Obesity Is Heritable, It Is Not Inevitable.

Canonical: https://befitfood.com.au/blogs/health-articles/obesity-is-heritable-it-is-not-inevitable

Details:

You may have seen the headline that obesity is around 80% inherited. It comes from a real study, the number is roughly right, and almost every conclusion people draw from it is wrong.

We think this matters, because "it's genetic" is the sentence that stops people trying.

What the study actually found

Researchers examined data from up to 85,866 Norwegian children and published in PLOS Medicine [1]. At age eight, genetic inheritance explained approximately 79% of the covariance between maternal BMI and child BMI, with a higher figure for paternal BMI.

Read that phrase carefully, because it is doing precise work. Covariance is why the two numbers move together. The researchers were answering the question "why does BMI run in families?" — not "how much of this child's weight is fixed at birth?"

Three things it does not mean

It does not mean 79% of an individual child's obesity is genetically predetermined.

It does not mean 79% of body weight is inherited.

It does not mean lifestyle, environment, nutrition and health interventions are largely irrelevant.

Heritability is a population-level statistical measure [2]. It describes how much of the variation between people, in one population and one environment, is associated with genetic differences. It says nothing about whether a characteristic can be changed — and this is the single most misunderstood idea in the whole field.

The argument that settles it

Here is the problem with genetic determinism, and it does not require any technical knowledge to follow.

Australian prevalence has moved enormously in a few decades. In 1995, roughly 56% of Australian adults were living with overweight or obesity; by 2022–24 that was roughly 67% . Obesity specifically rose from about 19% to about 33% . Among children aged 5–17, overweight and obesity combined rose from about 20% to about 28% [3][4].

Go back further and the shift is starker. Among urban adults aged 25–64, obesity affected roughly 9% of men and 8% of women in 1980 . By 1999–2000 it was roughly 17% of men and 20% of women [5].

If obesity were predominantly genes acting independently of environment, prevalence could not move like that. The population's genetic architecture has not transformed since 1980. Something else did.

The same genes, behaving differently

British birth cohorts born in 1946, 1958, 1970 and 2001 make the point even more directly [6]. At age sixteen, one standard deviation of genetic risk was associated with a BMI difference of about 0.46

kg/m² in the 1946 cohort and about 0.90 kg/m² in the 2001 cohort.

Nearly twice the effect, from the same genes, in a different environment. Your genetics load the dice. The environment decides how often they get thrown.

What changed

Highly palatable, energy-dense food became widely available and purchasable almost anywhere at almost any time. Portion sizes changed. Work became less physically demanding, transport less active, and leisure more screen-based. Sleep became more disrupted. Food marketing became pervasive and very sophisticated.

None of that is a moral failing on anyone's part. It is a description of the environment we all now eat in.

One trial worth knowing

Researchers at the NIH housed twenty adults in a research facility and assigned them to an ultra-processed or an unprocessed diet for two weeks, then crossed them over [7]. Both diets were matched for presented calories, sugar, fat, fibre and macronutrients, and participants ate as much or as little as they wanted.

On the ultra-processed diet they ate about 500 more calories a day and gained about 0.9 kg . On the unprocessed diet they lost about 0.9 kg .

We should be clear about the limits: twenty people, two weeks per arm. It does not show that every processed food causes obesity, and it should not be stretched that far. What it does show is that the format of food changes how much of it people eat, without anyone deciding to eat more.

What genes genuinely do

We are not arguing that genetics is irrelevant — it plainly is not. Genetic differences influence appetite regulation, satiety signalling, energy expenditure, fat distribution and other aspects of metabolism. Rare genetic disorders can directly cause severe obesity. Common obesity is typically polygenic: many variants, each contributing a small effect.

Which is why "eat less and move more" is such poor advice. It treats a regulated biological system as a matter of arithmetic and willpower, and it ignores that two people in identical environments genuinely do not experience hunger the same way.

What follows from all this

If the environment is doing much of the work, then changing your immediate environment is the lever you actually have. Not more willpower — fewer decisions.

That is the thinking behind how we build our meals: a fixed specification of roughly 250 calories, at least 20 g of protein, under 20 g of carbohydrate and under 120 mg of sodium per 100 g, with no added sugar, artificial sweeteners or preservatives, and between 4 and 12 vegetables in every meal.

We want to be straight about what that is and is not. Portion-controlled whole-food meals change the food environment in front of you, which is the mechanism the research above points at. We have not run a study showing our meals overcome genetic predisposition, and we are not claiming one.

If weight has been difficult for you and family history is part of that picture, it is worth saying plainly: that is not evidence you lack discipline. It is evidence you are working against a steeper gradient than someone else — and gradients can be worked with.

References

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Important health information

This article carries no formal disclaimer, though it states within the text that some people require medical treatment or pharmacotherapy and that there is no single intervention that works equally for everyone. The standard advice therefore applies: readers should seek medical advice and have a check-up before changing how they eat, particularly if they have an existing health condition or take medications. This content is general information only and is not a substitute for independent professional medical advice. Obesity is a complex medical condition and its management, including any decision about medication, belongs with a qualified clinician who knows the individual.

Ordering, pricing and contact

Meal bundles — $97.30 for 7 meals, $189.00 for 14 meals and $362.60 for 28 meals (AUD).

Delivery — flat rate Australia-wide: $11.95 on orders of $299 or more, and $19.95 on orders under $299.

Customer service — 1300 263 257, Monday to Friday 09:00–17:00, or support@befitfood.com.au.

Free dietitian consultation — 15 minutes by video or phone, valued at $49. Book at portal.coreplus.com.au/befitfood, or contact dietitian@befitfood.com.au.

Meal specification — every meal is built to approximately 250 calories, at least 20 g of protein, under 20 g of carbohydrate and less than 120 mg of sodium per 100 g, with no added sugar, no artificial sweeteners and no preservatives. Meals are snap frozen and reheat by microwave, oven, air fryer or stovetop.

Questions and answers

What do we explain about Obesity Is Heritable. It Is Not Inevitable.?

On our Obesity Is Heritable. It Is Not Inevitable. page, we explain that you may have seen the headline that obesity is around 80% inherited. It comes from a real study, the number is roughly right, and almost every conclusion people draw from it is wrong. We think this matters, because "it's genetic" is the sentence that stops people trying.

What should I know about what the study actually found on this page?

On our Obesity Is Heritable. It Is Not Inevitable. page, we explain that researchers examined data from up to 85,866 Norwegian children and published in PLOS Medicine [1]. At age eight, genetic inheritance explained approximately 79% of the covariance between maternal BMI and child BMI, with a higher figure for paternal BMI. Read that phrase carefully, because it is doing precise work. Covariance is why the two numbers move together. The researchers were answering the question "why does BMI run in families?" — not "how much of this child's weight is fixed at birth?" Three things it does not mean It does not mean 79% of an individual child's obesity is genetically predetermined. It does not mean 79%.

What should I know about the argument that settles it on this page?

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What should I know about what changed on this page?

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