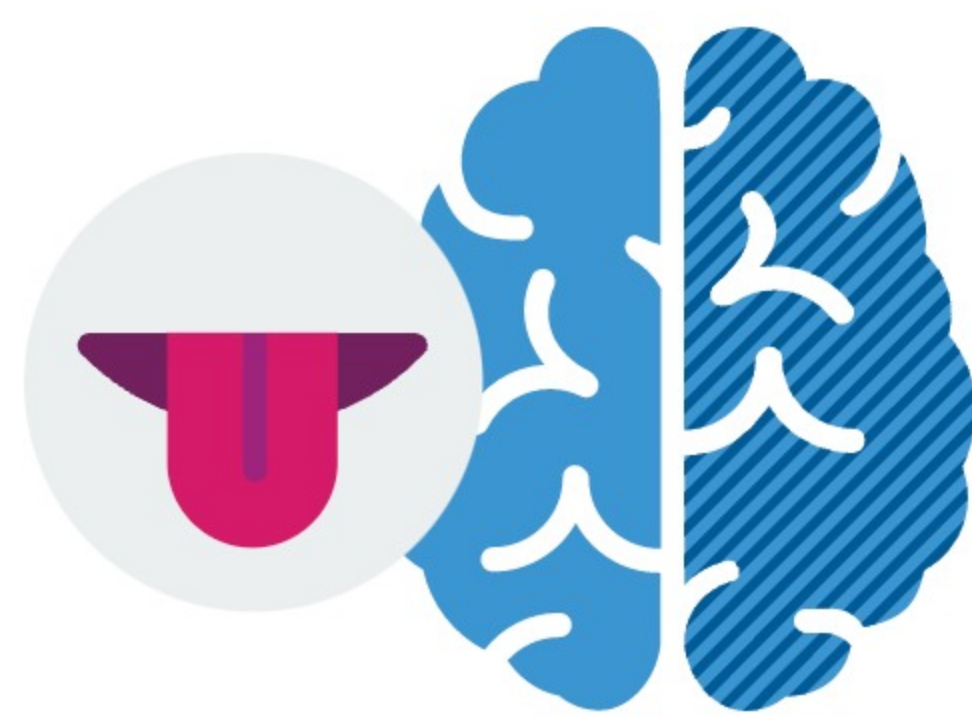


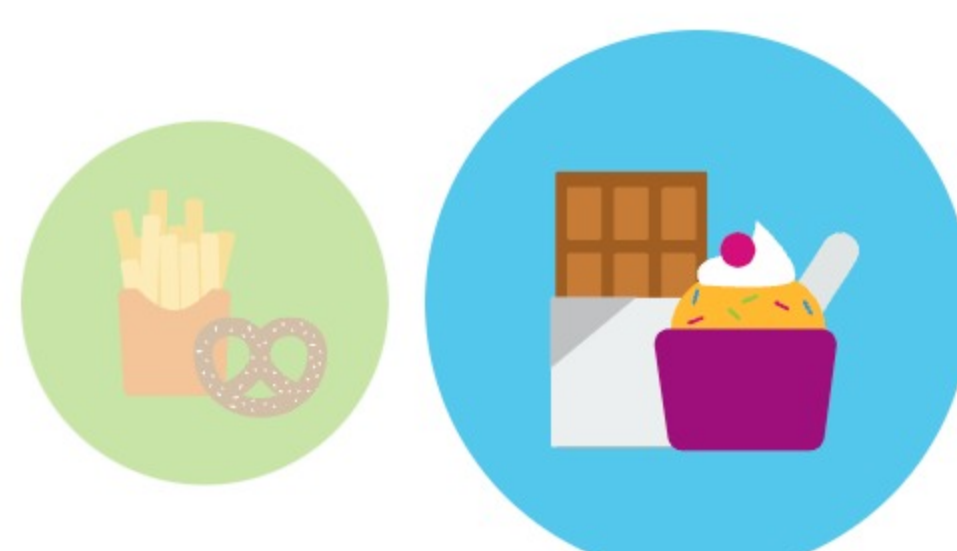
Sweet vs. Salty

Overview Scientific Details



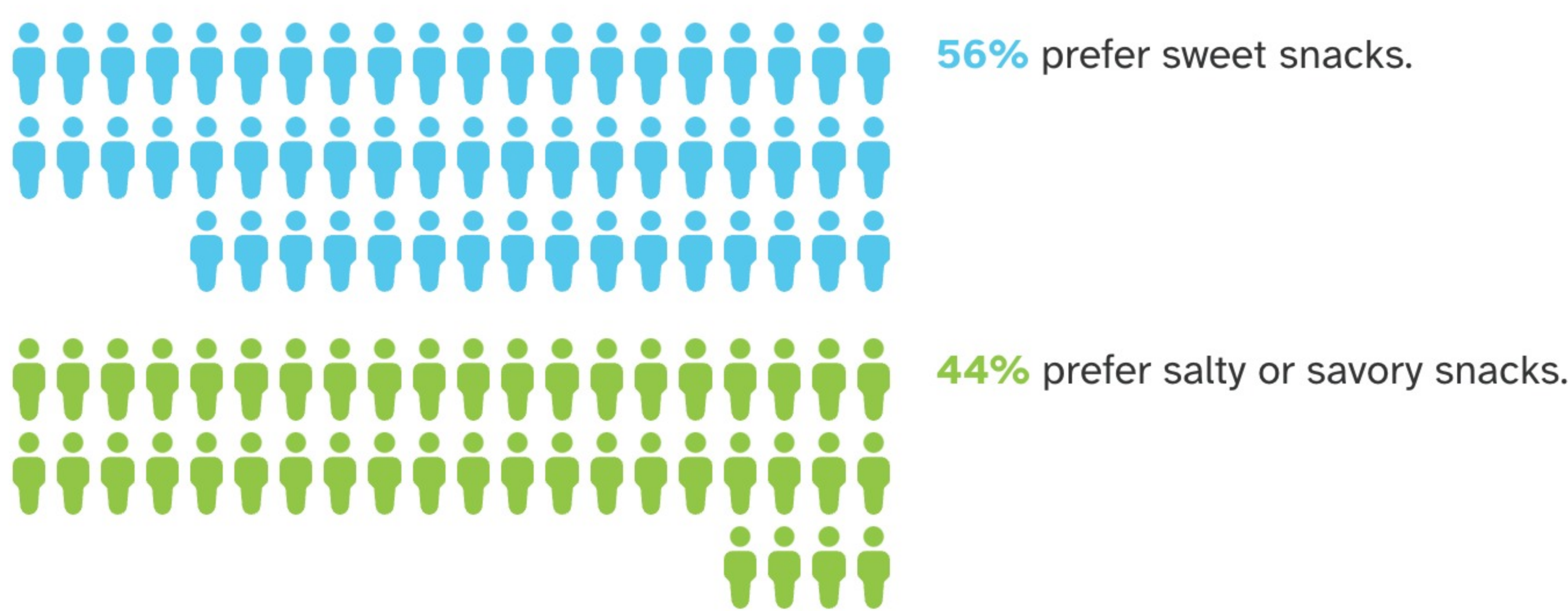
The brain and taste preference

There's no taste map on your tongue. But there is a vast taste network in your brain. Genetics may influence how your brain judges and responds to tastes.



Jamie, the combination of your genetics and other factors makes you likely to prefer sweet snacks.

