Recruitment

We are happy to say that we finished recruitment this past summer! We would like to thank each and every one of you for your participation and dedication toward the study!

Managing Emotions

The purpose of our research is to learn more about how early experiences influence the developing brain and impact well-being. We study adaptive facets of emotion during the first two years of life.

Emotion	Adaptive purposes	What we've learned
	Demonstrates distress to blocked goals or loss. Attempts to master our environment with response such as hitting or pushing.	Anger generally peaks between 6 and 16 months. Our research showed that by 36 months, most children show improved regulation and less anger when frustrated.
	An adaptive response to objects that may be harmful or unfamiliar. Signals increased awareness of surroundings, expectations about safety and protection.	Social fear generallly increases between 6 and 12 months of age as children become more mobile.

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Spring 2017

Director:
R. Davidson, Ph.D.

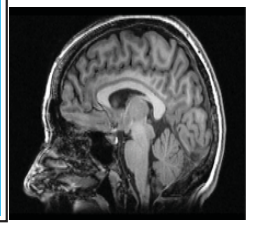
Collaborators:
UW Dept. of Psychology
UW Dept. Psychiatry
Waisman Center

Feature Article:
Changes in the Developing Brain

Funding for Research is provided by grant awards from the Silvio O. Conte Center for Basic Mental Mental Health Research from the National Institute of Mental Health via grant P50-MH100031, Waisman Center, & private foundations.

Waisman Center
Celebrating 40 Years, 1973–2013

National Institute of Mental Health



Center for healthyminds
UNIVERSITY OF WISCONSIN–MADISON

Research Update

Dear families,

Over 125 babies in the study have celebrated their 1st birthdays and 65 celebrated their 2nd birthdays. Our research reached important milestones this spring. We completed the last 6-month behavior visit. The 2-year scans and behavior visits are well underway and those kids received a graduation certificate for completing the full study. With the attentiveness and flexibility of research staff and you, we have achieved 75% success scanning toddlers to date! Sleeping toddlers also move less overall, which makes for even better image quality across the sleep cycle. The extraordinary richness of the 2-year scans, especially when combined with the 1-month scan and behavior sessions, will generate new knowledge for many years to come. Toddlers are also a whole lot of fun!

The first formal 1-month imaging results are undergoing peer review. Led by Dr. Doug Dean, we've identified regionally specific structural brain changes at 1-month of age. Even within the first weeks of life, we observe biological and experientially driven age-related variation in brain changes. The 2-year scans are essential to build on what we learn from the 1-month data. Children teach us something new every day about resilience and adaptability.

Through the lens of different scientific tools, we access a different perspective of life's story. We closely examine both the developmental time-course of brain regions and observe emotion-related behavior. Children and families share many experiences during the first years of life, yet experience impacts development differently for each of us. Each survey and measure helps capture ordinary similarities and differences among families. Collectively, our scientific story will provide an important foundation for understanding well-being early in life. I look forward to sharing published results with you.

A heart-warming wish for a Happy Mother's Day to you all!
With deep gratitude,

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

Fun Facts

If babies' bodies grew at the same rapid pace as their brains, they would weigh 170 pounds by one month of age!

Babies are born without ossified kneecaps. They don't properly form until they reach 3-5 years of age.

http://www.huffingtonpost.com/gordon-javna/9-weird-facts-about-newbo_b_9672486.html http://milwaukee.uwex.edu/files/2013/04/fast-facts-about-childrens-brain-development.pdf

Featured Research

Changes in the Developing Brain

Doug Dean III, PhD

The team has been busy processing and performing new analyses with the 1-month MRI data. We found that many functionally different brain regions continue to grow after birth. Even at 1-month of age, the size of some brain structures are different between boys and girls. Interestingly, structural differences suggest different growth rates for boys and girls. We will follow the growth trajectories of these different brain regions at the 2-year MRI scan.

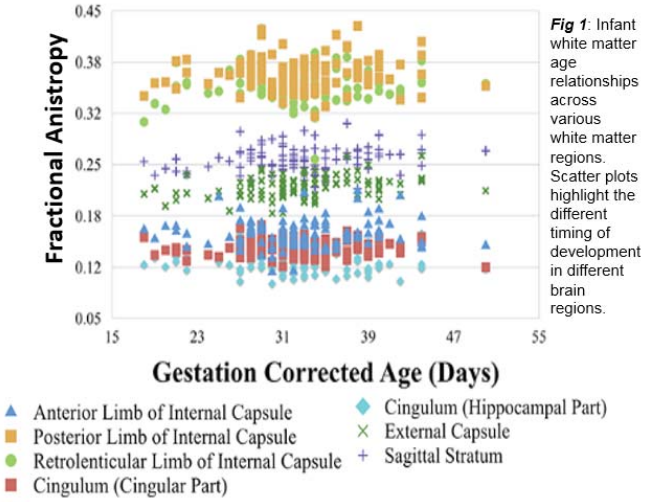
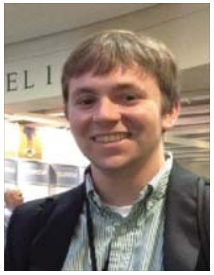


Fig 1: Infant white matter age relationships across various white matter regions. Scatter plots highlight the different timing of development in different brain regions.

We also examined how the brain's wiring, or white matter, changes in the first few weeks of life. The figure above shows different development timings in different white matter brain regions by 1-month of age. We submitted these findings as two papers for publication.

We are also beginning to incorporate information from the 6-month behavioral visits to examine relationships between infant brain and behavior. We are very excited to explore these new research questions. Many thanks to all the families for your dedicated and valuable research participation.



Doug Dean III

Dean III, D. C., Planalp, E. M. Adluru, N., Kecskemeti, S. C., Wooten, W., 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 (Under review).*

24-Month Behavioral Visit

The behavior visits capture your child's emotion-related behavior across a variety of naturalistic scenarios. Over the past six months we were quite busy with both 6-month and 24-month behavior visits. The 6-month behavior visits are now complete and nearly 150 families participated. Thank you to all the babies and parents who participated!

Some of the most compelling scientific knowledge of emotional development was derived from these naturalistic scenarios, dating back to the 1970's. These behavioral paradigms are still considered the gold standard for pediatric behavioral research.

The 24-month visit includes a series of brief activities meant to elicit typical emotion-related behavior. Similar to the 6-month visit, the tasks represent ordinary experiences for your child's age. Toddlers respond to each task in a variety of ways. We are interested in both similarities and differences over time. The 24-month visit involves more hands-on activities and toddlers engage based on their preference for exploration. For instance, children are presented with a small wading pool filled with colorful balls. Other activities include meeting a new person, eating a snack, popping bubbles and opening a gift. Behaviors are assigned a series of numerical codes similar to parent surveys as a way to quantify emotion-related behavior (e.g., interest, frustration, joy, fear, and activity level) over time and across activities. Toddlers enjoy the variety of activities and special thank you prizes.

Cory Schmidt leads the behavioral visits and oversees most of the behavioral coding. He has worked with Dr. Goldsmith for over sixteen years as a research coordinator and behavioral coder.

Cory Schmidt

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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