

Students develop wearable device that monitors anxiety in autistic children

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Group leader and engineering student Andrea Palmer.

A wearable device developed by students at the University of British Columbia shows promise in preventing meltdowns in children with autism.

The [device](#), called Reveal, measures three indicators of anxiety—sweat, [heart rate](#), and skin temperature—using sensors integrated into clothing. The readings are transmitted to the parent's smartphone in [real time](#), allowing the caregiver to step in before the situation escalates.

The device stems from a project in an entrepreneurship-and-innovation class that the [team members](#) attended last year.

"We knew from the start that we wanted to create something with a real social impact, not just another consumer device," said group leader and engineering student Andrea Palmer, noting that B.C. is home to around 15,000 children with autism.

The students overcame several challenges when designing the device, including: finding a comfortable way to wear the device, and perfecting an algorithm that would "learn" from an individual's indicators.

Development of specific algorithms is well under way and Palmer's team is working on finding the ideal location for the sensors in clothing.

"Children with autism can be extremely sensitive about their clothes, particularly to tags and seams that stick out. We initially played with sensors embedded into a t-shirt but are experimenting with other clothing items that would be less noticeable and more comfortable," Palmer said.

The product was recently recognized in the Canadian Global Impact competition, which looks for outstanding ideas that will make a difference in the lives of people in the next few years. Palmer beat out competitors from across Canada to win the prize, a scholarship to Singularity University in Silicon Valley.

Provided by University of British Columbia

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