



UNIVERSITY OF
SOUTH CAROLINA

Healthy Aging Research Study Newsletter

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Thank you!

Thank you for all for your generosity and time in supporting this research over the past year. We have over 75 participants enrolled who are helping us improve the world's understanding of fragile X-associated conditions. Your contributions to this research is so important to understanding how the *FMR1* gene influences healthy aging, and how we can better support individuals who carry *FMR1* gene mutations as they age. We are extremely grateful! THANK YOU! Looking forward to seeing you next year!



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WELCOMING SOME NEW FACES TO OUR TEAM!

Be sure to say hi to our
new team members at
your next appointment!



WHAT HAVE WE BEEN UP TO THIS YEAR?

We joined ~150 other FX stakeholders in Capitol Hill to meet with our senators and representatives on FX Advocacy Day 2024 (features: Dr. Klusek, postdoctoral fellow Dr. Friedman, research specialist Veronica Mclean with FX advocates from South Carolina)



We continued to support the training of the next generation of clinicians and scientists who will contribute to understanding and care of people living with fragile X-associated conditions (featured: Dr. Klusek and trainees Reet Verma and India Rhaney, at research conferences)

We traveled around the world to present research findings at conferences in Kansas City, New Zealand, and even Sweden! Each of these presentations help share and learn about the latest research on fragile X-associated conditions (featured: Dr Klusek, postdoctoral fellow Dr. Friedman, and fellow USC fragile X researcher, Dr. Hogan, at the *FMR1* Premutation Conference, New Zealand)





Research Findings Update

Dr. Klusek and colleagues published a study in *Journal of Neurodevelopmental Disorders* that followed 45 women with the *FMR1* premutation longitudinally for up to 5 years. Syntactic complexity, a cognitive-linguistic marker, was measured from language samples each year. Analyses showed that women who had a family member with FXTAS showed faster age-related decline in syntactic complexity than did women without a family history of FXTAS. Age-related loss of syntactic complexity is linked with neurodegenerative diseases such as Alzheimer's, suggesting that women with the *FMR1* premutation who have a family history of FXTAS may be at heightened risk for age-related disease. This information may be helpful for understanding individualized risk factors.

Want to learn more? Check out the article here: <https://rdcu.be/dmwy0>

In another study led by Dr. Friedman, published in *Experimental Brain Research*, **we found evidence of atypical vocal quality in women with the *FMR1* premutation**, such as lower pitch and voices that were less clear and less controlled. Vocal quality is an indicator of motor function as voice is controlled by the coordination of many muscles in the face, neck, and abdomen. Therefore, this study suggests that analyzing vocal quality may help with earlier detection of other motor problems in individuals with the *FMR1* premutation.

Want to learn more? <https://pubmed.ncbi.nlm.nih.gov/37347418>



**Do you have friends who may want to participate? Send them our way!
We are still enrolling!**

At this time we are seeking to expand enrollment of the following groups of individuals:

- Women with typically developing children who live local to the Columbia SC area, aged 45-80 years, to serve as study controls
- Older women with the *FMR1* premutation, aged 65-80 years. No travel required (we can come to you!) and we welcome participation of women with health conditions
- Women from racial backgrounds that are historically underrepresented in research, such as Black and Hispanic women

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