NEWS

Community Newsletter: An evidence problem; cells' interior design; repetitive movements

BY **MICHAEL FERGENSON**

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Autism therapies have an evidence problem, according to an **editorial** published in *Autism* earlier this month.

"Frameworks for **categorizing autism interventions** as 'Evidence-based Practices' (EBPs) rely on research quality standards that are far too low," tweeted **Kristen Bottema-Beutel**, associate professor of special education at Boston College in Massachusetts, about her editorial.

> Excited to share my first editorial as a **@journalautism** Associate Editor! In it, I argue that frameworks for categorizing autism interventions as 'Evidence-based Practices' (EBPs) rely on research quality standards that are far too low ???? 1/7 **https://t.co/ScxZ9541h7**
>
> — Kristen Bottema-Beutel (@KristenBott) **January 2, 2023**

Interventions based on such low-quality evidence "might not provide any benefit, and **might actually be harmful**," she continued in her thread. To avoid this, interventions "must be backed by studies w/ **minimal risks of bias** & adequate adverse event monitoring, & be produced by researchers w/out COIs." *Spectrum* **covered many of these issues** in depth last year.

"Thank you for taking on this **not-insignificant challenge**," tweeted **Shannon Des Roches Rosa**, senior editor of **Thinking Person's Guide to Autism**, a nonprofit news site.

> So glad you're on board! Thank you for taking on this not-insignificant challenge.
>
> — Shannon Des Roches Rosa (@shannonrosa) **January 2, 2023**

Elsewhere on Twitter, the **Allen Institute** posed a big question at the microscopic level: "What makes our cells healthy & **what goes wrong in disease**?" The answer, they assert in a **study** published earlier this month in *Nature*, may lie in how the cells are organized.

> Over 7 years in the making, our scientists just debuted a new way to measure cell organization. Out today in **@Nature**, our cell science team outlines a framework for measuring cell-to-cell variability, including intracellular organization. **https://t.co/5lh0nmuBZ5 pic.twitter.com/i1PxfrDDUN**
>
> — Allen Institute (@AllenInstitute) **January 4, 2023**

Researchers at the institute came up with a new way to measure cell-to-cell variability, including intracellular organization, and applied it to 202,847 3D images of live cells. As the institute put it, "Cell science is fundamental to **understanding and finding cures to human disease**."

> Cell science is fundamental to understanding and finding cures to human disease. Get to know our novel, holistic approach to decoding the mysteries of life's building block. **https://t.co/JozBwhJp6N pic.twitter.com/kL5LNXFox9**
>
> — Allen Institute (@AllenInstitute) **January 4, 2023**

"Excited to see how this can **inspire new cell scientists**," tweeted **Omar Quintero-Carmona**, associate professor of biology at University of Richmond in Virginia.

> Three cheers to team science, big science, and open science. Excited to see how this can inspire new cell scientists. **https://t.co/8qjAhnZW2H**
>
> — Dr. Omar Alberto Quintero-Carmona (@_OmQu) **January 4, 2023**

The project provides “an amazing, unprecedented view of the internal organization of **200,000 live human cells in 3D**!” tweeted the **biology department** at the University of Washington in Seattle.

> An amazing, unprecedented view of the internal organization of 200,000 live human cells in 3D! Featuring the work of **@UWBiology** Professor Julie Theriot and 1st year PhD student Maggie Fuqua! Congratulations, all! ???? **https://t.co/VqNRt0W4gT**
>
> — UW Biology (@UWBiology) **January 4, 2023**

Another question to ponder this week: Do attention problems account for changes in autistic people’s repetitive movements over time? **Julia Nauman**, lab manager at the Michigan State University Autism Lab in East Lansing, explored this possibility in her new **study** of 2,568 autistic children, published in December 2022 in *Research in Autism Spectrum Disorders*.

The answer appears to be no. Although both motor and attention problems improve with age, “attention problems at intake **did not predict later stereotypy**,” Nauman tweeted. “Thus, other causal factors should be considered.”

> other causal factors should be considered. We hope this study can serve as a starting point for determining whether motor stereotypy in individuals with and without ASD, as well as their associated attention difficulties share an underlying cause (4/4).
>
> — Julia Nauman (@julia_nauman) **January 9, 2023**

Diondra Straiton, a graduate student in the lab, asked about **next steps for the research**. Nauman replied that she wants to continue investigating the relationship “and reported **differences in attention, perception, and cognition** in order to provide insight into

developmental challenges associated with and indicated by motor stereotypy.”

> My goal is to continue investigating the relationship between motor stereotypy in ASD and reported differences in attention, perception, and cognition in order to provide insight into developmental challenges associated with and indicated by motor stereotypy.
>
> — Julia Nauman (@julia_nauman) **January 10, 2023**

That’s it for this week’s Community Newsletter! If you have any suggestions for interesting social posts you saw in the autism research sphere, feel free to send an email to **michael@spectrumnews.org**.

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