

**SPOTTED**

# Mitochondrial risk; anxiety amelioration; fever factor and more

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## Mitochondrial risk

The function of mitochondria, which package energy for the cell, has long been implicated in at least a **subset of autism diagnoses**. A new study **underscores this association**, revealing that certain patterns of mitochondrial DNA variants are more common than others in people with autism. The results appeared 23 August in *JAMA Psychiatry*.

Investigators examined mitochondria lineages from 933 families participating in the **Autism Genetic Resource Exchange** collection. Five lineages of European origin, one Asian lineage and one Native American lineage were associated with increased autism risk. People with certain mitochondrial DNA lineages were up to twice as likely to have autism as those with other lineages.

**SOURCES:**

**JAMA Psychiatry** / 23 Aug 2017

Association between mitochondrial DNA haplogroup variation and autism spectrum disorders  
<http://jamanetwork.com/journals/jamapsychiatry/article-abstract/2649278>

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## Anxiety amelioration

People on the spectrum report feeling anxious **far more often** than neurotypical people do. A small study of 19 people with autism suggests that cognitive remediation therapy **might ease** some of that nagging apprehension. The findings were published 16 August in *Neuropsychiatric Disease and Treatment*.

**SOURCES:**

## Neuropsychiatric Disease and Treatment / 16 Aug 2017

Feasibility of cognitive remediation therapy for adults with autism spectrum disorders: A single-group pilot study

<https://www.dovepress.com/feasibility-of-cognitive-remediation--therapy-for-adults-with-autism-s-peer-reviewed-article-NDT>

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## Fever factor

Maternal fever during pregnancy is **linked to autism risk**. But it's unclear whether certain stages of fetal development are more vulnerable to the effects of maternal fever than others.

A prospective study involving the **Boston Birth Cohort**, which includes a high proportion of black and Hispanic mothers, points to **fever in the third trimester** as an important time period. The results were published 11 August in *Autism Research*.

### SOURCES:

#### **Autism Research** / 11 Aug 2017

Prenatal exposure to fever is associated with autism spectrum disorder in the Boston Birth Cohort  
<http://onlinelibrary.wiley.com/doi/10.1002/aur.1841/abstract>

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## Anorexia association

Anorexia nervosa and autism share many features and **frequently co-occur**. Nevertheless, clinicians struggle to treat both at once, especially when they need to make **accommodations related to autism**, such as addressing communication barriers. This takeaway emerged from in-depth interviews with nine practitioners in a qualitative study published 10 August in *BMC Psychiatry*.

### SOURCES:

#### **BMC Psychiatry** / 10 Aug 2017

Clinicians' views on working with anorexia nervosa and autism spectrum disorder comorbidity: A qualitative study

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5553805/>

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## Communicating genomics

The genetics of autism is **complex** and difficult to communicate to nonexperts. **A new model**, described 29 July in *Patient Education and Counseling*, aims to simplify the process of counseling families about genomic testing results. It's called the "cup model."

In this model, different-sized balls represent the genetic variants associated with a genetically complex condition such as autism. The ball size indicates the relative level of risk associated with each variant. A cup filled to a certain threshold represents a diagnosis, but how many balls will fill the cup depends on the sizes of the balls.

### SOURCES:

**Patient Education and Counseling** / 29 Jul 2017

Communicating complex genomic information: A counselling approach derived from research experience with Autism Spectrum Disorder

<http://www.sciencedirect.com/science/article/pii/S0738399117304688>

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## Employee management

A growing number of companies are recognizing the **advantages of hiring people with autism**. A new manual aims to help employers tap the strengths of workers on the spectrum while recognizing and accommodating any differences. The **book**, titled "An Employer's Guide to Managing Professionals on the Autism Spectrum," debuted 21 August.

### SOURCES:

**Jessica Kingsley Publishers** / 21 Aug 2017

An employer's guide to managing professionals on the autism spectrum

<https://www.amazon.com/dp/1785927450/>

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## Exclusionary harm

Children with autism are among those most likely to be suspended or expelled from school, yet even a temporary forced hiatus **can cause lingering harm** and increased psychological distress years later. These observations are among the main findings of a new U.K. study, *The Guardian* reported on 19 August.

**SOURCES:**

**The Guardian** / 19 Aug 2017

School exclusion 'linked to long-term mental health problems' – study

<https://www.theguardian.com/education/2017/aug/19/school-exclusion-linked-to-long-term-mental-health-problems>

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## Vaccine stall

A 'vaccine safety commission' with **Robert Kennedy Jr.** as its chair has failed to take shape months after it was **announced**. Kennedy says he has had **no discussions with the White House** since February about the purported commission but has met with some "top administration officials" about vaccine safety, *STAT* reported 21 August.

In an accompanying Q&A with Kennedy, who continues to promote the autism-vaccine myth, *STAT* mentioned **thimerosal**, a vaccine preservative perhaps best known for refuted claims that it is an autism risk factor. When *STAT* noted that **autism rates continued to climb** after thimerosal was removed from routine childhood vaccines in 2001, Kennedy said, "That just simply isn't true." But it is.

**SOURCES:**

**STAT** / 21 Aug 2017

As White House appoints pro-vaccine officials, plan for safety commission appears stalled

<https://www.statnews.com/2017/08/21/trump-vaccine-commission-robert-kennedy/>**STAT** / 21 Aug 2017

An interview with Robert Kennedy Jr. on vaccines

<https://www.statnews.com/2017/08/21/robert-kennedy-vaccines-question-answer/>

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## Flawed factor

Science has a widely discussed replication problem. One proposed solution, using a metric called the R-factor — for reproducibility, reputation, responsibility and robustness — has a group of researchers so excited that they've established a company to promote it. But the neuroscientist who writes under the nom de blog "Neuroskeptic" is, well, **skeptical**.

The R-factor is obtained by "dividing the number of published reports that have verified a scientific claim by the number of attempts to do so." Neuroskeptic criticizes this approach as "simplistic,"

vulnerable to publication bias, and no improvement on what scientists are already doing. Specifically, the R-factor is bad for fields like neuroscience that rely heavily on statistics, Neuroskeptic writes.

**SOURCES:**

**Discover “Neuroskeptic” blog** / 21 Aug 2017

“R-factor” unlikely to fix science

<http://blogs.discovermagazine.com/neuroskeptic/2017/08/21/r-factor-fix-science/>

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## Neuroscience loss

**Marian C. Diamond**, the neuroscientist who gained fame for analyzing Albert Einstein’s brain, died 25 July at age 90. Diamond was best known for demonstrating how profoundly the environment **can influence brain structure** and how malleable some structures can be. An in-depth look at her life’s work was published 16 August in *The New York Times*.

**George Brooks**, one of Diamond’s colleagues at the University of California, Berkeley, summed up her biggest contribution, reported the *Times*: “Dr. Diamond showed anatomically, for the first time, what we now call plasticity of the brain,” he said. “In doing so she shattered the old paradigm of understanding the brain as a static and unchangeable entity that simply degenerated as we age.”

Another of her claims to fame was her habit of carrying a preserved human brain in a flowered hat box to classroom lectures.

**SOURCES:**

**The New York Times** / 16 Aug 2017

Marian C. Diamond, 90, student of the brain, is dead

<https://www.nytimes.com/2017/08/16/science/marian-c-diamond-90-student-of-the-brain-is-dead.html>

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## News tips

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