

## ★ Sleep quality (Khoury, 2020)

Samar Khoury, et al.

Sleep

Sleep

### STUDY SUMMARY

Identification of 3 regions of the genome associated with sleep quality.

### YOUR RESULT



### STUDY DESCRIPTION




Sleep quality is very important for a person's overall health and well-being. Poor sleep quality has been shown to lead to various health issues, ranging from heart disease to depression. Sleep quality is determined by multiple factors including sleep duration, the time it takes to fall asleep, and the number of times a person wakes up during the night. It's estimated that genetic factors may explain over 30% of the observed variation in sleep quality. To identify those genetic factors, this genome-wide association study examined over 100,000 individuals across different ethnicities. The study discovered 3 regions of the genome associated with sleep quality. One of the implicated genes, ATOH8, is known to play a role in the development of the brain, kidneys, and other organs. Another variant is located between two genes: NPY and MPP6. Both these genes are known to be active in the brain, and NPY in particular has been previously found to help regulate the sleep process.

### DID YOU KNOW?

Regular exercise, perhaps as little as 10-30 minutes per day, can help boost sleep quality. Furthermore, exercising in the morning or afternoon may be more beneficial for sleep quality than working out later in the evening.

### YOUR DETAILED RESULTS

To calculate your genetic predisposition to bad sleep quality we summed up the effects of genetic variants that were linked to bad sleep quality 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 bad sleep quality. The variants highlighted in blue have **negative effects sizes** and decrease your genetic predisposition to bad sleep quality. Variants that are not highlighted are not found in your genome and do not affect your genetic predisposition to bad sleep quality. By adding up the effect sizes of the highlighted variants **we calculated your polygenic score for bad sleep quality to be 5.31**. 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 bad sleep quality is in the **78th percentile**. This means that it is higher than the polygenic scores 78% of people. We consider this to be an **above average genetic predisposition to bad sleep quality**. 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	YOUR GENOTYPE	COMMENTS	EFFECT SIZE	VARIANT FREQUENCY	SIGNIFICANCE
rs11976703_C 	C / C	Near NPY/MPP6 genes	0.78 (↑)	89%	$3.78 \times 10^{-8}$
rs60869707_G 	G / G	Near ATOH8 gene	1.09 (↑)	93%	$5.03 \times 10^{-8}$
rs78633772_T 	T / T	Near ZMYM2 gene	0.79 (↑)	91%	$3.31 \times 10^{-7}$