What are we studying?

The purpose of this research study is to understand how girls and boys with and without a diagnosis of autism spectrum disorder (ASD) process different stimuli.

We will be using a combination of behavioral measures, electrophysiology and eye tracking to understand what children are interested in and how this is represented across different domains (behavior, attention, brain). We are particularly interested in any differences between girls and boys.

We hope to use this data to understand what motivates girls and boys with ASD and how we can modify/develop interventions for children

Interested in participating?

Please contact us at

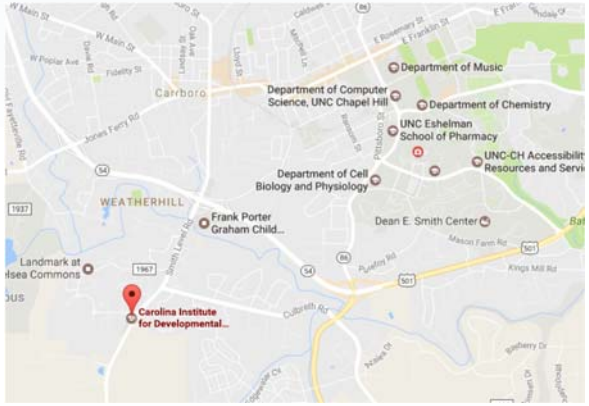
919-966-9797

or

clare_harrop@med.unc.edu

Lab address:

Carolina Institute for Developmental Disabilities (CIDD)
101 Renee Court Road
Carrboro, NC, 27501



Social Motivation in Girls and Boys: Combining EEG and Eye Tracking

THE UNIVERSITY of NORTH CAROLINA at CHAPEL HILL

What is EEG?

EEG is a non-invasive way to examining brain activity. Changes in brain activity are measured via an electrode cap.

EEG can be used to measure a range of behaviors. In this study, we are using EEG to understand how the brain responses to social stimuli.

It is not painful, but there are some unusual sensations that we will prepare you and your child for.

What is eye tracking?

Our lab has used eye tracking for a number of years to understand differences between girls and boys and children with and without ASD.

Our eye trackers are built into our computer monitors so we can track where children are looking without them having to wear glasses.

Who can take part?

We are recruiting girls and boys **with** and **without** a diagnosis of Autism Spectrum Disorder aged between **2 and 8 years.**

What will my child have to do?

The study visit will take place at the Carolina Institute for Developmental Disabilities (CIDD). Your child will complete a behavioral assessment with our team. You will fill out a series of questionnaires about your child.

Your child will also watch a series of videos and pictures while wearing an EEG cap. We will also track where they are looking via our eye tracker.

The whole visit will take between 4 and 6 hours. We can schedule this over two days if needed. Our team can be flexible with after school and weekend visits. During the assessments, we will provide your child breaks and refreshments.

What do I get for taking part?

Families will be compensated for their time and input into our study (either $25 or $50 via a gift card). All families will receive a gift card for their time and a written report.

Meet our team

The **Early Development in Neurodevelopmental Disorders Lab** is directed by **Dr. Clare Harrop.** Dr. Harrop is an Assistant Professor in Allied Health Sciences. Her research focuses on the integration of multiple methods (EEG, eye tracking, behavioral) to understand development in neurodevelopmental disorders, with a specific focus on sex differences. She is the principal investigator of the study.

Our lab is supported by a number of **research assistants and students.** They are from a variety of training background—psychology, neuroscience, education and speech and hearing sciences. During your visit to our lab, our research assistants and students will be assisting with data collection.

Our Study Team

Clare Harrop, PhD, is an Assistant Professor in Allied Health Sciences. Her research focuses on the integration of multiple methods (EEG, eye tracking, behavioral) to understand development in neurodevelopmental disorders, with a specific focus on sex differences. She is the principal investigator of the study.

Alana Campbell, PhD, is an Assistant Professor in Psychiatry. Alana is a Cognitive Neuroscientist who uses EEG and MRI to understand the brain processes underlying a range of behaviors (attention, sleep, executive functioning) and populations.

Aysenil Belger, PhD, is the director of the Frank Porter Graham Child Development Institute. Her research focuses on the interplay between brain and behavior across development and populations. She is Dr. Harrop's faculty mentor for this study.

Research Assistants and Students. A number of undergraduate and graduate research assistants and students work on the project. They are from a variety of training background—psychology, neuroscience, education and speech and hearing sciences. During your visit to our lab, our research assistants and students will be assisting with data collection.

Any questions?

If you have any questions, please contact Dr. Clare Harrop at

919-966-9796

Clare_harrop@med.unc.edu

Preparing for your child's EEG session!

During an EEG session, a cap consisting of wet electrodes is places snugly on your child's head. In this study, we are interested in how the brain processes social information.

It is not painful, but there are some unusual sensations that we want to prepare you and your child for.

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Our study is funded through a NIH Career Development Award awarded to Dr. Harrop.

Why Social Attention?

We are interested in how children process social information and whether this differs between girls and boys and children with and without a diagnosis of autism.

How children process social information can impact how they interact with others and learning more about differences in social attention can help us design effective interventions.

How to prepare?

We recommend the following steps to prepare your child for wearing the EEG cap. The goal is to make your child feel comfortable wearing the cap and tolerating the wet/tight sensation.

1. We will send you a mock cap for you to introduce to your child.
2. Let your child explore the mock cap. This is for them to get used to. Encourage them to touch the cap gently.
3. Play with the mock cap during bath time and make it part of your routine for a few days leading up to your visit.
4. We recommend playing a game of pretending to put the cap on your head and then introducing it to your child.
5. If your child is unsure of hats and the cap, we recommend their favorite stuffed animal or doll wear it.
6. If your child is comfortable wearing the net, let them watch tv while wearing it. This will be similar to what they will do in the lab.

To prepare the mock cap, you can soak it in water prior to placing it on your child's head. Ensure their hair is wet/damp (a spray bottle is good for this).

What to expect when you visit us?

The goal of your visit is to obtain a sample if your child's brain activity while they watch a series of different social stimuli.

You will visit us at one of our EEG facilities. We will measure your child's head to make sure we select the right cap. This will be soaked in a solution of salt water and baby shampoo.

Your child can either sit in a high chair or a booster seat. Ideally we'd like them to sit as still possible so we can to obtain a clear recording of brain activity!

We will play a series of videos varying in how "social" they are. The session will last around 90 minutes plus set up time.