

College admissions: Unique Perspectives for Twins

College admissions can be both exciting and stressful for teens and their families. There are special considerations for twins -- will they attend the same school? Will they live together? Importantly, twins can be a source of support for one another who are going through a major life transition at the same time. Each family approaches this time differently and there are no right or wrong choices. These issues were considered by both the New York Times (Mosle, "Is There a Better Half?", 27 July 2008) and by prominent twin researcher Nancy L. Segal (Twin Research and Human Genetics, 2014, 17(6):594-8). Similar to other big decisions, your feelings may fluctuate so it can be helpful to allow for as much flexibility in choice during the admissions process.



Some twins can be startling in their academic similarity: in course selection, grades and standardized test scores. However, although identical twins share 100% of their genetic makeup, twins still have different talents and interests due to their unique experiences. It's not difficult to find a news story about twins in college. UW-Madison recently featured a story about twins and set of triplets who now study at the College of Engineering (DeFlorin, 9 Feb. 2017).



http://www2.warwick.ac.uk/newsandevents/pressreleases/a_family_matter/

Wisconsin Twin Project
University of Wisconsin—Madison
Waisman Center
1500 Highland Ave.
Madison, WI 53705

Address Service Requested

Wisconsin Twin Research

University of Wisconsin - Madison

Waisman Center • 1500 Highland Avenue • Madison, WI 53705

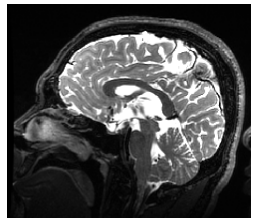
www.waisman.wisc.edu/twinresearch

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Director:
Hill Goldsmith, Ph.D.
Department of Psychology
Waisman Center



Collaborators
Department of Medical Physics
Center for Health Mind
Department of Psychiatry
Arizona State University

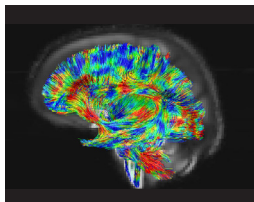


Featured Articles:

*Twin Brain Differences
Informing us about
Gene and Environment*
Ross Luo



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*"Sometimes miracles
come in pairs."
-- Richard Branson*

Research Update

Dear twins and parents,

Our study is the only one of its kind in the world. And YOU are what makes the study special. You are among a population-based group of thousands of twins born in Wisconsin. A large study population helps ensure that science reflects a wide range of similarities and differences among people. Although twins share many experiences, experience impacts brain and behavior development differently for everyone. Each survey helps capture similarities and differences in self-perceptions, behavior, and friendships. Many of you participated in a longitudinal sequence of studies that began nearly two decades ago. Your continued research participation during adolescence and early adulthood helps fully capture a rich developmental story.

More than 330 twins have attended our current neuroimaging visits. We have had a lot of fun visiting with twins as teenagers and young adults. And twins enjoy taking home printed pictures of their brains! It is exciting to connect brain and behavior information on the same twins across time. Our goal is to bring approximately 600 twins to UW-Madison before the end of summer 2018.

We are still recruiting families with same-sex twins for the imaging study. If you have questions about your eligibility, please call or email us at wtp@mailplus.wisc.edu.

Twins will bring home a picture of their brain scan at the end of the visit! Drop us a note if you received a voicemail or letter. We would love to catch up with more of you.

Warmest wishes!

Sincerely,



Fun Facts

Identical twins share the same DNA but do not have the same fingerprints.

Twins can be born months apart. Due to complications such as the water breaking prematurely, twins can sometimes be born weeks or months apart.

The record for time between births of twins is thought to be 87 days (about 3 months).

Featured Results

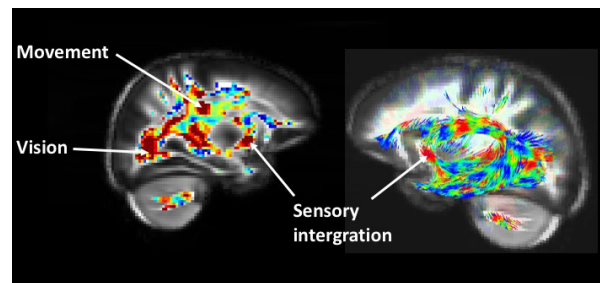
Twin Brain Differences Informing us about Gene and Environment

Ross Luo

MRI stands for Magnetic Resonance Imaging, a **non-invasive technique** to capture brain structure. Unlike X-ray or PET scans, there are **no injections or ionizing radiation**. Instead, the image is generated by strong magnetic fields and radio waves. In fact, the MRI room was constructed with special materials to prevent interferences from radio wave all around us, like music radio stations you listen to in your car!

A remarkable feature of MRI is its flexibility. By tuning the MRI scan sequences to different properties of brain tissues, MRI provides incredibly detailed structural information that we can otherwise only see under the microscope. For instance, brain white matter is made up of myelinated axons and functions as “informational highways” that connect different brain regions. Diffusion Tensor Imaging (DTI) measures the diffusion of water molecules in white matter, essentially measuring brain structural properties in the scope of micrometers (10^{-6} of a meter).

With such a powerful imaging tool, we can detect even the most subtle white matter microstructural differences in identical twins. We recently found that the white matter pathway between frontal and temporal lobe, which is associated with emotion processing and regulation, showed less efficient connectivity in more anxious twins.



Studying both genetically identical and fraternal twins also allows us to estimate genetic contributions to brain structures. We compared the microstructural difference among identical and fraternal twins and found that white matter pathways that carry more basic functions, like movement, vision and somatosensory regions tend to be more highly heritable; whereas white matter pathways involved in cognition and emotion regulation, showed lower genetic effects.

Featured Researcher

Ross Luo is a research specialist at the Wisconsin Twin Project. He graduated from UW - Madison in 2014. He coordinates the recruitment and scheduling of twins for their neuroimaging visits at the Waisman Center, and is one of the friendly faces twins meet with during the visits.



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

A: I grew up in Beijing, a big metropolis until high school. When it came to choosing a university, perhaps not surprisingly I wanted a change of view and go to a “quieter” college town, preferably next to a large body of water. UW- Madison, with Lake Mendota and Monona, fit the bill quite nicely and I decided to attend here, and that was over 7 years ago!

Q: How did you get started with the twin research? A: I first learned about twin research in classes and textbooks. In fact, Dr. Goldsmith was my professor when I took Behavioral Genetics! Shortly after graduation, the Wisconsin Twin Project began a large neuroimaging study. I was excited for the opportunity to work full-time in twin research. In addition to study recruitment, I am also learn about neuroimaging techniques to study the effect of genetic and environment on brain structure.

Q: Have you been scanned by MRI before? A: Not before this project. In fact I was scanned as the first pilot participant for the twin study. Now that I have worked extensively with MRI, I will gladly jump in the MRI to test out various scans. But this is nothing compared to some of my colleagues in Medical Physics who have spent a great deal of their time in the MRI scanner to refine and study scanning procedures.

Q. What's your favorite part of Madison? A: The weather, people, learning environment, and the lakes of course! When I was an undergrad, I also learned to sail with the Hooper Sailing Club on Lake Mendota. I started with small Badger Tech sailing dinghies and worked my way to heavy keelboat. All in all, I definitely have a strong attachment to Madison.

Contact Info Request



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

☺ Enjoy the Summer!



wisconsin.twins@waisman.wisc.edu



(608) 265-2674 (Office) (866) 230-2560 (Toll Free)