

# Tall and slim: They go together, genetic study shows

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This is an image of a weight scale. Credit: CDC/Debora Cartagena

University of Queensland scientists have found a genetic basis for height and body mass differences between European populations.

Queensland Brain Institute researcher Dr Matthew Robinson said the findings could explain why people from northern European countries tended on average to be taller and slimmer than other Europeans.

He said the genes that resulted in greater [height](#) correlated strongly with genes that reduced [body mass index](#).

"Our findings give a [genetic basis](#) to the stereotype of Scandinavians as being tall and lean," Dr Robinson said.

The study paves the way to determine whether genetics also plays a role in creating national differences in disorders such as dementia, diabetes and heart disease.

Fellow researcher Professor Peter Visscher said the [genetic differences](#) were likely to result from historic natural selection on height and BMI.

"The research suggests that tall nations are genetically more likely to be slim," Professor Visscher said.

Dr Robinson said that on average, 24 per cent of the [genetic variation](#) in height and eight per cent of the genetic variation in BMI could be explained by regional differences.

"Countries' populations differ in many ways, from the height of their people to the prevalence of certain diseases," he said.

The study looked at height and BMI differences in 9416 people from 14 European countries and used data from genome-wide association studies (GWAS).

Dr Robinson said genetic variation between countries could explain national differences in height, but environmental factors were the main determinant of a population's BMI.

"This suggests that differences in diet, for example, are more important than genetics in creating differences in BMI among nations."

The study is published in the journal *Nature Genetics*.

**More information:** *Nature Genetics*, [DOI: 10.1038/ng.3401](https://doi.org/10.1038/ng.3401)

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