invited for a **lab visit** to complete activities together. While playing, mothers and their children both wear "sensor" hats that uses light to measure brain activity (**fNIRs**) and heart rate monitors. They also provide **biospecimen samples**.

STILL FACE PARADIGM

At 6 and 12 months, families complete the Still Face Paradigm over zoom! We are interested in seeing how babies react when their parents are not responding to them as they normally would.

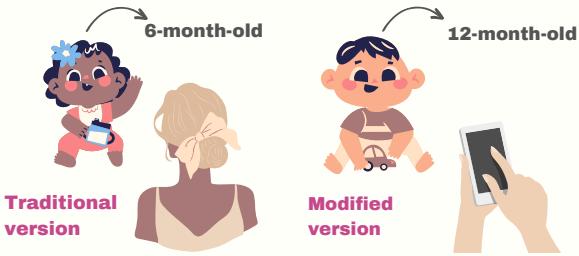
WHAT IS THE STILL FACE PARADIGM?

In the Still-Face task, we instruct the mom to play with their baby for 2 minutes, referred to as the free play phase. The still-face phase follows, in which the mother shows a blank face to their baby for 2 minutes. Then after a short break, the mother returns to normal play with their baby, referred to as the reunion phase.

The task is conducted differently with 6-month and 12-month-olds. At 6 months we use the traditional still-face version, while at 12 months we use a modified version in which the mother looks at a mobile device during the still-face phase. This modification is to better reflect real-life disengagement.

WHAT ARE WE INVESTIGATING?

Psychologists use the paradigm to study factors such as the infant's behavioral and emotional regulation, parent-child interactions, and infant's attachment styles.



WHAT BEHAVIORS DO WE CODE FOR?

To better understand the variation in reactions among babies, we code for :

- Positive affect: baby smiles or produces sound in a positive tone
- Negative affect: baby cries or gets fussy
- Gaze: baby looks at or makes eye contact with mom
- Self-comforting behavior: baby engages in fine motor activities (e.g. sucking fingers or rubbing feet) during still-face phase

WHAT DID WE FIND?

At 6-months we find that babies tend to have more negative affect and less positive affect during the still face phase. However, during the mobile still-face paradigm at 12-months, babies tend to show less positive affect and less willingness to explore the room during the still face phase and less positive affect and re-engagement with mom during the reunion stage.

Project Update: ORCA Study

The aim of the Online Remote Child Assessment (ORCA) study is to **make participation in research studies more accessible** in order to better understand how diverse early experiences impact child development. Families are invited to hop on a 20-minute Zoom call where their baby watches short videos on their computer, tablet, or smartphone. Families also complete some short surveys and may be invited to participate in an interview. You can learn more about our remote infant eye tracking here: https://www.denisewerchan.com/owlet

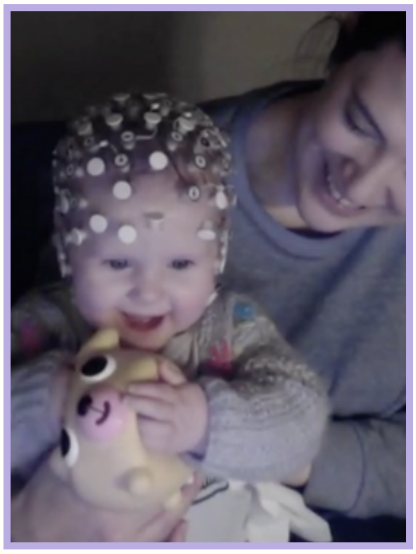
We currently have over 100 families enrolled in the study from **29 states** in the U.S., with many families participating multiple times! We are **actively recruiting** families with **3-12 month olds** to participate in this remote study. If you are interested, please fill out this survey to see if your child is eligible: https://redcap.link/orcascreener

You can also scan the QR code to access the survey as well. Please email us at britobabylab@gmail.com if you have any questions about this study!

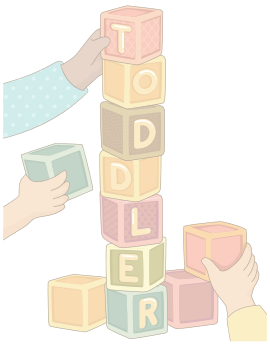
Project Update: SHELL Study

The Stress, Home Environment, Language and Learning (SHELL) study launched in 2018 with the goal of examining how the early home environment impacts language and cognitive development during infancy. We have concluded data collection for this project and are now continuing to analyze data and publish papers.

Learn more about two recent publications on attention and cognitive development and maternal mental health and parent-child interactions using data from the SHELL study!



CAN EARLY SUSTAINED ATTENTION PREDICT COGNITIVE DEVELOPMENT?



What is attention?

Attention is focusing and processing of information in our environment. In newborn babies, it begins as involuntary (turning their head towards noises) and becomes more voluntary and sustained as they get older! Attention can be measured behaviorally (i.e., looking), but also by examining brain activity and heart rate! In this paper we studied sustained attention, which refers to concentrating on a task or stimuli for an extended time, in 3-month-olds.

