

Hello from the Wisconsin Intelligibility, Speech and Communication (WISC) Lab! So many exciting projects are ongoing and the team continues to grow in leaps and bounds! Out of that excitement comes this newsletter. We are so happy to share this update with our families!



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A note from Dr. Hustad

As always, thank you to all the families who continue to give their time and commitment to this research. Your efforts are contributing ground-breaking insight into our understanding of how communication develops in children with cerebral palsy (CP). We hope this newsletter finds you well! We are looking forward to seeing many of you for visits at lab over the summer months. Please check out these options for family fun in the Madison area!

Splash Parks: There are three splash parks located in Madison, as well as one in Fitchburg and one in Middleton. The splash parks are zero-depth and fully accessible. <https://www.cityofmadison.com/parks/splashpark>

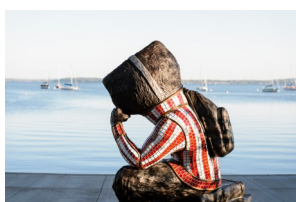


Dane County Farmers' Market: Held around the capitol square on Saturday mornings, and on MLK Jr Blvd on Wednesdays, the Dane County Farmers' Market is the largest producer-only farmers' market in the country. Fruits, veggies, cheeses, honey, maple syrup, flowers/plants, bakery items and more. It's a Madison tradition! <https://dcfm.org>

Henry Vilas Zoo: Henry Vilas Zoo is located near the UW-Madison campus and is open 9:30-5 every day. There is no charge for admission! <http://www.vilaszoo.org/>



UW-Madison Union Terrace: Stop in for ice cream, a concert, or sailboat races! A list of events can be found at <https://union.wisc.edu/visit/terrace-at-the-memorial-union/>



State Capitol Building: The Wisconsin State Capitol is open to the public with free tours offered daily! Wheelchair-accessible entrances located between the wings of the capitol. <https://legis.wisconsin.gov/about/visit>

Dr. Hustad continues to direct the WISC lab and is enjoying her role as Chair of the Communication Sciences and Disorders Department at UW-Madison. Her three children also keep her quite busy!

Welcome to the lab!



The WISC Lab is very lucky to have a new member of our team! Dr. Tristan Mahr has joined the WISC Lab in the capacity of a data scientist.

The WISC Lab has so much data from so many different children at so many different points in time that in order to answer all of our research questions, we have to use sophisticated anal-

yses to uncover the patterns behind the numbers. Tristan's expertise lies in statistical modeling, and his role on the team is to use his analytical skills to help the WISC Lab to discover how children's speech and communication change as they get older and to figure out what speech features from younger ages predict speech outcomes at later ages.

Tristan also has a strong interest in how young children learn words and learn to recognize them in everyday speech.

Tristan is also an excellent instructor and enjoys working with students. Tristan prides himself on his ability to explain very compli-

cated things in ways that are very easy to understand!



When Tristan isn't busy at the WISC Lab, he enjoys spending time with his wife and taking his two-year-old daughter on jogs around Madison. Tristan's daughter can even be found contributing in the lab from time to time!

By the numbers...



2018 was a busy year for the WISC Lab and data collection is well underway in 2019!

In 2018, there were 333 child visits completed at the WISC Lab. Families continue to come from Minnesota, Iowa, Illinois, and all

parts of Wisconsin in order to contribute. We are so happy to have the funding to keep inviting you all back!

In 2018, we had 645 adult visits at the WISC Lab! By listening to the speech of a specific child at a specific point in time, and telling us what they can understand, these adult participants help us generate an intelligibility score for a child at a specific point in time. These intelligibility scores help us publish findings such as those described on page 4 of this news-

letter.



We are thrilled to have so much interest in the projects that are ongoing! Feel free to catch glimpses of life in the lab at our Facebook page:

<https://www.facebook.com/wisclabwaisman/>

Oh, the places they'll go!



The WISC Lab is sending seven lab members off into the world this May!

Congratulations to Alex Maloney, Kerryn Foley, Helen Vradelis, Clare Koopmans, Jenn Soriano, Erin Voigt, and Brittney McCoy.

