News, Literature, and Events in Braingenethics



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# Braingenethics Update

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# In the Literature

<u>Inherited proclivity: When should neurogenetics mitigate moral</u> <u>culpability for purposes of sentencing?</u> By J. Bradley Segal

This note proposes a two-pronged test to understand whether and when neurogenetic evidence should be considered to potentially mitigate an individual's culpability for criminal behavior.

<u>A recap on Italian neurolaw: epistemological and ethical issues</u> By Elisabetta Sirgiovanni, Gilberto Corbellini, and Cinzia Caporale

The authors analyze two major Italian criminal cases, the Trieste Case in 2009 and the Como Case in 2011, to consider how understandings of neural and genetic determinants of human (mis)behavior might impact law in the Italian legal context and the European Union.

Ethical issues associated with genetic counseling in the context of adolescent psychiatry By J. Ryan, A. Virani, and J.C. Austin

The authors argue that thoughtful and tailored counseling in

Epigenetics in the neoliberal "regime of truth" By Charles Dupras and Vardit Ravitsky

"Epigenetics could provide the missing molecular evidence of the importance of using public policy to reduce the incidence and prevalence of common diseases," Dupras and Ravitsky write. However, they caution against the risk that a "clinical translation" will garner more attention and public resources than a "policy translation" of epigenetic knowledge.

Biopolitics and epigenetics: Q & A with Charles Dupras By Chelsea A. Jack adolescent psychiatry can address the important health needs of this population while respecting the core principles of biomedical ethics, including the ethic of care.

<u>Genetic counseling and testing for Alzheimer's disease and</u> <u>frontotemporal lobar degeneration: An Italian consensus protocol</u> By M. Bocchetta et al.

This genetic counseling protocol provides Italian centers with a line of shared practice for dealing with the requests for genetic testing for familial AD and FTLD from patients and at-risk relatives, who may also be eligible participants for novel prevention clinical trials.

<u>The ethics of complexity. Genetics and autism, a literature review</u> By Kristien Hens, Hilde Peeters, and Kris Dierick

The authors review 19 papers described as "bioethics literature focusing on autism genetics," and analyze their content to distill arguments and themes guiding genetic research and counseling in autism. Because autism is so complex, they argue, more empirical bioethical research should be done to support conclusions regarding the aims and desirability of research on autism genes.

<u>Genetic risk for autism spectrum disorders and neuropsychiatric</u> variation in the general population By Elise B. Robinson et al.

The authors argue that some of the same genetic variants implicated in autism spectrum disorder risk likely contribute to the range of social behaviors found across the population as a whole.

### <u>Parents' attitudes toward genetic research in autism spectrum</u> <u>disorder</u>

By Jarle Johannessen et al.

Parents of children with autism have, in general, a very positive attitude toward genetic research. Data confidentiality is important, and parents express a need for information on the purpose and progress of the research.

Towards a more representative morphology: clinical and ethical considerations for including diverse populations in diagnostic genetic atlases By Maya Koretzky et al.

The lack of varied phenotypic images in available atlases of dysmorphology used by healthcare professionals limits the utility of these atlases as diagnostic tools in globally diverse populations. This limitation causes geneticists difficulty in diagnosing conditions in individuals of different ancestral backgrounds who may present with variable morphological features. The authors offer recommendations for the ethical creation, structure, equitable use, and maintenance of a diverse morphological atlas for clinical diagnosis.

Charles Dupras joins the conversation on *Bioethics Forum* to say more about an article, "Epigenetics in the Neoliberal 'Regime of Truth," that he cowrote with Vardit Ravitsky in the January - February issue of the Hastings Center *Report.* He explains what we gain from the biopolitical perspective they offer on the translation of epigenetic knowledge.

## News

<u>Is crime genetic? Scientists</u> <u>don't know because they're</u> <u>afraid to ask</u> By Brian Boutwell and J.C. Barnes

Criminologists rarely consider the possibility that their own studies could be polluted by hidden genetic effects, Boutwell and Barnes argue. Social scientists studying the causes of crime should embrace research designs capable of pulling apart environmental and genetic factors.

<u>Genetics and mental illness –</u> <u>let's not get carried away</u> By Jeffrey Lieberman and Ogi Ogas

Despite some fascinating new findings, gene therapy is still just a dream – one with a troubling history.

#### Runs in the family By Siddhartha Mukherjee

New findings about schizophrenia rekindle old questions about genes and identity.



<u>Genomic information may inhibit weight-related behavior change</u> <u>inclinations among individuals in a fear state</u> By Susan Persky, Rebecca Ferrer, and William M.P. Klein

The authors assessed influences of emotion on reactions to weightrelated genomic information in a virtual clinical setting. This study reinforces the concern that discussing genomic underpinnings of overweight could undercut health behavior, and it highlights the importance of identifying factors like emotion that influence interpretation of genomic information.

Epigenetic germline inheritance of diet-induced obesity and insulin resistance

By Peter Huypens et al.

Using *in vitro* fertilization to ensure exclusive inheritance via the gametes, the authors show that a parental high-fat diet in mice renders offspring more susceptible to developing obesity and diabetes in a sex - and parent of origin - specific mode. The epigenetic inheritance of acquired metabolic disorders may contribute to the current obesity and diabetes pandemic.

Genetic and environmental risk for chronic pain and the contribution of risk variants for psychiatric disorders. Results from Generation Scotland: Scottish Family Health Study and UK Biobank By Andrew M McIntosh et al.

The authors found that genetic factors and chronic pain in a partner or spouse contribute substantially to the risk of chronic pain in the general population. Chronic pain is genetically correlated with major depressive disorder (MDD), has a polygenic architecture, and is predicted by polygenic risk of MDD.

<u>Neural basis of reward anticipation and its genetic determinants</u> By Tianye Jia et al.

The authors examined brain nodes engaged by reward anticipation in 1,544 adolescents and identified a network containing a core striatal node and cortical nodes facilitating outcome prediction and response preparation. Their data provide a neurobehavioral model explaining the heterogeneity of reward-related behaviors and generate a hypothesis accounting for their enduring nature.

### <u>Patterns of nonrandom mating within and across 11 major</u> <u>psychiatric disorders</u>

By Ashley E. Nordsletten et al.

Nonrandom mating is evident in psychiatric populations both within specific disorders and across the spectrum of psychiatric conditions. This phenomenon may hold important implications for how we understand the familial transmission of these disorders and for psychiatric genetic research.



Click <u>here</u> to subscribe to our Braingenethics Update newsletter. Assortative mating – a missing piece of the jigsaw of psychiatric genetics

By Robert Plomin, Eva Krapohl, and Paul F. O'Reilly

The topic of assortative (nonrandom) mating might seem esoteric or even salacious. However, the <u>report by Nordsletten and colleagues</u> in the February 2016 issue of *JAMA Psychiatry*, above, may help solve puzzles in psychiatric genetics.

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