

Publication Announcement!

We are happy to announce an acceptance of a manuscript using data from the Baby Brain & Behavior Project! The paper is titled "Mapping White Matter Microstructure in the One Month Human Brain" and was accepted in the journal *Scientific Reports*.

A full APA-style citation for the paper is below:

Dean III, D. C., Planalp, E. M., Wooten, W., Adluru, N., Kecskemeti, S. C., Frye, C., Schmidt, C. K., Schmidt, N. L., Styner, M. A., Goldsmith, H. H., Davidson, R. J., Alexander, A. L. (2017). Mapping White Matter Microstructure in the One Month Human Brain. *Scientific Reports* 29 (7), 9759.

URL: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5575288/>

Meet our new graduate student!

We are excited to introduce you to Kristin Dowe, a new graduate student on our study team. She graduated from UW-Madison last spring and has been one of the friendly faces at the 6-month and 24-month visits over the past 3 years. She has also coded many aspects of the behavioral visits. Kristin is in the Clinical Psychology program.



Q: How did you get started with research as an undergraduate student?

A: *I have always liked solving problems and declared my Psychology major my freshman year. I wanted to get involved in research because I knew it was important and I was interested in behavior development. My undergraduate experiences and the great mentorship in the lab lead me to pursue a senior thesis with the Baby Brain & Behavior Project.*

Q: Why did you choose to attend University of Wisconsin Madison for graduate school?

A: *The quality of the education is unparalleled! I formed so many professional connections as an undergraduate student. Madison is a great place to live and I didn't want to leave.*

Q: What's your favorite part of the Baby Brain & Behavior Project?

A: *The kids and parents are so much fun. I appreciate all the interactions with both the parents and the babies and seeing them both as curious infants and again as mobile and independent toddlers.*

Q: Do you have anything further to add?

I personally thank the babies and their families for sharing this important life stage with us and making time in their busy schedules for our research sessions. Every detail contributes to science. Because of my collective research experiences, I chose to make pediatric research my life's work.

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Fall 2017

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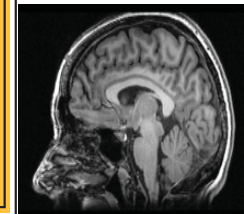
UW Dept. of Psychology

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Waisman Center

Feature Article:

*Corsisol-Connecting the
Brain & Behavior*



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Center for
healthyminds
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Research Update

Dear families,

This fall brings us to a very important chapter of our research activity. We continue to coordinate research sessions at 18 and 24-months, process collected brain and behavior data, and write manuscripts from early data. The paper described last spring is now in print (see sidebar) and two others are under review. Each new survey, sample, and session adds tremendous value. The scientific questions that beg investigation hinge upon our ability to link these final assessment measures to our earliest measures during pregnancy and the first weeks of life. We know life gets busy and we have designed the study to be as flexible to families as possible. You can still participate in subsequent sessions if you missed an earlier session. Impressively, nearly all families continued to participate through 24-months. Thank you!

Nearly 60 toddlers completed the 2-year scan so far and we continue to achieve a 70% scan success rate. The 18-month sessions will continue through spring and toddler sessions will continue for approximately 11 more months. Thank you so much for responding to our emails and for your interest in our research. Our staff have thoroughly enjoyed working with all of you and hearing your stories about family life. I have so many wonderful memories of my own children at that age. Indeed, children teach us so much about what it means to be human. A recent visit with my grandson reinforced a deep appreciation for this truth: I still very much possess that same toddler craving to learn and know! Our scientific tools will generate new knowledge about the nature of resilience for many years. We will send more newsletters over the next year to highlight the acceleration of published results. Warmest wishes to you and your family this autumn season!

With deep gratitude,



Richard J. Davidson,
William James and Vilas Professor of Psychology and Psychiatry
Founder, Center for Healthy Minds



Fun Facts

The average 2-year-old adds 5 new words to their list of vocabulary each day.

By 3 years of age, children's brains will have formed 1,000 trillion connections between neurons.

A baby forms approximately 700 new neural connections per second in the first year of life.

Featured Research

Cortisol - Connecting the Brain & Behavior

Nicole Schmidt

Cortisol is a widely studied hormone and an essential component for regulating ordinary bodily processes. Cortisol is influenced by genetic factors and fluctuates in response to daily events and stress. For instance, the typical morning surge in cortisol is part of biological waking. Cortisol also might surge shortly after an experience of high anticipation such as waiting for family to arrive for a birthday party. Cortisol measurements are easily acquired from saliva, so it has been widely studied for decades. Cortisol is a valuable part of our study because it helps bridge important questions about the connections between brain and behavior.



There are four testing occasions for cortisol collection in the Baby Brain & Behavior Project. Maternal cortisol was first collected during the third trimester and again when her child was 18-months of age. Infant cortisol was first collected during the 6-month behavior visit and again at 24-months of age. Important measures of consistency and change are captured. Approximately 135 women participated in salivary cortisol collection during the third trimester. We are just beginning to review the samples collected from infants at 6-months of age. This fall we hope to begin analyses with 1-month infant brain measures and cortisol. Importantly, the opportunity to collect samples from the same individuals at follow-up during this precious developmental period has great scientific value! Many thanks to families and toddlers for continuing to collect samples. We look forward to sharing results when they are available.

24-Month Update-Tips & Tricks

We are happy to say that the 24-month visits are going well!

During the behavioral visits, which occur at the Brogden Psychology Building on campus, the two-year-olds have lots of fun playing with bubbles, balls, and other toys.



The imaging visits at the Waisman Center have been very successful as well! We successfully scanned over 70% of the children that attend the visit, and we anticipate that number to increase.

Some parents express concerns that their children's sleep habits may interfere with successful scanning, but in many of these cases the scans go quite well! We are happy to modify our nursery and session schedules to make bedtime go as smoothly as it can while away from home.


We have found that skipping naps or keeping naps short, having an active day, and scheduling visit arrivals closer to bedtime help the visits go well. The important thing is to be patient while your child falls asleep.

Some parents have noted some difficulty with the saliva collection at 24-months. We have found it is helpful to give snacks (such as a marshmallow or crackers) after completing the collection, and to *specifically say they will receive the snack*. That will help increase saliva when they chew on the collection stick, and they don't have to chew as much. We can also send additional chew straws so you and/or older siblings can model the collection, too. Even if it seems like they didn't chew much, please send us the samples anyways; because they often collect more than you expect!



Contact Us

Help us keep our records up to date. Please email or call us with your current telephone number/s and address.

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