Of 23andMe research participants with results like yours:

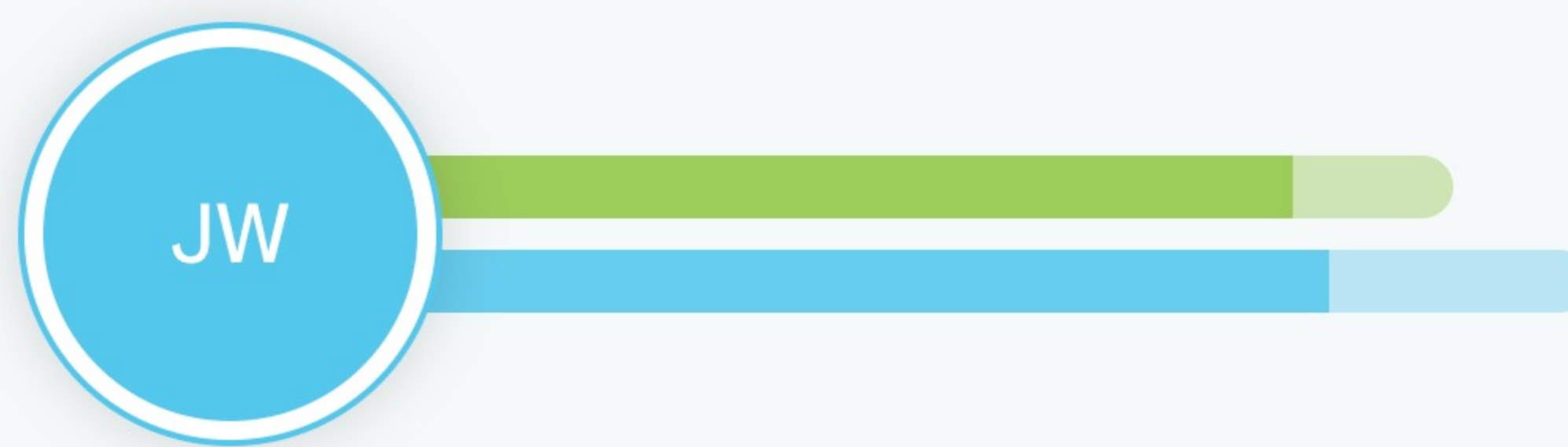


Which do you tend to prefer?

How did we calculate your result?

We added up the effect of your genetic variants at 43 places in your DNA (genetic markers) plus the effect of other factors, including your age and sex.

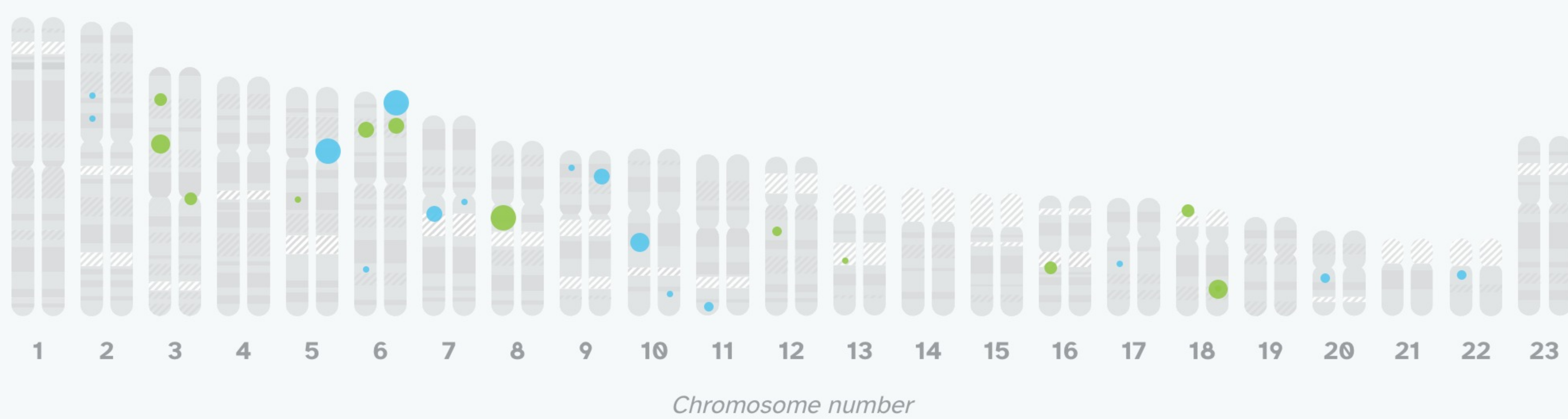
Total effect of your genetics + other factors



YOUR GENETICS	OTHER FACTORS
likely salty preference	
likely sweet preference	

Breakdown of your genetics

The bigger the circle, the stronger the effect your variants have on your overall chances.



