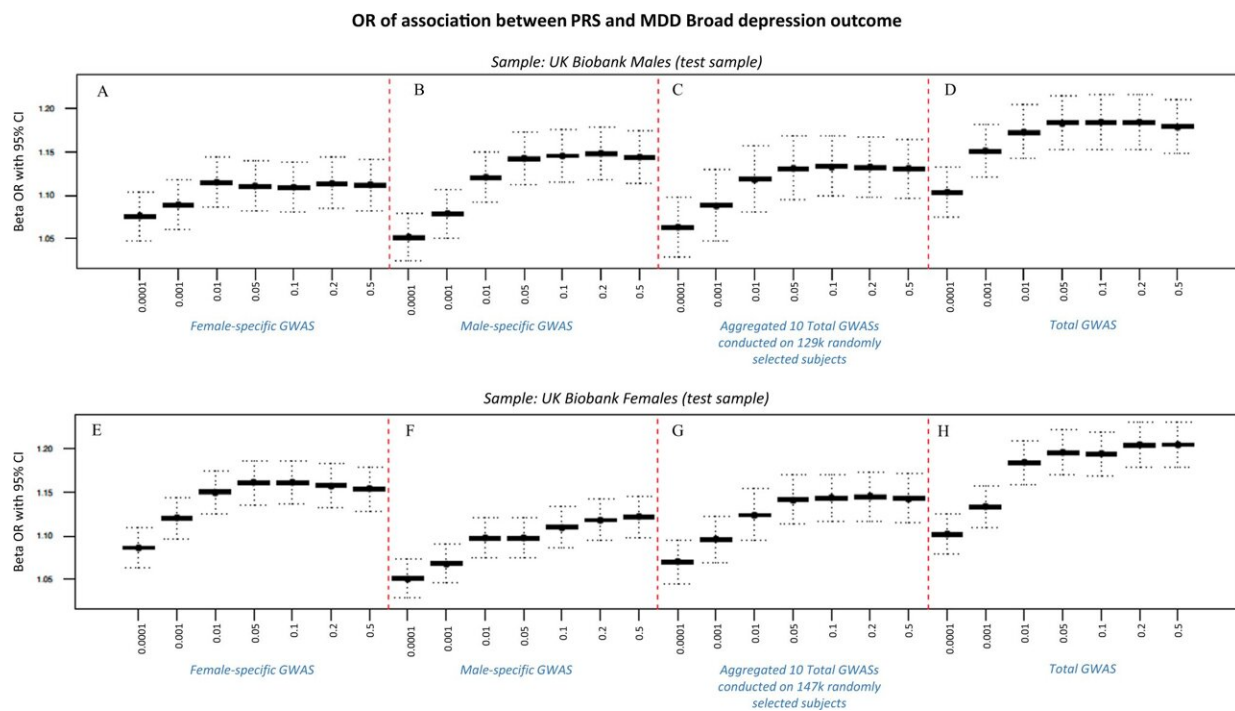


Genes shed light on why men and women experience different depression symptoms

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Sex-specific polygenic risk scores (PRS). Comparison between odds ratios (ORs) of associations between the PRS for broad MDD in a test sample of males (A–D) and females (E–H) using the female-specific broad MDD GWAS (A, E), male-specific broad MDD GWAS (B, F), or a mixed sample MDD GWAS of similar size (147k or 129k, respectively, C, G). The ORs of associations using the total mixed sample MDD GWAS are shown in panel D for male participants and panel H for female participants. Credit: *Molecular Psychiatry* (2023). DOI: 10.1038/s41380-023-01960-0

Depression is widely reported to be more common in women than in men, with women twice as likely to receive a diagnosis than men. A new sex-specific study from McGill University has found that there are differences between male and female genes and how they relate to depression.

In a study of more than 270,000 individuals, the researchers found that sex-specific prediction methods were more accurate in forecasting an individual's [genetic risk](#) of developing [depression](#) than prediction methods that did not specify sex.

The researchers found 11 areas of DNA that were linked to depression in females, and only one area in males. They also found that depression was specifically linked to [metabolic diseases](#) in females, an important aspect to consider when treating women with depression.

Despite the [biological processes](#) involved in depression being similar in males and females, researchers found that different genes were involved for each sex. This information can be useful to identify future sex-specific treatments for depression.

"This is the first study to describe sex-specific genetic variants associated with depression, which is a very prevalent disease in both males and females. These findings are important to inform the development of specific therapies that will benefit both men and women while accounting for their differences," says Dr. Patricia Pelufo Silveira, lead author and Associate Professor in the Department of Psychiatry.

"In the clinic, the presentation of depression is very different for men and women, as well as their response to treatment, but we have very little understanding of why this happens at the moment."

The paper is published in the journal *Molecular Psychiatry*.

More information: Patrícia Pelufo Silveira et al, A sex-specific genome-wide association study of depression phenotypes in UK Biobank, *Molecular Psychiatry* (2023). [DOI: 10.1038/s41380-023-01960-0](https://doi.org/10.1038/s41380-023-01960-0)

Provided by McGill University

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