















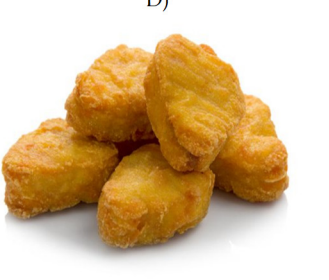
















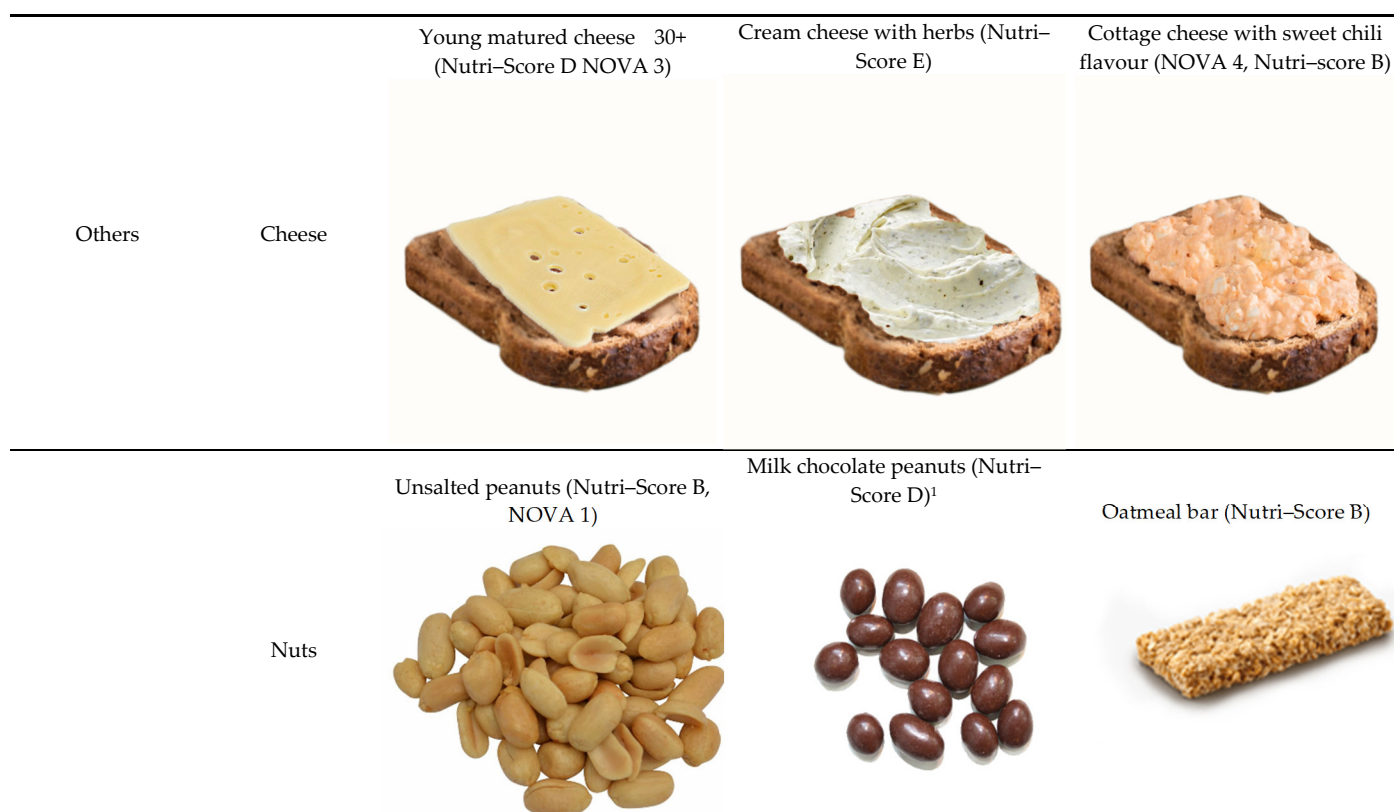


Supplementary Table S1. Selected product categories with product pictures divided by degree of processing and healthiness.

