

News, Literature, and Events in Braingenethics

[View this email in your browser](#)



Braingenethics Update

Vol. 4, No. 10

January 2018

braingenethics.cumc.columbia.edu/



In the Literature

[Improved Ethical Guidance for the Return of Results from Psychiatric Genomics Research](#)

Gabriel Lázaro-Muñoz et al.

There is an emerging consensus that genomic researchers should, at a minimum, offer to return to individual participants clinically valid, medically important, and medically actionable genomic findings identified in the course of research. The goal of this Perspective is to initiate a discussion that can help identify optimal ways of managing the return of results from psychiatric genomics research.

[Using Iterative Learning to Improve Understanding During the Informed Consent Process in a South African](#)

In the Media

[How Criminal Courts Are Putting Brains - Not People - On Trial](#)

Robbie Gonzalez

Some researchers believe neuroscience and genetics could help explain why certain people commit crimes. Meanwhile, lawyers are introducing so-called neurobiological evidence into court more than ever. In one study, neurobiological evidence seemed to have a small but positive impact on defendants' outcomes. The looming question—scientifically, legally, philosophically—is whether it should.

[Depression and Epileptic Seizures](#)

[Psychiatric Genomics Study](#)

Megan M. Campbell et al.

Ethical global health research demands that researchers obtain informed consent, but little empirical research has evaluated the quality of processes for obtaining informed consent in low and middle income countries. This study highlights serious gaps in existing processes, and suggests ways that they might be improved.

[Behavioral Genetics in Criminal and Civil Courts](#)

Maya Sabatello & Paul S. Appelbaum

This review article explores the extent to which behavioral genetic evidence has, could, and should affect determinations of criminal responsibility and sentencing, as well as the possible ramifications of introducing such evidence in civil courts, with a focus on tort litigation and child custody disputes.

[The Dangers of Direct-to-Consumer Genetic Testing for Alzheimer's Disease](#)

Paul Lacaze et al.

This case study highlights poor regulation and quality control over direct-to-consumer genetic testing, which is generally delivered in the absence of any medical oversight.

Book Reviews

Review of [Behaving: What's Genetic, What's Not, and Why Should We Care?](#)

James Tabery reviews Kenneth Schaffner's book *Behaving: What's Genetic, What's Not, and Why Should We Care*.

[Nature Still Battles Nurture in the Haunting World of Social Genomics](#)
Nathaniel Comfort reviews

[May Share Genetic Cause](#)

Frida Holme

A new study in [Epilepsia](#) suggests that some forms of focal epilepsy and mood disorders could have the same genetic etiology.

[Even if Genes Affect Intelligence, We Can't Engineer Cleverness](#)

Jim Kozubek

Kozubek argues that genes contribute to intelligence only broadly and with subtle effect, and are one piece of a much larger puzzle of how we come to be who we are.

[Data from Half A Million People Show that Natural Selection Has Not Stopped, It Does, However, No Longer Seem to Favour Braininess](#)

The Economist Staff Writer

A study published in the Proceedings of the National Academy of Sciences uses a new statistical method to examine how genetic contributions to certain human traits correlate with how many children a person has. The analysis suggests genetic contributions to intelligence and educational achievement are currently disfavoured by natural selection.

[Thousands of Mutations Accumulate in the Human Brain Over a Lifetime](#)

Ruth Williams

Two studies in *Science* —[one](#) that focuses on prenatal development in humans, the [other](#) on infancy to old age—provide insights into the extent of DNA sequence errors that the average human brain cell accumulates over a lifetime. Together, they reveal that mutations

Catherine Bliss' book *Social by Nature: The Promise and Peril of Sociogenomics*.

[The Nature of Nurture: Effects of Parental Genotypes](#)

Augustine Kong et al.

Genetic variants in parents may affect the fitness of their offspring, even if the child does not carry the allele. This study used data from genome-wide association studies of educational attainment to construct polygenic scores for parents that only considered the nontransmitted alleles. The findings suggest that "genetic nurture" is due to genetic variation in the population and is mediated by the environment that parents create for their children.

