

# Consumer perceptions unwrapped: ultra-processed foods (UPF)

A pan-European study from the EIT Food  
Consumer Observatory on consumer  
perceptions of ultra-processed foods



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# Key takeaways and recommendations



# Key takeaways

**Consumers are concerned about the health risks of ultra-processed foods in the long term. However, they lack ability and motivation to avoid these foods.** The term ultra-processed is not yet widely known and many consumers struggle to discern different levels of processing. This is likely because a food's level of processing is not top-of-mind when making food choices.

**Health-conscious consumers are concerned about the nutritional values of UPF and also the 'chemicals' present in them.** However, even the health-conscious believe that in moderation, eating UPF is not a problem and that UPF can form part of a balanced diet.

**The primary motivations for eating UPF are their convenience, price, and taste.** Convenience is comprised of ease of preparation (or no preparation at all) and time taken. Prices of UPF are often seen as lower than less processed foods. Finally, many consumers find UPF, such as junk food takeout, (McDonalds, pizza etc). to be more tasty than home-made food. UPF are also seen as a treat and as a food that offers pleasure and comfort. This is primarily when it's snack food: cookies, chocolates, crisps.

**Consumers generally underestimate how much UPF they eat,** which is likely linked to a lack of confidence in identifying UPF. While 'junk food' is easy to spot, other UPF such as sweetened yoghurts or breads that contain preservatives and emulsifiers are not as commonly identified.

**Plant-based substitutes are seen as examples of UPF, particularly by consumers who do not follow a vegetarian or vegan diet.**

A hyper-awareness of UPF towards the end of the project may have influenced consumers who are less familiar with 'traditional' plant-based substitutes such as tempeh and tofu to label those as UPF as well.

**Altogether, willingness and ability to reduce ultra-processed food is limited.** Most consumers do not see themselves reducing the UPF they eat but hope to keep them in balance with eating less-processed and home-made foods. While health-conscious consumers already reduce, those with fewer means (less time, less money) will not prioritise processing-level when making food choices. While long-term health implications of UPF are being considered by consumers, short-term needs of taste and convenience are prioritised.

# Recommendations

## Recommendations for authorities

- Health institutions and scientists need to define UPF and make more conclusive and substantiated statements about their long-term healthiness as well as short-term healthiness. As consumers are focused on the now, rather than a hypothetical future, health and wellness effects of UPF need to be framed in the present moment.
- Health institutions need to consider how to communicate and educate consumers about what food processing means, what it can look like, and what effects it can have on health (if any). This needs to happen for adults, as well as children in schools.
- While most food recommendations made by governments mainly consist of whole foods (e.g. [Schijf van Vijf in the Netherlands](#), or [the Romanian Food Pyramid](#)) the difference between whole foods and UPF could be emphasised more. Some have been adapted to recommend more plant-based than meat, [including plant-based burgers](#), as long as they meet certain nutritional criteria. National food recommendations need to clarify whether plant-based substitutes are UPF and whether this matters for their overall healthiness.
- Policy can include restricting promotion of UPF. For example, in the United Kingdom, there are plans to restrict or [ban two-for-one junk food deals](#).

## Recommendations for manufacturers and retailers

- Manufacturers of processed foods such as grain-bars or snacks can consider cleaner labels, with fewer 'artificial sounding' ingredients to reduce the association with being UPF.
- Manufacturers of plant-based substitutes need to consider that their perception as UPF is hindering growth. They might want to consider cleaner labels, that do not include additives or transformation of ingredients (e.g. protein isolates).
- Retailers can bring attention to packaged foods that are non-UPF. For example, within the plant-based substitute aisle, basically-processed foods such as tempeh, tofu, or falafel (if applicable) can be marked as non-UPF foods.
- Retailers can decide to not promote UPF products in their discount deals, and instead promote their minimally or even moderately processed equivalents.

# Introduction



# Introduction

Food processing allows manufacturers to increase the shelf life of food and save consumers time and energy from preparing the food themselves. Food processing also contributes to reduction of waste, low prices and in that way can improve the availability of food supply for the global population. However, there are growing concerns that over-processing foods can lead to poor nutritional quality and disease.

These UPF are shelf-stable, convenient, widely available and often cheaper than less-processed or unprocessed food. As a result, in many Western countries these foods make up a significant portion of daily calories. For example, in the UK, UPF account for 56.8%<sup>1</sup> of total energy intake. This is even higher for children 74.9% and adolescents 82.9%.

However, UPF consumption is consistently associated with an increased risk of obesity<sup>2</sup>, metabolic syndrome<sup>3</sup>, hypertension<sup>4</sup>, diabetes<sup>5</sup>, cardiovascular disease<sup>6</sup>, and breast cancer<sup>7</sup>. UPF have also been linked to mental health problems, namely anxiety and depression<sup>8</sup>.

At the same time, there is controversy around what exactly qualifies as a UPF, as food scientists, manufacturers and authorities cannot come to a consensus. For consumers it is even harder to judge which foods are ultra-processed and to what extent they are bad for their health.

It is currently not entirely clear what consumers know about UPF. How familiar are they with this food category, and what influence does it have on their perception of certain foods? Is 'ultra-processed food' in fact a helpful label for consumers, or does it lead to more confusion? Consumer research is needed to answer these questions and to understand consumer awareness and attitudes around this term and these foods.

With this study we therefore wanted to gain deeper insight into consumer awareness and understanding of UPF. The quantitative data has been collected through the Trust Tracker report<sup>®</sup> 2023, in which we surveyed close to 10,000 consumers across 17 countries. The qualitative data was collected in the Citizen Participation Forum, an online community with around 300 members from 17 countries.



# UPF defined

The NOVA classification scheme<sup>10</sup> has been recently developed to group foods into different levels of processing.

The category of UPF is defined as being “formulations of ingredients, mostly of exclusive industrial use, made by a series of industrial processes, many requiring sophisticated equipment and technology”. Additionally, the NOVA definition of UPF includes the purpose of the processing: being mainly to maximise profit with low-cost ingredients and long shelf life.

UPF include what many call junk food:

- Packaged snacks
- Soda
- Sugary cereals
- Energy drinks
- Candy bars

But UPF can also include other packaged foods that are less obvious:

- Ready-made sauces and dips
- Pre-made meals
- Salad-dressings
- Many plant-based substitutes for animal products (e.g. vegan cheese) are also categorised as UPF based on the NOVA system because they typically contain ingredients such as protein isolates, seed oils, emulsifiers, gums, and additives.





# Lack of consensus among experts

The NOVA system is the most used classification system currently<sup>11</sup>, but not without controversy.

It has received criticism<sup>12</sup>, primarily because classifications of products into the different categories are not based on healthiness, but on level of processing. Currently, while the term UPF is used frequently, there is disagreement about which products qualify as a UPF and whether the level of processing is necessarily 'unhealthy'.

NOVA has been criticised for placing plant-based substitutes in the same food category as chocolate bars, even though many are relatively low in saturated fat, sugar, or salt, and contain protein, fibre and are fortified<sup>13</sup>.

Finally, a recent study which asked food and nutrition specialists to assign a list of products into the four categories found that they were very inconsistent with their evaluation<sup>14</sup>.

In other words, the definition of UPF is not entirely clear, even among experts.



# When is a product an ultra-processed food?



# Majority of Europeans struggle to identify how processed different products are

European consumers both over- and underestimate how processed various food products are.

Energy drinks are the item that is most often correctly categorised as ultra-processed, by over half of European consumers (61%). The second most correctly identified categorisation is for raw eggs as unprocessed. (59%). However, another 41% classify eggs as having gone through at least basic processing.

Other unprocessed or minimally processed foods tend to be generally estimated as more processed than they are by about three quarters of consumers (coffee beans, raw chicken pieces, milk).

Cheese is correctly identified as a moderately processed food by 39% of Europeans, while it is identified as a UPF by 16%. Finally, one in ten (9%) believe that cheese is unprocessed or minimally processed.

This indicates that a substantial number of consumers do not completely understand what processing means and the different gradations it can have.

*"I did not think it was a processed product, as it is...cheese, I can't imagine how it could be processed, so it didn't matter." - Alexandra, 29, Romania*

In general, processing is seen as something that happens in factories, and alters food in a way that may be tastier and convenient but less healthy, for example by adding artificial additives.

*"When I think of processed food, I think that the food is full of preservatives and taste enhancers. Plus a pre-cooking process that depletes their vitamins."*  
- Corina, 46, Romania

# Processing is associated with industry, not traditional food preparation

As most consumers conflate processing with highly processed foods (UPF) and not basic processes that take place in an average kitchen (e.g. chopping, peeling, mashing) there is also little room for association with other traditional processes.

Only two or three participants associate artisanal or traditional foods with processing: wine, sourdough, sauerkraut, kimchi.

*"What about fermented vegetables, olive oil, flour - they are processed produce too. I think you have to look to how and the degree of processing." - Benny, 63, Denmark*

*"Fermented vegetables are also processed, but they have the advantage that I get very good intestinal bacteria after fermentation and they are good for my health." - Wolfram, 69, Switzerland*

Processing is more complicated in the mind of most participants, and something that can only happen in an industrial setting.

*"I don't know exactly what this term means but I think it includes food which is made in industry, and it contains a lot of not 'normal' ingredients." - Zuzana, 27, Czechia*



# Many recognise that some foods are 'more' processed than others, but which?

When asked specifically, many consumers explain that UPF are 'more' processed than simply 'basic' processed. They know there is a difference between pre-made meals and sodas compared to minimally processed foods. UPF are processed to a different extent - more extensively, they are highly manipulated, and go through multiple processes.

UPF contain ingredients which aren't present in basic or moderately processed foods, such as: artificial flavours, sweeteners, preservatives, emulsifiers and any other additives.

*"Frozen vegetables preserve their vitamins and have no preservatives. On the other side frozen lasagne for example is clearly an UPF." - Solange, 43, Spain*

*"[In UPF] In the ingredients there are some substances which are not available in a natural world." - Philippe, 55, France*



# Processing is not top-of-mind when making food choices

While two thirds of Europeans (67%) say they do not like unknown ingredients in their food, slightly over half (56%) try to avoid processed foods.

Europeans who generally make healthier food choices are much more likely to avoid them (77% vs 23%). There is a group of consumers who may not like these ingredients in theory but does not put effort into avoiding them.

While food processing is seen as important, it is not top-of-mind when making most food choices. When participants are asked to recall a new food they tried, most of them did not consider the processing level of this food.

*"I didn't think about whether the noodles were a processed food or not because I just didn't think about it at the time." - Ismail, 47, France*

Most cited reasons for this include the limitations in food choice (i.e. only option available), the appeal of the food, or having had the intention of trying this food for some time already. However, for many, taste is the biggest influence on food choice

*"I tried bao bun. It was my first time. I hadn't thought about [whether it was a] processed food. I just wanted to try it." - Georgia, 32, Greece*

Particularly when food choices need to be made under pressure, when in a hurry and hungry, consumers are more likely to opt for a tasty, convenient UPF than a food that needs preparation.

*"While I was at the supermarket, I didn't consider that it was soooo processed, I was hungry and, in a hurry, so everything would have been ok in that moment."  
- Vanessa, 29, Italy*

For others, the level of processing is irrelevant because they see that all foods are processed anyway.

*"This was so obviously processed so I didn't think more about it. It didn't matter. Every food is processed one way or another." - Nea, 29, Finland*

# Drivers and triggers of eating UPF

Why do people choose UPF?



# UPF are a largely invisible part of most consumers' diets

In our survey only 16% of European citizens claim that they eat UPF 5 times a week or more. This shows that while UPF are ubiquitous, they are sometimes invisible in consumers' everyday food choices.

Young Europeans (18-34) are more likely than older Europeans (35-54 and 55+) to say that they eat UPF on a daily basis (12%, 9% and 4% respectively).

However, as we see in our community, for most consumers, UPF are an integral part of their diet. Whether it is morning cereal, grain bars, cookies, instant noodles, frozen pizza, or sodas, many more consumers eat UPF on a daily basis, more often than they are aware of or willing to admit.

*"I have been accustomed since childhood to eating or drinking UPF, therefore, although I realise that these are not foods free of substances that are not always healthy for the body, I no longer give much importance to their nature." - Alessandro, 42, Italy*

*"Ultra-processed foods are practically always present in our daily lives" - Antonino, 29, Italy*

There is a small group of very health-conscious participants who are better at recognising UPF over other processed foods.

This group avoids UPF in their daily diet but allows them every now and then, usually as a treat, or when other options are not available.





# Convenience is the most often cited reason for eating UPF

In our survey we found that under half of European consumers (41%) believe that UPF are more convenient compared to minimally-processed foods. Consumers who choose healthy foods often are more likely to agree with this (49%) than those who seldomly choose healthy foods (33%).

Convenience is about saving time in the kitchen and when food shopping. UPF are often near-instant to prepare, sometimes only needing to be mixed, or heated up. Considering the time it takes to peel, chop and cook, UPF are prepared in a fraction of that time. In addition, the longevity of fresh foods is lower which requires going to the shops regularly, whereas UPF can be stored in the kitchen for much longer.

*"Often UPFs are a real lifesaver for a person who works 6 days a week and dreams of finding something easy and ready when he comes home in the evening."*  
- **Stefania, 39, Italy**

*"They really save us a lot of time in the kitchen due to their easy preparation..."*  
- **Eduardo, 42, Spain**

Convenience is also about relaxing and not having to worry about what to buy and cook. UPF are often readily available in consumers' cupboards and freezers to be picked up during a busy day where there is less time and energy for cooking.

