

Evening exercise will not ruin sleep and might even reduce appetite: study

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Must cook dinner. Need to pick the kids up from school. Have to catch up on my favourite TV series. Live too far from the gym. Any of these sound familiar? With growing time demands, many middle-aged adults

are finding time to engage in exercise increasingly difficult. For many, even the thought of fitting exercise in after a busy day at work can be as tiring as it is unappetising. The standing belief that high-intensity exercise should be avoided in the early evening due to its effect on sleep only serves to act as another barrier to exercise at this time.

However, encouraging new research published in *Experimental Physiology* has suggested that 30 minutes of high-intensity exercise performed in the early evening does not negatively affect subsequent sleep, and may also reduce feelings of hunger.

Researchers at Charles Sturt University in Australia recruited eleven middle-aged men to complete three experimental trials to investigate sleep and appetite responses to exercise performed in the morning (6—7 am), afternoon (2—4 pm) and evening (7—9 pm). Participants were required to perform high-intensity cycling involving six one-minute, maximal intensity sprints interspersed by four minutes of rest. Blood collections were taken prior to exercise and following exercise to examine appetite-related hormones, and multiple tests were performed during sleep to assess sleep stages.

The results not only showed that evening exercise did not have a detrimental impact on subsequent sleep, but also that afternoon and evening high-intensity exercise were associated with greater reductions of the hunger stimulating hormone, ghrelin. It is important to note that a single bout of exercise was not linked to reduced hunger, but nevertheless, the observations from this study support high-intensity exercise early in the evening as a viable time-of day for exercise.

As this study's sample size was relatively small, the findings extrapolated to other [population groups](#) beyond middle-aged men may be limited, given that sleep and appetite regulation are influenced by sex and age.

Penelope Larsen, lead author of the study, commented said:

"In the future, we hope to conduct similar studies recruiting women, to determine whether sleep and appetite responses may be different depending on sex. Also, this study only considered a single bout of [exercise](#); therefore, it would be beneficial to investigate long-term sleep and appetite adaptations to [high-intensity exercise](#) training performed either in the morning, afternoon or evening."

Interestingly, [power output](#) during the sprint efforts was higher for the afternoon and [evening](#) trials compared to the morning trial, indicating that participants were able to perform better during latter parts of the day. Therefore, time-of-day may also need to be considered when planning training schedules."

More information: *Experimental Physiology*,
[physoc.onlinelibrary.wiley.com ... doi/10.1113/EP087455](https://physoc.onlinelibrary.wiley.com/doi/10.1113/EP087455)

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