Researchers identify 'beauty spots' in the genome

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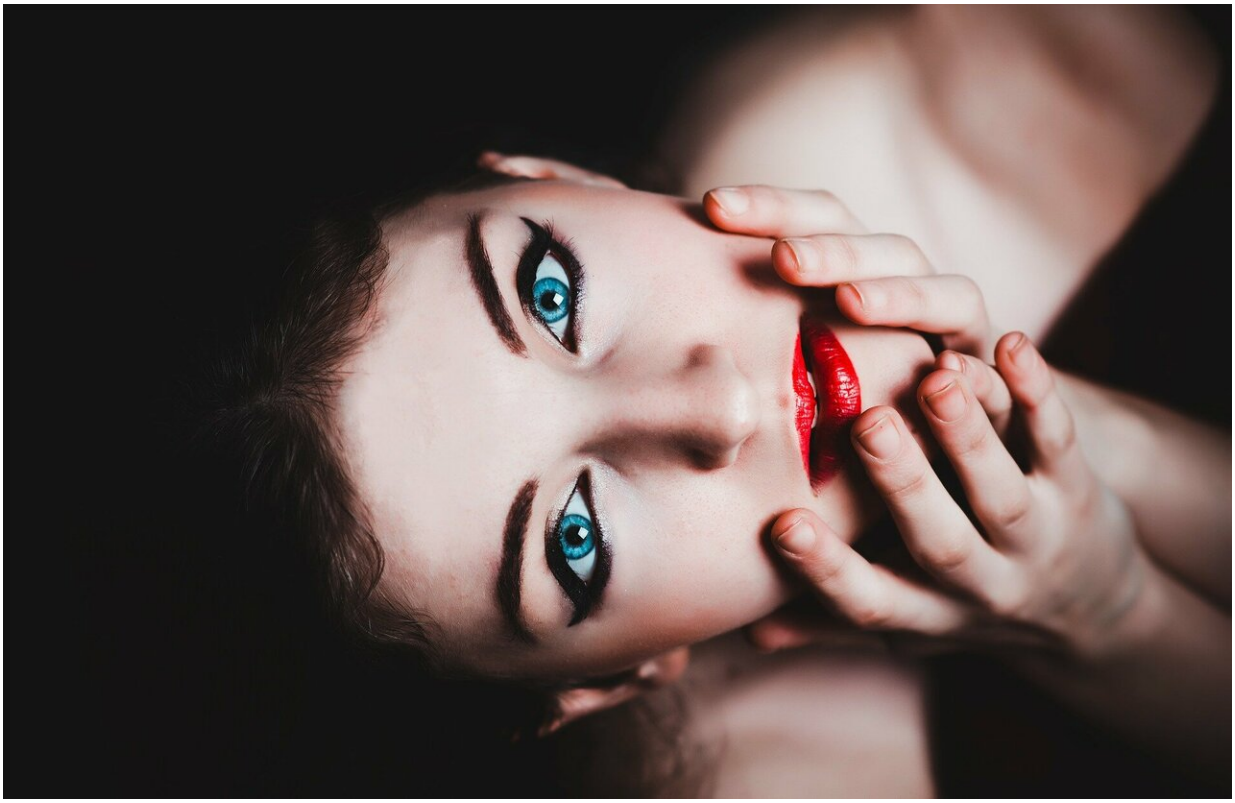

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Genes play a role in determining the beauty of a person's face, but that role varies with the person's sex, according to a new study by Qiongshi Lu and colleagues at the University of Wisconsin-Madison, published 4th April in *PLOS Genetics*.

Humans tend to be preoccupied with beauty—a person's attractiveness is associated with academic performance, career success and economic mobility. But despite its importance, scientists know little about the genetic basis for having a pretty face. In the current work, researchers performed a genome-wide association study using genetic information from 4,383 individuals to pinpoint parts of the genome linked to facial beauty.

They had volunteers score yearbook photos based on attractiveness from participants with European ancestry and compared the scores to each person's genetic information. The researchers identified several genes related to facial attractiveness, but their roles and relatedness to other human traits varied by sex. In women, certain genetic variations linked to beauty also appeared to be related to genes impacting body mass, while in males, variants were linked to genes affecting blood cholesterol levels.

The study provides new insights into the genetic factors underlying facial attractiveness and highlights the complex relationships between beauty and other human traits. "Similar to many other human traits, there is not a 'master gene' that determines a person's attractiveness," author Qiongshi Lu observed. "Instead, it is most likely associated with a large number of genetic components with weak effects. Interestingly, sex-specificity is a recurrent pattern observed in almost all the analyses in our study."

The researchers acknowledge, however, that their findings are based on a homogenous group of individuals of the same age and ethnic background. They propose that future analyses including a larger sample size of people from diverse populations and ages will further advance our understanding of this highly valued human trait.

More information: Hu B, Shen N, Li JJ, Kang H, Hong J, Fletcher J,

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et al. (2019) Genome-wide association study reveals sex-specific genetic architecture of facial attractiveness. *PLoS Genet* 15(4): e1007973. doi.org/10.1371/journal.pgen.1007973

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