*"Sometimes I can't resist foods like frozen lasagna or pre-cooked fries. When I am really busy, they save my time and help me relax."* - **Corina, 46, Romania**

For some participants, eating a supermarket 'UPF' is the lesser evil when deciding whether to get take-out or eat a ready-made meal. It is cheaper, convenient if already in their kitchen, and for some it is seen as the healthier choice.

*"I don't think it matters that much for this food since it is an occasional food used only to hinder 'worse' food intake. Food that you can just put in the oven is very nice if a day has been hard or if you are just low on energy and want to avoid ending up ordering takeout."* - **Rune, 36, Denmark**

# UPF are the most convenient food for on-the-go

Convenience is also about being able to easily take foods on-the-go, for example ready-made snacks.

Many consumers spend large chunks of their days out of the house. Packing food to eat when not at home requires time and preparation which isn't always prioritised or possible. As a result, when on-the-go, many consumers opt for UPF. This primarily includes readymade snacks, like granola-bars, biscuits, or flavoured yoghurt.

*"I tried the Cliff bar on my last trip abroad. I knew it was processed, but it did not matter, as I cared more about the convenience for the hiking."*

– Alzabeta, 53, Czechia

*"When I'm at work I often eat a packaged biscuit as this is easy to take with me."*

– Jolien, 24, Belgium



# UPF can taste better than the homemade version

*For some consumers UPF are not only very convenient, but they taste better than the version they would prepare from scratch.*

*"To be totally honest, most - if not all - processed foods are much tastier. Especially snacks." - Giota, 50, Greece*

*"I've tried to make them myself, but I like the prefabricated ones better." - Connie, 49, Denmark*

For others, UPF may not always taste better than homemade food, but they allow to eat foods they cannot make themselves. These foods would be possible to make, but take much longer, require skills or equipment that is not available at home.

*"Since I didn't want to make bao buns completely from the start I didn't have another choice than buy a processed one." - Hanna, 30, Finland*

*"There's no way to eat that dish unless it's already made because I don't know how to make it by myself." - Samuel, 39, Spain*



# UPF are treats used to celebrate or improve one's mood

There are certain social and emotional conditions that make avoiding UPF more difficult.

UPF are seen as a treat and a celebratory food when celebrating, having fun with friends, or around the holidays. In those moments they are chosen primarily for their taste. Consumers accept that what they are eating is not healthy, but health is not a relevant concern in that moment.

*"Without forgetting products like chocolate, desserts that I would describe as 'pleasure' products.... certainly not healthy to eat but which provide so much pleasure that they would be a shame to do without them." - Christian, 61, France*

*"Let's say that ultra-processed foods are also to be considered as synonyms of joy and light-heartedness in particular moments like an informal meeting with friends." - Antonino, 29, Italy*

UPF are also seen as foods that provides comfort in difficult moments, when people are feeling down or tired. Consumers choose UPF snacks and meals to help them improve their mood.

*"I try to cook healthy, but I don't resist the occasional use of ready-made meals and their immediate consumption for my comfort and improved mood." - Alice, 30, Czechia*



# UPF are seen as cheap in general but expensive relative to their value

European citizens have mixed opinions on whether UPF are more affordable than minimally processed foods. About half of European consumers (49%) consider UPF to be more expensive than minimally processed food.

On the one hand, Europeans view UPF as generally cheap. They notice that it is often cheaper to buy pre-made foods than fresh foods.

*"Of course, UPF is very affordable. Self-prepared food, e.g. pizza made from scratch with fresh ingredients, is very unaffordable in comparison to frozen ones."*  
– Beata, 55, Poland

*"Natural and untreated products are the most expensive of all, while many processed supermarket products are super cheap."* – Stefania, 39, Italy

However, some consumers note that this is not true for all UPF. Especially considering value (e.g. nutrients) for money, many consumers also find UPF food to be relatively less affordable.

*"Fast food or TV-dinners are cheap - you can't make the same from scratch for the same price. However, I think that the moral or health price-tag is expensive."*  
– Benny, 63, Denmark

*"They can be often quite expensive, despite them not being nutritionally valuable e.g. convenience meals to reheat/microwave often come at a cost."* – Eileen, 32, Ireland



# UPF are present in everyone's kitchen...

For many consumers, eating UPF is not limited to social events, but are a regular occurrence at home. Many participants mentioned eating UPF snacks while they watch TV or relax on the couch.

*"I am definitely more likely to eat these products while watching TV and travelling. Or when I don't feel like cooking and just want to prepare something quick, because some UPF are often easily available." - David, 46, France*

UPF are often readily available in most participants' kitchens. As they looked into their pantries and fridges to consider which foods they have that are UPF, many participants shared photos of snack foods, drinks, condiments and sauces, bread slices and crackers, and pre-made meals.

*"Oh, it's quite eye-opening when you take a closer look at what's in your pantry! Surprisingly, a majority of items in my stash are indeed classified as ultra processed foods." - Philip, 36, United Kingdom*



## Pictures participants shared



*"I believe it is UPF because the foods I have chosen have been processed a lot and the original state of their ingredients has completely changed, combined with preservatives and other substances, to make them more commercial."* - Giannis, 41, Greece



*"A snack, cheese puffs, which is not a real French fry but a mixture of flour, palm oil, melted cheese powder, flavorings and glutamate. The simple basic product is actually little, the cheese only a small percentage."* - Chiara, 44, Italy

# ...but they are even harder to avoid outside the house

Outside the home, consumers have less control of their food environment and the choices they can make.

Unless they leave their home prepared, they likely must buy food on the go and very often the options are limited to UPF.

*"Outside the house you have more chance to be in direct contact with UPF and of course I succumb easily." - Bernard, 57, Belgium*

*"Most of the time I cheat when I go out and I don't have many alternatives." - Alexandra, 29, Romania*

UPF are very easy to access at retailers, supermarkets as well as neighbourhood shops. These shops, which for many are easier to reach than supermarkets, often hold a smaller selection of products, most of which need to be shelf-stable.

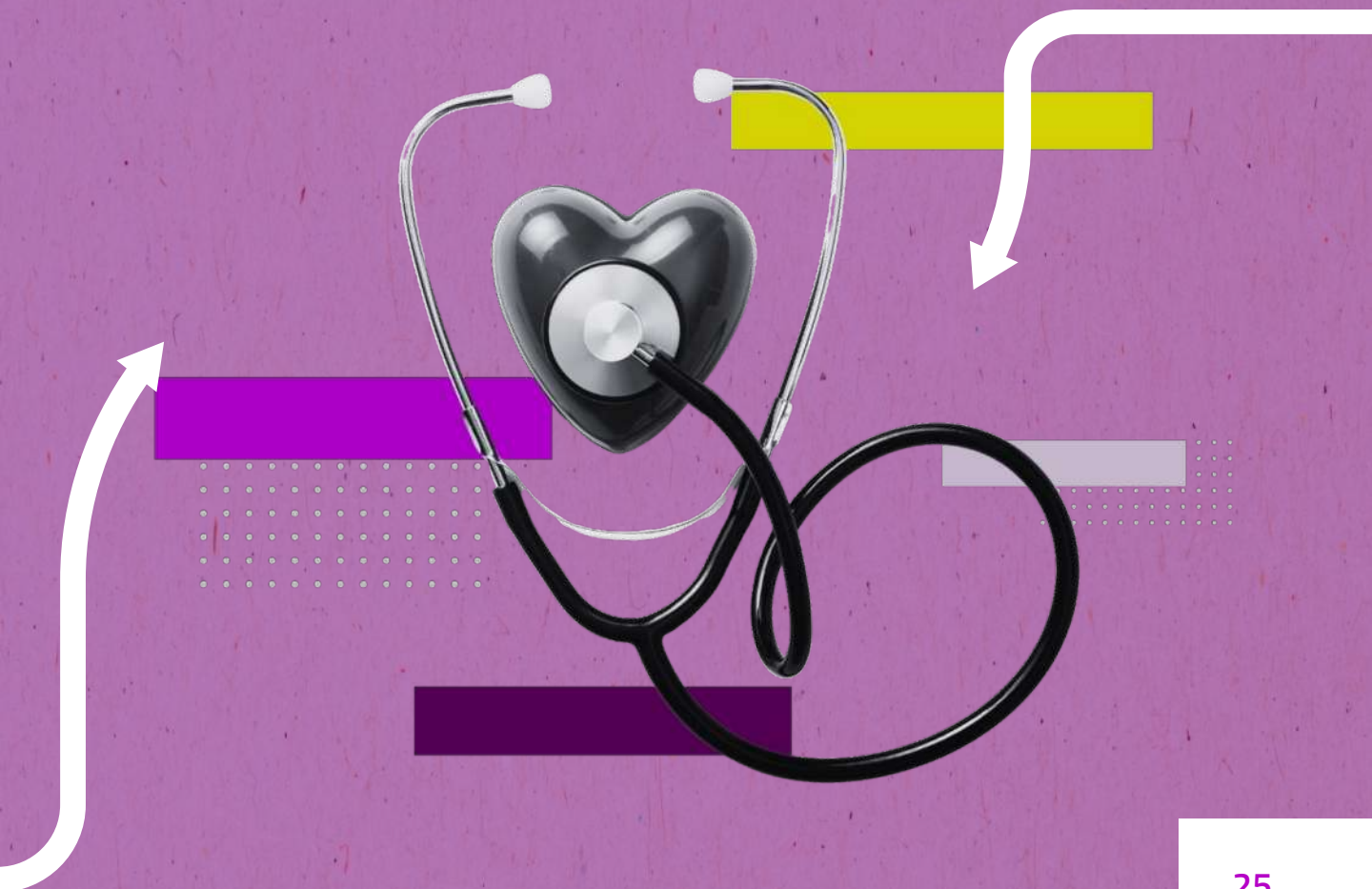
*"You always have these products available at your local store, when you need them." - Samuel, 39, Spain*





# Concerns about ultra-processed foods

While ultra-processed foods are very affordable, consumers believe they are paying a different price on the long term.



# Europeans consider UPF hazardous for their long-term health

Most Europeans believe that UPF contribute to obesity, diabetes and other lifestyle-related health issues (67%) and that they will cause health issues later in life (65%).

Europeans who say they eat mostly healthy foods are much more likely to believe this (81%) compared to those who say they rarely or never choose healthy foods (40%).

*"I am convinced that certain diseases come from UPF." - Wolfram, 69, Switzerland*

This belief is grounded on different aspects.

On the one hand some consumers believe that since the ingredients are no longer in their natural form, they cannot be healthy.

*"They are not healthy; being so heavily processed cannot be beneficial for health. Anything that is not natural is not good." - Eduardo, 42, Spain*

For many, it is the presence of 'chemicals' in the food.

*"I would like to reduce the UPF because it seems to me that I eat too many chemicals." - Dan, 28, Romania*

*"They might have too many added things that aren't good for our health, like preservatives or colours. Cutting down on UPF means potentially easing the burden on the healthcare system from obesity, heart disease etc." - Philip, 36, United Kingdom*



# As UPF replace 'real foods' they take away nutrition

For others, the healthiness concern is related to their nutritional composition: UPF generally contain more calories and higher levels of fat, sugar, and salt, and lower levels of fibre, vitamins and minerals.

*"They are not healthy, they have a lot of fat, a lot of sugar and a lot of salt. In their processing, they also lose their precious ingredients, the minerals and vitamins they have." - Kokkoni, 53, Greece*

There are consumers that are not as concerned about the 'bad' nutrients found in UPF but are worried that if they replace 'good' foods regularly, the result is a lack of nutrients.

*"The main drawback of processed food is generally a lack of any meaningful nutrition in the product." - Brian, 64, Ireland*



# Not all UPF are equal: some UPF are healthier than others

Just under a third of consumers believe that UPF can be healthy (31%) while another quarter do not agree nor disagree with this statement.

Europeans who choose healthier foods more often are somewhat more likely to agree with this statement (35%) versus those who seldom eat healthily (26%).

A proportion of consumers do not believe that all UPF are equally (un)healthy.

*"I don't think every ultra-processed food is unhealthy, and there are more and more 'healthy' options of UPF so I don't necessarily have to choose between convenience and nutrition." - Kamilla, 28, Hungary*

This depends on the level of processing but also on the exact additives that are included in the manufacturing of this food. In other words, some additives are not as harmful as others.

*"UPF are unhealthy. But I believe that some foods are more harmful to health than others. It all depends on the number of processes, and the chemicals added." – Lilian, 49, France*

UPF that have added minerals and vitamins are seen as less unhealthy than those that do not.

*"Also it is possible to add beneficial additives in processing for example vitamins and minerals." - Tuuli, 47, Finland*

When considering the worst 'offenders', consumers think of the obvious fast-foods: cookies, crisps, other deep-fried foods. However, UPF that are day-to-day foods, such as sliced bread, flavoured yoghurt, are not perceived as being as bad.

*"UPF are healthy or unhealthy, it depends. Chips are not healthy, but strawberry yogurt is not harmful I think." - Beata, 55, Poland*

# UPF can be part of a balanced diet, if not eaten daily

Even though participants do not think processed foods, and UPF specifically, are good for their health, many of them do believe that they can play a role in a balanced diet.

Even though vegetables and whole foods are the priority, there is space for sweets, going out to dinner (seen as less healthy than home-cooked meals) and sometimes pre-made meals.

