Family and Child Neuroscience Lab Newsletter

2021-2022

Edited by Daisy Booker & Nikisha Charles-Stazzone

Inside this Issue:

Did you move or change your phone number?

If you have changed location or phone number in the past year, please send us your updated address and contact information so that we can share lab updates!

Give us a call at **303-871-3096**, send us a text at **720-507-7326** or email us at **fcnlab@du.edu**

RISE Project Updates...

The RISE Project is learning how everyday stress impacts mental and emotional demands related to pregnancy and parenting in mothers; understanding different strategies that mothers use to cope with stress including the use of cannabis; and understanding how stress impacts a newborn's body and brain development.

The FCN lab has continued to maintain CDC and state safety guidelines during the COVID-19 pandemic and we are conducting visits in a hybrid model, both remotely and in-person.

Currently there are 187 total participants recruited and 129 babies of our participant families have arrived! We are still recruiting new participants for our study! If you or someone you know is interested in participating or learning more, please contact us! We are enrolling pregnant women including women who are using marijuana and marijuana products throughout their pregnancy. Pregnant women up to 14 weeks and pregnant women who use marijuana up to 32 weeks pregnant are encouraged to apply.

Fun Family Activities!

Year Round:

- Scenic drives! Spot wildlife in the gorgeous Colorado mountains and enjoy the outdoor!
- Visit Garden of the Gods!

Fall:

- Corn Maze and Pumpkin Patch adventures! (multiple locations)
- Neighborhood Trick Or Treating!

Winter:

- Blossoms of Light (Denver Botanic Garden, Dec. 21-Jan. 8)
- Mile High Tree (16th Street Mall) & Winter Wonderland Light Walk (Cherry Creek North)

Spring:

- Take advantage of Free Museum Days!
- Go hiking in the city! Walk the Cherry Creek Trail, City Park, Confluence Park any many more!

Summer:

- Visit Famers Markets and Chile Festivals!
- Go to Summer Concerts and Music Festivals!

FCN Family Photo

To meet our entire FNC Team and learn more about our research projects and publications, please visit our website at: https://liberalarts.du.edu/psychology/family-child-neuroscience

To all of our amazing **RISE** Participants, THANK YOU!!! We enjoyed working with you and your family throughout this Project, and we are ever grateful for your patience and persistence as we navigate the challenges of the pandemic together. We appreciate you taking the time to share your stories with us!

It's OK not to be OK -Nikisha Charles-Stazzone

Over the past year and a half, life as we knew it shifted dramatically and our emotional wellbeing took the brunt. We heard a lot about 'staying positive', 'having gratitude' and similar statements that seek out the silver lining. The practice of looking on the bright side certainly can be helpful and are even encouraged to maintain or improve mental health. But not at the expense of making space to recognize the emotions that we're sometimes attempting to smother with ruthless positivity.

The term "toxic positivity" has been described by psychologist Dr. Jaime Zuckerman as "the assumption, either by one's self or others, that despite a person's emotional pain or difficult situation, they should only have a positive mindset or — [his] pet peeve term — 'positive vibes.'"

Here's the truth: it is a natural human phenomenon to have moments where we don't feel okay. Experiencing sadness, fear, anxiety, uncertainty (insert uncomfortable emotion here) is totally normal. What is harmful is blaming and shaming ourselves for having these emotions. Feeling "not okay" is not wrong and it does not equal weakness. Stifling these unpleasant feelings may snowball into further negative emotions, increased sensitivity and symptoms of stress, more anxious and depressed thoughts, less engagement with others or feeling alone, and an overall poorer quality of life.

So the next time the going gets really tough and you or someone you know starts thinking or saying things along the lines of: *Positive vibes only!* Or *It could be worse.* Or *You have so much going for you; how can you be upset?*

Take a moment to practice the acronym ACTT:

Acknowledge that you're feeling sad/anxious/afraid (or insert your uncomfortable feeling here) without judging that feeling

Consider if you might be able to do something to control the situation

Take some deep, belly breaths (it really works!)

Take action after considering what is important for you and what is actually within your power to do in the particular situation

You may say to yourself: *It is okay to not feel okay right now.* Or to your friend in need of support: *Take your time. I am with you and I'm listening; Your feelings are valid.*

Allowing ourselves the space to "feel our feelings" is the first step in positively channeling those emotions later on and ultimately to develop resilience in the face of difficulty. It may take us some time, and that too is okay. When it comes to overcoming the challenges that life will inevitably send our way, developing a practice of accepting that the current situation just is and then making an intentional decision about how to move forward is key.

-Compiled from various articles on Psychology Today and Harvard Business Review.

