

NEWS

Music therapy for autism shows minimal social benefit

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Music therapy does not alleviate social difficulties in children with autism, suggests a large international study¹.

Engaging with music is thought to help children become more flexible, responsive and attentive, leading to better social and communication skills. But participants with autism who received improvisational music therapy scored no better on a standard diagnostic test for the condition than did children with autism who did not get the therapy. The results were published 8 August in *JAMA*.

Still, researchers should not give up on investigating music's potential to ease autism features, says lead investigator **Christian Gold**, professor of music therapy at the University of Bergen in Norway. The study may have missed improvements in a subset of the participants, he says.

"The message therefore is that therapy needs to be improved, either by making sure that therapists work more consistently or by better targeting the therapy, or perhaps by increasing the duration of therapy," Gold says.

Other researchers also say they hope the findings lead to evidence-based music therapy.

"This is an important first step for the field," says **Alan Turry**, managing director of the Nordoff-Robbins Center for Music Therapy at New York University, who was not involved in the new study. "Though the findings are disappointing," he says, one-size-fits-all treatments seldom yield positive research results. "We now have an important opportunity to build on this study and find what benefits occur for which groups of patients under what conditions."

Small drop:

The researchers followed 364 children with autism, ages 4 to 7 years old, in nine countries over

five months. All participants received the standard care for autism available in their region, such as behavioral interventions, communication training and speech therapy. A subset of 182 of the children also received music therapy.

These children participated in 30-minute one-on-one sessions either three times a week or once a week. In each session, experienced music therapists directed joint activities, including improvised singing and playing instruments.

The children who received the music therapy, regardless of the frequency, and the controls both showed a small decrease in scores on a subscale of the Autism Diagnostic Observation Schedule that measures difficulties in social skills. The average score decreased from 14.08 to 13.23 among children who received the music therapy versus 13.49 to 12.58 among those who received only standard care. The difference between the groups is not statistically significant.

The study design may have played a role in the negative result, says **Sarabeth Broder-Fingert**, assistant professor of pediatrics at Boston University, who was not involved in the work.

To mirror the diversity of children with autism that therapists encounter, the researchers chose relatively broad criteria for enrolling participants. For instance, they made no restrictions on children's cognitive abilities, so the participants' intelligence quotients vary widely. The resulting noise in the data may have masked statistically significant effects, Broder-Fingert says.

Positive note:

In 2014, Gold and his colleagues reviewed 10 smaller studies of music therapy for children with autism. Their analysis found some benefits of the therapy, including improved social and verbal skills.

Clinical observations also suggest there are several ways to make music therapy more effective in this population, Gold says.

For example, children with autism who actively engage in musical activities and connect well with a music therapist show marked improvements in their social abilities, according to early findings from a separate study by Gold's team.

Conducting sessions for longer than five months, possibly with parents also participating, may render the therapy more effective, Gold says.

Improvisational music therapy brought other benefits to the children in the new study who received it three times a week, he says. In post-session interviews, parents reported a significant increase in their and their children's quality of life. Families may also be more interested in outcomes other than test scores, such as pleasure in the activity or improvements in functioning at school.

Researchers don't know enough about how music affects the brain, Gold says. "How does it actually work?" he asks. Answering that question might help scientists design studies that help subsets of children with autism.

REFERENCES:

1. Bieleninik L. *et al.* *JAMA* **318**, 525-535 (2017) [PubMed](#)