

NOVEMBER 2022

WHAT ARE ULTRA-PROCESSED FOODS?

*This piece is a brief summary of the TABLE Explainer **What is ultra-processed food? And why do people disagree about its utility as a concept?** and aims to illuminate key debates surrounding ultra-processed foods.*

What are ultra-processed foods?

The growth in global consumption of ultra-processed food products (e.g. convenience foods, soft drinks, and fast food) over the last several decades has been proposed as a **key driver** of the rise in diet-related non-communicable diseases, overweight, and obesity. Ultra-processed foods (UPFs) are a category of foods in the **NOVA classification framework** developed by Brazilian academic Carlos Monteiro in 2009 to categorise all foods into **four categories according to the extent and purpose of food processing**. The **UPF category** corresponds to what is loosely referred to as 'junk' food, as well as a wide variety of other kinds of manufactured foods (e.g. **industrially manufactured** whole wheat bread) that are considered by many to be compatible with a healthy diet.

According to Monteiro et al, UPFs are characterised by their **convenience**; **energy density**; **high quantities of salt, sugar, fat, and additives**; **lack of dietary fibre and micronutrients**; manufacture using **processes** that cannot be replicated in a domestic kitchen; and **design to maximise corporate profits** rather than promote health. Monteiro et al point to the increased consumption of UPFs as a **leading cause** of the rise in diet-related non-communicable diseases; as such, halting and reversing this trend should be a key objective for public health policymakers.

Debates regarding ultra-processed foods

As the concept of **UPFs** has gained traction in academia, policy circles, civil society, and the media, debates regarding the usefulness of UPFs as a concept specifically and the validity of the NOVA classification framework generally have emerged. Some of the most salient debates regarding UPFs are described below.

Health

Debates regarding the health impacts of UPFs have primarily taken place within the field of **nutritional epidemiology** and centre on whether there is a causal relationship between UPF-consumption and various health outcomes. Critics of the UPF concept argued that the **tools of nutritional epidemiology were generally**

Included in this summary

Health

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The NOVA framework





inadequate for measuring the extent of food processing and thus **demonstrating causal relationships between UPFs and health**. However, recent randomised controlled trials conducted by Hall et al demonstrate that **UPF-consumption stimulates excess calorie consumption**, thus pointing to a potential causal mechanism. Other hypotheses explaining the causal relationship between UPF-consumption and negative health outcomes include the **Carbohydrate-Insulin Model** and the **energy intake rate hypothesis**.

Environmental Sustainability

Although there has been little research on the environmental impacts of UPFs, Monteiro et al argue that **UPFs are interlinked with unsustainable forms of intensive agriculture** whereas minimally processed foods are often produced on small farms in environmentally benign ways. Several **life-cycle analyses** have found that **UPFs have 30-50% higher greenhouse gas (GHG) emissions** than similar home-made meals. However, there are a number of questions regarding the validity of these assertions. First, crops produced for consumption as minimally processed foods (e.g. fresh fruits and vegetables) do not necessarily generate fewer direct environmental impacts than crops destined for use in UPFs. Furthermore, like UPFs, minimally processed foods tend to have high GHG emissions associated with import, long **cold-chains**, and packaging, especially in the Global North. A further complication is that consumers are **unlikely to directly substitute home-made options for UPF-equivalents** and vice versa. In some cases, UPFs may actually contribute to reduced food waste due to their longer shelf life and pre-apportionment. Perhaps the largest gap in the NOVA framework is that meat and dairy products, many of which are minimally processed foods, also have significant environmental impacts. As such, the case of meat and dairy undermines the NOVA framework's proposed correlation between minimal processing and low environmental impact.

Overall usefulness of the NOVA framework

Proponents of the NOVA classification framework believe that how the framework divides all food into four broad categories sheds light on general trends that point to the role and responsibility of segments of the food industry in undermining healthy, sustainable diets. It shifts the focus from **whether an individual food product is healthy based on its nutrient profile**, towards thinking about food's role

in a person's diet, local food cultures, and the broader food environment. Critics argue that the NOVA framework is **imprecise** and question whether the framework contributes much to well understood relationships between health outcomes and diets high in salt, sugar, and fat. The debate surrounding the usefulness of the NOVA framework essentially boils down to whether or not **food processing** inherently has a causal relationship with negative health and environmental outcomes and thus should be the target of public health policymaking efforts.

Conclusion

So, where do these debates leave us? While the merits of the **NOVA classification** system can be debated, it is safe to say that there is an overwhelming consensus that highly processed 'junk' food products represent a large, and growing, threat to global health.

The NOVA framework signifies a shift in the field of nutritional epidemiology away from emphasising the **nutritional characteristics of individual food products** and towards thinking more holistically about diets and food systems, and their relationships to population health and sustainability. However, many of the hypotheses raised by the NOVA framework and its authors (e.g., UPF-consumption erodes traditional food cultures and cooking skills) cannot be answered by nutritional epidemiology alone and requires research from other disciplines such as neuroscience and the social sciences. This fact may point to the roots of many of the controversies regarding NOVA and its implications.

If we accept Monteiro et al's conclusions, perhaps the most difficult question is how should policymakers respond? Widespread adoption of UPFs from the 1980s onwards did not occur in a vacuum: women entered formal employment in ever larger numbers, trade liberalisation efforts gained ground, and government regulatory power was undermined by the growing prominence of **neoliberalism**. As such, UPFs are intimately entangled with questions regarding the structure of the economy and global trade, and the role of government in regulating agrifood corporations and consumer food choice.

Full report is available at: <https://www.tabledebates.org/building-blocks/what-ultra-processed-food-and-why-do-people-disagree-about-its-utility-concept>