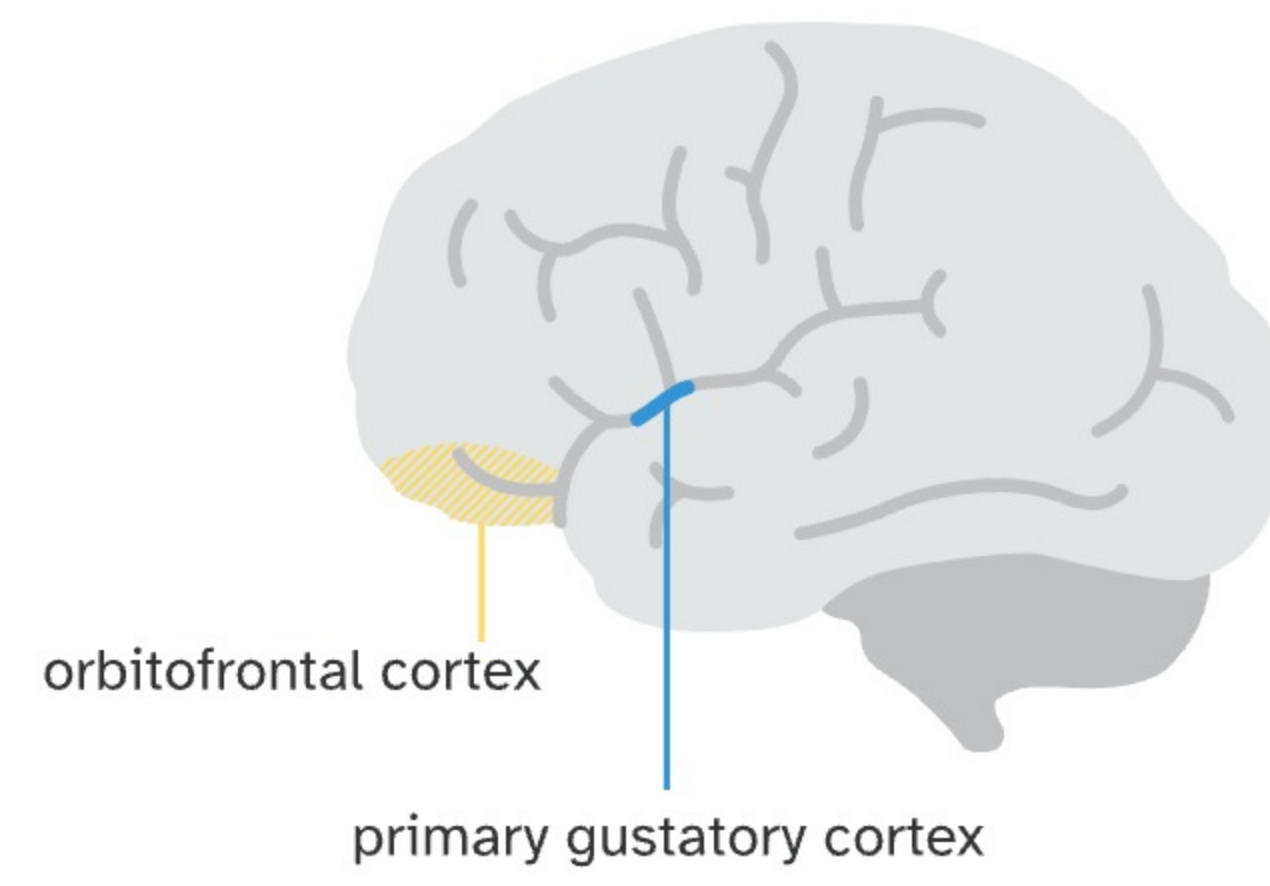
At 13 of the genetic markers we looked at you have variants that make you more likely to prefer salty, and at 15 you have variants that make you more likely to prefer sweet. At 15 of the markers we looked at, you have variants with no effect either way (not shown).

