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☆ Infant/child body mass index (Couto Alves, 2019)

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Science Advances

Obesity

STUDY SUMMARY

Identification of 4 novel genetic variants that correlate with childhood growth and BMI.

STUDY DESCRIPTION


Obesity remains one of the biggest epidemics of the 21st century. Body mass index (BMI), a calculation based on a person's height and weight, is the most common measure of obesity. Early in life, BMI fluctuates across three different periods: a peak after birth, a decline until the age of 5-6, and then an increase until adulthood. Adolescent BMI measurements were previously known to influence adult BMI levels, but little genetic contribution has been identified. This study examined the genetic data and BMI measurements of over 22,000 children of European ancestry. Three variants associated with elevated BMI of young children were discovered. These variants are also associated with adult BMI, suggesting the same genetic factors might influence both. These variants explain ~30% of the heritability of BMI. This study also identified a novel variant correlated with increased BMI shortly after birth, but this variant is not associated with elevated BMI later in life.

DID YOU KNOW?

Skipping breakfast is actually associated with increased body weight. Aim to have a healthy meal of fruits and whole-grains before heading out the door.

YOUR DETAILED RESULTS

The variants highlighted in green have **positive effect sizes** and increase your genetic predisposition to higher infant/child BMI. The variants highlighted in blue have **negative effects sizes** and decrease your genetic predisposition to higher infant/child BMI. Variants that are not highlighted are not found in your genome and do not affect your genetic predisposition to higher infant/child BMI. 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 [Ⓞ]	EFFECT SIZE [Ⓞ]	VARIANT FREQUENCY [Ⓞ]	SIGNIFICANCE [Ⓞ]
rs9436303_G 	A / A	0.07 (-)	22%	8.30×10^{-9}
rs10938397_G	A / A	0.06 (-)	35%	2.90×10^{-8}