

Who sweats more: Men or women?

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Sex differences in heat loss responses are dependent on body size and not sex, meaning that larger individuals sweat more than smaller ones during cycle exercise in warm and tolerable conditions. That's what research published today in *Experimental Physiology* shows.

The body cools itself down in two main ways: sweating and increasing circulation to the skin's surface. Body shape and size dictates which of these two is relied upon for heat loss. The study found that smaller males and females with more surface area per kilogram of body mass are more dependent on heat loss through increasing circulation and less dependent upon sweating.

These findings by scientists from the University of Wollongong in Australia and Mie Prefectural College of Nursing in Japan call into question the conventional belief that women and men always respond differently to heat stress.

The scientists looked at skin blood flow and sweating responses in 36 men and 24 women. They performed two trials (one of [light exercise](#) and the other of moderate) at 28 degrees Celsius and 36% humidity. These are conditions where the body is able to mitigate the additional heat produced during exercise and prevent further rises in body temperature by increasing sweating and blood flow to the skin. The same body temperature changes were observed in all participants within each trial regardless of sex.

Lead author Sean Notley said:

'Gender has long been thought to influence sweating and skin [blood flow](#) during heat stress. We found that these [heat loss](#) responses are, in fact, gender independent during exercise in conditions where the [body](#) can successfully regulate its temperature.'

More information: Sean R. Notley et al, Variations in body morphology explain gender differences in thermoeffector function during compensable heat stress, *Experimental Physiology* (2017). [DOI: 10.1113/EP086112](https://doi.org/10.1113/EP086112)

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