

NEWS

Experimental autism treatments put to test in real world

BY NICHOLETTE ZELIADT

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On the second floor of a Catholic school in the Bronx, roughly 20 toddlers with autism gather in groups of 10 in two colorfully decorated classrooms. There, a teaching assistant pairs up with each child to deliver two hours of one-on-one behavioral therapy. Most of the children are African-American or Hispanic, many of them from low-income families.

In this setting, researchers at the University of California, Los Angeles have begun an experiment to assess how well a second, less widely used behavioral treatment works in the hands of teaching assistants in busy classrooms.

The treatment, called JASPER, is a play-based intervention that **has been shown** to improve

social skills and communication — when implemented by expert therapists in a highly structured lab or classroom. This Bronx school is the treatment's first test in toddlers in a real-world venue with limited resources. Based on the last two years, the results of the classroom experiment are promising and seem to be similar to those from the research setting.

The pilot project is part of a growing effort among scientists to modify autism treatments so that they better fit the various communities tasked with implementing them.

“Executing studies in the real world tests whether the intervention really works,” says lead researcher **Connie Kasari**, professor of human development and psychology at the University of California, Los Angeles. “If it does, there is a much better chance that the community will adopt the practice.”

Minority children from low-income families are **rarely included in autism studies**, Kasari says. They also have **limited access to treatment** because of the cost or travel involved. By making it easier for teachers to deliver the therapies, Kasari's project and others like it may ultimately help to make proven treatments more accessible to children who need them.

“Now that we know what [treatments] to do, it's really important to make sure that we're reaching as many kids as possible, especially those kids in low-resource areas who may not have any access to intervention,” says **Aubyn Stahmer**, associate professor of psychiatry and behavioral sciences at the University of California, Davis. Stahmer is not involved in Kasari's study, but is leading **several projects** in California that involve **adapting and testing** autism interventions for community settings.

Reality check:

The Bronx program is part of the **New York Center for Infants and Toddlers** — a state-funded program that provides treatment and support services to children with autism under the age of 3. The center, where 80 children with autism receive therapy each day, has a second location in East Harlem.

Children enrolled in the program receive 90 minutes each day of individualized autism therapy based on **applied behavioral analysis (ABA)**, which rewards children for desirable behaviors but not undesirable ones. Teaching assistants, many of whom are from the Bronx and are also ethnic minorities, deliver the therapy. A trained therapist oversees their work and provides feedback.

In addition to ABA, the children participate in social skills training. Two years ago, that training consisted of group music and movement sessions led by a speech or occupational therapist. But the children did not spontaneously interact much during the sessions, according to **Michael Gordon**, executive director of the center, so he and his colleagues went looking for other options. “I wanted something that had more evidence to it,” he says.

Gordon teamed up with Kasari in 2013 after hearing her give a presentation about JASPER. This autism intervention involves play routines that encourage the child to notice their play partner and participate in a shared activity.

Kasari's team spent about four months in the classrooms, training the staff and gathering information about the particular challenges the teachers there might face. In January 2014, teaching assistants began giving [24 children in the Bronx program and 31 at the Harlem site] 30 minutes of JASPER each day, in one-on-one sessions. The other children, [which included 25 in the Bronx and 33 in Harlem,] continued to participate in group play.

[The researchers recorded 10-minute videos of each child playing with a teaching assistant at the beginning and end of the study, and again one month later. Trained assistants who did not know which children belonged to which treatment group analyzed the videos and rated each child's behaviors.]

Kasari and her team [found] that children who received [10] weeks of ABA and JASPER [show] gains in joint attention behavior and play skills, compared with children who received ABA and informal group play sessions. For example, they seem better able to share attention on a toy with their teaching assistant.

"We weren't really able to impact [those skills] using the standard group play," says Maria Kodjoe, vice president of behavioral services at the center. "So we knew that JASPER was working well."

Kasari says the preliminary data back up these informal observations. Children who received JASPER also attend to and engage with others more frequently and use more words than children in the control group, as measured by trained school staff, [the researchers reported in December in the *Journal of Child Psychology and Psychiatry*].

Peer power:

But the experiment revealed one major pitfall to implementing JASPER in the real world. Although the teaching assistants delivered the therapy properly, they found administering it more tiring than providing the group play session, in which the children move around to music on their own.

Teachers who dislike certain treatments tend to **use them less often or less effectively**. So Kasari's team adapted JASPER to make it less burdensome to administer.

In the therapy's revised form, dubbed JASPEER because it is peer-based, teaching assistants work in pairs to foster social interactions between two children. For example, the teaching assistants work together to try to get the children to pay attention to or play with the same toy together. The change made it "more palatable," Kasari says.

The researchers compared JASPER to JASPEER in a study that wrapped up in July [2015]. Those results are not yet available, but so far, the teaching assistants say they prefer JASPEER because it allows them to consult each other during the session to figure out the best approaches for the children. What's more, they report benefits for the children: Some of those who are paired together in the peer-based sessions have formed friendships and seek each other out at other times during the day.

The study highlights the importance of working with people in the community to tailor autism therapies to the needs of the de facto therapists as well as the children. "We're doing it together, so it feels like it's going to be feasible and sustainable," Kasari says.

Lauren Brookman-Frazee, associate professor of psychiatry at the University of California, San Diego, is another pioneer of developing and testing autism therapies in real-world settings. She is **leading a study** similar to Kasari's in Southern California on a treatment for challenging behaviors that can be delivered by mental health clinicians who do not specialize in autism.

Partnering with communities, she says, "gives us the potential to maximize the feasibility and fit of our interventions so that they will be adopted, implemented and hopefully sustained."

REFERENCES:

1. Shire S.Y. *et al. J. Child Psychol. Psychiatry* Epub ahead of print (2016) **PubMed**