

# Sleep duration affects hunger differently in men and women

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A new study suggests that increasing the amount of sleep that adults get could lead to reduced food intake, but the hormonal process differs between men and women.

"Restricting sleep in healthy, normal weight participants has limited effects on [metabolic risk factors](#) and may affect food intake regulating hormones differently in men and women," said Marie-Pierre St-Onge, PhD, FAHA, the study's principal investigator. "We were surprised by the lack of a significant effect of sleep on glucose and insulin, leptin, and [sex differences](#) in the hunger-stimulating hormone [ghrelin](#) and the satiety hormone GLP-1."

The study, appearing in the November issue of the journal *SLEEP*, tracked the sleep duration, glucose [dysregulation](#), and hormonal regulation of appetite in 27 normal weight, 30- to 45-year-old men and women. Participants provided fasting blood draws, and they were studied under two sleep conditions: Short (4 hours) or habitual (9 hours). Short sleep increased total ghrelin levels in men but not women and reduced GLP-1 levels in women but not in men, a sex difference that has not been reported before. The results suggest that the common susceptibility to overeat during [short sleep](#) is related to increased appetite in men and reduced feelings of fullness in women.

"Our results point to the complexity of the relationship between sleep duration and energy balance regulation," St-Onge said. "The state of energy balance, whether someone is in a period of weight loss or weight

gain, may be critical in the metabolic and hormonal responses to sleep restriction."

According to the authors, this is the largest controlled clinical investigation of the effects of sleep reduction on hormonal regulation of food intake. The results support a causal role of sleep duration on energy intake and weight control.

**More information:** "Short Sleep Duration, Glucose Dysregulation and Hormonal Regulation of Appetite in Men and Women," *SLEEP*.  
[www.journalsleep.org/ViewAbstract.aspx?pid=28697](http://www.journalsleep.org/ViewAbstract.aspx?pid=28697)

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