*"It's always good to avoid processed food but if I sometimes happen to eat UPF I think that it's not such a big deal." - Vanessa, 29, Italy*

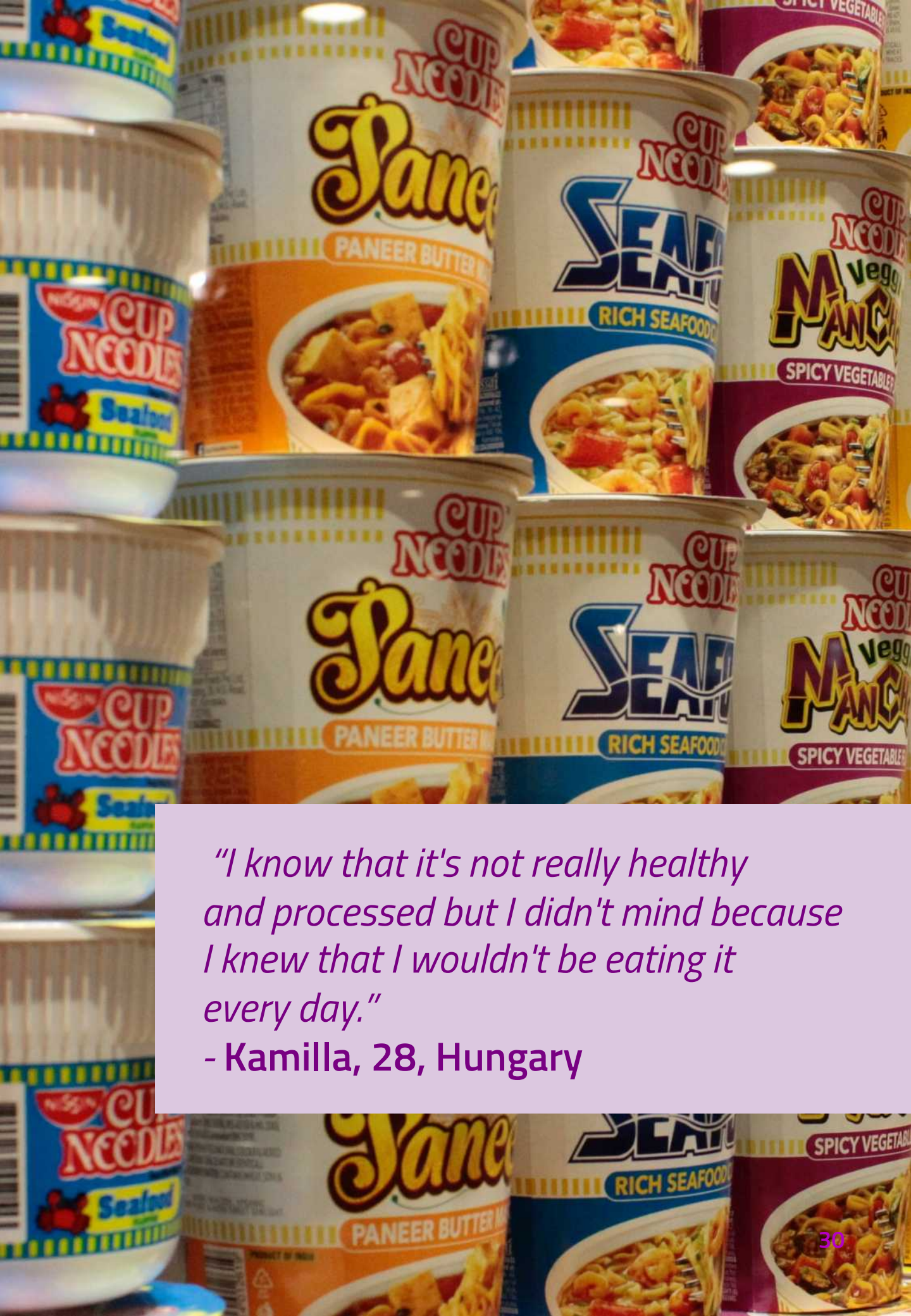
Most participants are satisfied with their diet as long as it does not contain UPF every day, or if UPF ingredients only make up part of their meal. For most consumers it also does not appear to matter very much if the UPF they consume is a meal, a drink, or a snack. Practically everything is allowed in balance and moderation.

*"I don't think I avoid any foods for being processed, when it's part of a varied and healthy diet I don't see harm in eating processed foods. Sure, all natural foods would be healthier but not really doable for me personally." - Ferry, 33, Netherlands*



*"I think in general one can assume it is unhealthy. However, if you eat it with moderation, I would say it is not as bad." - Bart, 41, Ireland*

Based on the examples participants gave, it becomes clear that when they talk about balance, they mean only avoiding the obvious UPF (i.e. junk food), and do not consider the 'invisible' everyday UPF.

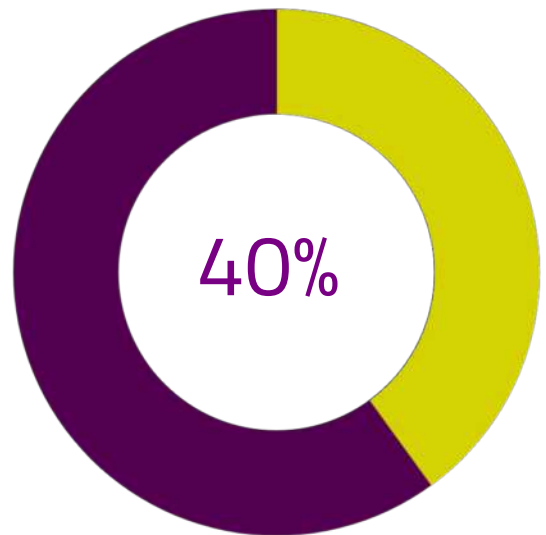
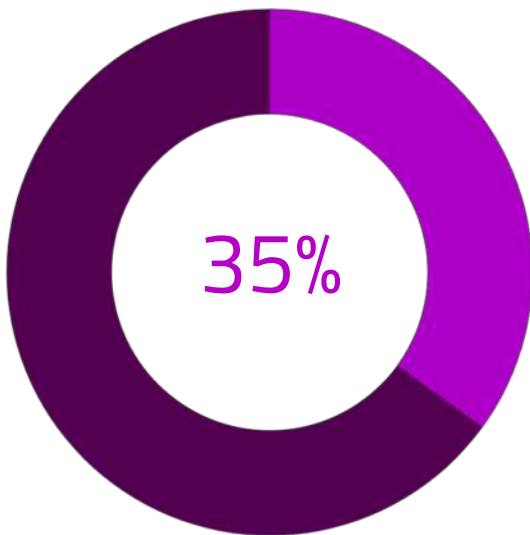


*"I know that it's not really healthy and processed but I didn't mind because I knew that I wouldn't be eating it every day."*

**- Kamilla, 28, Hungary**

# Consumers do not trust that UPF are regulated well enough by authorities

Only about a third of European consumers (35%) trust that UPF are safe to eat because there are health and safety regulations.



Another 40% disagree with this statement.

Even though four in ten Europeans do not trust that UPF are well enough regulated by authorities to be safe and healthy in the long term, they do buy and consume these products.

# (Un)sustainability of processed food

Processing is sustainable, but 'ultra'-processing, not so much





# Most Europeans do not perceive UPF to be sustainable

Slightly less than a fifth of European consumers view UPF as sustainable foods (17%), while 60% see them as bad for the environment. European consumers who eat more sustainably are much more likely to consider UPF to be unsustainable (74%) compared to those who do not choose sustainable foods (44%).

This perception seems to be related to the idea that food that comes straight from the ground is sustainable, while anything that requires processing in a factory is by definition, unnatural and therefore not sustainable.

*"Highly processed foods cannot be sustainable in my opinion. Adding strange-sounding additives to food certainly does not make it healthy or sustainable."*  
- Kasia, 31, Poland

UPF are seen as foods that require more resources to be produced than whole foods, or minimally processed foods. When discussing exactly why UPF may be less sustainable, pollution also comes to the forefront. Processing in a factory is seen as a polluting activity.

*"I think that UPF is not sustainable because we use a lot of energy and resources to make them."* - Zuzana, 27, Czechia

Particularly junk-food UPF are not seen as being at all concerned with the environment and therefore, they cannot be particularly sustainable.

*"I think UPF are not sustainable as it does not have consideration on the environmental impact."* - Daniel, 34, Czechia

Similarly, the fact that UPF contain many different ingredients, that may come from different places in the world, are manufactured elsewhere, and then are shipped for consumption to another place adds to the negative environmental footprint, in consumers' perception.

*"I think UPF is unsustainable. A lot of the time, these countries use ingredients from different locations and are then shipped out to different locations again. So, your food can have made multiple transport trips." - Bart, 39, Ireland*

However, for others, UPF can be considered sustainable if it meets certain criteria, for example sourcing ingredients sustainably or having reusable or recyclable packaging.

*'I think that not all UPFs are created equal, and some may have better sustainability profiles than others. For instance, products with responsibly sourced ingredients, eco-friendly packaging, and fair labour practices in their production might be considered more sustainable.' - Stefania, 41, Italy*



# Basic processing does make food more sustainable

Processed food is generally not considered unsustainable by consumers, but the level of processing matters.

Food that has gone through minimum processing does not necessarily need to be less sustainable than whole food. In fact, basic processes such as freezing, canning, and smoking are seen as beneficial for sustainability. One of the reasons for this is that food can be kept longer and is shelf-stable.

*"Some canned products can be stored and last a long time in emergency situations, for example. Smoked foods also keep longer, like fish." - Daniel Remi, 28, Ireland*

Another added benefit is that UPF can be transported easily, making non-local foods globally available.

*"Frozen fruits and vegetables are processed foods that allow you to eat them anywhere in the world, in any season. So that's a big advantage." - Lillian, 49, France*

*"Processing makes lots of types of food accessible for us that wouldn't otherwise be available locally." - Kamilla, 28, Hungary*

This also offers food security, particularly in places in the world where food may be less accessible.



*"The point is that we cannot get rid of processed food. There are too many people to be fed all over the world, hence the food industry. And this might be seen as a plus - avoid starvation." - Corina, 46, Romania*

# Plant-based substitutes

Plant-based substitutes are more often perceived as UPF by those who do not eat them



# About a third of consumers considers plant-based substitutes to be UPF

Plant-based substitutes (vegetarian chicken pieces and vegan cheese slices) are seen as UPF by about a third (36% and 34%) of European consumers.

Additionally, these were more likely to be seen as UPF compared to their animal-based originals in our survey.

Vegans are less likely to consider vegetarian chicken pieces as UPF (28%) than vegetarians (39%) and omnivores (36%).

Vegan cheese however is seen as UPF by more vegans (30%)



*"I would say, plant-based cheese is for sure UPF since it has to have multiple additives to attain the structure, mouthfeel, and taste of cheese." - Rune, 36, DK*

*"I think that plant-based cheese slices, vegan egg replacement, and vegan chicken nuggets are definitely UPF." - Beata, 55, Poland*

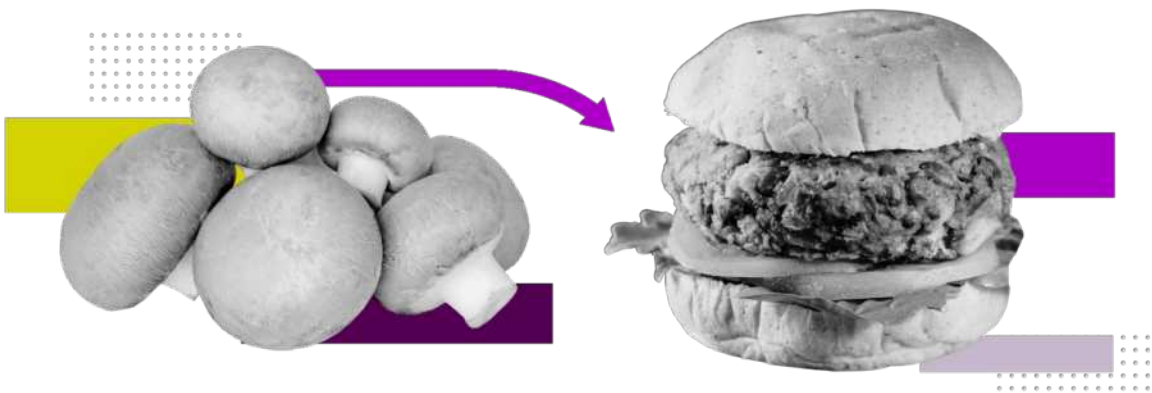
# Half of Europeans avoid plant-based substitutes because they're UPF

About half of European consumers do not eat plant-based substitutes because they want to avoid UPF.

*"To be honest, my main concern about plant-based substitutes is the risk of UPF. It's not clear in my mind if these are really healthy." - Philippe, 55, France*

However, consumers who eat plant-based replacements are less likely to believe that the fact that they are UPF means they are necessarily less healthy.

Vegans and vegetarians are less likely to avoid plant-based meat because they are UPF (40% and 43% respectively) compared to consumers who do not follow a form of plant-based diet (between 53% and 61%).



*"I think that all of these are ultraprocessed, because they undergo lots of different 'industrial' processes and have added ingredients. I don't think just being ultraprocessed or not is in comparison with healthiness or being sustainable, it's more the way they are made." - Kamilla, 28, Hungary*

Higher familiarity and trust of plant-based substitutes was related to consumers doubting that UPF are necessarily unhealthy.