We wish you the best of luck! Your contributions in the lab have helped advance the mission of the Waisman Center, and we know your future patients, clients, and

families will benefit from your amazing skills and your passion to improve quality of life for individuals with communication impairments.



Exciting student work

Helen Vradelis, a second year graduate student, will complete her Master's thesis this spring! Her project examines how accurate Automatic Speech Recognition (ASR) technologies may be at identifying speech sounds using samples gathered from children. She is using this ASR technology to analyze speech samples collected at the WISC Lab from typically developing children at 4, 5, 6, and 7 years of age. Because current speech recognition programs are calibrated for adult speech, her project will offer exciting results that can help us understand how to improve these technologies for kids both with and without speech impairments. Research projects using ASR could help speech-language pathologists understand how to better focus their treatment for children with intelligibility deficits.

Helen hopes to share her findings at the national American Speech Hearing Language Association (ASHA) conference in Orlando in Fall 2019!



Jenn, also a second-year graduate student, is currently completing work on her Master's thesis project! Jenn has undertaken a study that focuses on how thinking and processing abilities relate to speech and language skills in school-aged children with CP. This data comes from the words and sentences the participants repeat from the iPad, the assessments of language abilities, and data from the non-verbal cognitive assessment we complete. With a better understanding of this relationship,

speech and language interventions can be tailored to meet the individual needs of each child. Her project uses data collected from 40 children between the ages of 10 and 15. Jenn also hopes to present findings from this project at the ASHA conference this fall!

Both Jenn and Helen have said the process of developing a thesis project, collecting and analyzing the data, and interpreting the results has been a valuable experience. We are proud of the progress they've made and can't wait to see how they contribute to research in the future!



Language research summit in Madison

The Symposium on Research in Child Language Disorders (SRCLD) is a conference hosted by UW-Madison and held in June of each year. The conference is attended by researchers and students from around the world! Some of these investigators focus on language impairment experienced by children who are otherwise typically developing, and some focus on

the language abilities of children with developmental disabilities. This year, the WISC Lab will present data about the way that speech and language skills interact in children with CP. Speaking and articulation skills are very different than the skills required for listening and understanding, and are also very different from the skills needed to generate new messag-

es. However, while these skills are all very different, it does appear that they influence each other, and ultimately, impact the way that an individual communicates.



Recent findings

The WISC Lab recently published a paper that examined the speech intelligibility of children with CP. This is the most comprehensive set of data that we have published to date, with data from 2 year olds to 8 year

olds, equaling 566 total visits, which is incredible!

The findings of this study describe a window of rapid speech intelligibility growth for children with CP when they are between 3 and 5 years of age. This finding has clinical

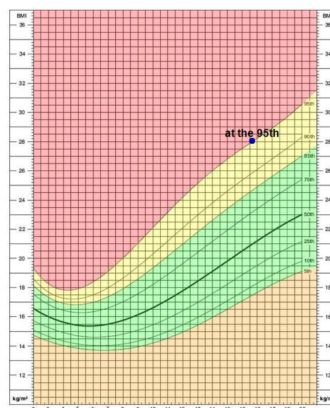
implications related to the timing of speech therapy! *Read more, and access all published articles at:*

<https://kidspeech.wisc.edu/our-publications/>

Speech Development Study update

The Speech Development Study was designed as a companion study for the Communication Development Project. Dr. Hustad realized the need to establish normative data on speech intelligibility for children who are typically developing. Speech researchers know a lot about when children are supposed to be able to produce specific speech sounds, but understanding about speech intelligibility is very different. In the same way that every child's height and weight is measured at each visit with their pediatrician (and their growth plotted on a curve), we have a

dream of being able to evaluate and track each child's speech intelligibility as they grow! The first step in making that dream a reality is to establish benchmarks and cut points in children who are typ-



ically developing.

Our initial goal was to see 400 children between the ages of 2 ½ and 6. To date, we have seen 488 children for this project! But the fun is not over yet... Our next task is to see children who have JUST turned 2, as well as school-age children who are 7, 8 and 9 years old. We hope to have 100 participants in each of these age groups. If you know any families around the Madison area who might like to participate, please let us know!

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