Method

- Measure infant looking behavior and brain activity during a sustained attention task (infants watched a Sesame Street video clip)
- Examine links between brain activity and looking behaviors during the sustained attention task
- Evaluate whether sustained attention at 3 months predicts memory skills at 9 months

What did they find? Why is this important?

- Brain activity was significantly higher during sustained attention and was associated with longer looking engagement during the sustained attention task
- Greater brain activity during sustained attention at 3 months was correlated with better visual recognition memory scores at 9 months.
- Early attention may predict the trajectory of cognitive development in the first year of life!

Can early attention be improved?

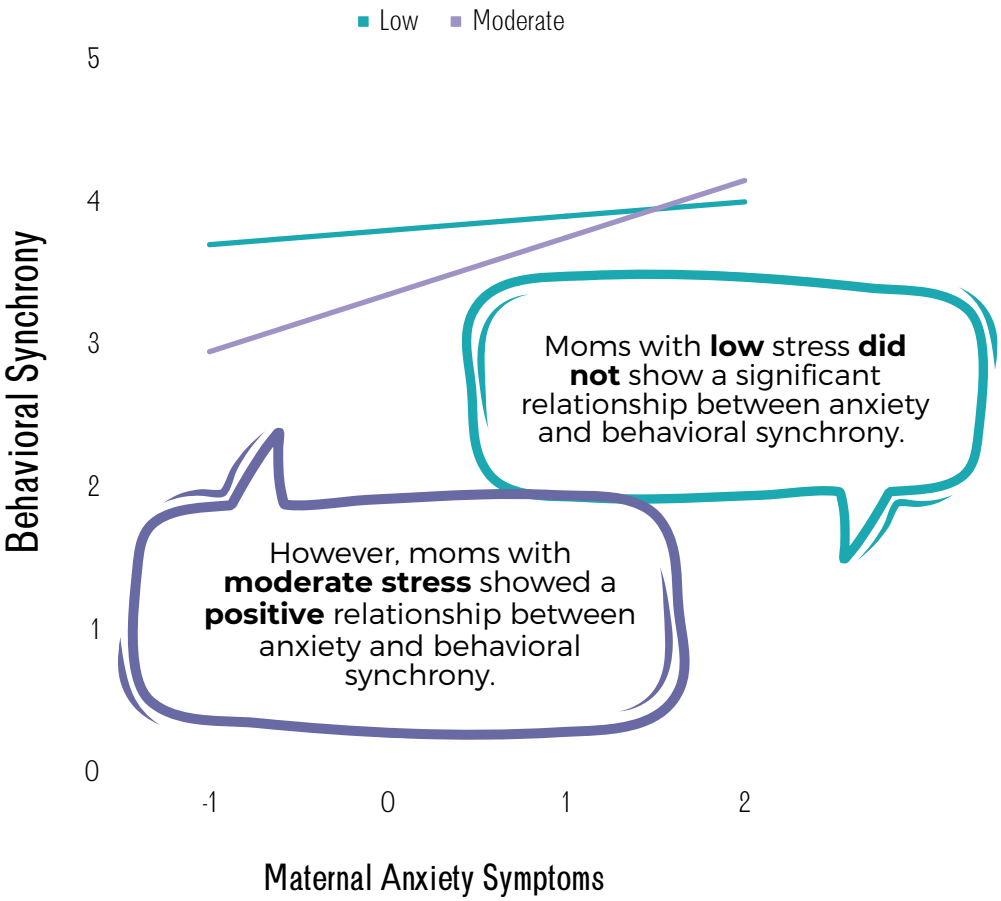
Yes! Minimize distractions so that there aren't multiple things competing for infant's attention. But keep in mind that young kids typically cannot pay attention for long periods of time. And that is okay! Playing with your child and having them participate in everyday activities with you is all they need to develop their attentional abilities.

Annie Brandes-Aitken, Maya Metser, Stephen H. Braren, Sarah C. Vogel, Natalie H. Brito, Neurophysiology of sustained attention in early infancy: Investigating longitudinal relations with recognition memory outcomes, Infant Behavior and Development. DOI: 10.1016/j.infbeh.2022.101807.

What role does maternal anxiety have on mother-baby interactions?

Lemus, A., Vogel, S. C., Greaves, A. N., & Brito, N. H. (2022) Maternal anxiety symptoms associated with increased behavioral synchrony in the early postnatal period. Infancy, 1-15. https://doi.org/10.1111/infa.12473

Postpartum depression is found in ***17.22%*** of the world's population whereas **postpartum anxiety** is found in ***50%*** of new moms



Big Takeaway

Stress is normal! Experiencing more symptoms of sadness, anxiety and stress is common postpartum.

Mothers with **moderate*** levels of stress and anxiety may be more equipped to recognize and respond to infant cues.

*Please note that the mothers who participated in this study did not have extreme levels of stress or clinical levels of anxiety.

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Thank you so much for reading our annual newsletter!

We look forward to sharing more updates and future publications with you!

212-998-5365
www.britobabylab.com
britobabylab@gmail.com

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