*'I think almost all the vegan substitutes are UPF. And because of that now I'm questioning myself about how unhealthy all the UPFs are. In the end it seems like all UPF might not be that unhealthy after all.'* - Hanna, 30, Finland

# Environmental impact of plant-based meat is not persuasive to most

Furthermore, only a quarter of European consumers (27%) are motivated to eat PBM because of their low environmental impact.

*"Most vegan products are highly processed. It matters that they are ultraprocessed, that's why I don't buy or consume them. They are not healthy [...] they are not sustainable either." - Eduardo, 42, Spain*

*"UP also matters when speaking about plant-based substitutes. Ultraprocessing can influence the healthiness and sustainability also for them." - Andrew, 39, Hungary*

Vegans and vegetarians (both at 60%) are more likely to say that they like to eat plant-based meat replacements because they are better for the environment than meat, compared to omnivores (23%).

*"Compared to real meat it will be more sustainable." – Michael, 32, Netherlands*

Consumers who eat plant-based meat and other plant-based substitutes are generally positive about their environmental impact. For these consumers, the environment is a motivation to eat these products.

*"I think most plant-based substitutes are UPF products, but still healthy and more sustainable than the same product as the meat version. The processing takes resources, but the raw material uses much less resources than meat does. I use plant-based products for various reasons, but sustainability is one of those too." - Tuuli, 47, Finland*



# Knowledge about traditional substitutes influences perception

Consumers who are more familiar with traditional plant-based substitutes, such as tempeh and tofu, are less likely to classify those as UPF.

*"Some products aren't so processed, e.g. tofu or tempeh - they are created in the fermentation process, that's a natural process."* - Katarzyna, 30, Poland

*"Tofu, homemade bean-burger, tempeh, falafel, and the like usually involve more straightforward processes without the crazy additives, keeping it closer to the source."* - Philip, 36, United Kingdom



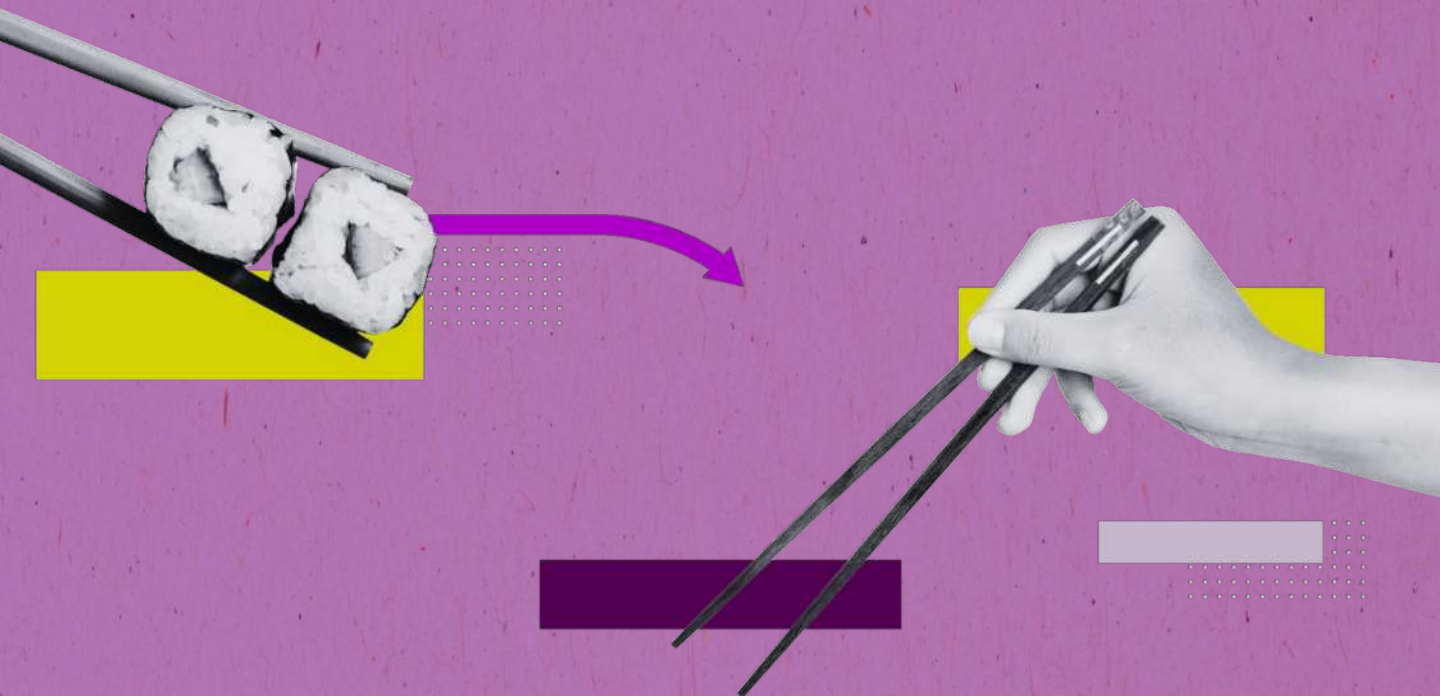
However, consumers who are less familiar with these products were more likely to classify them as UPF, just like they do with plant-based meats.

*"I think falafel is ultra-processed. Indeed, we do not find it as it is in nature."* - François, 43, Belgium



# Friend or foe in the future?

Why do people choose UPF?



# Reducing UPF is not a realistic scenario for most

Many participants are content with the amount of UPF they eat.

They accept that it is not the healthiest food, but the taste and convenience of UPF foods is too much of a benefit to give up.

*"The main reason I am not inclined to reduce ultra-processed food (UPF) in my diet is rooted in convenience. The ease of having ready-to-eat options within minutes aligns with my preference for time efficiency. The convenience of avoiding meal preparation and minimising dishwashing provides me with more time for other activities, making the appeal of UPF difficult to disregard."* - **Andrew, 39, Hungary**

Others do not feel like they have an alternative to UPF. Cooking from (near) scratch is simply not an option in their household. It takes energy, time, and knowledge, and not everyone possesses all three.

*"I haven't thought of reducing how much UPF I eat, and it's not likely I will. I'm a single parent so time is of great value for me due to the fact that there's only one adult in my household."* - **Connie, 46, Denmark**

*"It is very difficult. Families in low social status, don't have money or energy, to cook all meals from scratch."* - **Hanne, 56, Denmark**

Others want to change but feel like they cannot resist UPF. Due to taste and convenience, UPF are too tempting to avoid altogether.

*"I feel a bit trapped. On the one hand, I know that I should choose healthy eating. However, unfortunately, many products tempt in many respects, such as taste and ease of preparation. There is a desire to change, but I am afraid that it will be short-lived."* - **Anna, 33, Poland**

*"Even though I am aware of how bad it is for the health, I can't avoid it."* - **Galia, 48, Belgium**

Finally, there is the aspect of price. Certain UPF are more affordable, which makes it very difficult for consumers with lower means to buy minimally processed foods instead.

*"I think it would be difficult to really make people reduce UPF, some are just comfortable with these products and don't want to give them up, some can't afford more quality products."* - **Eliska, 21, Czechia**

# The health-conscious already reduce (a bit)

European consumers who are generally less health-conscious are more likely to eat UPF daily (14%) than those who are health-conscious (6%).

Both these groups likely underestimate the amount of UPF they eat, considering what is known about UPF consumption habits <sup>1</sup>.

Consumers in our community who are health conscious say they are also less likely to eat UPF, primarily due to their lack of nutrition and high levels of sugar and fat.

*"I think that I tried to avoid unhealthy food in common and most of them are UPF."*  
- **Zuzana, 29, Czechia**

Others would like to eat healthily and the realisation that they eat more UPF than they had realised makes them feel like they need to make a change.

*"I have to recognise that it makes me feel mad but also guilty for not knowing all this information and my family and I eat so unhealthy food."*  
- **Nitu, 38, Romania**

But even for those who have already put an effort into eating fewer or no UPF, it is not easy.

*"I made everything fresh. Homemade broth, tomato sauce. It was very difficult to keep this up. This takes a lot of time and its expensive."* - **Xenia, 36, Belgium**



# Hungry for more information

A group of more conscious consumers who are interested in improving the healthiness of their diets believe that more information is necessary to really be able to distinguish between healthy and less healthy foods.

And more specifically, which foods are UPF rather than just processed.

*"From my point of view, we need a bigger source of information for society about what PF's and UPF's really are, what makes them bad, and which ones are less harmful?"*  
- Philip, 36, United Kingdom

Others discuss the need for this kind of education in school. They see it as the role of the educational system to make sure children know what healthy food looks like, as well as why it is important.

*"I think we should start with the basics and teach children what is good and what is not for health."* - David, 46, France

*"I really believe education in schools is key - it will take a while to make an impact, but it is something we cannot ignore any longer."* - Paul, 37, Ireland

For others, school is only part of the solution. For children to eat healthily, they need to learn from their parents. This provides information as well as learned experience and habits.

*"It is already necessary to educate children in this sense at school but also at home... Children are also a reflection of parents in their diet..."* - Nathy, 49, France



# A traditional and community-based food culture is wanted by some

Next to healthiness of home-made food, a few participants mentioned the importance of having a traditional food culture.

*"I would try to reduce how much UPF the citizens in my country eat, from a health perspective but also to make sure we keep certain traditions and local knowledge." - Bart, 39 Ireland*

Another related aspect that a few participants mentioned, is the community and social interaction that takes place when people cook together.

*"Bringing back the social interaction of people cooking real food together and enjoying it rather than settling for ready-made, mass-produced bland foods." - Alan, 65, United Kingdom*

While on the one hand there is a group of people who seek out maximum convenience for food, there is a group who wants to spend more time preparing food. While this is time-consuming, it can offer benefits other than health and taste: connection with others through food. Participants feel that they miss out on this when they get ready-made meals.



# About the study

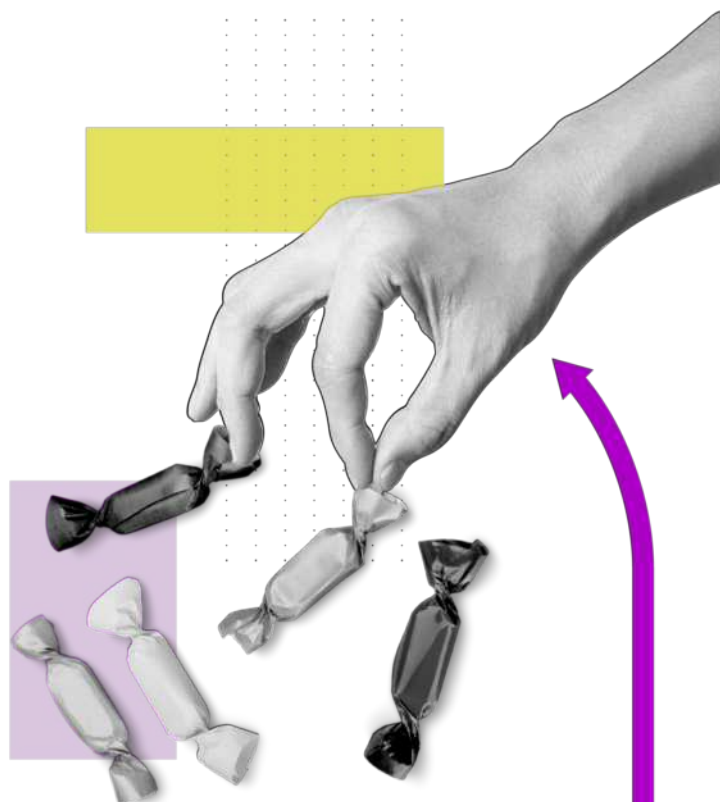


# Aim and purpose of the study

Despite debate about what qualifies as a UPF, the term has become more commonly used in the last few years to replace 'junk food'.

With this study we wanted to gain deeper insight in consumer awareness and understanding of UPF.

We want to find out how healthy and sustainable they perceive UPF to be, under which conditions they consume them and whether they are happy with their levels of consumption or want to reduce them.



