

# Gene may predict severity of post-traumatic stress disorder

September 1 2015

---



A depiction of the double helical structure of DNA. Its four coding units (A, T, C, G) are color-coded in pink, orange, purple and yellow. Credit: NHGRI

A gene linked in previous research, appears to predict more severe post-traumatic stress disorder (PTSD) symptoms as well as a thinner cortex in regions of the brain critical for regulating strong emotions and coping with stressful experiences. This study is believed to be the first to show that the spindle and kinetochore-associated complex subunit 2 (SKA2) gene may play a role in the development of PTSD.

Led by researchers at Boston University School of Medicine (BUSM), the National Center for PTSD and the Translational Research Center for TBI and Stress Disorders at VA Boston Healthcare System, the study appears online in the journal *Molecular Psychiatry*.

PTSD is prevalent among veterans. Eleven to 20 percent of veterans who served in Operations Iraqi Freedom and Enduring Freedom have experienced PTSD in a given year. Studies suggest that warzone trauma, PTSD symptoms and other post-deployment [mental health problems](#) put veterans at heightened risk for suicide relative to the general population.

The researchers performed MRI brain scans and collected blood samples from 200 veterans returning from the recent conflicts in Iraq and Afghanistan. They looked at whether a chemical change (methylation) in the function of the SKA2 gene measured in blood predicted the thickness of brain cortex (a measure of neuronal health) and psychological symptoms, specifically PTSD and depression.

"Our findings showed that an increase in methylation of the SKA2 gene is associated with decreased cortical thickness in the prefrontal cortex, which may play a role in the development of PTSD and may explain why this gene predicts risk for mental health problems, like PTSD and suicide," explained lead and corresponding author Naomi Samimi Sadeh, PhD, assistant professor of psychiatry at BUSM and a psychologist in the National Center for PTSD at VA Boston.

According to the researchers the implications of this study are significant since it is difficult to predict who will develop PTSD following traumatic events. "These findings suggest that in the future it may be possible to use a genetic blood test to identify military personnel at risk for developing PTSD in response to warzone stressors. We hope these findings will ultimately enhance our ability to identify individuals who are at risk for this disorder by using information about biology to improve diagnosis," Sadeh concluded.

Provided by Boston University Medical Center

Citation: Gene may predict severity of post-traumatic stress disorder (2015, September 1) retrieved 11 July 2023 from <https://medicalxpress.com/news/2015-09-gene-severity-post-traumatic-stress-disorder.html>

<p>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.</p>
--