

Genetics might explain why obese and depressed people have less grey matter in the brain

Obesity is one of the major public health problems in western countries, with an estimated [prevalence of up to 38%](#).

Although normally associated with an increased risk of [heart disease](#), obesity may also have a negative impact on brain structure and function, according to recent studies.

One of the most consistent findings seen across different studies is that obese individuals tend to have less brain [gray matter](#), which is made of nerve cells and synapses — the sites where neurons communicate.

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To explore the relationship between obesity and brain structural abnormalities, as well as the possible contribution of genetic factors, an international team [examined](#) genetic and brain imaging data from a large group of individuals who were part of the [ENIGMA MDD Working Group](#).

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The most frequent structural defect linked to obesity was a reduction in the thickness of the brain cortex, which strongly resembled the type of structural abnormalities usually seen in people with different neuropsychiatric disorders.

The cortex is the outer region of the brain that controls functions such as speech, thought, and memory.

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“The present findings demonstrate similar associations between obesity and brain structural abnormalities in healthy participants and depressive patients,” the investigators wrote, adding that the genetic and age-dependent effects may offer new insights on the origin of this association.

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