# Set-up of the study

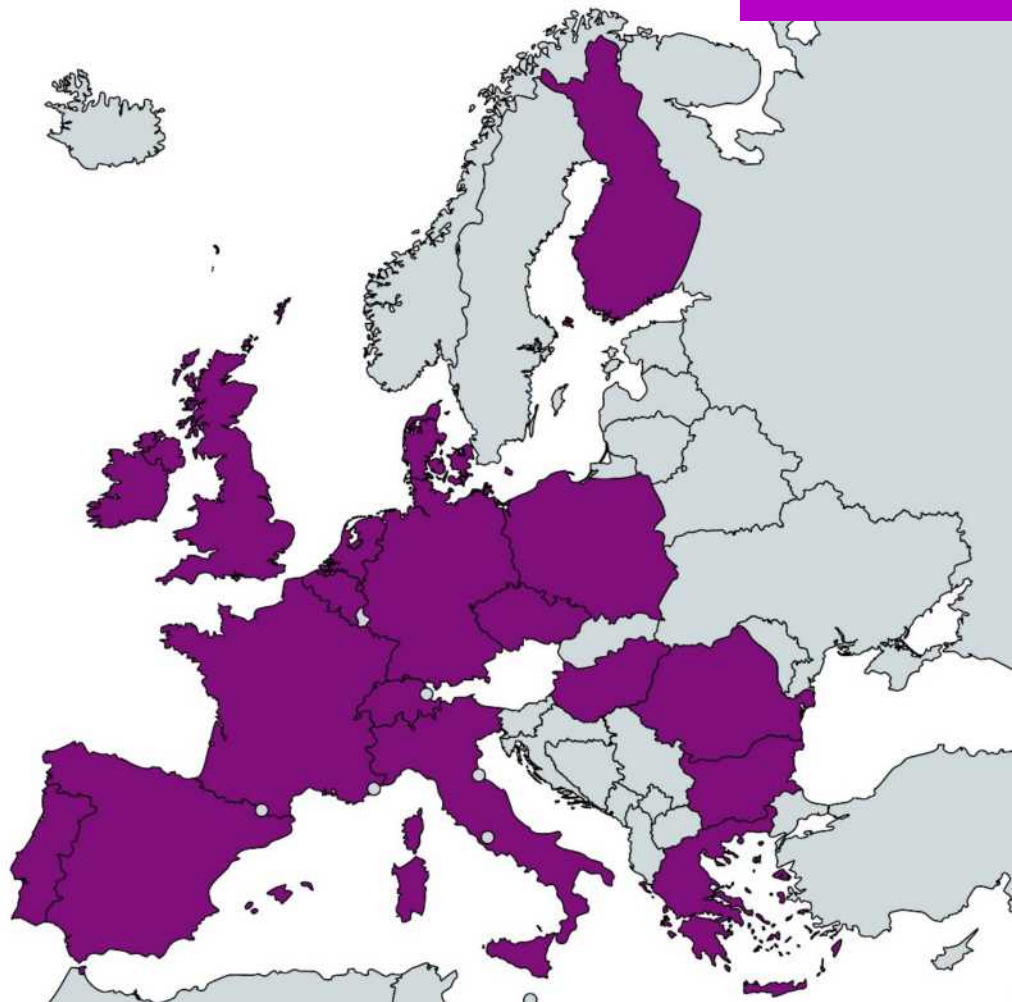
The data was collected from two sources.

The quantitative data has been collected through the Trust Tracker report<sup>®</sup> 2023, in which we surveyed close to 10,000 consumers across 17 countries.

Qualitative data was collected in the Citizen Participation Forum, an online community with around 300 members from 17 countries.

89 members, interested in talking about food and generally well-informed, took part in the study.

Participants took part in activities ranging from discussions, to polls and questionnaires, photo-challenges and journal entries.





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- <sup>2</sup>Pagliari G., Dinu M., Madarena M.P., Bonaccio M., Iacoviello L., Sofi F. (2021). Consumption of ultra-processed foods and health status: A systematic review and meta-analysis. *Br. J. Nutr.* 125:308–318. doi:10.1017/S0007114520002688.
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- <sup>5</sup>Moradi S., Entezari M.H., Mohammadi H., Jayedi A., Lazaridi A.V., Kermani M.A., Miraghajani M. Ultra-processed food consumption and adult obesity risk: A systematic review and dose-response meta-analysis. *Crit. Rev. Food Sci. Nutr.* 2023;63:249–260. doi: 10.1080/10408398.2021.1946005.
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- <sup>8</sup>Lane M.M., Gamage E., Travica N., Dissanayaka T., Ashtree D.N., Gauci S., Lotfaliany M., O'Neil A., Jacka F.N., Marx W. (2022) Ultra-Processed Food Consumption and Mental Health: A Systematic Review and Meta-Analysis of Observational Studies. *Nutrients.* 14:2568. doi: 10.3390/nu14132568.
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# About the Consumer Observatory

The Consumer Observatory, powered by EIT Food, drives food systems transformation by providing consumer insights and guidance for agrifood stakeholders and offering market trend services to enable informed actions and decision-making toward a healthier, more sustainable and resilient future. [Find out more here.](#)

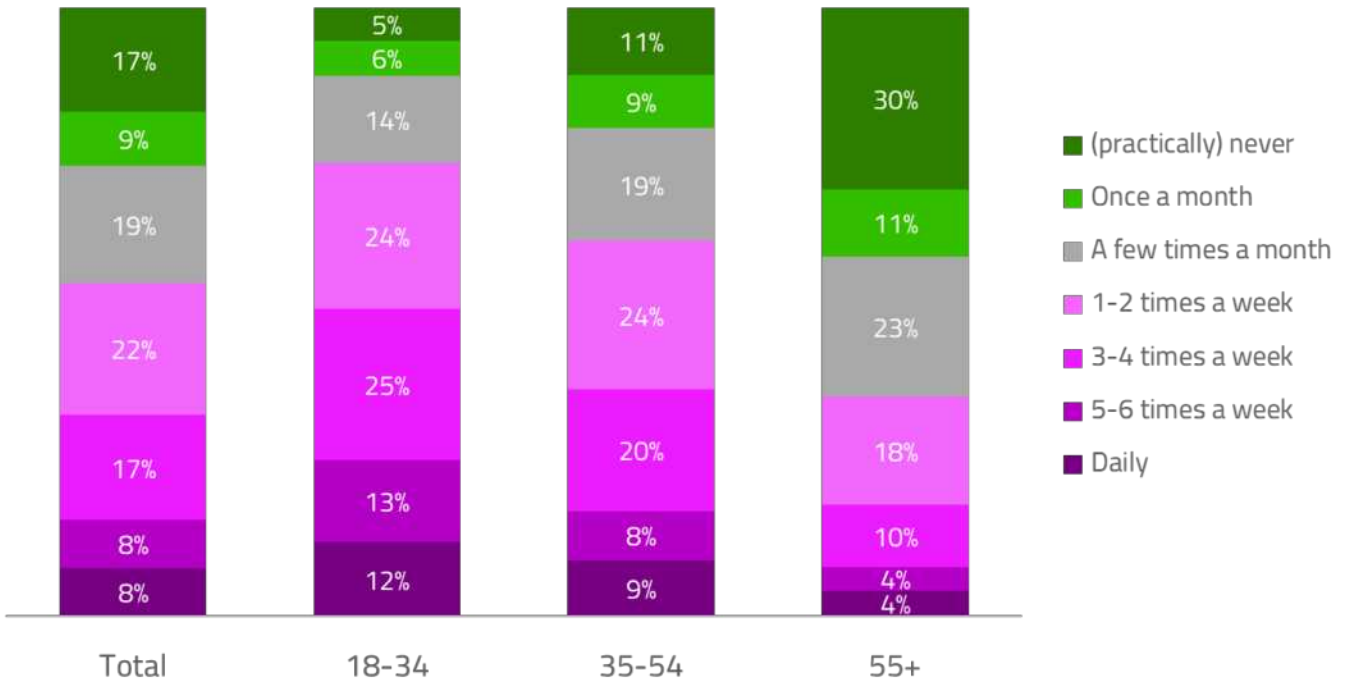
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# Graphs

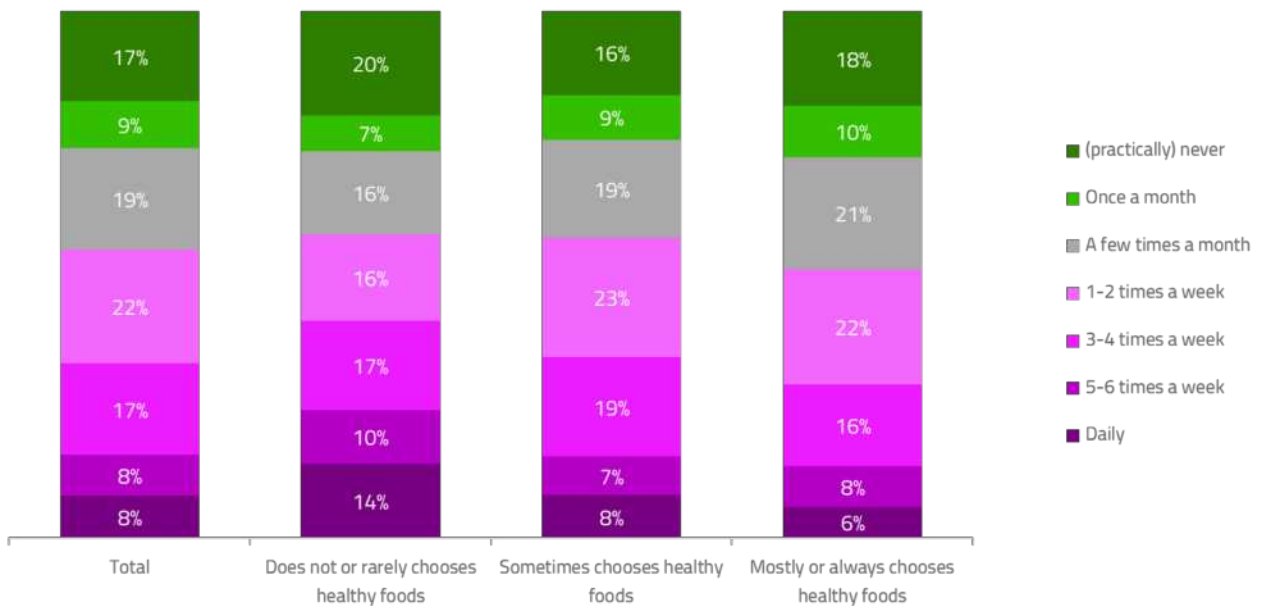
# How often do you eat ultra-processed foods? Age

How often do you eat UPF?



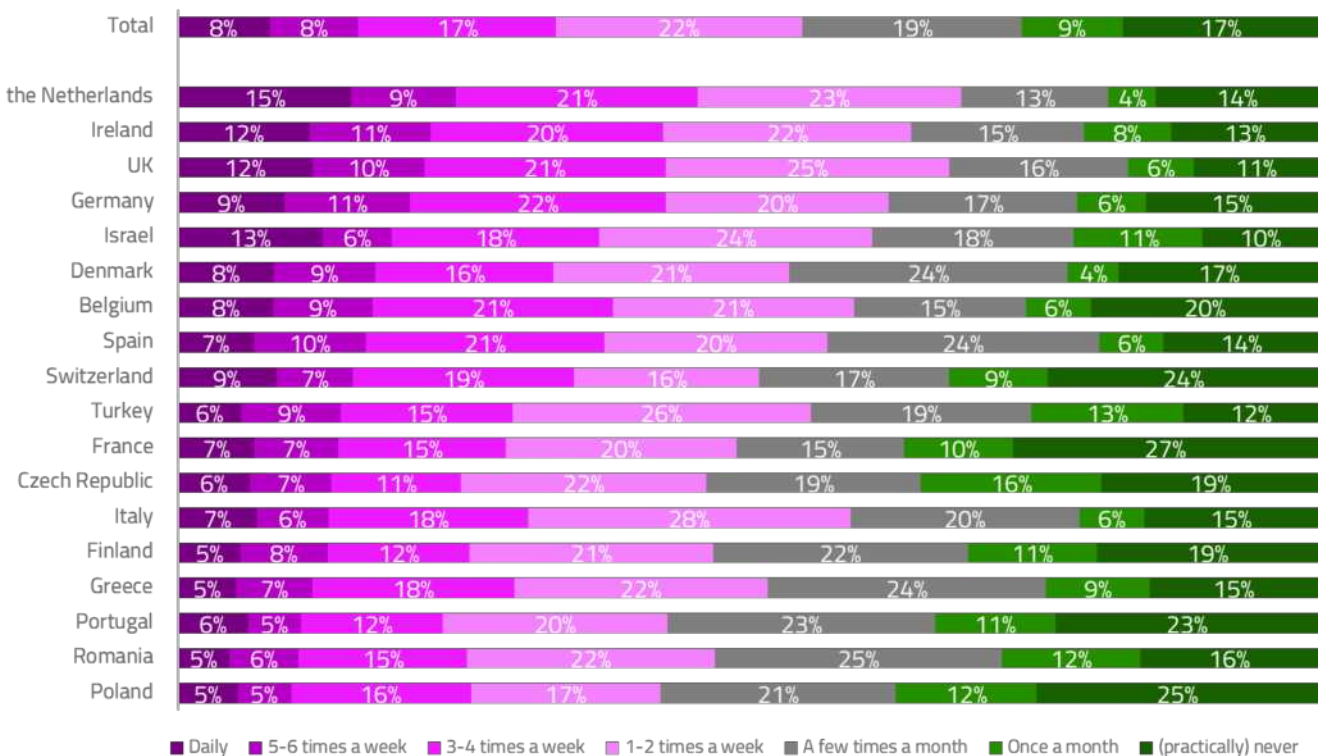
# How often do you eat ultra-processed foods? Healthiness

How often do you eat UPF?