See Scientific Details

More about taste preferences

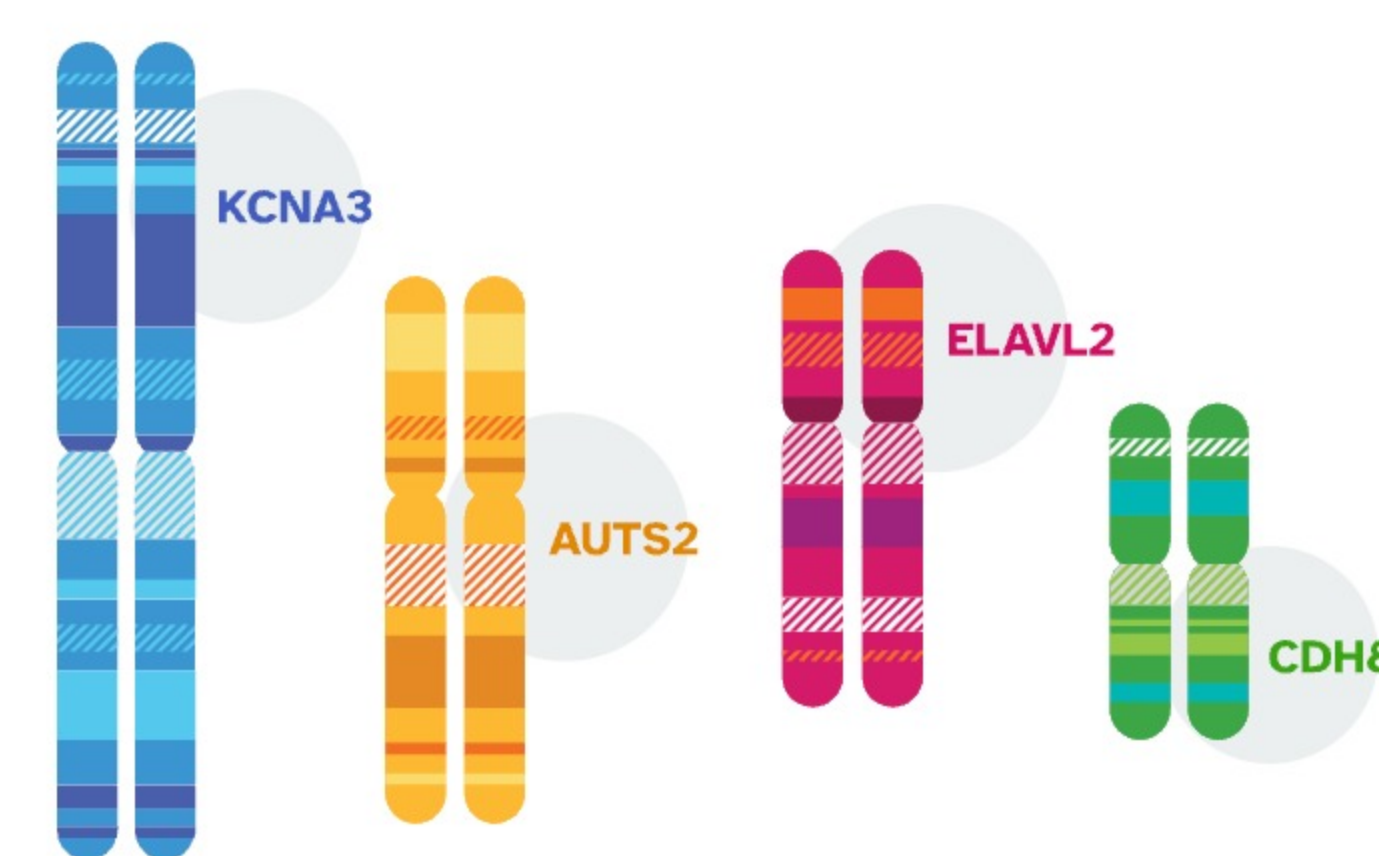
How the brain judges tastes

Many areas of your nervous system work together to influence your taste preferences. The tongue detects the molecules present in foods you eat and sends signals to a brain area, the "primary gustatory cortex", that helps identify their tastes. Another area, the "orbitofrontal cortex", then helps judge whether you like these tastes. And several other brain areas help determine your responses to pleasant flavors — like deciding to eat more.



Genetics

Like almost all traits, taste preference is partly shaped by genetics, and partly by environment. 23andMe research identified 43 genetic markers where people can have variants that make them more likely to prefer sweet snacks or salty/savory snacks. A few of these 43 genetic markers are in or near genes involved in brain development or function (like CDH8, ELAVL2, AUTS2, and KCNA3). But most are near genes with a broad range of functions, perhaps reflecting the complexity of this trait.



Some variants in this model are near genes involved in brain function

Keep exploring your Traits results.



Contribute

Join the research effort and contribute to new discoveries.



Compare

Compare your results to your family and friends.



Discuss

Join the discussion with other 23andMe customers interested in Traits.

Did you find this interesting?

Yes

No



Give the gift of DNA discovery.

Gift a kit

Refer friends, earn rewards.

Get reward

ANCESTRY

- Ancestry Overview
- All Ancestry Reports
- Ancestry Composition
- DNA Relatives
- Order Your DNA Book

HEALTH & TRAITS

- Health & Traits Overview
- All Health & Traits Reports
- My Health Action Plan
- Health Predisposition
- Carrier Status
- Wellness
- Traits

RESEARCH

- Research Overview
- Surveys and Studies
- Edit Answers
- Publications

FAMILY & FRIENDS

- View all DNA Relatives
