

You Are What (and How Fast) You Eat



By *Chuck Dinerstein* — May 28, 2019



Courtesy of Victoria Borodona and Pixabay [1]

The multiplicity of diets and dietary recommendations is all we need to know about the status of our current nutritional beliefs. Part of the difficulty lies in how we characterize our meals, high in protein, high in fat, low in carbs, or fiber filled. An alternative characterization ranks food, from “natural” barely touched, to ultra-processed. A new study compares an unprocessed food diet to an ultra-processed one, and while it is a small study, it may contain a few nuggets of truth.

Unprocessed or minimally processed foods are things we can eat as they are or with minimal preparation, in Michael Pollen’s cartography, they are the foods around the perimeter of the grocery store. Some foods are processed for culinary purposes, like the conversion of olives to olive oil, or evaporating sea water for sea salt; these are ingredients more than foods themselves. Processed foods are the traditional combinations of these culinary ingredients and unprocessed foods, and can be found fresh, canned, bottled, and frozen. Ultra-processed foods are a more hyperbolic version of processed foods, often they are designed [1] – to be durable, ready to eat, and very tasty. They are the convenience foods for a busy lifestyle, and they are often portrayed as one of the, if not the villain in the global rise in BMI.

As the authors state,



“no causal relationship between ultra-processed food consumption and human obesity has yet been established. In fact, there has never been a randomized controlled trial demonstrating any beneficial effects of reducing ultra-processed foods or deleterious effects of increasing ultra-processed foods in the diet.”

They studied 20 men and women confined to the Metabolic Clinical Research Unit of the NIH for 24 days, randomly assigned to either an unprocessed or ultra-processed diet for two weeks and then immediately switched to the other diet for an additional two weeks. They were provided with three meals a day, water and as many snacks as they wished. Diets were matched for total calories, energy density, macronutrients, fiber, sugar, and sodium. Ultra-processed foods contained more added sugar, insoluble fiber, saturated fats, and omega-6 fatty acids. All participants “performed” 3 twenty minute exercise periods daily at a fixed percentage of their “estimated heart rate reserve” – an hour of moderate activity.

- Energy intake was 508 kcal/day greater for the ultra-processed diet, with the calories coming from sugar and fats in roughly equal amounts.
- Protein intake was essentially the same on both diets. One theory holds that we eat to maintain a constant protein level, ultra-processed foods have less protein, and you, therefore, need to consume more of the sugars and fats that come with them to achieve a “maintenance” level. The researchers felt that this under the best of assumptions could account for 50% of the findings, but if we are protein hungry, why not just choose a delightful high-protein snack?
- The ultra-processed diets energy increases occurred predominantly with the most important meal of the day, breakfast, and then with lunch.
- Salt intake with ultra-processed foods was, as you might expect, greater. But there were no real differences in fiber or total sugar
- Ultra-processed diets involved more energy dense foods
- Ultra-processed meals were eaten more quickly, on a per calorie basis, almost twice as fast.

What might we conclude?

It is a small study conducted in a laboratory environment, making the results intriguing but not directly applicable to the real world. Several findings jump out to me. First, ultra-processed foods are often more energy dense than unprocessed foods, especially snacks were ultra-processed treats were almost twice as dense – less filling in that bulk sense, but with more calories. Second, ultra-processed foods were scarfed down, no leisurely meals here. And while that may be a personal preference it does throw off the body’s rhythm, it takes a good 20 minutes for the stomach to signal it’s full; you can pack in a lot of calories, especially when they are energy dense morsel before the buzzer goes off. And finally, the cost of those meals may well make a difference, ultra-processed foods were costed out at \$106/week for 2000 calories a day; unprocessed foods were \$151/week – that’s a 42% difference.

[1] The difference between designed and traditional combinations is about how far back in the past

they were created since both are combinations humans have chosen.

Source: Ultra-Processed Diets Cause Excess Calorie Intake and Weight Gain: An Inpatient Randomized Controlled Trial of Ad Libitum Food Intake Cell Metabolism DOI: 10.1016/j.cmet.2019.05.008

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