

Being overweight likely to cause depression, even without health complications

November 13 2018



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A largescale genomic analysis has found the strongest evidence yet that being overweight causes depression, even in the absence of other health problems.

The research, jointly led by the University of Exeter and the University of South Australia, suggests that it is the [psychological impact](#) of being overweight that causes [depression](#), rather than associated illnesses. This furthers understanding of the complex relationship between [obesity](#) and depression. While it has long been known that depression is more common in obesity, the research, published in the *International Journal of Epidemiology*, is the first to conclude that higher body mass index (BMI) can cause depression in itself, even where no other health problems exist.

The team looked at UK Biobank data from more than 48,000 people with depression and compared them to more than 290,000 controls in the UK Biobank cohort of people born between 1938 and 1971, who have provided medical and genetic information. They used hospital admission data and self-reporting to determine whether people had depression.

The team used a genetic research approach to explore the causal link between the two conditions. The team separated out the psychological component of obesity from the impact of obesity related health problems, using genes associated with higher BMI but lower risk of diseases like diabetes. These genes were just as strongly associated with depression as those genes associated with higher BMI and diabetes. This suggests that higher BMI causes depression both with and without related health issues. This effect was stronger in women than in men.

Dr. Jess Tyrrell, of the University of Exeter Medical School, said: "Obesity and depression are both global health problems that have a major impact on lives and are costly to [health](#) services. We've long known there's a link between the two, yet it's unclear whether obesity causes depression or vice-versa, and also whether it's being overweight in itself or the associated [health problems](#) that can cause depression. Our robust genetic analysis concludes that the psychological impact of being obese is likely to cause depression. This is important to help target

efforts to reduce depression, which makes it much harder for people to adopt healthy lifestyle habits."

The team tested their results in a second large-scale cohort, using data from the Psychiatric Genomics Consortium. They reached the same conclusion, verifying their results.

The full paper, entitled Using genetics to understand the causal influence of higher BMI on depression, is published in *International Journal of Epidemiology*.

More information: Jessica Tyrrell et al. Using genetics to understand the causal influence of higher BMI on depression, *International Journal of Epidemiology* (2018). DOI: 10.1093/ije/dyy223

Provided by University of Exeter

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