

Study casts doubt on causal link between cognitive ability and obesity

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Researchers assess the previously established causal link between cognitive ability and obesity. Credit: Kenny Eliason, Unsplash (CC0, creativecommons.org/publicdomain/zero/1.0/)

The well-replicated associations between cognitive ability and body mass

index (BMI) may largely reflect confounding by other factors related to family background, according to a new study published April 13 in the open access journal *PLOS Medicine* by Liam Wright of University College London, UK, and colleagues.

Obesity is a major contributor to the global disease burden and its prevalence is expected to continue rising. Existing studies have found links between cognitive ability and obesity, with a lower cognitive ability in childhood or adolescence associated with a higher BMI or higher rate of [obesity](#) in later adulthood.

In the new study, researchers used data on 12,250 siblings from 5,602 households followed from adolescence to age 62 as part of four separate United States youth population cohort studies. By comparing the association between cognitive ability and BMI within families, the team could account for unobserved factors related to [family background](#).

When comparing unrelated individuals in the dataset, the researchers found that moving from the 25th to 75th percentile of adolescent cognitive ability was associated with an estimated 0.61 kg/m² decrease in BMI (95% CI -0.90 to -0.33) when adjusted for family socioeconomic position. When comparing [siblings](#), however, moving from the 25th to 75th percentile of adolescent cognitive ability was associated with only a 0.06 kg/m² decrease in BMI (95% CI -0.35 to 0.23).

"The results suggest that existing findings on the link between cognitive ability and BMI are biased by shared family factors," the authors say. "Given that associations between cognitive ability and other [health outcomes](#) have been found using similar observational research designs, sibling data may be useful for assessing potential bias for these health outcomes too."

Wright adds, "Does higher cognitive ability (intelligence) help one to

avoid gaining too much weight? Lots of studies have found an association between the two, but our study suggests that these links may not be causal in nature."

More information: Liam Wright et al, The association between cognitive ability and body mass index: A sibling-comparison analysis in four longitudinal studies, *PLoS Medicine* (2023). [DOI: 10.1371/journal.pmed.1004207](https://doi.org/10.1371/journal.pmed.1004207)

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