[Collaborative Meta-Analysis Finds no Evidence of a Strong Interaction between Stress and 5-HTTLPR Genotype Contributing to the Development of Depression](#)

Robert C. Culverhouse et al.

A hypothesized relationship between depression development, stress, and the 5-HTTLPR serotonin transporter promoter region has generated a great deal of interest. The findings of this study do not support such an interaction hypothesis.

[Investigating the Genetic Architecture of Dementia with Lewy Bodies: A Two-Stage Genome-Wide Association Study](#)

Rita Guerreiro et al.

Dementia with Lewy bodies is the second most common form of dementia in elderly people but has been overshadowed in the research field, partly because of similarities between dementia with Lewy bodies, Parkinson's disease, and Alzheimer's disease. This genome-wide association study suggests that common

become more common as fetuses develop, and over a lifetime a person may rack up more than 2,000 mutations per cell.

[Study Pinpoints Potential "Master Regulator" of Age-Related Cognitive Decline](#)

Shawna Williams

A [study published in the Journal of Neuroscience](#) links increased expression of a FKBP gene to enhanced learning ability and altered expression levels of hundreds of genes that are normally affected by aging. The study also casts doubt on a hypothesis that neuroinflammation is the cause of symptoms of Alzheimer's disease and other cognitive decline.

[BGI, Hummingbird Diagnostics to Develop miRNA Tests for Neurodegenerative Disorders](#)

GenomeWeb Staff Report

BGI of China and Hummingbird Diagnostics of Germany will collaborate on miRNA-based molecular diagnostic applications using next-generation sequencing technology, in particular in the areas of neurodegenerative disorders such as Alzheimer's and Parkinson's disease.

[Secret Eugenics Conference Uncovered at University College London](#)

Jim Daley

The university says it is launching an investigation into the meeting, which was held by one of its senior lecturers.

[23andMe Launches Giant Weight-Loss Study](#)

genetic variability has a role in the disease.

[Association of Polygenic Score for Schizophrenia and HLA Antigen and Inflammation Genes with Response to Lithium in Bipolar Affective Disorder: A Genome-Wide Association Study](#)

International Consortium on Lithium Genetics (ConLi+Gen)

Lithium is a first-line mood stabilizer for the treatment of bipolar affective disorder (BPAD). Genetic factors are thought to mediate treatment response to lithium, and an overlap between BPAD and schizophrenia (SCZ) has been reported. This study tested whether a polygenic score for SCZ is associated with treatment response to BPAD, and found 15 genetic loci that may have overlapping effects on lithium treatment response and susceptibility to SCZ.

[Genome-Wide Association Studies of a Broad Spectrum of Antisocial Behavior](#)

Jorim J. Tielbeek et al.

Antisocial behavior (ASB) burdens perpetrators, survivors, and society. Twin studies indicate that half of the variation in this trait is genetic. Specific causal genetic variants have, however, not been identified. The results of this study suggest that ASB may be highly polygenic with potential heterogeneous genetic effects across sex.

[Leveraging Molecular Genetic Approaches to Yield Insights into Major Depression Etiology and Clinical Presentation](#)

Roseann E. Peterson

Major depressive disorder (MDD) is an important public health concern and is often comorbid with other serious medical conditions. Genetic factors have consistently been demonstrated to influence individual differences in MDD and body mass index. Despite numerous

Antonio Regalado

23andMe will begin a study into the genetic basis of weight loss, contacting 1.3 million of its customers with an offer to take part in the crowdsourced study.

More In the Literature

[Genetic Risk Variants Associated with Comorbid Alcohol Dependence and Major Depression](#)

Hang Zhou et al.

This study investigated which specific genetic risk variants are associated with comorbid alcohol dependence and major depression, finding a replicable association in its cohort of African American participants, but not in its European American cohort. See [here](#) for further comment.

[Genetic Association of Major Depression With Atypical Features and Obesity-Related Immunometabolic Dysregulations](#)

Yuri Milaneschi et al.