The COVID-19 Vaccine -Daisy Booker

When COVID-19 first showed up in Colorado in March 2020, we all had no idea just how much this virus would change each and every one of our lives. Today, in 2021, though we have overcome the shock of the first quarantine, we are still dealing with the throws of the pandemic as new viral variants emerge and challenge us and the medical community. With the recent rise of the COVID-19 Delta variant in the U.S. which has shown to be both more infectious and cause more severe illness, it is up to us as individuals to continue to implement safe practices such as social distancing, mask-wearing, and getting vaccinated to slow the spread in order to return to normalcy.

Here at the FCN Lab, we acknowledge that it can be difficult to avoid disinformation and find trustworthy sources that inform us about the vaccine so in the following text, we have compiled information from unbiased, and highly trustworthy sources to give you a brief overview of what we currently know.

What is the COVID-19 vaccine and how can it protect me?

There are currently 3 readily available options for vaccines in the U.S.: Moderna and Johnson & Johnson (with FDA emergency approval) and Pfizer (with full FDA approval). All 3 vaccines work by teaching your body how to build a protein that is on the surface of a COVID-19 virus through slightly different instructions: Pfizer and Moderna are double-dose mRNA vaccines while J&J is a single dose DNA vaccine. After learning this protein, your immune system learns how to identify and fight anything that has that protein on it using antibodies.

It is important to state that ***the vaccines do not make you immune to COVID-19*** or its variants, these vaccines train your immune system to be stronger against infection and reduce the risk of symptom severity if you contract COVID-19.

Can I get the vaccine?

As of now in Colorado, everyone 12 years of age and older are recommended to receive the Pfizer vaccine (Moderna and Janssen are authorized for those 18 +) by the CDC. When it comes to the COVID-19 vaccine for those who are *pregnant or breastfeeding*, here is what we know:

→ it is believed that mRNA vaccines (Pfizer and Moderna) are unlikely to pose a risk to pregnancy

→ the Academy of Breastfeeding Medicine has recommended to continue breastfeeding your baby after vaccination as breast milk may contain antibodies which could help boost your baby's immune system against COVID-19.

Please contact your doctor before vaccination to ensure that it is safe for you.

As our lives continue to change around the pandemic, it can be difficult to keep up with the ever-changing safety guidelines and best practices to keep you and your family healthy in this challenging time. We here at the FCN Lab recommend that you keep updated on **https://covid19.colorado.gov/vaccine** for the most recent information on COVID-19 here in Colorado.

FCN Lab Research Projects

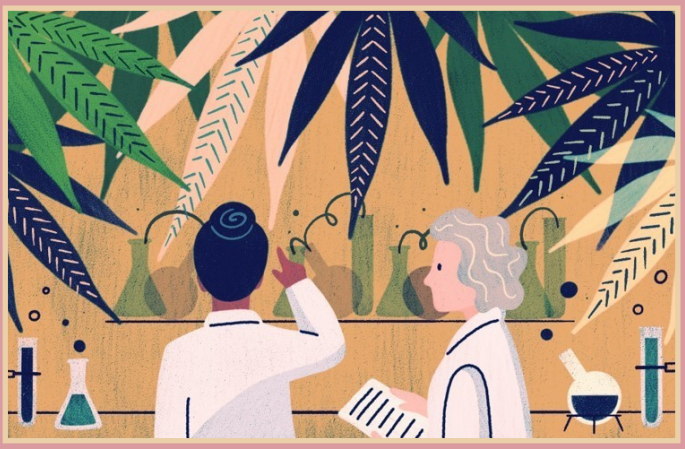
Functional Near-Infrared Spectroscopy (fNIRS) is an exciting tool for looking at brain activity that we are using in the RISE project with both mothers and babies. fNIRS measures brain activity by shining an infrared light onto the head while simultaneously detecting how much light bounces back as the light passes through molecules in the blood such as oxygen. This is used to measure the flow of oxygen throughout the brain, allowing us to see which areas of the brain are being used at a given time! fNIRS is commonly used in brain research because it is portable and non-invasive, making it a particularly great tool to study infants. In the RISE Project, we use fNIRS to gain a better understanding of how brain responses can change pre- and postnatally and this year, researchers **Daisy Booker** and **Genevieve Patterson** are using infant fNIRS data in their own research endeavors.

Genevieve is a graduate student who is researching how newborn infants respond to the sound of their own mother's voice compared to a stranger. Previous research has shown that even very young infants show differences in their brain response to their mother's voice! In addition, Genevieve is investigating the very early basis of emotional development in the brain by looking to see whether infants show different patterns of brain responses between happy and angry voices. Finally, she is also looking at the ways that different prenatal experiences might influence an infant's brain response to emotional voices.

