

## Smartphone app may boost social skills in kids with autism

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(HealthDay)—A smartphone application that works with Google Glass

might help kids with autism build their social skills, a small clinical trial suggests.

Researchers found that over six weeks, kids who used the app at home with their families made greater gains in certain social abilities, compared to those who stuck with their usual [therapy](#) alone.

Experts said the findings, published online March 25 in the journal *JAMA Pediatrics*, are only an initial step. It's not yet clear how the app—which is not commercially available—might affect kids' development in the long run.

But the study highlights the promise of digital technology in supporting face-to-face therapies for autism, said senior researcher Dennis Wall.

"We do think it's going to be a helpful augmentation," said Wall, an associate professor of pediatrics at Stanford University, in California. "We hope this sets the stage for more to come."

Autism is a developmental disorder that affects about one in 59 U.S. children, according to the U.S. Centers for Disease Control and Prevention. It varies widely in severity: One child might have mild problems with communication and [social skills](#), while another might be profoundly affected—speaking little and getting wrapped up in repetitive, obsessive behaviors.

But difficulty with socializing is a hallmark across the board.

Standard behavioral therapy, including applied behavioral analysis (ABA), aims to help kids with autism build social skills. But therapists are in short supply, and families can be on waitlists for up to 18 months, Wall said.

He pointed to other issues, too: The quality of ABA is "variable," and in general, kids can have difficulty translating what happens in therapy to [everyday life](#).

If smartphones can help families practice skills at home, Wall said, that could help fill those gaps.

For the study, his team enrolled 71 children with autism who were already in ABA therapy. The children, aged 6 to 12, were randomly assigned to stick with ABA only, or add the digital therapy.

Wall noted that the therapy was designed with feedback from families to get a sense of what worked and what kids enjoyed.

The therapy involves a [smartphone app](#) that is wirelessly linked to Google Glass—a wearable computer with a display that is worn like eyeglasses. The frame has a camera that captures the wearer's field of view, plus a small screen and speaker that gives the wearer visual and audio information.

In this case, when children wear the glasses, the app encourages them to find and recognize facial expressions. First, a green box lights up when a child focuses on someone's face.

"Basically," Wall said, "it's saying, 'Good job, you've found a face.'"

Then the child receives a visual cue (an emoticon) or an audio one, identifying the emotion in that person's expression.

The app also includes games. In one, parents ask their child to guess the emotion they're acting out; in another, kids try to "find" an emotion—making mom smile by telling a joke, for instance.

"The kids loved it," Wall said. "They said it was like putting their 'superpowers' on."

In the trial, families in the app group were asked to use it four times a week, for 20 minutes.

After six weeks, the researchers found, children in that group were showing gains in their everyday social interactions—based on parents' responses to a standard questionnaire. Their socialization scores rose almost five points compared to kids in the comparison group.

That improvement is "interesting and notable," said Katherine Sullivan, an assistant professor of child psychiatry at NYU Langone Health in New York City.

The question is: What will that mean in the long run?

"More research is needed to see how this will play out," said Sullivan, who was not involved in the study. "How long-lasting are these skills? Are these temporary improvements?"

She agreed, though, that digital technology has the potential to support standard therapies, because it's accessible—and kids like it.

"When families are just going for a weekly appointment with a therapist, it's challenging to see progress," Sullivan said. "Practicing skills outside the therapy room is an important piece."

Wall agreed that larger, longer studies are necessary.

"We're working to get this to commercial availability," he said. "But we wouldn't put it out there without proper validation."

The study was funded by government and private grants. Google supplied the glasses.

**More information:** Dennis Wall, Ph.D., associate professor, pediatrics, psychiatry and biomedical data sciences, Stanford University School of Medicine, Stanford, Calif.; Katherine Sullivan, Ph.D., assistant clinical professor, child and adolescent psychiatry, NYU Langone Health, New York City; March 25, 2019, *JAMA Pediatrics*, online

Autism Speaks has more on [therapies for autism](#).

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