The association between major depressive disorder (MDD) and obesity may stem from shared immunometabolic mechanisms particularly evident in MDD with atypical features. This study found that the phenotypic associations between atypical depressive symptoms and obesity-related traits may arise from shared pathophysiologic mechanisms in patients with MDD.

[Common Genes Associated with Antidepressant Response in Mouse and Man Identify Key Role of Glucocorticoid Receptor Sensitivity](#)

Tania Carrillo-Roa et al.

Antidepressant treatment response in major depressive disorder (MDD) is unpredictable, leading to high costs, treatment uncertainty, and prolonged suffering. This study points to a

associations between MDD, BMI, and obesity, there has been surprisingly limited research on shared genetic liability.



[Fifty Psychological and Psychiatric Terms to Avoid: A List of Inaccurate, Misleading, Misused, Ambiguous, and Logically Confused Words and Phrases](#)

Scott O. Lilienfeld et al.

This article provides a provisional list of 50 commonly used terms in psychology, psychiatry, and allied fields that should be avoided, or at most used sparingly and with explicit caveats, organized for expository purposes into five categories: inaccurate or misleading terms, frequently misused terms, ambiguous terms, oxymorons, and pleonasm. The goal of this article is to promote clear thinking and clear writing among students and teachers of psychological science by curbing terminological misinformation and confusion.

mechanism that may aid in predicting response to treatment.

[Machine Learning Shows Association between Genetic Variability in PPARG and Cerebral Connectivity in Preterm Infants](#)

Michelle L. Krishnan et al.

Preterm infants show abnormal structural and functional brain development, and have a high risk of long-term neurocognitive problems. Results from this study suggest that the inhibited brain development seen in humans exposed to the stress of a premature extrauterine environment is modulated by genetic factors.

[Proteomic Analysis of Postsynaptic Proteins in Regions of the Human Neocortex](#)

Marcia Roy et al.

There are ~1,000 highly conserved proteins that control behavior, known as the postsynaptic proteome of excitatory synapses. Mutations disrupting their function cause >130 brain diseases. This study constructed a neocortical postsynaptic proteome data resource that can be used to link genetics to brain imaging and behavior as well as to study the role of postsynaptic proteins in localization of brain functions.

[Personal Genomic Testing, Genetic Inheritance, and Uncertainty](#)

Paul H. Mason

In this case study, personal curiosity about genetic inheritance turns into an alarming instance of medical uncertainty. Read additional commentary [here](#).



Upcoming Events

Looking for the [Psychosocial Impacts of Genomic Information](#)

Monday February 26th and Tuesday February 27th

The Faculty House, Columbia University

For the last quarter century, researchers have been asking whether genomic information might have negative psychosocial effects. Anxiety, depression, disrupted relationships, and heightened stigmatization have all been posited as possible outcomes—but not consistently found. At this conference, we will ask what accounts for the discrepancy between these hypothesized outcomes and the effects that have been documented in empirical studies. Are we asking the right questions? Using the right tools? Looking in the right places? Or was the expectation of large, negative psychosocial impacts of genomic information overblown to begin with? Either way, where does research into the ethical and psychosocial implications of genomic medicine go from here?

Hosted by the [Center for Research on Ethical, Legal, and Social Implications of Psychiatric, Neurologic, and Behavioral Genetics](#), a collaborative project of [Columbia University Medical Center](#) and [The Hastings Center](#).

More information [here](#). Access the conference flyer [here](#). Register [here](#).



Share



Tweet



Forward



+1

Click [here](#) to subscribe to our Braingenetics Update newsletter.



COLUMBIA UNIVERSITY
MEDICAL CENTER



The Hastings Center

Copyright © 2017 Center for Excellence in Ethical, Legal, and Social Implications of Psychiatric, Neurologic, and Behavioral Genetics, All rights reserved.

|MC:SUBJECT|

Our mailing address is:

The Hastings Center
21 Malcolm Gordon Rd.
Garrison, NY 10524

[unsubscribe from this list](#) [update subscription preferences](#)

This email was sent to *|EMAIL|*

[why did I get this?](#) [unsubscribe from this list](#) [update subscription preferences](#)

|LIST:ADDRESSLINE|

|REWARDS|