Similarly to Genevieve's second research question, **Daisy** is investigating how newborn brain activity in response to hearing different emotions from their mother or a stranger can predict socioemotional development one year later as part of her senior year thesis.

Cannabis Related Study Updates

RISE Cannabis Update



Shannon is a 3rd year graduate student in the Developmental Psychology program at DU researching the mechanism of maternal brain changes during pregnancy, and how cannabis might affect these changes. She is using data from the RISE project to see how cannabis use might change maternal responses in the brain during pregnancy when mothers are listening to infant cries. In her research, she found that mothers report using for a variety of reasons from morning sickness to coping with anxiety and depression. Shannon also found that during the second trimester, mothers who reported using cannabis had more activation to white noise than infant cry in regions of the ventrolateral prefrontal cortex, and orbitofrontal cortex. In addition, mothers who reported using cannabis had more activation to infant cry in the dorsolateral prefrontal cortex compared to mothers who didn't. Potentially, this could mean cannabis users are processing white noise and infant cry differently than non-users. She plans to follow up on if this affects parenting postpartum.

New Cannabis Qualitative Study

The Family and Child Neuroscience Lab is currently working on a new qualitative study exploring individual experiences of women who consume cannabis during pregnancy and the early postpartum period. Qualitative research is a method that allows researchers to gain knowledge on the individual's personal perspectives of various experiences in their lives. During the study we will interview participants about the presence of cannabis in their lives and their personal stories of continuing or discontinuing cannabis use during pregnancy.

We will be recruiting participants who are 6 months to 18 months postpartum who have reported cannabis use during their pregnancy. Through this research, we hope this will shed light on why individuals consume cannabis during pregnancy to promote better understanding of cannabis use for future research involving pregnant women and child development.

Early Childhood Artificial Intelligence (ECAI)

In our lab's latest child development study, we are interested in learning about how young children (5 year-olds) interact with AI technology through imaginative play and storytelling. Through this project, we hope to learn about how kid's brains work during different types of social interactions while they create and tell their own stories.

If you are interested in learning more, please contact us at fcnlab@du.edu.

Meet our New Lab Members!

Marlana Quaill, graduate student. In her free time, she enjoys live music, spending time in nature, practicing yoga and trying new foods.

Rachael Ruff, graduate student. In her free time, Ruff enjoys reading, writing, hiking and baking.

Daisy Booker, undergraduate student. In her free time, she enjoys hiking, playing guitar, singing and spending time with friends.

Paris Lee, Research Assistant. She is excited to be working on the RISE project all the way from Bristol, England.

Julian Alber, undergraduate student. In his free time, he enjoys spending time with friends, skiing, reading and going to the gym.

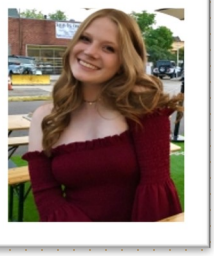
Jenna Chin, graduate student. In her free time, she enjoys cooking, running, reading graphic novels and playing video games.

Sudakshina Bhatta, Research Assistant. In her free time, she loves reading novels, traveling and spending time with friends.

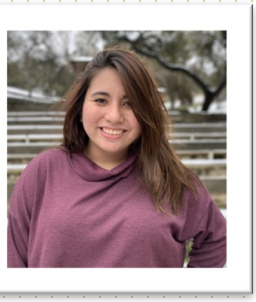
Monica Barnard, Research Assistant. In her free time, she enjoys reading, working out, and traveling.

Lydia Mathis, Research Assistant. Lydia is a lover of all things coffee, yoga, and baby development, as well as a major foodie!

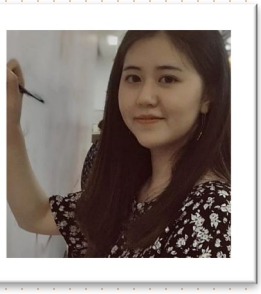
Xian Zhang, graduate student. In her free time, she enjoys the Colorado outdoors.



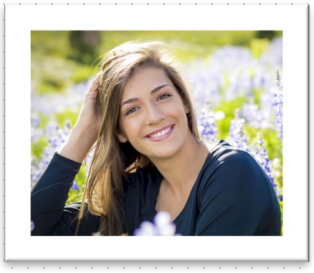
Rylie Hansen, undergraduate student. She is passionate about travel, film, playing guitar and singing.



Sara Carrizales, graduate student. In her free time she enjoys reading, watching Netflix, taking hikes, exploring Colorado, hanging out with my friends and shopping!



Yun Xie, graduate student. In her free time, she enjoys listening to live music and finding good boba places.



Keely Olson, undergraduate student at CU Boulder. Keely enjoys hiking, playing soccer, skiing, and photography.

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The Family and Child Neuroscience Lab