

Graduate student pivots to psychology PhD to pursue understanding of autism

Tristan Lyle's research suggests novel contributions of cerebellum in social behaviors associated with autism

By Kimberlee D'Ardenne, ASU News
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Editor's note: *This story is part of a series of profiles of notable [spring 2026 graduates](#).*

While enrolled in the [Master of Science in Applied Behavioral Analysis program](#) offered through Arizona State University's [Department of Psychology](#), Tristan Lyle discovered that there were some kids with autism who did not respond to applied behavioral analysis (ABA) interventions — and he really wanted to know why.

“While the science of ABA can truly create improvements in quality-of-life domains, I realized that some of the autism spectrum disorder (ASD) phenotypes, which are driven specifically by biology, could not be changed using ABA. I began to wonder about the underlying biological mechanisms that are driving this resistance to change,” Lyle said.

Even before finishing the ABA program, Lyle — now a [board-certified behavioral analyst](#) — started working toward finding answers. He knew the answers were in the brain, so he volunteered in the lab of [Federico Sanabria](#), a professor of psychology, and applied to the PhD program in [behavioral neuroscience and comparative psychology](#). Lyle was accepted and became the first graduate student of [Jessica Verpeut](#), an assistant professor of psychology.

With Verpeut, Lyle studied how what happens in the brain leads to behaviors associated with autism. They recently published a study showing that the [cerebellum acts as a "metronome" during critical development periods](#) and influences social behavior and reward-processing circuits in ways that may provide new insights into the origins of autism.

When Lyle graduates this May, he will be adding a PhD in psychology to the MS in applied behavior analysis that he earned in 2021. We spoke with Lyle to learn more about his time at ASU.

Question: Which Department of Psychology professor taught you an important lesson while at ASU?

Answer: There have been so many psychology professors that have taken me under their wing, such as Federico Sanabria, who allowed me to volunteer in his lab during my master's program. [Foster Olive](#) has supported me since I started the PhD program, always answering my questions with delight and making me feel like I could ask him anything. My mentor, Jessica Verpeut, has shown me what it takes to start a lab, mentor students, write grants, conduct research and publish in high-impact journals, and for that I am forever grateful.

But the most important psychology professor who helped shape me into the man I am today is [Donald Stenhoff](#), the director of the ABA program. He taught me to never give up and to pursue a dream with everything I had because if I ever fell short, I could always look back and smile because I gave it everything I had with no regrets. He also taught me to take time out of my day to “stop and smell the roses.” There was this one moment with him that I will never forget. I walked into his office and saw a football sitting on this bookshelf, and I asked him, “When was the last time you threw that thing?” He said while grinning, “Years, why?” I told him, “The day I get accepted into a PhD program, we are playing catch in front of the psychology building to celebrate.” In classic Don fashion he replied, “Even if you don’t, which I don’t see happening, I would love to play catch.” Fast forward to me getting my acceptance letter — I rushed into Don’s office to tell him, and later that day, we indeed played catch. Moments like these make my ASU experience irreplaceable.

Q: How will your research make an impact in the community?

A: My goal is to help provide the ASD field with information to guide therapeutic interventions and hopefully increase the quality of life of these individuals. As the prevalence of ASD is increasing, more families will need support in the instances of more direct intervention.

Q: Did you benefit from any scholarships or grants during your PhD?

A: I was fortunate enough to receive a [Graduate and Professional Student Association \(GPSA\) Publication Grant](#), and this award allowed me to publish [my research](#) in a high-impact journal, Molecular Psychiatry. I also received multiple [Travel Grants](#) from the GPSA, which allowed me to present my research to scientists from all over the world at the yearly Society for Neuroscience conference. A [Completion Fellowship](#) from the ASU Graduate College made it possible for me to complete my dissertation within five years and graduate on time.

Q: What was a challenge you faced during your academic journey?

A: The biggest challenge during my academic journey was being a good parent, a good husband, a good board-certified behavioral analyst, my advisor’s first graduate student, a teacher’s assistant, conducting research I had never done before, and being a graduate mentor for the undergrads in our lab all at the same time. Juggling all of these things at once truly seems impossible, and I just took it one day at a time.

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Main image



Tristan Lyle, '21 MS in applied behavioral analysis, will graduate with his PhD in psychology. His dissertation research uncovered a novel contribution of the cerebellum in social behaviors associated with autism. Courtesy photo