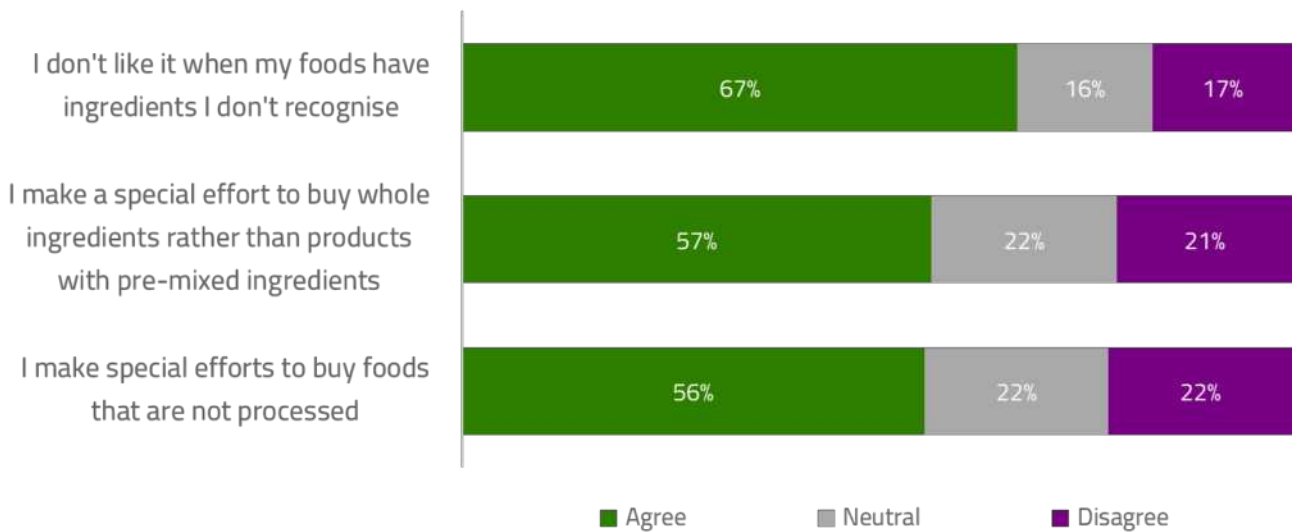
# How often do you eat UPF? Country

How often do you eat UPF?



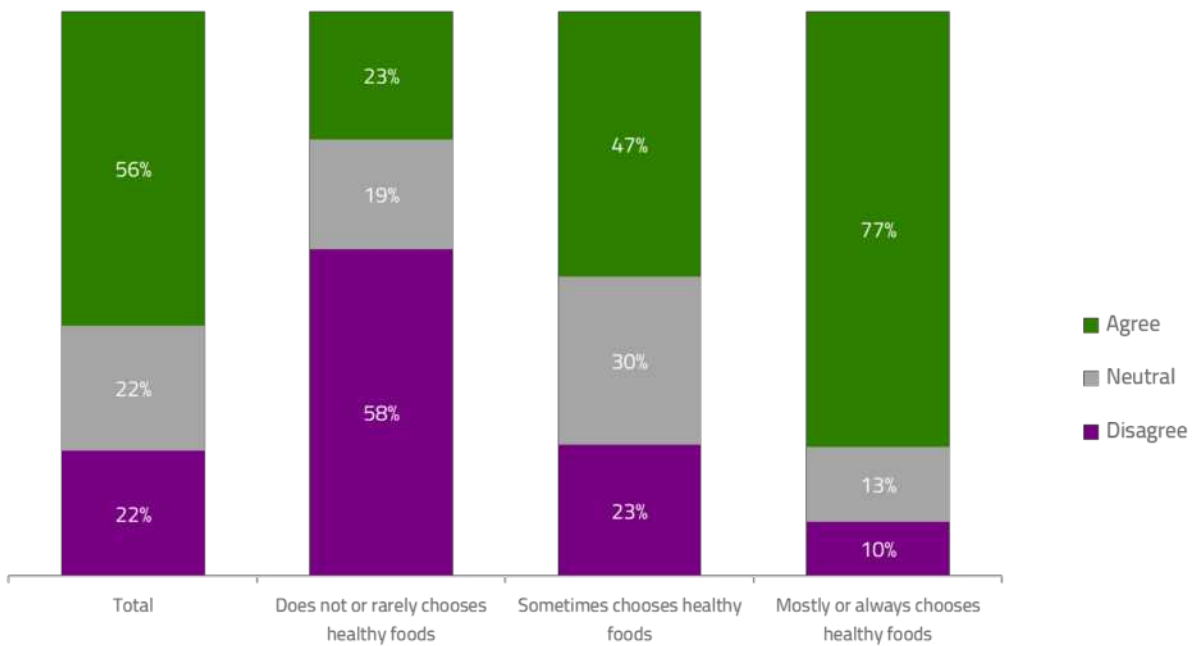
# Paying attention to ingredients and processing

## Paying attention to ingredients and processing



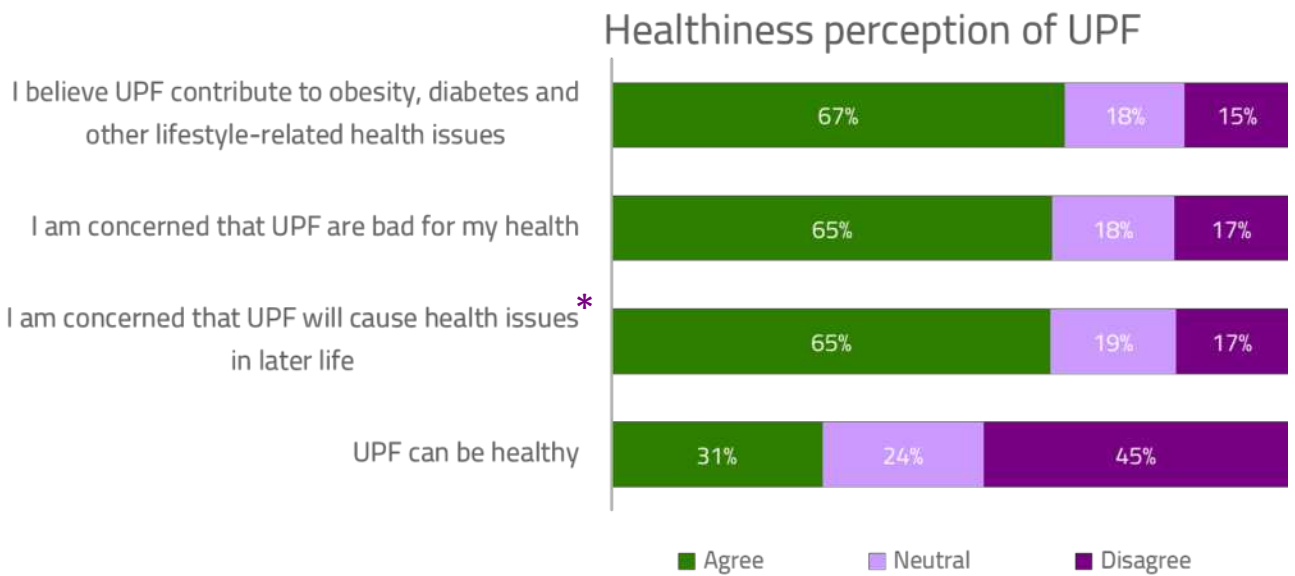
# I make special efforts to buy foods that are not processed

I make special efforts to buy foods that are not processed





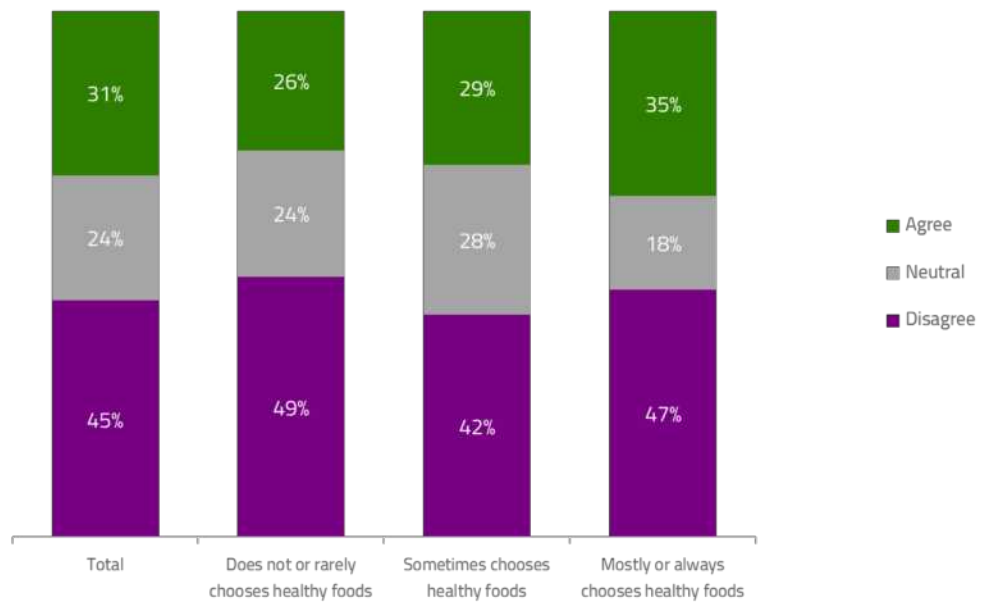
# Healthiness perception of UPF



\*Because percentages are rounded, they may not add up to 100%.

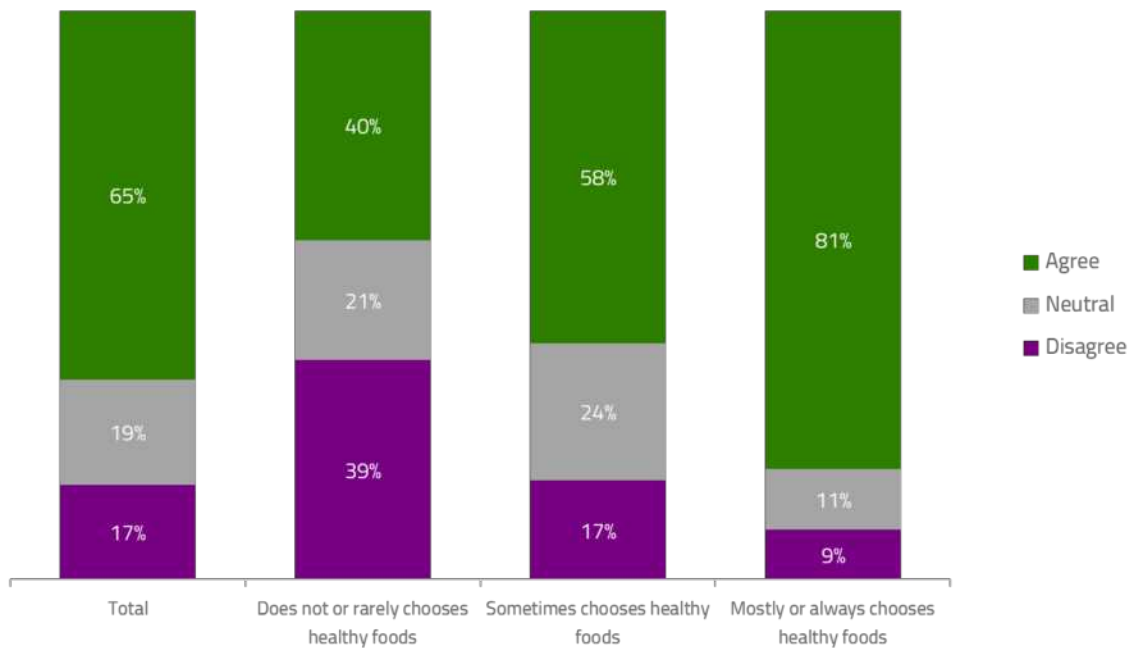
# UPF can be healthy

UPF can be healthy



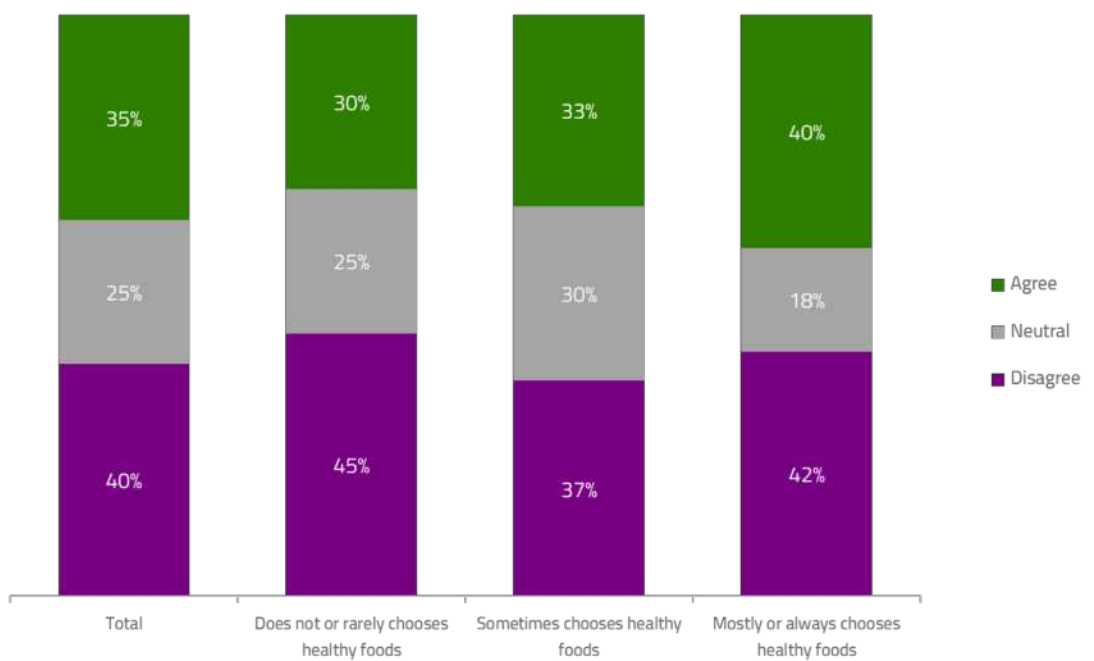
# I am concerned that ultra-processed foods will cause health issues in later life

