

News, literature, and events in the ethical, social, and legal implications of psychiatric, neurologic, and behavioral genetics.

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# Braingenethics Update

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## In the Literature

[The Double Helix Takes the Witness Stand: Behavioral and Neuropsychiatric Genetics in Court](#)

Paul S. Appelbaum

Data on neuropsychiatric and behavioral genetics have attracted legal interest, as attorneys explore their use in criminal and civil cases. These developments may assist judges and juries in making difficult judgments—but they bring substantial risk of misinterpretation and misuse.

[Early Life Experience, Epigenetics, and the Developing Brain](#)

Marija Kundakovic and Frances A. Champagne

**Testing for Alzheimer's--  
The Elephant in the Room**

**NEW BGE COMMENTARY**

[Alzheimer's Disease, Biomarkers, and Suicide: Why We Need to Think About All Three Together](#)

**By Nancy Berlinger**

**Cited in commentary:**

[Advance Directives, Dementia, and Physician-Assisted Death](#)

Paul T. Menzel and Bonnie Steinbock

Many people are more concerned about the loss of autonomy and independence in years of severe

Emerging evidence suggests that epigenetic factors such as DNA methylation, post-translational histone modifications, and small non-coding RNAs may play a critical role in parental care effects that promote growth and survival and can lead to divergent developmental trajectories. This study describes and contrasts two routes through which the recruitment of epigenetic pathways for the biological embedding of early life experience can occur: experience-dependent vs. germline inheritance.

[Epigenetic Traces of Maltreatment in Peripheral Blood: A New Strategy to Explore](#)

Rudolph Uher and Ian C.G. Weaver  
New research shows that early life experiences of maltreatment alter the genome in a way that can be measured in peripheral blood samples decades later.

[Child Care, Socio-economic Status and Problem Behavior: A Study of Gene-Environment Interaction in Young Dutch Twins](#)

Christel M. Middeldorp et al.  
This study assessed the effect of formal child care on the average level of problem behavior and as moderator of genetic and non-genetic influences, while taking into account effects of sex and parental socio-economic status (SES). There was a small association between attending formal childcare and higher externalizing problems, especially when SES was low.

[Large-Scale Genomics Unveils the Genetic Architecture of Psychiatric Disorders](#)

dementia than about pain and suffering in their last months. To address this concern, people could write advance directives for physician-assisted death in dementia.

[Alzheimer Disease and Pre-emptive Suicide](#)

Dena S. Davis

Before the availability of new presymptomatic tests, even someone with a high risk of developing AD could not know if and when the disease was approaching. However, the changing landscape with respect to genetic tests for risk of AD makes rational suicide a much more feasible option.

[Advance Directives, Dementia, and Withholding Food and Water by Mouth](#)

Paul T. Menzel and M. Colette Chandler-Cramer

If incompetent people do not lose their rights to refuse life-saving treatment, and if people when competent have just as strong a right to VSED as they do to refuse life-saving treatment, then people do not lose their right to voluntarily stopping eating and drinking when incompetent either. They only have to exercise it by advance directives.

[Toward a Humane Death with Dementia](#)

Rebecca Dresser

Menzel and Chandler-Cramer want to empower competent persons to impose potential

Jacob Gratten, Naomi R. Wray, Matthew C. Keller, & Peter M. Visscher  
 This article highlights recent progress that has led to a better understanding of the number of risk variants in the population for psychiatric disorders such as schizophrenia. The emerging genetic architecture suggests that genetic risk of psychiatric disorders involves the combined effects of many common variants of small effect, as well as rare and de novo variants of large effect.

[Genome-Wide Association Study of Opioid Dependence: Multiple Associations Mapped to Calcium and Potassium Pathways](#)

Joel Gelernter et al.

This is the first study to identify risk variants for Opioid Dependence with GWAS. The results implicate risk pathways and may provide insights into novel therapeutic and prevention strategies.

[Genetic Risk Prediction and Neurobiological Understanding of Alcoholism](#)

Daniel Levey et al.

This study used a translational Convergent Functional Genomics (CFG) approach to discover genes involved in alcoholism, by gene-level integration of genome-wide association study (GWAS) data from a German alcohol dependence cohort with other genetic and gene expression data, from human and animal model studies, similar to the authors' previous work in bipolar disorder and schizophrenia. This revealed the significant genetic overlap of alcoholism with other major psychiatric disorder domains, providing

discomfort and distress on a later self who cannot understand the reasons for that choice. In this situation, the price of respecting autonomy is paid by a frail incapacitated patient who has no idea why food and water are no longer offered to her.

**Additional listening:**

[The Ethics Around Testing for Alzheimer's](#)

While there is no effective treatment for Alzheimer's, scientists are getting closer to identifying the markers and warning signs of the disease. But such testing raises interesting ethical issues for patients and their families, and health providers and researchers according to radio guests, bioethicists Dena Davis and Jason Karlawish.



**In the News**

[Gene Panel Helps Predict Alcoholism Risk](#)

A group of 11 genes can predict

a basis for comorbidity and dual diagnosis.

**New Book By James Tabery  
MIT Press**

[Beyond Versus: The Struggle to Understand the Interaction of Nature and Nurture \(Life and Mind: Philosophical Issues in Biology and Psychology\)](#)

In *Beyond Versus* James Tabery argues that the persistence of the nature vs. nurture debate stems from a century-long struggle to define what the interaction of nature and nurture is, how it should be investigated, and what counts as evidence for it.

To contribute a news item, an academic article, or an event on the ethical, legal, and social implications of psychiatric, neurological, and behavioral genetics research please [email us](#).

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whether an individual is at increased risk of alcoholism, a research team from the United States and Germany has reported.

[Genetic 'Networks' May Play Role in Autism](#)

Three new gene networks that appear to have important roles in the development of autism have been found. One of the autism-related gene networks also affects some patients with attention-deficit hyperactivity disorder and schizophrenia.

[Severe Intellectual Disability Diagnosed By Analysis of Entire Genome](#)

With a new technique that studies the whole genome at once, a genetic cause can be identified in six out of ten children with severe intellectual disability.



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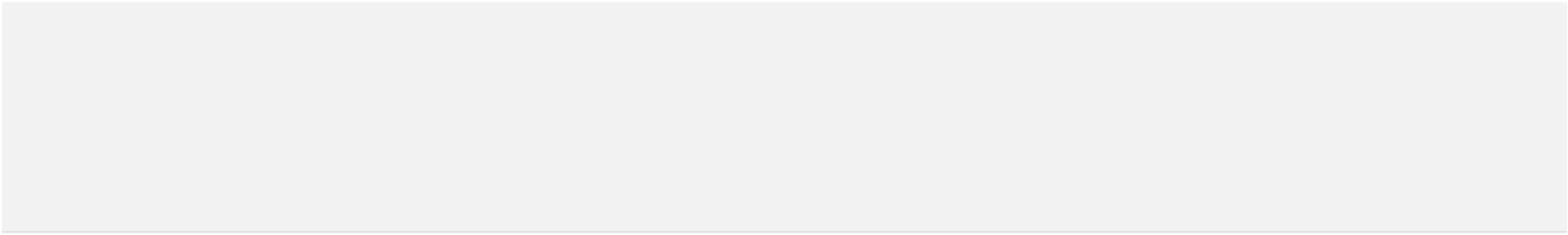
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