Products categories	Food products		
	Minimally processed/processed foods (NOVA 1/NOVA 3)	Ultra-Processed foods (NOVA 4) Unhealthy (Nutri-Score C, D or E)	Ultra-Processed foods (NOVA 4) Healthy (Nutri-Score A or B)
Cereals and derivatives	<p>Oatmeal (NOVA 1, Nutri-Score A)</p> <p>Cereals</p> 	<p>Cereals filled with chocolate (Nutri-Score D)</p> 	<p>Granola with nuts, seeds and honey (Nutri-Score A)</p> 
	<p>Freshly baked French bread (NOVA 3, Nutri-Score B)</p> <p>Bread</p> 	<p>Freshly baked butter croissant. (Nutri-Score D)</p> 	<p>Packaged bread with multiple seeds (Nutri-Score A)</p> 
	<p>Rice waffle with sea salt. (NOVA 3, Nutri-Score A)¹</p> <p>Biscuits</p> 	<p>Wheat cookie. (Nutri-Score E)</p> 	<p>Grain cracker with multiple seeds. (Nutri-Score B)</p> 

Sugar and sodas	Beverages	Freshly squeezed orange juice. (Nutri-Score B, NOVA 1)	Sparkling lemonade (Nutri-Score D)	Cola light (Nutri-Score B)
				
Meats	Beef	Medium rare steak (Nutri-Score A when uncooked when cooked depends on the amount of oil and salt used etc can become b or c then. NOVA 1)	Sausage (Nutri-Score D)	Beef replacer with vegetables (Nutri-Score A).
				
Milk and derivatives	Chicken	Roasted chicken filets. (NOVA 3, Nutri-Score A) ¹	Fried chicken nuggets. (Nutri-Score D)	Tofu (Nutri-Score A)
				
Milk and derivatives	Milk	Pasteurized semi skimmed milk (Nutri-Score A, NOVA 1)	Skimmed milk flavoured with strawberry juice (Nutri-Score E)	Semi-skimmed chocolate milk without added sugars (Nutri-Score B)
				

Yogurt		Semi-skimmed plain yogurt (Nutri-Score A, NOVA 1)	Stracciatella full-fat yogurt (Nutri-Score C)	Semi-skimmed fruit flavoured yogurt (Nutri-Score B)
				
Potato		Boiled potato (Nutri-Score A, NOVA 1)	Paprika flavoured chips (Nutri-Score D)	Oven baked French fries with no added salt (Nutri-Score B)
				
Ready-to-eat meals		Cooked fusilli pasta (Nutri-Score A, NOVA 1)	Ready to eat pasta with red sauce containing ham and cheese (Nutri-Score C) ¹	Ready to eat pasta pesto with vegetables (Nutri-Score B)
				
Vegetables	Tomato	Canned tomato (NOVA 3 Nutri-Score A)	Tomato ketchup (Nutri-Score C)	Tomato ketchup with reduced sugar and salt (Nutri-Score B)
				



1. Food pictures retrieved from the food-pics extended database [1,2].

Supplementary Table S2. Medians (IQR) of healthiness perception (1 “not healthy at all”. 7 “very healthy”) of various food items in 13 categories of Dutch ($n = 104$ – 108), Italian ($n = 75$ – 83) and Brazilian (65 – 74) consumers.

Product Category ¹	Nationality	MPF	High NS_UPF	Low NS_UPF	<i>p</i>
Cereals	Dutch	6 (6–7) ^a	5 (5–6) ^b	2 (1–3) ^c	<0.001
	Italian	6 (5–7) ^a	6 (5–7) ^a	2 (1–3) ^b	<0.001
	Brazilian	7 (6–7) ^a	6 (5–7) ^b	2 (1–3) ^c	<0.001
	All	7 (6–7)^a	6 (5–7)^b	2 (1–3)^c	<0.001
Bread	Dutch	3 (2–5) ^a	5 (5–6) ^b	2 (1–3) ^c	<0.001
	Italian	5 (4–6) ^a	4 (3–5) ^b	3 (2–3.5) ^c	<0.001
	Brazilian	3 (2–5) ^a	5 (4–6) ^b	2 (1–3) ^c	<0.001
	All	4 (3–5)^a	5 (4–6)^b	2 (1–3)^c	<0.001
Biscuits	Dutch	5 (4–6) ^a	6 (5–6) ^b	4 (3–5) ^c	<0.001
	Italian	6 (4–7) ^a	5 (5–6) ^a	4 (3–5) ^b	<0.001
	Brazilian	5 (4–6) ^a	5 (3–6) ^a	2 (1–4) ^b	<0.001
	All	5 (4–6)^a	5 (5–6)^b	3 (2–5)^c	<0.001
Beverages	Dutch	6 (4–6) ^a	2 (1–3) ^b	2 (1–2) ^b	<0.001
	Italian	7 (6–7) ^a	1 (1–2) ^b	3 (2–5) ^c	<0.001
	Brazilian	7 (6–7) ^a	1 (1–1) ^b	4 (2–6) ^c	<0.001
	All	6 (5–7)^a	1 (1–2)^b	2 (1–4)^c	<0.001
Meat/beef	Dutch	5 (3–6) ^a	4 (3–5) ^b	2 (1.5–3) ^c	<0.001
	Italian	5 (4–6) ^a	4 (2–5) ^b	3 (2–3) ^c	<0.001
	Brazilian	6 (5–7) ^a	2.5 (1–5) ^b	1 (1–2) ^c	<0.001
	All	5 (4–6)^a	4 (2–5)^b	2 (1–3)^c	<0.001
Chicken	Dutch	5 (4–6) ^a	5 (4–6) ^a	1 (1–2) ^b	<0.001
	Italian	6 (5–7) ^a	5 (4–6) ^b	1 (1–2) ^c	<0.001