I am concerned that ultra-processed foods will cause health issues in later life



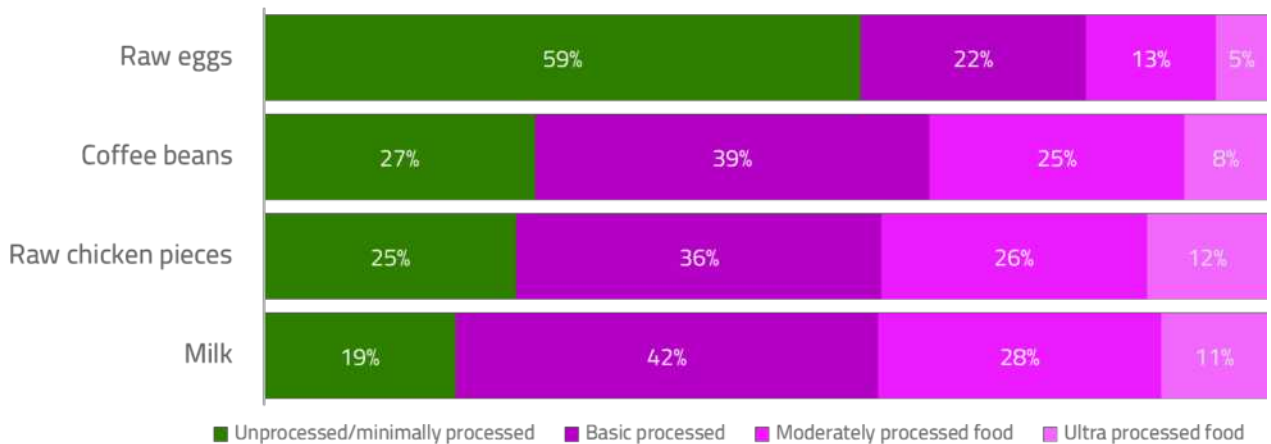
# Trust in regulation

I trust that UPF are safe to eat because there are health and safety regulations



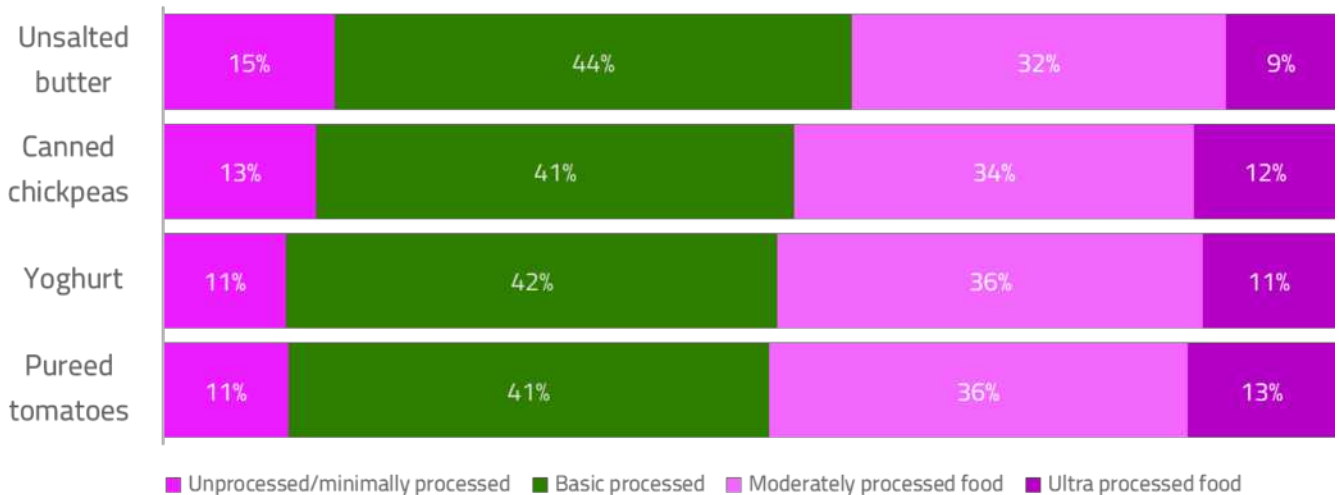
# Minimal processing

How processed do you think the following foods are?  
Category: unprocessed/ minimally processed foods



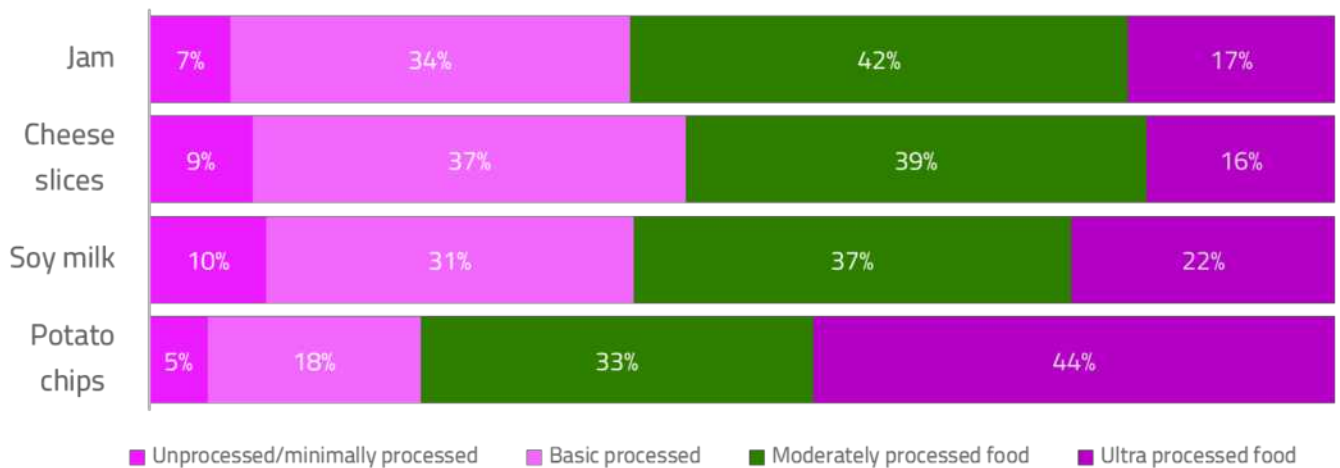
# Basic processing

How processed do you think the following foods are?  
Category: Basic processed foods



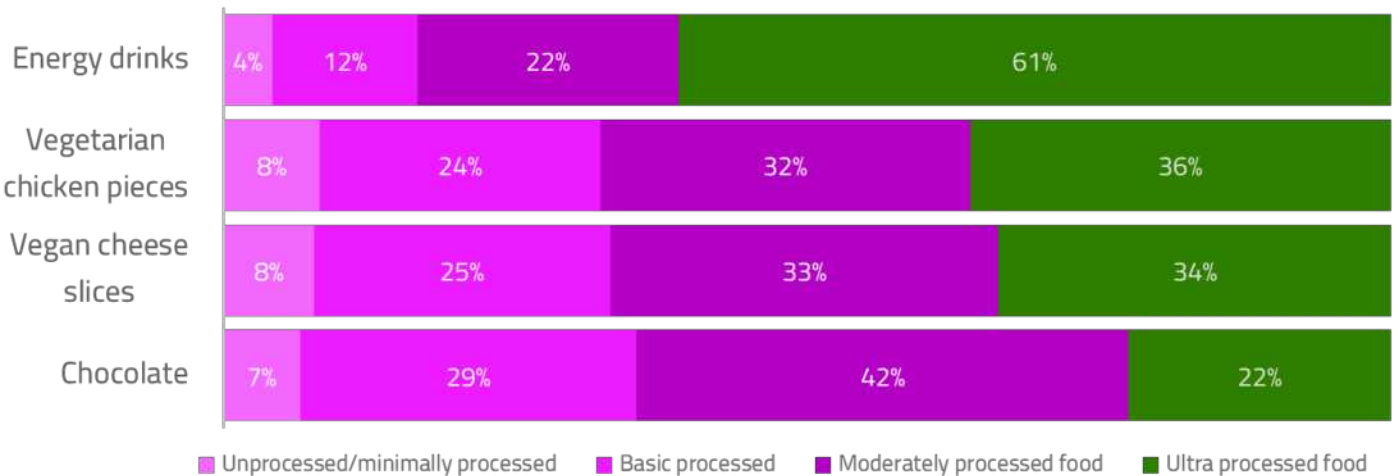
# Moderate processing

How processed do you think the following foods are?  
Category: Moderately processed foods



# Ultra processing

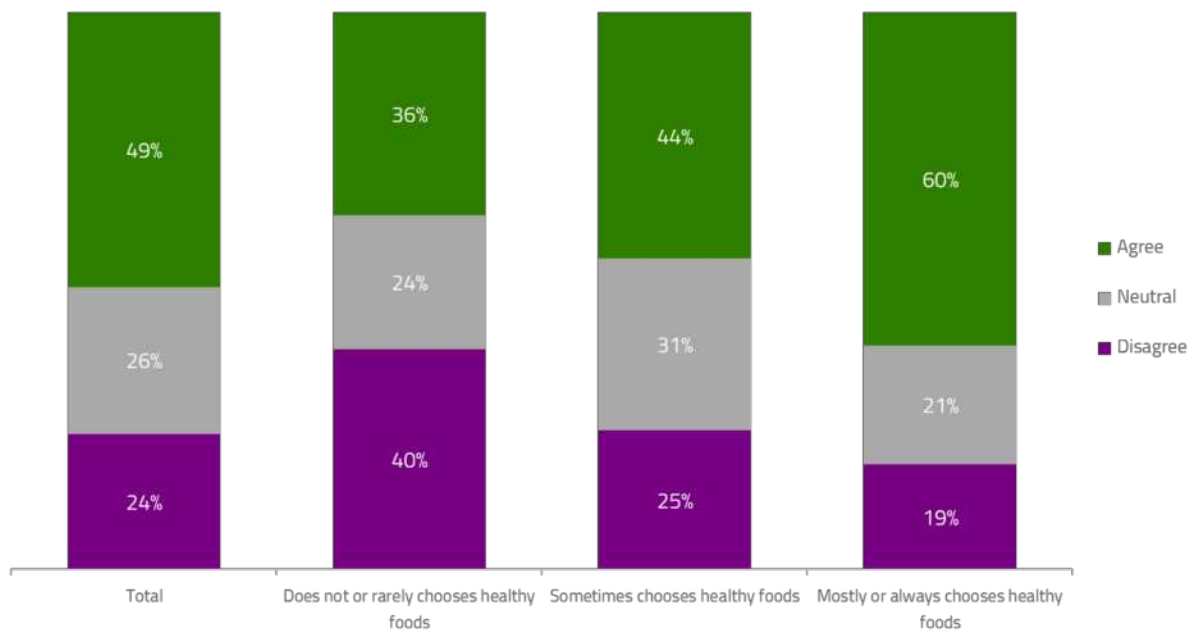
How processed do you think the following foods are?  
Category: Ultraprocessed foods





