Rethinking Speech Anxiety: Why Western Diagnostic Models Fail Multilingual Children and How Adaptive AI Could Transform Pediatric Care

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Speech anxiety tests are used a lot in pediatric settings. Speech anxiety refers to fear, hesitation, or discomfort during verbal communication, and in pediatrics, it is commonly assessed through structured screening tools or instruments such as the Social Phobia and Anxiety Inventory for Children (SPAI-C) (McLeod and Verdon, 2017). These tools help doctors and teachers catch early signs of trouble with communication. But I've noticed a pattern. When these screenings are used with children from immigrant or multilingual families, the results can be misleading. Most of the tools used today were designed for kids who grew up speaking only English, specifically in the United States, in households that follow Western cultural expectations (Bedore and Peña, 2008). If a child doesn't respond the way those tools expect, they can be misunderstood.

This issue isn't about whether the child has anxiety or not. It's about how that anxiety is being defined in the first place. In many evaluations, behaviors such as pausing before speaking, avoiding eye contact, or being quiet are treated as signs. But in a lot of cultures, those same behaviors carry a completely different meaning. For example, in many East Asian cultures, avoiding eye contact is considered respectful, and in Middle Eastern or South Asian households, children often pause before responding out of politeness (Westby and Torres, 2020). A child might pause to think, or because they are translating in their head. They might be quiet because they were taught that's polite. None of that means something is wrong, but the system doesn't take that into consideration.

I began to notice this up close while volunteering in hospitals. At Sparrow Hospital, I worked in the Mother and Baby Unit of the Obstetrics Department, where I helped families from different backgrounds. Some parents were soft-spoken. Some answered slowly or avoided direct eye contact. These weren't signs of discomfort. That's just how they communicated. But sometimes those behaviors raised concern among staff who expected something different. That difference that we have created between expectation and reality is where the problem starts.

I've also seen this in research. At Michigan State University's Speech and Language Development lab, I worked on projects involving child language patterns. I spent a lot of time transcribing how kids responded during speech sessions. It was clear that many kids were being thoughtful, translating, or adjusting their tone depending on who was present and who they were speaking to, but the system didn't see that. It measured how long they took to speak or how quickly they responded. And that's what determined the result. Research supports this. Bilingual children often require additional processing time because they are managing two linguistic systems at once, which naturally increases hesitations and pauses (Paradis, 2010).

What bothered me was how often a pause or hesitation was labeled as anxiety, even when it had nothing to do with fear. Some kids were just trying to figure out the right words in the right language, which requires mental energy and is not something to penalize. But most of the tools being used don't make that distinction. Some efforts have been made to address this issue. A few tools have been translated into other languages Some scoring models have been adjusted slightly. But the core assumptions haven't changed. Most screening tools still expect a certain

pace, tone, and style of speaking. If a child's culture encourages something else, they're marked as off-track.

I think artificial intelligence (AI) could help. If trained well, AI could pick up on these differences and adapt its evaluation of each child accordingly. Instead of comparing every child to the same "average," it could learn what's normal in different communities depending on the child's background. A quiet child might be showing respect. A child who pauses could be trying to process the language. If AI could recognize that, it would prevent a lot of unnecessary concern. But this only works if AI systems are trained on diverse linguistic and cultural data; otherwise, they repeat the same biases clinicians already make (Reddy, Allan, and Coghlan, 2020).

Of course, none of this works unless the AI is trained on diverse data. If it only sees one way of communicating, it will just keep repeating the same mistakes. That's why it's important to include individuals from diverse backgrounds in the development of these tools. Parents, researchers, doctors, and students all have contributions to make.

I've also seen how damaging a wrong label can be. At a caregiving job in memory care, I worked with patients who had been defined by their diagnoses. Once a label was in place, it shaped how they were treated and spoken to. Similar thing happens with children. If a child is told they're anxious early on, it changes how teachers see them. It shapes the support they get, or don't get, and it sticks long into their future.

Equity in healthcare isn't just about who gets access. It's also about how we measure things. If the tools we use are built around only one way of seeing the world, then we're setting some children up to fail. We might think we're helping when, in fact, we're actually creating a barrier. The goal should not be to make children adjust to fit our systems; it should be the other way around. Our tools need to grow. They need to reflect the real diversity of the kids they're evaluating. We need to ask better questions. Above all, we need to listen to and understand each child individually.

References

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About the Author

Hania Masood is a senior studying Human Biology with a minor in Business at Michigan State University. As a first-generation student from an immigrant family, she is especially interested in how culture and language shape the care children receive in clinical settings. Her academic interests include pediatric development, communication differences, and diagnostic equity, and she hopes to become a Child and Adolescent Psychiatrist. This piece grew out of her experiences volunteering in hospitals and working in a speech development lab, where she saw how multilingual children are often misunderstood during screenings.