Genes influence the age at which you lose your virginity, study shows

 Though mostly driven by upbringing and peer behaviour, a person’s age when they first have sex is also shaped by biological factors where genes have a role to play. Photograph: LOFTY/RelaXimages/Getty Images/Cultura RF

[**Ian Sample**](http://www.theguardian.com/profile/iansample)**Science editor**

Researchers discover extent to which DNA determines age of first sex; genetic link also found between risk-taking behaviour and early loss of virginity

The subtle impact of genetics on the age at which people lose their virginity has been teased apart by scientists and shown to have an effect on [how well people fare at school](https://www.theguardian.com/science/2015/jul/23/genes-influence-academic-ability-across-all-subjects-latest-study-shows).

Though mostly driven by upbringing and peer behaviour, a person’s age when they first have sex is also shaped by biological factors where genes have a role to play.

Researchers found that differences in DNA could account for a quarter of the variation in the age at which people lost their virginity, with other factors, among them religious beliefs, family background and peer pressure, making up the rest.

“We were able to calculate for the first time that there is a heritable component to age at first sex, and the heritability is about 25%, so one quarter nature, three quarters nurture,” said John Perry, an expert in reproductive ageing and related health conditions at Cambridge University.

Among 38 sections of DNA found to affect the age at which people first had sex were genes that drive reproductive biology, such as the release of sex hormones and the age of puberty. Still others were found that appear to affect behaviour, personality and appearance.

A variant of one of the genes, named CADM2, linked an early start to one’s sex life with risk-taking behaviour and having a large number of children. A version of another gene, MSRA, found in people who lost their virginity later than average, was linked to irritability.

Writing in the journal [Nature Genetics](http://nature.com/articles/doi:10.1038/ng.3551), the scientists mention another genetic variant that seemed to link red hair colour and freckled skin with women, but not men, losing their virginity later than others.

Scientists identified the raft of genes from the DNA of more than 125,000 people aged 40 to 69 enrolled on the UK BioBank project. The most common age for both men and women losing their virginity was 18. Having drawn up the list of 38 gene regions, the team went on to verify their effects in 250,000 other men and women from Iceland and the US.

The scientists go on to show how early puberty - often brought on by poor nutrition and, as a consequence, childhood obesity - has a small but direct effect on the age at which people lose their virginity, and the age they have their first child. Each of these in turn appeared to reduce the person’s chances of doing well in education.

“This helps to inform us about future preventative efforts to delay puberty in young children,” Perry said.

George Davey Smith, a clinical epidemiologist at Bristol University, said: “It suggests that earlier puberty does influence early age of sexual debut, which then appears to have other consequences such as, all things being equal, earlier first birth, having more children, less likely to remain childless, and poorer educational outcomes.” While early puberty has been linked to poor educational achievement before, he said, the latest study strengthened the evidence that early puberty was a cause, and not simply a reflection of underlying factors, such as social class.

Ewan Birney, co-director of the European Bioinformatics Institute near Cambridge added: “This is an interesting study where using genetics one can better untangle cause and consequence of a complex human behaviour. [Genetics](https://www.theguardian.com/science/genetics)only contributes a small part to age of first sexual intercourse, but the very random nature of each person’s genome means it can be used to trace the impact of this behaviour into later life with less concern about complex correlations confusing cause and consequence.

“This study really shows the benefit of the size and comprehensive, detailed measurement by the UK BioBank, the world’s largest medical cohort. We can expect many more results with a similar approach in the future as researchers mine this resource.”