

Family and Child Neuroscience Lab Newsletter

Spring 2018 Edition

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RISE PROJECT

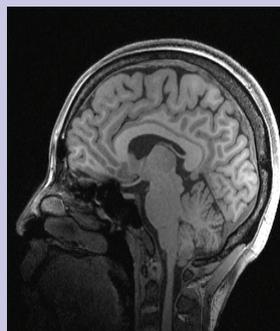
We have an exciting new study we are conducting called **the RISE project!** This study is all about better understanding how everyday stress impacts mental and emotional demands related to pregnancy and parenting in mothers and how a newborn's body and brain develops. The project is going well among families who have already participated. The study consists of visits to your home and you receive an image of your brain along with your baby's brain when participating! Interested in learning more? We would love to have you, your loved ones and friends enroll in our study! We are currently enrolling **pregnant women up to 16 weeks pregnant.** Please give us a call for more information and for participation eligibility!



Dr. Pilyoung Kim (Lab director) and her son Isaac



An MRI scan of baby Isaac's brain!



An MRI scan of Dr. Pilyoung Kim's Brain!



FREE SUMMER EVENTS

Denver Zoo

- ◇ Kids 2 and under are always free!

Denver Art Museum

- ◇ Kids 18 and under are always free!
- ◇ General admission is free on the first Saturday of every month

Denver Children's museum

- ◇ Kids under 1 are always free
- ◇ Play for free the first Tuesday of every month from 4 - 8 pm!

Denver Museum of Nature and Science free days:

- ◇ Thursday, July 5 (Night, 4pm-10pm); Monday, August 13; Wednesday, September 12 (Night, 4pm-10pm)

Denver Botanical Gardens

Free days at York Street:

- ◇ Thursday, July 19; Wednesday, Aug. 29

Free days at Chatfield Farms:

- ◇ Tuesday, July 3; Tuesday, August 7

Free days at Plains Cons. Center:

- ◇ Saturday, July 14; Tuesday, August 7

Check out www.denver.org/events/kids-families/ for more free family fun in Denver this summer!

RESEARCH UPDATES



AVIVA OLSAVSKY, Postdoctoral Fellow

Aviva's recent study presented at the American College of Neuropsychopharmacology meeting in Desert Hot Springs, California, examined brain circuitry associated with maternal responses to infants utilizing data from the IDEA Project. Aviva found that the history of difficult life experiences was associated with new mothers' brain responses to images of baby and other adults. The differences in brain activation were found in regions that support social information and attentional processes.



AMY ANDERSON, Graduate Student

Amy studies specific patterns of brain activity linked to anxiety in new mothers. In this study, we explored how the brain is connected in new mothers through a functional MRI scan. We wanted to specifically investigate if a mother's brain connectivity is linked to their levels of anxiety. We found that mothers with more postnatal anxiety symptoms also have stronger connections between certain brain regions (i.e. the amygdala and frontal cortex) that may be important for parenting behaviors. Understanding differences in mother's brain connectivity underlying their postpartum moods, or specifically anxieties, may help to shed light on the individual differences in postpartum anxiety levels that shape mother's parenting.



ANDREW ERHART, Graduate Student

Currently Andrew is working on a project that examines how infants process their mother's voice speaking in different emotional tones, using the data from the SHINE project.

We found there were several areas of the brain that were particularly responsive to own mother's emotional voice. These brain areas are responsible for social and emotional processing, such as the orbitofrontal cortex and the fusiform gyrus. Infants' brain activation were highest in response to mother's happy voice, and the higher social competence the infants have, the more sensitive to their mother's happy voice these brain areas were. I'm currently seeking to understand whether differences in parenting are related to infant's processing of happy emotional tones in mother's voice.



LEAH GRANDE, Graduate Student

Leah is currently a 2nd year graduate student in the clinical child psychology program at DU. She is interested in understanding how new mothers' brains change to help them adapt to parenting, and is analyzing the data from the IDEA project. She found that the feeling of being overwhelmed after the baby's arrival may be associated with differences in mothers' brain response when regulating negative emotion. These differences in the brain may further be related to how mothers feel about parenting, such as more challenges in adjusting to the change as new parents.



