

Study finds first molecular genetic evidence of **PTSD heritability**

April 25 2017

A large new study from the Psychiatric Genomics Consortium provides the first molecular genetic evidence that genetic influences play a role in the risk of getting Posttraumatic Stress Disorder (PTSD) after trauma.

The report extends previous findings that showed that there is some shared genetic overlap between PTSD and other mental disorders such as schizophrenia. It also finds that genetic risk for PTSD is strongest among women.

The study will be published April 25, 2017 in Molecular Psychiatry.

"We know from lots of data—from prisoners of war, people who have been in combat, and from rape victims—that many people exposed to even extreme <u>traumatic events</u> do not develop PTSD. Why is that? We believe that genetic variation is an important factor contributing to this risk or resilience," said senior author Karestan Koenen, professor of psychiatric epidemiology at Harvard T.H. Chan School of Public Health who leads the Global Neuropsychiatric Genomics Initiative of the Stanley Center for Psychiatric Research at Broad Institute.

PTSD is a common and debilitating mental disorder that occurs after a traumatic event. Symptoms include re-experiencing the traumatic event, avoiding event-related stimuli, and chronic hyperarousal. In the U.S., one in nine women and one in twenty men will meet the criteria for a PTSD diagnosis at some point in their lives. The societal impact is large, including increased rates of suicide, hospitalization, and substance use.



The new study—by bringing together data from more than 20,000 people participating in 11 multi-ethnic studies around the world—builds a strong case for the role of genetics in PTSD, which had been previously documented on a smaller scale in studies of twins.

Using genome-wide genomic data, the researchers found that, among European American females, 29% of the risk for developing PTSD is influenced by genetic factors, which is comparable to that of other <u>psychiatric disorders</u>. In contrast, men's genetic risk for PTSD was substantially lower.

The researchers found strong evidence that people with higher genetic risk for several mental disorders—including schizophrenia, and to a lesser extent bipolar and major depressive disorder—are also at higher genetic risk for developing PTSD after a traumatic event.

"PTSD may be one of the most preventable of psychiatric <u>disorders</u>," said first author Laramie Duncan, who did part of the research while at the Broad Institute and is now at Stanford University. "There are interventions effective in preventing PTSD shortly after a person experiences a traumatic event. But they are too resource-intensive to give to everyone. Knowing more about people's genetic risk for PTSD may help clinicians target interventions more effectively and it helps us understand the underlying biological mechanisms."

More information: "Largest GWAS of PTSD (N=20,070) Yields Genetic Overlap with Schizophrenia and Sex Differences in Heritability," *Molecular Psychiatry* (2017). DOI: 10.1038/MP.2017.77

Provided by Harvard T.H. Chan School of Public Health



Citation: Study finds first molecular genetic evidence of PTSD heritability (2017, April 25) retrieved 1 May 2024 from https://medicalxpress.com/news/2017-04-molecular-genetic-evidence-ptsd-heritability.html

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.