- Family Tree
- Your Connections
- GrandTree
- Advanced DNA Comparison

Sweet vs. Salty

Overview **Scientific Details**

We use one of two different methods to calculate your trait results.

Statistical Model

Most traits are influenced by many different factors, including genetics, lifestyle, and environment. Usually, a statistical model using many factors provides better predictions than looking at single factors by themselves. To develop our models, we first identify genetic markers associated with a trait using data from tens of thousands of 23andMe customers who have consented to research. Then, we use statistical methods to generate a "score" for that trait using your genotype at the relevant genetic markers as well as your age and sex. We predict your likelihood of having different versions of the trait based on the survey responses of 23andMe customers with similar scores. These predictions apply best to customers who are of the same ethnicity as the people whose data contributed to the model. The accuracy of these predictions varies from trait to trait.

[Read more about our statistical methodology](#)

Curated Model

For some traits, just a few genetic markers can strongly predict whether a person will have a particular version of the trait. For curated models, we first evaluate published scientific studies to identify genetic markers with well-established associations with the trait. Then, we look at genetic and survey data from tens of thousands of 23andMe customers who have consented to research. We estimate your likelihood of having different versions of the trait based on survey responses from customers who are genetically similar to you at those markers. These results apply best to customers who are of the same ethnicity as the people whose data contributed to the predictions.

About your Sweet vs. Salty result

Your result for this trait was calculated using a **statistical model**.

