

## ★ Avoidance in PTSD (Stein, 2021)

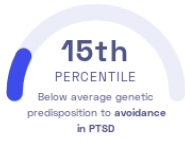
Murray Stein, et al.  
Nature Genetics

Mind Behavior

### STUDY SUMMARY

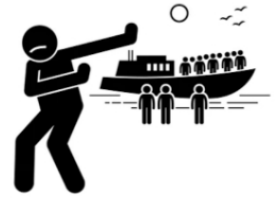
Identification of 12 variants associated with avoidance, a symptom of post-traumatic stress disorder.

#### YOUR RESULT



#### STUDY DESCRIPTION

Post-traumatic stress disorder (PTSD) is a mental health condition caused by experiencing a traumatic event. Though many people associate PTSD with war veterans, anyone can experience the disorder. Common symptoms of PTSD include flashbacks and nightmares related to the traumatic event, avoidance of particular situations, and being easily startled. Avoiding particular events or experiences as part of PTSD symptoms is referred to as "avoidance" behavior. This genome-wide association study examined over 180,000 individuals of European ancestry to better understand the genetic factors associated with avoidance in PTSD patients. Two genes linked to re-experiencing were OPCML and MAD1L1. OPCML encodes a protein that sits on the surfaces of cells and can be bound and activated by opioids. MAD1L1 encodes for a component of the cellular machinery that is involved in cell division.



Avoidance of activities or places is common in PTSD patients.

#### DID YOU KNOW?

Effective PTSD therapies include cognitive behavior therapy, exposure therapy, and activities such as yoga.

#### YOUR DETAILED RESULTS

To calculate your genetic predisposition to avoidance in PTSD we summed up the effects of genetic variants that were linked to avoidance in PTSD in the study [that this report is based on](#). These variants can be found in the table below. The variants highlighted in green have **positive effect sizes** and increase your genetic predisposition to avoidance in PTSD. The variants highlighted in blue have **negative effects sizes** and decrease your genetic predisposition to avoidance in PTSD. Variants that are not highlighted are not found in your genome and do not affect your genetic predisposition to avoidance in PTSD. By adding up the effect sizes of the highlighted variants **we calculated your polygenic score for avoidance in PTSD to be -0.34**. To determine whether your score is high or low, we compared it to the scores of 5,000 other Nebula Genomics users. We found that your polygenic score for avoidance in PTSD is in the **16th percentile**. This means that it is higher than the polygenic scores 15% of people. We consider this to be a **below average genetic predisposition to avoidance in PTSD**. However, please note that genetic predispositions do not account for important non-genetic factors like lifestyle. Furthermore, the genetics of most traits has not been fully understood yet and many associations between traits and genetic variants remain unknown. For additional explanations, click on the column titles in the table below and visit our [Nebula Library tutorial](#).

VARIANT <sup>Ⓞ</sup>	YOUR GENOTYPE <sup>Ⓞ</sup>	EFFECT SIZE <sup>Ⓞ</sup>	VARIANT FREQUENCY <sup>Ⓞ</sup>	SIGNIFICANCE <sup>Ⓞ</sup>
rs56925547_C	T / C	0.19 (↑)	14%	$2.08 \times 10^{-13}$
rs199913382_C	A / A	0.18 (-)	17%	$1.05 \times 10^{-12}$
rs261350_C	C / C	-0.12 (↓)	45%	$8.15 \times 10^{-10}$
rs4129585_C	C / C	-0.13 (↓)	66%	$1.25 \times 10^{-9}$
rs2314662_C	T / T	-0.16 (-)	20%	$2.74 \times 10^{-9}$
rs62465629_C	T / C	-0.17 (↓)	12%	$3.54 \times 10^{-9}$
rs62417832_T	G / T	0.13 (↑)	29%	$7.04 \times 10^{-9}$
rs11507683_T	C / C	0.18 (-)	13%	$7.74 \times 10^{-9}$
rs10171148_A	C / C	0.12 (-)	47%	$1.07 \times 10^{-8}$
rs10235664_C	T / T	-0.13 (-)	36%	$2.17 \times 10^{-8}$
rs1496246_G	A / A	0.12 (-)	38%	$3.66 \times 10^{-8}$