

Neurodevelopmental Disabilities Lab NORTHWESTERN UNIVERSITY

Inside the Research

NDL Awarded New NIH Grant

First, we would like to give a huge thank you to all those families who have previously participated in our study examining traits related to autism and fragile X syndrome! We recently received new funding through the National Institutes of Health (NIH) on a project that extends our prior work, to more deeply understand the behavioral, neural, and biological underpinnings of *FMR1* pre- and full- mutations. This new project studies social communication in different contexts, and also investigates how the brain's processing of speech sounds relates to speech and language in women with the *FMR1* premutation and individuals with fragile X syndrome. Findings will help us understand whether there may be specific language and neural signatures linked to the *FMR1* gene. This research takes an important step toward pinpointing different neurobiological and molecular-genetic factors associated with the *FMR1* gene, and understanding gene-brain-behavior links to develop targeted interventions. Contact us to learn more, including how to participate!



NDL in the Community

We loved getting to see some of our participating families and meet new families at events such as the Iowa State Fair and Northwestern University's Autism Research and Clinical Collaborative this past year. We're always excited to catch up with families and share updates about our research. Next year, we're looking forward to attending the Iowa State Fair in Des Moines, IA and the International Fragile X Conference in Orlando, FL. We hope to see you there!

Meet our intern, Jack!

Every quarter the NDL collaborates with Project Search, a unique transition-to-work program that helps individuals prepare for life in the workplace. This quarter we are lucky to have Jack working in our lab! Jack has been a wonderful addition to our team and has really helped make headway on digitizing our files. He was kind enough to share some information with us about himself, his past jobs, and how Project Search has helped him!

What is your favorite part about working in our lab? My favorite part about working in the lab is getting ready to work and meeting people there.

What other jobs have you had before working in our lab? I worked three different jobs last year. I worked at Glencoe Public Library. My responsibilities included printing scavenger hunts and coloring pages, organizing the art cart, stamping, and shelving books. I worked at Oak Wealth Advisors. My responsibilities included editing the website and correcting mistakes, as well as data entry. I also worked at Mather. My responsibilities included alphabetizing, making packets, recycling envelopes in a locked recycling bin, copying, and stapling packets.

How have your job coaches helped you in the workplace? My job coaches remind me to ask questions when I need help.

What do you hope to do after completing your internship in our lab? I will get a job after I complete my internship site.

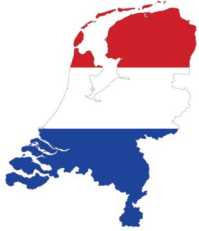
What is your favorite thing to do in your free time? On my free time, I play on the computer.



Neurodevelopmental Disabilities Lab
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Check out our website for copies of recent papers!

International Conference on the *FMR1* Premutation



In September, Dr. Losh and graduate student Molly Winston traveled to Rotterdam, Netherlands for the 4th International Conference on the *FMR1* Premutation. This conference is focused on bringing together the *FMR1* premutation research community, and has a strong emphasis on international collaboration and self-advocacy. At this recent conference, there were researchers present from 15 countries. Individuals with the *FMR1* premutation were able to discuss their personal questions and concerns with the scientific community, which led to valuable exchanges between researchers and the clinical community, and will inform ongoing research questions. Graduate student Molly Winston gave a presentation on visual attention profiles among women with the *FMR1* premutation, parents of individuals with ASD, and parents of typically developing individuals. Specifically, we found that carriers of the *FMR1* premutation demonstrate a unique looking profile across different eye-tracking tasks. This unique looking pattern was also associated with *FMR1* variation. These results suggest that looking patterns may be a key marker reflective of underlying genetics, which also relates to broader social-emotional functioning, personality traits, and language style.

Senior Spotlight

Cassie Stevens and Saadia Elahi are Northwestern seniors who have both contributed outstanding work to the lab during their undergraduate careers. We caught up with them as they reflected on their time in the NDL and how it has impacted their plans for the future.

What was your most memorable or meaningful lab experience?

Saadia: I think any experience working with participant families is very meaningful to me, because the face-to-face interaction puts everything we do into perspective. Engaging in interactions with participant families, especially ASD families, reminds me of the very real impact that our research has, and I'm grateful for all of the opportunities I've been given to conduct testing in the lab.

What is your favorite part of working with participants in our lab?

Cassie: As someone with a very close personal tie to the autism community, my favorite aspect of working with participants is the ability to connect with them. I love being able to watch participants light up after they've worked hard to do things they perhaps thought they couldn't do. I love being able to cheer them on in the process, and to let them know that their participation in our research is a big help. In between tasks, I also get to be an understanding listening ear for parents and siblings who want to share their experiences. When families are so eager to help, it's a great reminder of how important and appreciated the research is by those it seeks to benefit.

What aspect of your time in lab do you think has best helped you prepare for your future career?

Cassie: Though all of our graduate students are phenomenal, I was fortunate enough to be really well matched with my doctoral student mentor, [6th-year doctoral student] Kritika Nayar. I've been given opportunities to learn complex data analysis techniques, administer a variety of tasks, and refine my scientific writing. We also got to build an entire project together from the very beginning, which was really rewarding. Above all, she has been there for advice and support every step of the way, and I feel so grateful and confident stepping into the next phase of my career because of it.

What do you plan to do after graduation?

Saadia: I plan to work as a research assistant and eventually pursue a PhD in clinical psychology with a focus in neuropsychology. I want to connect whichever aspect of psychopathology I decide to focus in on to my interest in cultural influences on mental health. I hope to address gaps in mental healthcare for minority communities, particularly for individuals holding Muslim/South Asian identities, through my future career.

Cassie: I plan to complete a fellowship in neuroscience/neuropsychology and then pursue a PhD in clinical psychology with a focus in neuropsychology. I foresee myself staying in the autism domain as it is near and dear to my heart. In future research, I hope to similarly continue phenotyping work but extend this also to individuals who are minimally to nonverbal.



Director: Molly Losh, PhD

Looking for Clinical Opportunities?

Check out *NUCASLL* - Northwestern's Center for Audiology, Speech, Language, and Learning

Visit the *NUCASLL* website for more info: nucasll.northwestern.edu



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