

SPOTTED

Predictive brain waves; spotting liars; pet peeve and more

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WEEK OF APRIL 30TH

Predictive brain waves

Electroencephalography (EEG) produces tracings of brain-wave activity. Researchers say that using this tool at regular intervals in infants starting at age 3 months is “highly accurate” at **predicting who will be diagnosed** with autism as a toddler. Publishing 1 May in *Scientific Reports*, the investigators say their results with repeated EEG recordings in 99 baby siblings of children with autism neared 100 percent predictive accuracy by the time the younger siblings reached age 9 months.

This approach is “relatively easy to use” because it’s not invasive, the researchers write. It involves placing a net with 128 sensors on the infant’s head and recording at least two minutes of brain activity while the baby sits in a caregiver’s lap.

SOURCES:

Scientific Reports / 01 May 2018

EEG analytics for early detection of autism spectrum disorder: A data-driven approach

<https://www.nature.com/articles/s41598-018-24318-x>

Spotting liars

The number of autism-related features a person has is associated with the **ability to detect deception**, investigators say. In a study published 27 April in *Autism Research*, neurotypical adults with more autism features detected deception less readily than those with fewer ones. In a separate comparison, adults with autism detected deception less often than those without the condition. The number of autism features did not, however, correlate with the ability to read another

person's mental state.

SOURCES:

Autism Research / 27 Apr 2018

Can you spot a liar? Deception, mindreading, and the case of autism spectrum disorder

<https://onlinelibrary.wiley.com/doi/abs/10.1002/aur.1962>

Pet peeve

After the vaccines-autism hypothesis hit multiple dead ends, some anti-vaccine crusaders have “come for the pets,” *The New York Times* reported 27 April. Specifically, they claim that vaccines will **cause autism in dogs**, prompting the British Veterinary Association to assert that “dogs cannot develop autism.” As the *Times* notes, the history on this warning “has a long tail.” Ba-dum.

SOURCES:

The New York Times / 28 Apr 2018

No, your dog can't get autism from a vaccine

<https://www.nytimes.com/2018/04/27/world/europe/britain-dogs-autism-vaccine.html>

Homeopathy humbug

In more autism-vaccine news, more than 120 homeopaths in the United Kingdom are **peddling a “cure”** they claim will counteract putative autism-causing effects of vaccines and antibiotics. The homeopaths are “accredited practitioners” of the deplorably named Complete Elimination of Autistic Spectrum Expression “therapy,” *The Guardian* reported 27 April. The National Autistic Society has called the practice “appalling.”

SOURCES:

The Guardian / 27 Apr 2018

More than 120 homeopaths trying to ‘cure’ autism in UK

<https://www.theguardian.com/society/2018/apr/27/more-than-120-homeopaths-trying-to-cure-autism-in-uk>

Predicting psychosis

People with autism have an increased **risk for psychotic episodes** in their teenage years, but identifying who will transition to psychosis has proved difficult. The outer **folds of the brain** can give some hints, researchers reported 25 April in *JAMA Psychiatry*. In people at high risk for psychosis, a disorganized fold pattern could help predict who will transition to an acute episode.

SOURCES:

JAMA Psychiatry / 25 Apr 2018

Disorganized gyrification network properties during the transition to psychosis

<https://jamanetwork.com/journals/jamapsychiatry/fullarticle/2678576>

Peer-review bias

In news that will surprise few women in science, results from a Canadian study suggest that the grant peer-review process is **biased against women**. Female grant applicants receive funding less often than their male counterparts, according to the study, published 23 April in the *Canadian Medical Association Journal*. Reviewers' gender, track record of personal grant funding and conflicts of interest all affect decision-making.

SOURCES:

Canadian Medical Association Journal / 23 Apr 2018

Assessment of potential bias in research grant peer review in Canada

<http://www.cmaj.ca/content/190/16/E489>

Same-sex mentor effect

Also likely to surprise few women: **Having a female mentor** makes women working on a chemistry Ph.D. more likely to stay in academia and produce more papers. Because few female advisers are available, a limited number of women will become advisers themselves, perpetuating disparities in science and engineering faculties, the researchers reported 4 March in *Research Policy*.

SOURCES:

Research Policy / 04 Mar 2018

An advisor like me? Advisor gender and post-graduate careers in science

<https://www.sciencedirect.com/science/article/pii/S004873331830043X?via%3Dihub>

Finger-ratio fail

The ‘extreme male brain theory’ of autism proposes that greater-than-usual **testosterone exposure in the womb** underlies the condition. A smaller ratio of the index-finger to ring-finger length is considered a sign of this exposure. Researchers publishing 27 April in the *Journal of Autism and Developmental Disorders* **found no link** between low ratios and autism but did find “small associations” between low ratios in boys with neurodevelopmental disorders or attention deficit hyperactivity disorder.

SOURCES:

Journal of Autism and Developmental Disorders / 27 Apr 2018
2D:4D ratio in neurodevelopmental disorders: a twin study
<https://link.springer.com/article/10.1007%2Fs10803-018-3588-8>

Social monkeys

The hormone vasopressin and its cousin oxytocin are **candidate drivers of social interactions** in vertebrates, including people. Using monkeys that are either ‘high-social’ or ‘low-social,’ researchers have confirmed a role for vasopressin levels in cerebrospinal fluid and monkey sociality.

In results published 2 May in *Science Translational Medicine*, the same group also measured **vasopressin levels** in cerebrospinal fluid from seven children with autism and seven typical children and found lower levels in the children on the spectrum.

SOURCES:

Science Translational Medicine / 02 May 2018
Arginine vasopressin in cerebrospinal fluid is a marker of sociality in nonhuman primates
<http://stm.sciencemag.org/content/10/439/eaam9100>

Female first

The journal *Nature* has been around for 149 years, but only now has a woman **stepped into the top spot** at the publication. **Magdalena Skipper**, a geneticist and long-time Nature journals editor,

is only the eighth editor-in-chief in the publication's long history, *Nature* reported 2 May.

SOURCES:

Nature / 02 May 2018

Nature announces new editor-in-chief

<https://www.nature.com/articles/d41586-018-05060-w>

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