

Caffeine tempers taste, triggering temptation for sweets

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Credit: George Hodan/public domain

Caffeine, the widely consumed stimulant and igniter of sluggish mornings, has been found to temper taste buds temporarily, making food and drink seem less sweet, according to new Cornell University research.

Caffeine is a powerful antagonist of [adenosine receptors](#), which promote relaxation and sleepiness. Suppressing the receptors awakens people but decreases their ability to [taste](#) sweetness—which, ironically, may make them desire it more.

The research demonstrates taste modulation in the real world, said senior author Robin Dando, assistant professor of [food science](#): "When you drink caffeinated coffee, it will change how you perceive taste—for however long that effect lasts. So if you eat [food](#) directly after drinking a caffeinated coffee or other caffeinated drinks, you will likely perceive food differently."

Dando, along with lead authors Ezen Choo and Benjamin Picket published, "Caffeine May Reduce Perceived Sweet Taste in Humans, Supporting

Evidence That Adenosine Receptors Modulate Taste," in the *Journal of Food Science*.

In the blind study, one group sampled decaffeinated coffee with 200 milligrams of caffeine added in a laboratory setting, making a strong cup of coffee. The stimulant was added to make that group's coffee consistent with real-life amounts of caffeine. The other group drank just decaffeinated coffee. Both groups had sugar added. Panelists who drank the caffeinated brew rated it as less sweet.

In a secondary part of the study, participants disclosed their level of alertness and estimated the amount of caffeine in their coffee. Further, panelists reported the same increase in alertness after drinking either the caffeinated or decaffeinated samples, all the while panelists could not predict if they had consumed the decaffeinated or the caffeinated version.

"We think there might be a placebo or a conditioning effect to the simple action of drinking coffee," said Dando. "Think Pavlov's dog. The act of drinking coffee - with the aroma and taste - is usually followed by alertness. So the panelists felt alert even if the [caffeine](#) was not there," said Dando.

"What seems to be important is the action of drinking that [coffee](#)," Dando said. "Just the action of thinking that you've done the things that make you feel more awake, makes you feel more awake."

More information: Ezen Choo et al, Caffeine May Reduce Perceived Sweet Taste in Humans, Supporting Evidence That Adenosine Receptors Modulate Taste, *Journal of Food Science* (2017). [DOI: 10.1111/1750-3841.13836](https://doi.org/10.1111/1750-3841.13836)

Provided by Cornell University

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