

# New knowledge could help predict and prevent depression

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In a new study, researchers from the Danish iPSYCH project demonstrate that people with the highest genetic propensity are over two and a half times as likely to be treated in a psychiatric hospital for

depression compared to people with the lowest propensity. This knowledge could be utilised to strengthen preventative efforts for those who are at risk.

In Denmark, 15.5 per cent of woman and nine per cent of men receive treatment for depression at a [psychiatric hospital](#) at some stage of their lives. Depression is a common but very serious condition which is very costly for both the individual and society as a whole.

Researchers have now completed a study in which they followed 34,500 Danes for up to 20 years and measured their [genetic risk](#) for developing depression.

"The study showed that the risk of being treated for depression at a psychiatric hospital was more than two and a half times higher for people with a high polygenic risk score," explains professor at iPSYCH and contributor to the study Esben Agerbo.

Polygenetic means that the disease is not connected to only one disease gene, but to many genes. Put another way, it means there are many genes that determine whether a person is predisposed to developing depression.

## **Easier to identify people**

"We know that depression is partly determined by [genetic factors](#), and today it's possible to measure the genetic propensity directly—rather than having to rely on [family history](#) as a way of guessing at genetic disposition for developing depression," explains Esben Agerbo.

The polygenetic score was not related to factors such as mild, moderate, severe or [psychotic symptoms](#), treatment setting or age at the first hospital visit, which could mean that these aspects are determined more by environmental factors.

The results of the study have just been published in the scientific journal *JAMA Psychiatry*.

"Our hope is that by utilising [genetic information](#) in conjunction with known risk factors in the environment, we will be able to develop better methods to identify people who are at risk of developing depression," says postdoc at iPSYCH, Katherine L. Musliner, who is behind the study.

However, the results also show that the relationship between genetics and mental illness is complex. There is no 'depression gene' and even those with the highest genetic propensity will not necessarily develop depression.

"The ability to identify people with an increased risk of developing [depression](#) is useful, because it will make it possible for us to target preventative efforts towards the people who will benefit most from them," says Katherine L. Musliner.

**More information:** "Association of polygenic liabilities for major depression, bipolar disorder, and schizophrenia with risk for depression in the Danish population" *JAMA Psychiatry*, 2019.

Provided by Aarhus University

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