

Teens with autism can master daily living skills when parents teach, reach for iPads

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From left: Johnathon DiFusco, a teenager in the study; Elisa Cruz-Torres, Ed.D., in the Department of Exceptional Student Education in FAU's College of Education; and Susan Freeman, Jonathan's mother, practicing at home using an iPad. Credit: Florida Atlantic University

As adults, individuals with autism spectrum disorder (ASD) can be

highly dependent on family members or assistance programs for their day-to-day living needs. It has been reported that following high school and up to eight years after, only 17 percent of adults with ASD live independently. Developing skills like cooking, getting dressed and cleaning are essential to promoting autonomy and self-determination and improving quality of life. For some individuals with ASD, completing daily tasks can be challenging because they often involve sequential steps.

Research has shown that people with ASD are strong visual learners. With technological advances, devices such as smart phones and tablets have become more portable and ultimately, accessible to caregivers. However, few studies have examined whether parents can learn to effectively deliver evidence-based practices using portable, mainstream devices like an iPad.

Researchers from Florida Atlantic University and collaborators conducted a small, novel study to examine whether video prompting interventions using an iPad could be effective in increasing parents' competence and confidence to use mobile devices to interact with their [adolescent children](#) with ASD. The objective was to evaluate the effects of behavior skills training with follow-along coaching to instruct parents to deliver video prompting with an iPad to teach daily living skills to their [children](#). What makes this study unique is that parents of adolescents were coached and learned to use an iPad in their own homes. While other studies have been successful in teaching parents to implement evidence-based practices, they largely targeted parents of young children.

For the study, published in the *Journal of Autism and Developmental Disorders*, researchers targeted parents of adolescents with ASD who would be transitioning into adulthood in the near future and who needed to cultivate independent living skills to decrease dependency on others,

while improving self-esteem and confidence. Each child, between the ages of 12 and 17 years old, had to complete a skill selected by the parents: make a bed, cook pasta or tie shoelaces. Parents received guidance on using an iPad and implementing the intervention. They learned how to guide their child to watch the instructional video, imitate what they viewed, and then provide appropriate feedback.

Depending on the outcome, parents were asked to provide praise, correct the errors or demonstrate the step themselves if the child made two or more consecutive errors on the same task step. Lead researcher of the study Elisa Cruz-Torres, Ed.D., in the Department of Exceptional Student Education in FAU's College of Education, visited families' homes three times a week for one hour for each family's intervention, which lasted between five to seven weeks.

Results of the study showed that all of the children substantially improved correct and independent completion of their daily living skills, which validates that video prompting procedures are effective in ameliorating skill deficits.

While parents were successful in implementing the video prompting preparation and procedures, they were inconsistent with the consequence strategies such as social praise and error correction. None-the-less, the children still mastered their skills and maintained the skill three weeks after the end of the intervention.

"Our findings show that video prompting interventions produced both immediate and lasting effects for children with [autism spectrum disorder](#) and that parents can be powerful delivery agents to increase independence in their children," said Cruz-Torres. "While it is desirable that [parents](#) follow steps exactly, we learned that even with slight variations in parent delivery, the teens still mastered the intended skills."

Data from this study also revealed that none of the children required more than 17 interventions to reach mastery criteria. In addition, this study draws attention to the importance of evidence-based practices for families of older children with ASD.

"Now, when I'm working with my son to learn a new skill or even talk about a new skill, because of this study I have learned to break it down into [smaller pieces](#) rather than asking him to do the whole thing. We use this concept for other things like doing laundry. I've also learned that he is very responsive to praise," said Susan Freeman, a parent in the study. "John is a very visual learner so being able to see what each step should look like enables him to complete the task. He's still making his bed and we're working on changing the sheets, which is a new skill. I don't have to make his bed anymore."

Freeman's son Johnathon "John" DiFusco also is pleased with this instructional method, which makes him feel good about himself as well as proud.

"Now, I can be on time for school and I also know how to vacuum," said DiFusco.

Provided by Florida Atlantic University

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