# Promoting Communicative Speech in Minimally Verbal Children With Autism Spectrum Disorder

Helen Tager-Flusberg, PhD

It is now common knowledge that early behavioral interventions offer major benefits to young children with autism spectrum disorder (ASD), particularly with efficacy in developing language skills.[1-3] However, there are children with ASD who graduate from high-quality preschool programs without showing significant change, failing to acquire spoken language skills. Their ability to communicate remains extremely limited, and although there is anecdotal evidence that a small minority of these children do start speaking after the age of 5 years, most do not.[4] The absence of speech or other means for communicating with others has serious consequences for these children as they have multiple behavioral and medical needs, bear the most significant emotional and financial burdens, are at greatest risk for safety concerns, and are most in need of lifetime care with no possibility of independence.[5]

In this issue of the *Journal*, Kasari *et al.* set out to address the urgent needs of these children by creating a novel menu of behavioral interventions that was delivered using a creative experimental randomized controlled design.[6] The so-called sequential multiple assignment randomized trial (SMART) design allowed the researchers to tailor the "dosage" and timing of intervention based on the individual child's response in what is perhaps the first attempt to offer a personalized approach to behavioral intervention. Despite the enormous heterogeneity among minimally verbal children, this unique clinical trial met every metric for carrying out a rigorous investigation. And the findings are stunning: there was meaningful change in the children's linguistic communication after just 24-hour-long sessions, and this change held up over time.

It is difficult to overstate the significance of this study. Every component of the intervention package was carefully selected from theoretically motivated, current best practices that combined manualized interventions designed to promote precursor skills critical for language development with speech-generating devices. This intervention package was delivered by trained personnel (clinical psychologists, speech therapists, or special educators) and, later, by parents. The most important, and perhaps unexpected, finding was that the best outcomes were obtained when the behavioral intervention was combined with training in the use of a speech-generating device (SGD) right from the start. Children who received this combination communicated more with others, using both spoken language and the SGD, not just to respond or express their needs but also to initiate comments in the context of social and play interactions.

This is welcome news! Yet another behavioral intervention has been shown to be effective in the context of a randomized controlled trial, this time with a group of children who had not responded well to early treatments. Change was accomplished in sessions scheduled for 2 or 3 hours per week as a supplement to the children's regular school-based programs, thus countering the concern that behavioral interventions are too demanding in terms of both time and money. This randomized controlled trial was carried out in a research setting, but the intervention package could easily be transported to other settings including schools, clinics, or even inpatient units, and delivered by a wide range of trained professionals.

This study represents a significant first step but also raises a number of important questions. The children enrolled had some testable receptive language skills, had IQ scores in the moderately impaired to normal range, and most were able to

speak some words. Indeed, more than half the children who were referred to the study were excluded based on the strict entry criteria. So, would this intervention package be effective with more severely impaired, minimally verbal children? Is there a qualitative difference between having a few words and no words? Why did introducing the SGD make such an important difference, but only when the children started out with it? Would it be effective to introduce SGDs at an earlier stage, say, for preschoolers who have not made significant progress in acquiring language after a year of community-based early intervention?

Even though, at this point, we do not yet know who will benefit from this intervention package, it seems clear that introducing minimally verbal children to SGDs in combination with known effective behavioral treatments could have an enormous impact. Fortunately, with the advent of tablets (e.g., the iPad) in the last few years, there are several apps available that provide the kind of communication support offered by more traditional SGDs at just a fraction of the cost. But one cannot simply hand over a tablet to a minimally verbal child and expect him or her to begin communicating with it: it is crucial to provide training not only to the child but also to family members, teachers, and peers, in how best to incorporate the device into their interactions. We also need far greater scrutiny over which apps are most useful in enhancing communication for minimally verbal children with or without ASD. Kasari *et al.* have demonstrated that effective interventions can promote language that goes well beyond increasing the number of words used in simple requests or responses, even in children who have never before been able to communicate with other people. Most previous studies on the efficacy of SGDs never set the bar this high; with society's low expectations, children with ASD will not achieve the level of communicative competence that was accomplished in this study and that is so critical to the children's ability to take their place in society.

This landmark paper should be required reading for all clinicians and educators who work with minimally verbal children with ASD. Although there is still a great deal of research to be done to address the broad and significant needs of this population, this study represents a turning point. We now have a sense of optimism that we *can* develop the tools and programs that will make a meaningful difference in the lives of these children and their families. &

Accepted March 7, 2014.

Dr. Tager-Flusberg is with Boston University.

Preparation of this paper was supported by a grant from the National Institutes of Health (NIH) / the National Institute of Deafness and Other Communication Disorders (NIDCD) (P50 DC 13027).

Disclosure: Dr. Tager-Flusberg reports no biomedical financial interests or potential conflicts of interest.

Correspondence to Helen Tager-Flusberg, PhD, Department of Psychological & Brain Sciences, Boston University, 100 Cummington Mall, Boston, MA 02215; e-mail: htagerf@bu.edu

0890-8567/$36.00/©2014 American Academy of Child and Adolescent Psychiatry

http://dx.doi.org/10.1016/j.jaac.2014.04.005

## REFERENCES

1. Kasari C, Paparella T, Freeman S, Jahromi L. Language outcome in autism: randomized comparison of joint attention and play interventions. J Consult Clin Psychol. 2008;76:125-137.
2. Dawson G, Rogers S, Munson J, *et al*. Randomized controlled trial of an intervention for toddlers with autism: The Early Start Denver Model. Pediatrics. 2010;125:17-25.
3. Landa R, Holman K, O'Neill A, Stuart E. Intervention targeting development of socially synchronous engagement in toddlers with autism spectrum disorder: a randomized controlled trial. J Child Psychol Psychiatry. 2011;52:113-121.
4. Pickett E, Pullara O, O'Grady J, Gordon B. Speech acquisition in older nonverbal individuals with autism: a review of features, methods, and prognosis. Cogn Behav Neurol. 2009;22:1-21.
5. Tager-Flusberg H, Kasari C. Minimally-verbal school-aged children with autism spectrum disorder: the neglected end of the spectrum. Autism Res. 2013;6:468-478.
6. Kasari C, Kaiser A, Goods K, *et al*. Communication interventions for minimally verbal children with autism: A sequential multiple assignment randomized trial. J Am Acad Child Adolesc Psychiatry. 2014;53:635-646.