

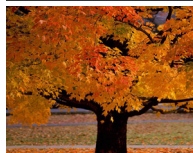
## Meet Dr. Kathryn Lemery-Chalfant



Dr. Kathryn Lemery-Chalfant, co-principal investigator for the Wisconsin Twin Project, is the director of the Emotion Center and an associate professor in the department of psychology at Arizona State University. She earned her Ph.D. from

University of Wisconsin-Madison in 1999. Her lab at Arizona State is currently in the process of forming a new twin study focusing on the impact of the early environment (prenatal and infancy periods) on developing resilience. This is a unique and exciting study because there are currently no early childhood twin studies that focus on resilience. This study will also be the only early childhood twin study primarily of Hispanics. This demographic will afford the opportunity to consider the impact of acculturation, and the interaction of culture and genetics. As a co-PI on projects with the Wisconsin Twin Project, research assistants at the ASU Child Emotion Center have developed coding schemes employed in Wisconsin. These observations tap the sibling and parent-child relationships and help us understand how interactions relate to child behavior symptoms. Dr. Lemery also studies molecular genetic data and is expanding work in that area. For more information about Dr. Lemery and her research visit: <http://psychology.clas.asu.edu/lemery/currentprojects>

## Thank you



Thank you for participating in home visits, telephone interviews, and questionnaires! Your perspective is invaluable to our research. We enjoy meeting so many wonderful families. Your participation contributes to advances in child development research and improves our understanding of individual differences and the complexities of personality and behavior.

☺ Enjoy your twins!

Moving? Want to get involved? Contact us now!

☎ (866) 230-2560 (toll free)  
✉ Email: [wisconsintwins@waisman.wisc.edu](mailto:wisconsintwins@waisman.wisc.edu)  
<http://waisman.wisc.edu/twinresearch>

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# Wisconsin Twin Research

University of Wisconsin - Madison

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[www.waisman.wisc.edu/twinresearch](http://www.waisman.wisc.edu/twinresearch)

### Director:

H. Hill Goldsmith, Ph.D.

### Collaborators:

UW Dept. of Psychology  
UW Dept. of Psychiatry  
Waisman Center  
Arizona State University  
Medical College of Wisconsin

### Feature Articles:

*Sensory Over-Responsivity:  
Temperament Contributions  
and Prenatal Implications*  
By Megan Keuler,  
undergraduate student



Waisman  
Center

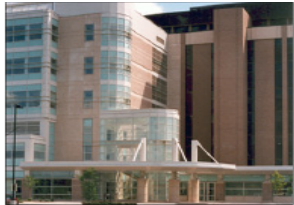


"I may be a twin but I'm one  
of a kind."  
~Author Unknown

## Research Update

Nicole Schmidt, Project Manager

It was a very productive summer for Wisconsin Twin Research. We kicked off the summer with a day of paddling on the Wisconsin River near Sauk City. We enjoyed beautiful Wisconsin scenery with our great research team and ended the day with delicious treats from the Blue Spoon Café. Dr. Goldsmith, Dr. Gagne, and Matt Vendlinski, graduate student, presented results at the annual meeting for the Behavior Genetics Association (BGA). We also submitted several papers for publication this summer, including a paper from Megan Keuler, one of our undergraduate honors students who was awarded a Hilldale Fellowship. A version of Megan's paper was presented at BGA, which we summarized in this newsletter under Featured Results. Megan graduated in May and began medical school at the UW in September. Our research teams travelled to see approximately 50 twin families this summer and we spoke with many more by telephone. We hope to meet many families with adolescent twins throughout the next nine months on weekends and early dismissal days. The molecular genetics area of our work shows a lot of promise and we plan to expand efforts on our genetics work in the coming year. The scientific potential is extraordinary and we have already begun to learn more about how a concert of genes and experience influence behavior. There is a tremendous amount of energy with all the students back on campus and football season is upon us -- Go Badgers!



A view of the main entrance of the Waisman Center from the north side of the complex.

