

When it Comes to Weight Gain Being Active may not Tell the Whole Story

A five-year study tracked activity, sitting time, and [weight change](#) in more than 2,600 younger adults to examine how these everyday behaviors work together.

Low or moderate leisure-time [physical activity](#) combined with higher sedentary behavior was associated with greater weight gain over five years in young and early- to midlife men and women.



Study

The study included 2,606 employees of the City of Helsinki aged 19–39 years at baseline in 2017, with women comprising about 80% of the sample. Self-reported data on leisure-time physical activity and [leisure-time](#) sedentary behavior were collected at baseline.

Leisure-time physical activity was divided into three categories: Low, moderate, and vigorous, with [vigorous-intensity activity](#) also required for the vigorous group. Leisure-time sedentary behavior was divided into three categories: Low, intermediate, and high.

For the [joint analysis](#), low and moderate activity were combined, as were intermediate and high sedentary behavior. This gave rise to a four-category variable, with vigorous leisure-time physical activity and low leisure-time sedentary behavior used as the reference group.

The main aim of the study was to assess the association between these behavior categories and major [weight gain](#), defined as a 10% or greater increase in body weight over 5 years.

Results

In the entire [study population](#), about 24% of women and 12% of men experienced major weight gain (10% or more) during the 5-year follow-up.

The proportion of participants with major weight gain was 25.2% in the low leisure-time activity group and 17.9% in the vigorous activity group. After full adjustment, moderate activity remained associated with major weight gain, while the low-activity association was no longer statistically significant. Major weight gain also became more common as [sedentary behavior](#) increased, but sedentary behavior alone was not significantly associated with major weight gain after adjustment.

The highest prevalence of major weight gain was observed among participants with low or moderate leisure-time activity and higher leisure-time sedentary behavior, whereas the lowest prevalence was observed among participants with vigorous leisure-time activity and low leisure-time sedentary behavior. The joint association remained statistically significant after full adjustment for sociodemographic and [health-related factors](#).

The prevalence of major weight gain was lower among both healthy-weight and overweight participants with higher levels of leisure-time activity and [lower levels](#) of leisure-time sedentary behavior.

Conclusion

The study found that young and [early- to midlife](#) women and men with low or moderate physical activity, together with higher sedentary behavior during leisure time, had the highest prevalence of major weight gain over five years.

According to [World Health Organization](#) (WHO) recommendations, adult body weight should not increase by more than 5 kilograms over the entire adult life course. The authors described the observed increase of 10% or more over five years as substantial.

Although sedentary behavior alone was not significantly associated with major weight gain after adjustment, the estimates indicated higher odds with increasing sedentary time. This pattern was also observed among participants reporting vigorous leisure-time physical activity, although that comparison was not statistically significant. The authors suggested that differences in [total energy](#) expenditure may partly explain this pattern.

The association was stronger when higher sedentary behavior was combined with lower levels of leisure-time physical activity. These findings indicate a potentially [additive effect](#) and highlight the importance of considering the combined association between physical activity and sedentary behavior when designing weight management strategies for young and early-midlife adults.

The longitudinal design could not establish [causality](#) because the observational analyses do not confirm whether leisure-time physical activity and sedentary behavior influenced weight gain.

[Diet quality](#) was not included as a confounder because the food-frequency questionnaire assessed consumption frequency but did not measure portion size or overall dietary composition. All measures were self-reported, and the sample was 80% women, so pooled results were influenced mainly by female participants. Future studies should consider these factors to more conclusively identify risk factors associated with weight gain.

Source:

<https://www.news-medical.net/news/20260917/Being-active-may-not-tell-the-whole-story-when-it-comes-to-weight-gain.aspx>