
Variability in Body Weight and Cognitive Decline



Adults over 65 who lose or fluctuate more than 5% of their body weight may face faster cognitive decline, according to new research from Penn State's Department of Nutritional Sciences. The findings are published in *Obesity*.

Study researchers looked at 11 years of data on weight, body mass index (BMI), and waist circumference. Across three different types of analysis, the pattern was clear: the greater the year-to-year weight variability, the faster the decline in cognition.

The team analysed records from 4,304 older adults enrolled in the National Health and Aging Trends Study between 2011 and 2021. Along with body composition, the dataset included measures of memory, orientation, and executive function, which the researchers combined into a composite score of cognitive performance. With only minor changes during the COVID-19 pandemic, these metrics were collected annually for over a decade.

Cognition declined gradually with age. But participants with the largest weight fluctuations experienced declines at two to four times the rate of those with stable weight. The same trend appeared when waist circumference and BMI were compared against cognition.

Further analysis revealed that both losing at least 5% of body weight and cycling between weight loss and gain were linked to faster decline. In contrast, older adults who gained weight showed similar cognitive changes to those with stable weight.

Study researchers caution that this does not mean gaining weight is protective. Mid-life obesity is already a known risk factor for later cognitive decline. While some studies suggest an 'obesity paradox' in older adults, with later-life obesity linked to healthier cognition, the relationship is complicated by age-related muscle loss and fat gain. This study does not suggest that older adults should put on weight.

Instead, the findings highlight the importance of consistent weight monitoring. Doctor visits alone may not provide accurate tracking because clothing and other factors can distort measurements. To truly understand what's happening in their bodies and brains, older adults should weigh themselves consistently at home, for example, each morning before breakfast, after using the bathroom, and in the same clothing. If weight isn't stable, they should share that information with their physicians.

Source: [Penn State](#)

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