We look forward to talking with you soon and have a great school year! ☺  
With gratitude,

*Nicci*

## Exploring Culture in Our Studies

Our twin studies present a unique opportunity to learn how culture and family background influence child behavior and emotion. We are committed to upholding a national standard of culturally sensitive research, so we need your help! We want to enroll more families of ethnic-minority descent, including African American, American Indian, Asian, Hispanic and other families of twins with diverse backgrounds. Families are paid for participation. If you or a family you know may be interested in learning more about this research opportunity, please call us toll-free at **(866) 230-2560** or email Patrick at [pheath@wisc.edu](mailto:pheath@wisc.edu)



## Featured Results

### Sensory Over-Responsivity: Temperament Contributions and Prenatal Implications

Megan Keuler, undergraduate student



Sensory processing is an integral part of all human experience. Our senses allow us to interact with our environment, experience the world, and warn us of potential dangers. A subset of the population is over-responsive to sounds and textures of everyday stimulation.

Many of us know adults who have adverse reactions to certain fabrics (e.g., wool) on the skin or noises such as the hum of fluorescent lights, but imagine if these symptoms were widespread, chronic and severe for a young child. For instance, some children have highly aversive reactions to tags or seams in their clothing or loud noises, and dislike the texture of many foods. These phenomena have elicited scientific and public interest in what range of sensory responses are typical during development. Although one or two of these symptoms may not cause significant impairment, parents and teachers have recognized that multiple, severe symptoms adversely affect social interactions, peer and family relationships and school performance of the child. Children with impairment due to sensory over-responsivity (SOR) make up a subcategory of children with sensory processing disorder (SPD). **Results from our research may be included in the official proposal to add SPD to the 5th edition of the Diagnostic Statistic Manual, which may expand insurance coverage for those receiving services.** We examined three areas of research in a recent paper using 1,159 twin pairs: (1) the relationship between temperament (negative affect and fear) with SOR at age two years; (2) the effect of prenatal complications on SOR symptoms at age two; and (3) the common and unique genetic relationships between temperament and SOR symptoms.

**Measurement:** This study incorporated data collected when the twins were approximately 2 years old. Parents participated in a telephone interview and mailed questionnaire with questions concerning emotion-related behavior and sensory experiences (auditory and tactile). We obtained medical records for families approximately five years later when the twins were age 7 years.

**Results.** We found that parents' reports of child negative affect and fear were moderately related to auditory and tactile SOR symptoms. Prenatal complications significantly predicted tactile, but not auditory symptoms. Auditory symptoms were slightly more heritable, or genetically influenced, than tactile systems. Bivariate genetic analyses showed that each SOR domain had a similar genetic relationship with fear; however, auditory SOR shared more genetic covariance with negative affect than tactile SOR. These findings suggest partially non-overlapping causes and risk factors for tactile versus auditory SOR and suggest that prenatal factors need further investigation.

This study has been accepted for publication in *Behavior Genetics*.

## Twins and Research on Autism

We estimate that there are as many as 200 pairs of twins in Wisconsin under the age of 18 in which one or both twins has autism or some other form of pervasive developmental disorder (PDD-NOS or Asperger Syndrome). We have great personal and scientific interest in these disorders. In the first phase of our current work, parents are interviewed via telephone about their children's developmental and medical history. The interview generally takes 45-60 minutes and can be scheduled whenever is convenient to the family. Families are paid \$25 for participating in this interview. In the next phase, we re-contact some families and ask them to participate in a follow up interview, which is also compensated.

In order to accurately assess the prevalence of autism in twin pairs, we would like to know if your family or someone you know has a family where one or both twins have some form of autism, even if they choose not to participate. Thus far, we have located about 160 twin pairs in which one or both has autism or a related challenge. We would appreciate a phone call or email from parents of twins with autism living in Wisconsin. It is not important if the twins are identical or fraternal, boys or girls, or even if the co-twin has any behavioral issues or not; we are interested in all aspects of the autism spectrum.

Please contact Bret Vlach for more information:

- ☎ (866) 230-2560 (toll-free)
- ☎ (608) 262-5574 (local)
- ✉ Email: [tap@waisman.wisc.edu](mailto:tap@waisman.wisc.edu)



## Fun Facts

Average twin birth weight of all participating twins: **5.53 pounds** (30% weighed less than 5 pounds, 10% weighed more than 7 pounds)

Average twin length of all participating twins: **18.5 inches**

Cirque du Soleil employs the most sets of twins. (With the exception of the Twins restaurant in New York City where you can only be a waiter if you are an identical twin.)

(Citation: <http://www.twinsworld.com/aboutus.shtml>)