

Study finds genetic links between some health conditions and PTSD

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A new study led by Yale Department of Psychiatry researchers has identified numerous physical health conditions, particularly diseases of the cardiovascular and respiratory systems, that have genetic links to post-

traumatic stress disorder (PTSD).

The findings, [published](#) in *JAMA Psychiatry*, are the product of a detailed analysis of more than 450,000 [electronic medical records](#) and more than 300 laboratory tests across several biobank sites.

The researchers examined the polygenic score—the measure of disease risk depending on a person's genes—of post-traumatic stress symptoms and found several links to [health conditions](#). Most prevalent were diseases of the circulatory and respiratory systems. Among the [laboratory tests](#), they found an association with triglycerides and glucose, and blood/immune-based tests, such as erythrocyte distribution and C-reactive protein.

"Our results provide a birds-eye-view perspective of genes linked to PTSD and their role in overall health, particularly cardiovascular and respiratory conditions," said Gita Pathak, Ph.D., postdoctoral associate at Yale School of Medicine and first author of the study. "These findings prompt the need to investigate mechanisms, preventative and therapeutic interventions for PTSD and physical health."

The researchers also found [genetic links](#) between PTSD and digestive problems, alcoholism, a fast heartbeat, and an irregular heartbeat, among other health issues. They said the finding might explain why PTSD is often associated with other health conditions.

Genetic correlates of lifestyle factors such as body mass index and smoking are important to consider, according to the researchers. They observed that when combining the genetic profile of [body mass index](#) with PTSD, several cardiovascular conditions were no longer significant. However, many others remained significant, substantiating the connection among genetics and mental and physical health.

"This study highlights how large-scale genomic data and electronic health records can be an invaluable tool to disentangle the complex dynamics responsible for the comorbidities between physical and [mental health](#)," said Renato Polimanti, Ph.D., associate professor of psychiatry and the study's senior author.

"Additionally, I believe that biobanks like those we used in the present investigation will soon permit to translate genetic information into clinical instruments to reduce the burden of common disorders."

More information: Gita A. Pathak et al, Genetic Liability to Posttraumatic Stress Disorder Symptoms and Its Association With Cardiometabolic and Respiratory Outcomes, *JAMA Psychiatry* (2023). [DOI: 10.1001/jamapsychiatry.2023.4127](https://doi.org/10.1001/jamapsychiatry.2023.4127)

Provided by Yale University

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