

You probably already know that processed food is bad for you. Twinkies, after all, are not eaten for health, but for the joy of chewing yellow sponge cake injected with non-perishable cream. But it might surprise you to know that there's never been any real data to back this up.

Most researchers and nutritionists theorized that ultra-processed food makes you overeat, on top of being high in calories, sugar, and fat while being low in fiber. To test that hypothesis, researchers at the National Institute of Diabetes and Digestive and Kidney Diseases recruited 20 volunteers, evenly split by gender, and kept them in a special wing of the NIH Clinical Center for 28 days straight. Nutrition studies are often plagued by having too many variables you can't control for. People who eat more processed foods also tend to have other factors that might influence their health, like having less money to pay for healthcare or less time to spend exercising. Just observing the general traits of folks consuming junk food won't get you to any definitive conclusions—you can only ever get associations.

So instead of just observing what people ate, the NIH researchers prescribed and controlled every single meal, plus the amount of daily exercise the participants got. For the first two weeks, half of the group ate a diet rich in veggies, whole grains, and other unprocessed food, while the other half ate ultra-processed stuff. Every meal contained twice as many calories as the person would actually need to maintain their body weight, and everyone was told to eat as much or as little as they wanted. Then the groups swapped menus for the last two weeks of the study, which was published this week in the journal *Cell Metabolism*.

The most important part of this study, though, is that the meals were matched on their macros. Whether you were on the processed or unprocessed week, each meal had roughly the same number of carbs, fat, protein, fiber, sugar, and total calories. The researchers couldn't match more specific categories, like added sugar or saturated fat, simply because it's hard to find chips and fruit

juice that are as low in those unhealthy nutrients as whole foods are.