

People eat more the night before exercise, study finds

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A study into eating behavior and exercise has found that people increase the amount of food they eat the night before a planned exercise session.

Researchers tested a group of recreationally active males, made up of Loughborough staff and students as well as members of the public, and found when they had an [exercise](#) session planned for the next day, they ate an average of 10% more.

However, the increase in [energy intake](#) was not enough to replace all the extra calories used during the exercise session, meaning the exercise session still created a short-term negative energy balance.

Lead author Dr. Asya Barutcu, an early career researcher in the School of Sport, Exercise and Health Sciences, said: "We observed around 10% increase in energy intake the day before subjects planned to complete an exercise session compared to a rest control."

"So, their 'expectation' of different activity, i.e., exercise or rest, led them to eat more in anticipation of exercise.

"However, even though they increased their energy intake by around 10% in the preceding 24-h, this was not enough to fully compensate for the energy deficit created by the [exercise session](#).

"So, engaging in exercise still created a short-term negative energy balance, which might be conducive for [weight loss](#)."

The testing for each trial (exercise or rest) was carried out over two days at Loughborough University.

Each participant was given breakfast (a choice of 21 items including cereal, yogurt, and fruit) and lunch (24 items, including bread, ham, cheese, and tinned tuna) at the nutrition labs, so that their [calorie intake](#) could be monitored.

They were then given an evening food pack—containing 18 items

including fruit, chocolate, crisps, and tomato pasta—to eat at home.

The following day, they returned to the nutrition lab to either rest or exercise. The exercise trial involved 30 minutes of cycling and 30 minutes of running at moderate intensity of 75-80% of each person's maximum heart rate, whereas rest trial involved resting for 60 minutes.

Although the trial did not involve monitoring weight loss, Dr. Barutcu said that the results could be useful for people trying to slim down.

She said: "If you are someone who uses exercise as a means for weight loss, then you may need to be aware of your [food intake](#) and portion size, particularly in the period before you exercise."

"If your food intake increases as a consequence of exercise training, before and/or after a session, then you might not see the results that you are expecting. In our study, the pre-exercise energy intake was sufficient to compensate for ~ 45% of the [energy](#) deficit created by the exercise."

"An element of 'licensing' food intake because of exercise or reward mechanisms might be at play as well."

More information: Asya Barutcu et al. Planned morning aerobic exercise in a fasted state increases energy intake in the preceding 24 h, *European Journal of Nutrition* (2021). [DOI: 10.1007/s00394-021-02501-7](#)

Provided by Loughborough University

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