

## ★ Sugar consumption (Meddens, 2020)

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Molecular Psychiatry

Diet

### STUDY SUMMARY

Discovery of 10 variants associated with sugar consumption.

### YOUR RESULT



### STUDY DESCRIPTION

Sugar can be found in many foods and drinks we consume every day. Some foods, like fruits, contain natural sugars. On the other hand, sugars are also commonly added to foods such as pastries and soft drinks. The average American consumes 22 teaspoons (88 grams) of added sugar per day, while nutritionists recommend no more than 9 teaspoons (36 grams) per day. Too much sugar in the diet can lead to an increased risk of diabetes, tooth decay, and other diseases. To identify genetic variants that may affect the amount of sugar an individual consumes, this study examined the genomes of over 260,000 individuals of European ancestry. The study found 10 genetic variants associated with sugar consumption. A few of these variants were also linked to consumption levels of other *macronutrients*, such as fats and proteins. Interestingly, the study found that increased consumption of sugar was correlated with a decrease in waist circumference and an increase in physical activity. The authors hypothesize that people with a higher predisposition to be physically active may tend to consume more sugar, as sugar is a convenient source of energy during exercise.

### DID YOU KNOW?

Artificial sweeteners are commonly added to foods marketed as "zero sugar". These substances produce a sweet flavor without adding calories. Multiple artificial sweeteners were discovered by accident when scientists not working on sweetener-related research tasted chemical compounds they made and were surprised by the sweetness!

### YOUR DETAILED RESULTS

To calculate your genetic predisposition to higher sugar consumption we summed up the effects of genetic variants that were linked to higher sugar consumption 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 higher sugar consumption. The variants highlighted in blue have **negative effect sizes** and decrease your genetic predisposition to higher sugar consumption. Variants that are not highlighted are not found in your genome and do not affect your genetic predisposition to higher sugar consumption. By adding up the effect sizes of the highlighted variants **we calculated your polygenic score for higher sugar consumption to be -0.11**. 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 higher sugar consumption is in the **33rd percentile**. This means that it is higher than the polygenic scores 33% of people. We consider this to be a **below average genetic predisposition to higher sugar consumption**. 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>⓪</sup>	YOUR GENOTYPE <sup>⓪</sup>	EFFECT SIZE <sup>⓪</sup>	VARIANT FREQUENCY <sup>⓪</sup>	SIGNIFICANCE <sup>⓪</sup>
rs838144_T	C / T	-0.03 (↓)	63%	$8.63 \times 10^{-21}$
rs7819139_A	T / A	-0.02 (↓)	55%	$4.98 \times 10^{-18}$
rs8097672_A	A / A	0.03 (↑)	78%	$1.54 \times 10^{-12}$
rs9972653_T	G / T	-0.02 (↓)	40%	$1.63 \times 10^{-11}$
rs429358_T	T / T	-0.03 (↓)	86%	$2.97 \times 10^{-11}$
rs7012814_A	G / A	0.02 (↑)	45%	$4.99 \times 10^{-10}$
rs341228_T	T / C	0.02 (↑)	22%	$2.72 \times 10^{-9}$
rs12713415_C	C / C	-0.02 (↓)	76%	$4.88 \times 10^{-9}$
rs62132802_T	C / T	-0.02 (↓)	29%	$1.07 \times 10^{-8}$
rs13202107_A	G / A	-0.02 (↓)	17%	$1.77 \times 10^{-8}$