

# Unprecedented study identifies 44 genetic risk factors for major depression

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Published today in *Nature Genetics*, the research finds that the genetic basis for [major depression](#) is shared with other psychiatric disorders such as schizophrenia, and that all humans carry at least some of the 44 [genetic risk factors](#) identified in the study.

A significant number of the genetic variants identified in the study are directly linked to the targets of current antidepressant medications. Analysis of the data also suggests that having higher BMI is linked to an increased risk of major depression.

Previous studies have struggled to identify more than a handful of genetic variants associated with depression. By combining seven separate datasets, the research team included data on more than 135,000 people with major depression and more than 344,000 controls.

The study was an unprecedented global effort by over 200 scientists who work with the Psychiatric Genomics Consortium, and was led by the University of North Carolina School of Medicine and the University of Queensland in Australia. Professor Cathryn Lewis and Dr. Gerome Breen of King's College London led the UK contribution, along with scientists and psychiatrists from the Universities of Edinburgh, Cardiff and UCL.

'With this study, depression genetics has advanced to the forefront of genetic discovery,' says Dr. Breen from the Institute of Psychiatry, Psychology & Neuroscience (IoPPN) at King's College London. 'The

new genetic variants discovered have the potential to revitalise [depression treatment](#) by opening up avenues for the discovery of new and improved therapies."

Major depression affects approximately 14% of the global population and is the biggest contributor to long term disability in the general population worldwide. Yet only about half of patients respond well to existing treatments.

'Depression is an incredibly common disorder that affects millions of people in the UK,' says Professor Lewis of the IoPPN, who is leading efforts to conduct even larger international studies.

'This study has shed a bright light on the [genetic basis](#) of depression, but it is only the first step,' added Professor Lewis. 'We need further research to uncover more of the genetic underpinnings, and to understand how genetics and environmental stressors work together to increase risk of [depression](#).'

In the UK, the work was partly-funded by the National Institute for Health Research (NIHR) Biomedical Research Centre at South London and Maudsley NHS Foundation Trust and King's College London, and the Medical Research Council.

**More information:** Genome-wide association analyses identify 44 risk variants and refine the genetic architecture of major depression, *Nature Genetics* (2018). [DOI: 10.1038/s41588-018-0090-3](https://doi.org/10.1038/s41588-018-0090-3)

Provided by King's College London

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