About the Sweet vs. Salty model

Created based on customers of ethnicity: **European**

Number of customers used to create: **120,000**

Number of markers: **43**

Area Under Curve (AUC): **0.58**

Non-genetic factors: **Age, Sex**

Bin #	Prefers salty	Prefers sweet
1	70.56%	29.44%
2	66.30%	33.70%
3	63.65%	36.35%
4	62.38%	37.62%
5	60.60%	39.40%
6	60.17%	39.83%
7	59.49%	40.51%
8	58.22%	41.78%
9	57.60%	42.40%
10	57.21%	42.79%
11	55.99%	44.01%
12	53.65%	46.35%
13	53.93%	46.07%
14	51.75%	48.25%
15	50.90%	49.10%
16	50.17%	49.83%
17	49.32%	50.68%
18	48.41%	51.59%
JW	44.16%	55.84%
20	41.45%	58.55%
Overall European	55.80%	44.20%

References

- [Berto S et al. \(2016\). "ELAVL2-regulated transcriptional and splicing networks in human neurons link neurodevelopment and autism." *Hum Mol Genet.* 25\(12\):2451-2464. ↗](#)
- [Birch LL. \(1999\). "Development of food preferences." *Annu Rev Nutr.* 19:41-62. ↗](#)
- [Fadool DA et al. \(2004\). "Kv1.3 channel gene-targeted deletion produces "Super-Smeller Mice" with altered glomeruli, interacting scaffolding proteins, and biophysics." *Neuron.* 41\(3\):389-404. ↗](#)
- [Friedman LG et al. \(2015\). "Cadherin-8 expression, synaptic localization, and molecular control of neuronal form in prefrontal corticostriatal circuits." *J Comp Neurol.* 523\(1\):75-92. ↗](#)
- [Keskitalo K et al. \(2007\). "Sweet taste preferences are partly genetically determined: identification of a trait locus on chromosome 16." *Am J Clin Nutr.* 86\(1\):55-63. ↗](#)
- [Mennella JA et al. \(2014\). "Preferences for salty and sweet tastes are elevated and related to each other during childhood." *PLoS One.* 9\(3\):e92201. ↗](#)
- [Oksenberg N et al. \(2013\). "Function and regulation of AUTS2, a gene implicated in autism and human evolution." *PLoS Genet.* 9\(1\):e1003221. ↗](#)
- [Padoa-Schioppa C and Assad JA. \(2006\). "Neurons in the orbitofrontal cortex encode economic value." *Nature.* 441\(7090\):223-6. ↗](#)
- [Padoa-Schioppa C and Assad JA. \(2008\). "The representation of economic value in the orbitofrontal cortex is invariant for changes of menu." *Nat Neurosci.* 11\(1\):95-102. ↗](#)
- [Padoa-Schioppa C and Cai X. \(2011\). "The orbitofrontal cortex and the computation of subjective value: consolidated concepts and new perspectives." *Ann N Y Acad Sci.* 1239:130-7. ↗](#)

[See all references](#) ↘

Change Log

Your report may occasionally be updated based on new information. This Change Log describes updates and revisions to this report.

Date	Change
Dec. 15, 2017	Sweet vs. Salty report updated with revised content and design. Additionally, as part of regular report review and improvements in data analysis, some male customers may see an updated result.
June 22, 2017	Sweet Taste report separated from the Taste and Smell report.
Oct. 21, 2015	Taste and Smell report created.



Give the gift of DNA discovery.

Gift a kit

Refer friends, earn rewards.

Get reward

ANCESTRY

[Ancestry Overview](#)

[All Ancestry Reports](#)

[Ancestry Composition](#)

[DNA Relatives](#)

[Order Your DNA Book](#)

HEALTH & TRAITS

[Health & Traits Overview](#)

[All Health & Traits Reports](#)

[My Health Action Plan](#)

[Health Predisposition](#)

[Carrier Status](#)

[Wellness](#)

[Traits](#)

RESEARCH

[Research Overview](#)

[Surveys and Studies](#)

[Edit Answers](#)

[Publications](#)

FAMILY & FRIENDS

[View all DNA Relatives](#)

[Family Tree](#)

[Your Connections](#)

[GrandTree](#)

[Advanced DNA Comparison](#)