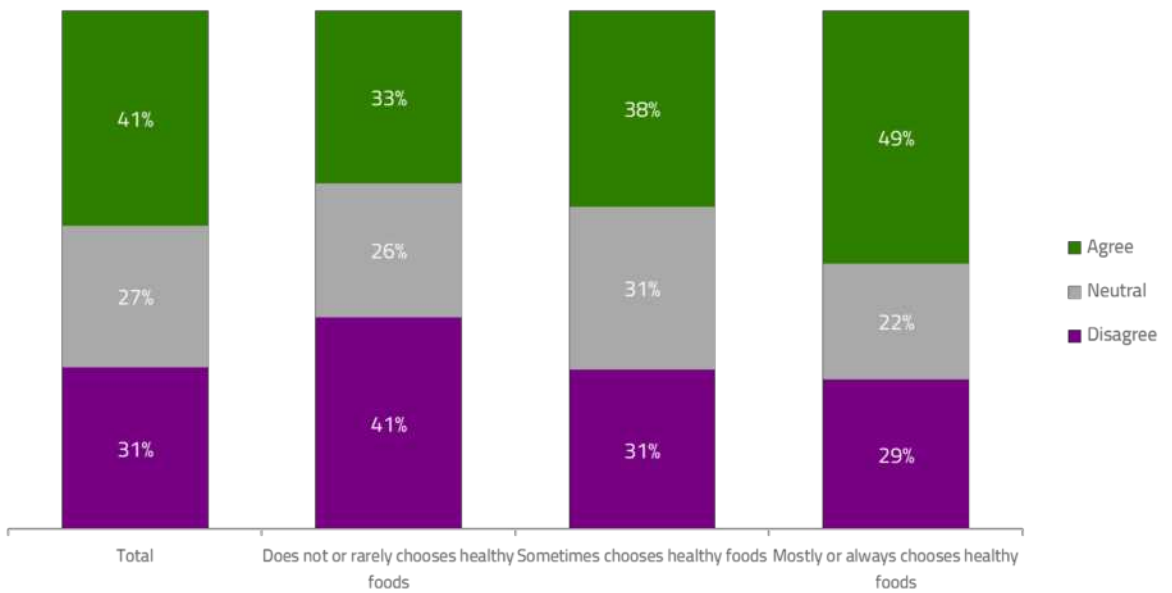
# Price

Minimally-processed foods are more expensive compared to UPF



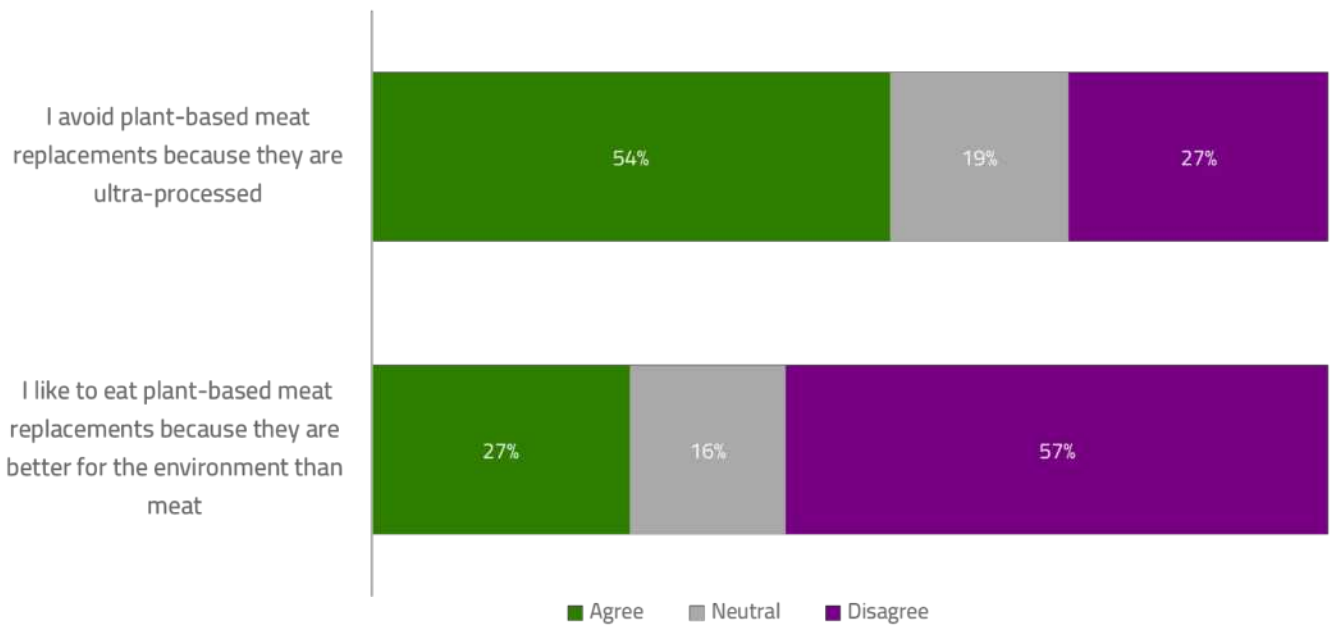
# Convenience

UPF are convenient compared to minimally-processed foods



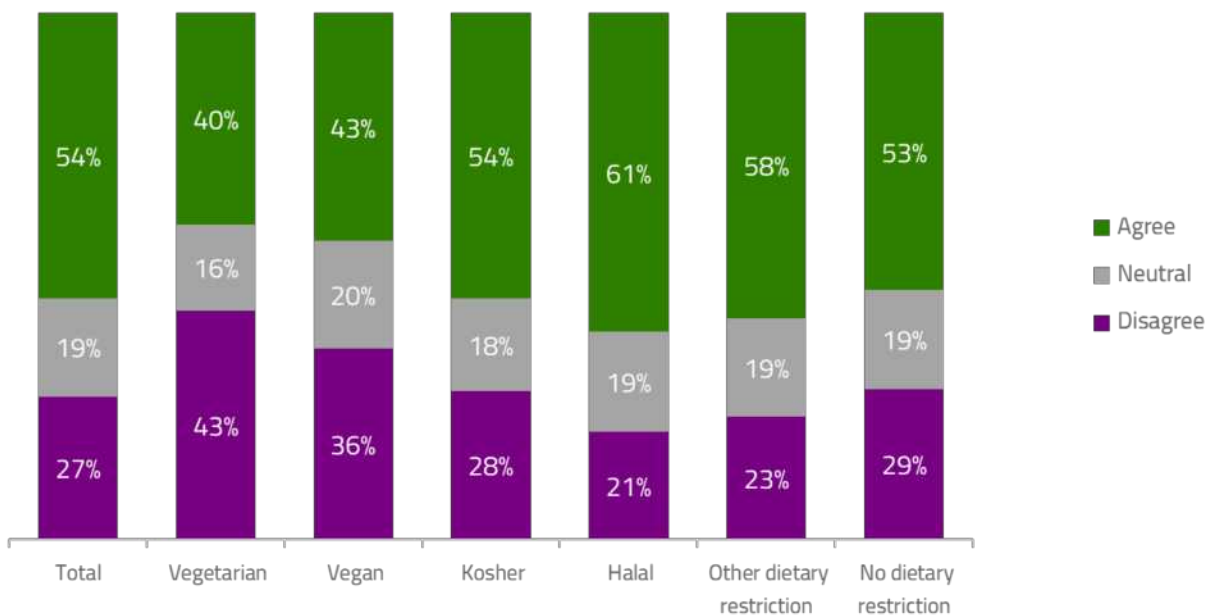
# Attitudes towards plant-based meat

## Attitudes towards plant-based meat replacements



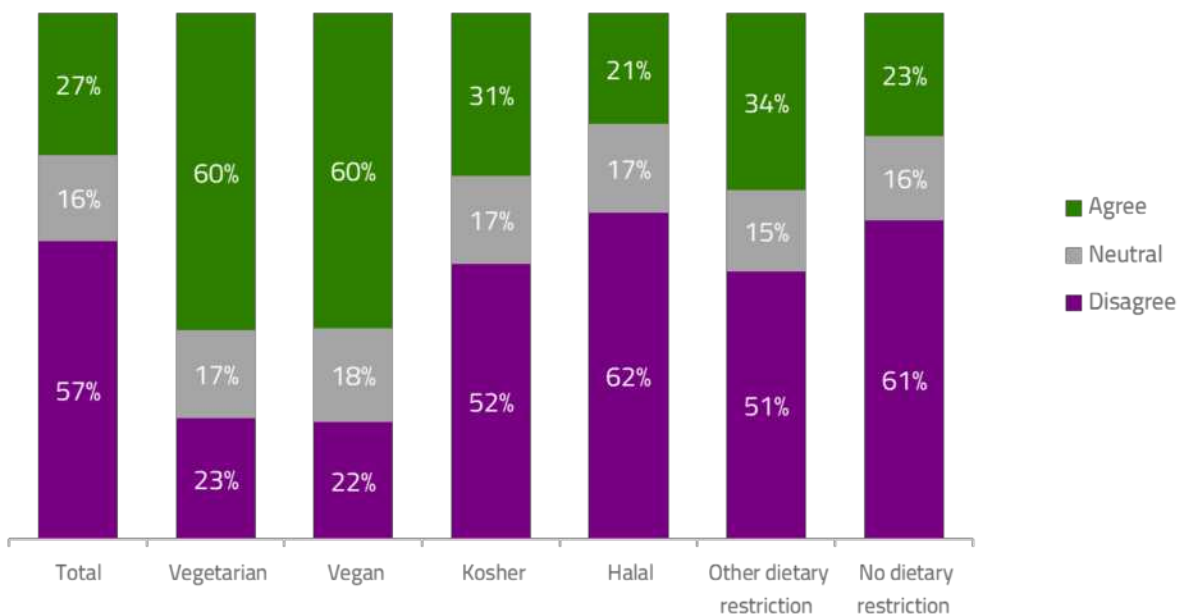
# Avoid plant-based meat

I avoid plant-based meat replacements because they are ultra-processed



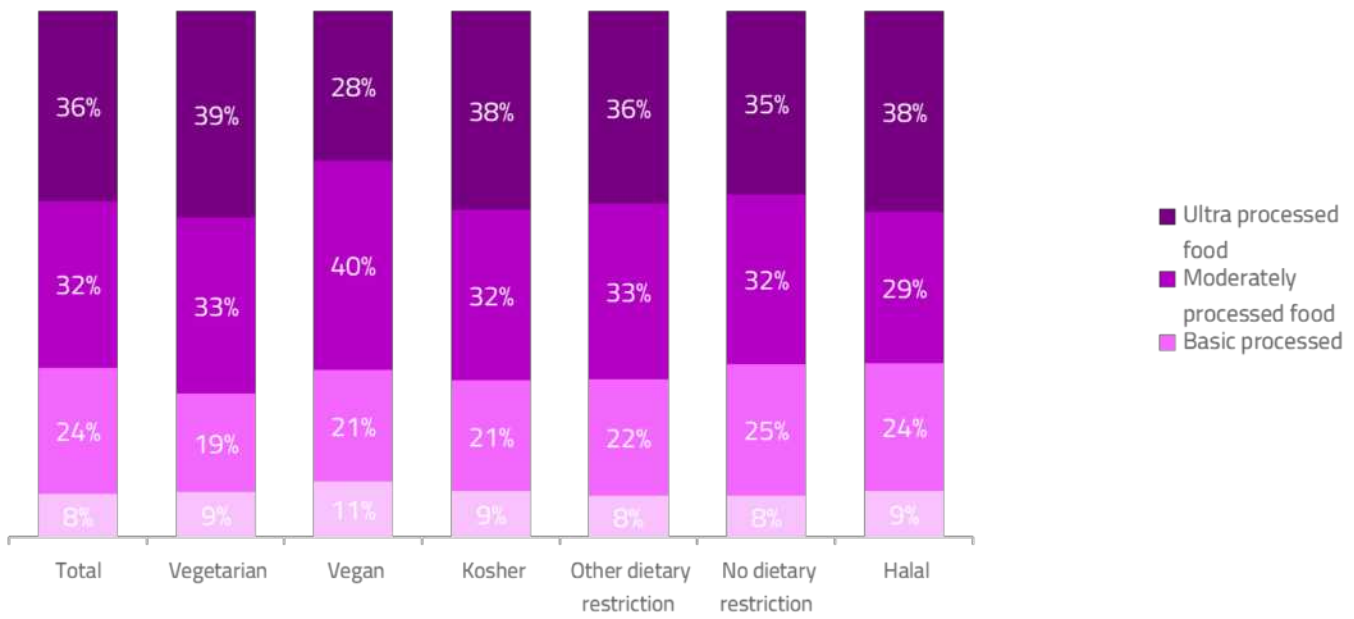
# Plant-based meat more sustainable than meat

I like to eat plant-based meat replacements because they are better for the environment than meat.



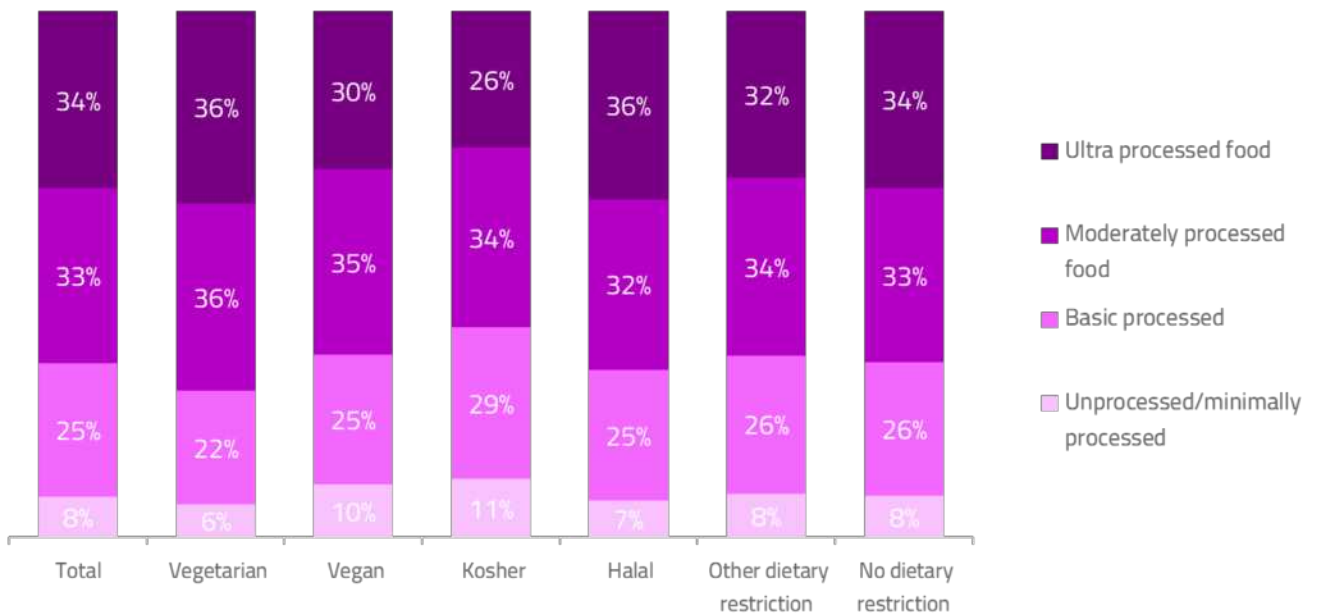
# Vegetarian chicken pieces

How processed do you think vegetarian chicken pieces are?



# Vegan cheese slices

How processed do you think vegan cheese slices are?



# Ultra-processed foods are bad for the environment compared to minimally processed foods

Ultra-processed foods are bad for the environment compared to minimally processed foods

