



# **SIUE's Onal Awarded Grant for Study to Detect Autism Among Children in Underserved Communities**

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EDWARDSVILLE – According to the 2020 United States Census, one in 44 children in the U.S. has autism spectrum disorder (ASD), a neurodevelopmental disorder characterized by difficulties with communication, social, verbal, and motor skills. Research shows most children who have ASD are not diagnosed until age four or older, even though ASD can be reliably diagnosed by age two.

Now, with the support of a Sustaining Illinois Seed Grant from the Illinois Innovation Network, Southern Illinois University Edwardsville School of Engineering's (SOE) Sinan Onal, PhD, is leading research aimed at providing equitable access to early screening tools for ASD.

Onal is principal investigator (PI) of the project, entitled, "A Data-Driven Application to Predict ASD Index for Children Living in Underserved, Underrepresented, and Low-income Communities." Co-PIs include three researchers from Northern Illinois University. Their work aims to reduce the current gap in diagnosis and ensure children receive services as early as possible.

"Early screening and diagnosis are crucial for children to receive necessary assistance and resources to reach their full potential," explained Onal, associate professor in the SOE Department of Industrial Engineering. "The goal of this project is to design a smartphone accessible data-driven application that will predict an ASD index for children living in underserved, underrepresented, and low-income communities."

According to Onal, children living in low-income communities lack access to early screening and are less likely to be diagnosed with ASD than children living in wealthier neighborhoods. Due to the lack of opportunity for early diagnosis, children in underrepresented communities miss out on critical early interventions which can lead to significantly improved outcomes. Funding from the Illinois Innovation Network will not only help this specific study, but also further future project collaborations and research.

"The planned research is not intended to replace current diagnosis practices, but rather to offer a cost-effective, readily accessible way to screen for ASD to reduce this gap in diagnosis and to help children receive services as early as possible," Onal added.

Onal's ongoing scholarship on ASD earned him SIUE's 2020-22 Hoppe Research Professor Award, in recognition of his significant research contributions through a project entitled, "Gait Alterations in Children with ASD." Onal also serves as director of the National Science Foundation (NSF)-funded Motion Capture and Analysis Laboratory (MOCAL), which has supported student research involving studies on ASD.

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program offerings include arts and sciences, business, education, engineering, nursing and interdisciplinary opportunities. SIUE professors provide students with a unique integration of theoretical education and hands-on research experiences. Students can obtain graduate certificates or pursue master's degrees, and be part of a supportive learning and rich intellectual environment that is tailored to the needs of adult learners. The Graduate School's Office of Research and Projects supports and raises the visibility of research and creative activity at SIUE, which ranks highest among its Illinois Board of Higher Education peers in total research and development expenditures according to the National Science Foundation's Higher Education Research and Development Survey.