ALEX DUFFORD, Graduate Student

Alex is currently in his 3rd year as a graduate student in the developmental program at DU. He is currently working on his dissertation which will examine the role of experiencing everyday stressors in childhood and its associations with the brain. He is currently working on collecting MRI data for the new RISE project and setting up a study to use a new technology to examine brain function using Functional Near Infrared Spectroscopy. This device uses infrared light to measure blood oxygenation and will be used to study both infants and mothers in the RISE project. He is also being trained on how to analyze the neonatal MRI data collected from the RISE project. He is excited to learn as much as he can in order to help answer important questions about stress and development.



Screen Media and Parental Relationships



By Rebekah Tribble, Research Coordinator

Today's children have so much at their fingertips with an amazing amount of technology and media, which can have positive and negative effects on healthy development. The American Academy of Pediatrics has some recommendations that can help you optimize media usage with your children.

For children younger than 18 months, avoid use of screen media other than video-chatting. Parents of children 18 to 24 months of age who want to introduce digital media should choose high-quality programming, and watch it with their children to help them understand what they're seeing.

For children ages 2 to 5 years, limit screen use to 1 hour per day of high-quality programs. Parents should co-view media with children to help them understand what they are seeing and apply it to the world around them.

For children ages 6 and older, place consistent limits on the time spent using media, and the types of media, and make sure media does not take the place of adequate sleep, physical activity and other behaviors essential to health.

Designate media-free times together, such as dinner or driving, as well as media-free locations at home, such as bedrooms.

It's important to have ongoing communication about online citizenship and safety, including treating others with respect online and offline.

Taken from the American Academy of Pediatrics

<https://www.aap.org/en-us/about-the-aap/aap-press-room/pages/american-academy-of-pediatrics-announces-new-recommendations-for-childrens-media-use.aspx>



HEALTHY PEACH PIE POPSICLE RECIPE

Ingredients

- ◇ 6 graham cracker squares
- ◇ 2 cups peeled diced peaches
- ◇ 2 cups plain Greek yoghurt
- ◇ 1/3 cup honey
- ◇ 1/2 teaspoon cinnamon
- ◇ 1/4 teaspoon nutmeg
- ◇ 1 teaspoon vanilla
- ◇ Popsicle mold



Steps

- ◇ Crush graham crackers with fingers
- ◇ Combine rest of ingredients into bowl and mix
- ◇ Pour mixture into popsicle molds occasionally sprinkling in crushed graham crackers
- ◇ Make sure to hit mold occasionally on counter to prevent air pockets from forming
- ◇ Leave a tiny bit of space at top of popsicle mold so that you can put graham cracker dust as a top layer
- ◇ Press graham cracker layer into yoghurt gently with finger
- ◇ Place pops into freezer for at least 8 hours
- ◇ If pops stick when trying to pop out, run mold under warm water

Recipe borrowed from <https://www.superhealthykids.com/peach-pie-popsicles-recipe/>

FUN BONDING ACTIVITY: Making Slime!

Ingredients

- ◇ plastic tub or bin
- ◇ glass bowl
- ◇ 4 oz. Elmer's white glue
- ◇ 8 oz. warm water
- ◇ food coloring (optional)
- ◇ Borax



Instructions

- ◇ Squeeze about 4 ounces of glue into a glass bowl.
- ◇ Mix in 4 oz. of warm water.
- ◇ Add your food coloring, if desired. We added red food coloring and mixed it into a lovely shade of pink.
- ◇ Mix 1 teaspoon of Borax into 1/2 cup of water, and slowly add the solution to the glue mixture.
- ◇ Stir in the Borax solution until the slime started to come together. We did not use all of the Borax solution.
- ◇ Knead the slime. At first it will be really wet and goopy, then stringy and sloppy, until finally it will hold together.

Activity from [PBS.org](https://www.pbs.org)

MEET OUR NEWEST LAB MEMBERS!

Melissa Hansen, Project Assistant



Melissa Hansen is the Project Assistant for the RISE Project. She has a Masters Degree in Clinical Mental Health Counseling and spends time as a Play Therapist when she is not in the lab. In her free time, you can find her hiking, mountain biking, or snowboarding in the beautiful Colorado Mountains!

Ximena Calderon, Research Assistant



Ximena Calderon is a junior at DU and a research assistant in the lab. Outside of her interest in psychology, Ximena is a classical violinist. In her free time she enjoys hiking, rowing, and going to the movies. In the future, she hopes to be a clinical psychologist and to be able to work with kids from different cultures and backgrounds.

Did you move or change your phone number?

If you have done so in the past year, please send us your updated address and phone information. We want to keep you in the loop about new studies and happenings in the lab. Give us a call at 303-871-3096 or email us at fcnlab@du.edu

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