

Wearables could inform selective mutism research, diagnosis, treatment

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In a new study published in the journal *Frontiers in Psychiatry*, a team led by Child Mind Institute researchers found that specially-designed wearable devices that passively capture and quantify child vocalization features have the potential to inform research into selective mutism by providing standardized, objective measurements that can aid in diagnosis and assess the efficacy of treatment approaches. Selective Mutism (SM) is an anxiety disorder often diagnosed in early childhood that is characterized by persistent failure to speak in certain social situations, but not others.

In the study, *Clinical Perspective on Passive Audio Vocal Measurement in the Evaluation of Selective Mutism*, researchers led by lead author Michael P. Milham, MD, Ph.D., the Phyllis Green and Randolph Cowen Scholar and vice president of research at the Child Mind Institute, conducted two tests using passive vocal recording to assess individuals with SM. The LENA digital language processors include a device and software allowing for passive measurement of [vocalization](#) counts, vocal volume, and other conversational measures in children. Evidence from both tests indicated the feasibility of using this type of technology to quantify [child](#) vocalization features affected by SM. The researchers also highlight comparative analyses of passive audio capture and its potential to enhance diagnostic characterizations for SM, as well as possible limitations of such technologies.

"Selective mutism is a disorder that, despite its prevalence, has not been the subject of extensive research. Clinicians continue to face significant

challenges in effectively diagnosing selective mutism and monitoring and measuring the efficacy of treatments using standardized, objective tools," said Dr. Milham. "Our finding suggest that wearable technologies that can unobstrusively capture vocalization data have real potential to advance SM research and help clinicians determine whether or not treatments are working."

More information: Helen Y. Xu et al, Clinical Perspective on Passive Audio Vocal Measurement in the Evaluation of Selective Mutism, *Frontiers in Psychiatry* (2018). [DOI: 10.3389/fpsyt.2018.00443](https://doi.org/10.3389/fpsyt.2018.00443)

Provided by The Child Mind Institute

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