	Brazilian	7 (6–7) ^a	6 (5–7) ^b	1 (1–2) ^c	<0.001
	All	6 (5–7)^a	5 (4–6)^b	1 (1–2)^c	<0.001
Milk	Dutch	5 (5–6) ^a	3 (2–4) ^b	3 (2–5) ^b	<0.001
	Italian	5 (5–7) ^a	3 (3–5) ^b	3 (2–4) ^b	<0.001
	Brazilian	5 (3–5)	3 (2–5)	3 (2–5)	0.063
	All	5 (4–6)^a	3 (2–5)^b	3 (2–5)^b	<0.001
Yogurt	Dutch	6 (5–6) ^a	3 (3–5) ^b	2 (2–3) ^c	<0.001
	Italian	6 (5–7) ^a	4 (3–6) ^b	4 (3–5) ^b	<0.001
	Brazilian	6 (5–7) ^a	5 (4–6) ^b	4 (3–6) ^b	<0.001
	All	6 (5–7)^a	4 (3–5)^b	3 (2–5)^c	<0.001
Potatoes	Dutch	6 (5–6) ^a	3 (2.5–5) ^b	1 (1–2) ^c	<0.001
	Italian	6 (5–7) ^a	3 (2–4) ^b	1 (1–2) ^c	<0.001
	Brazilian	6 (5–7) ^a	4 (2–5) ^b	1 (1–2) ^c	<0.001
	All	6 (5–7)^a	3 (2–5)^b	1 (1–2)^c	<0.001
Ready to eat pasta	Dutch	4 (3–5) ^a	4 (3–5) ^b	2 (1–2) ^c	<0.001
	Italian	5 (4–6) ^a	5 (3–6) ^b	3 (1–4) ^c	<0.001
	Brazilian	4 (3–5) ^a	5 (3–6) ^a	2 (1–3) ^b	<0.001
	All	5 (3–5)^a	4 (3–5)^b	2 (1–3)^c	<0.001
Tomato	Dutch	5 (3–6) ^a	4 (3–5) ^b	3 (2–4) ^c	<0.001
	Italian	5 (4–6) ^a	3 (2–4) ^b	2 (1–3) ^c	<0.001
	Brazilian	4 (2–5) ^a	3 (1–3) ^b	2 (1–3) ^c	<0.001
	All	5 (3–6)^a	3 (2–4)^b	2.5 (1–3)^c	<0.001
Cheese	Dutch	5 (4–6) ^a	3 (3–5) ^b	3 (2–4) ^c	<0.001
	Italian	4 (3–5) ^a	3 (2–4.5) ^b	3.5 (3–5) ^{ab}	0.050
	Brazilian	5 (3–6) ^a	4 (3–6) ^{ab}	4 (2–5) ^b	0.004
	All	5 (3–5)^a	3 (2–5)^b	3 (2–5)^b	<0.001
Peanuts	Dutch	6 (5–6) ^a	4 (3–5) ^b	2 (1–3) ^c	<0.001
	Italian	4 (3–6) ^a	5 (4–6) ^b	2.5 (2–3) ^c	<0.001
	Brazilian	6 (5–7) ^a	5 (3–5) ^b	2 (1–3) ^c	<0.001
	All	5 (4–6)^a	5 (3–5)^b	2 (1–3)^c	<0.001

^{a,b,c}, Different letters indicate significant differences ($p < 0.05$) of post hoc comparisons. Bold numbers indicate the medians (IQR) and p -values of the countries together. MPF = minimally processed food; High NS_UPF = ultra-processed food with high Nutri_Score; Low NS_UPF = ultra-processed food with low Nutri-Score.

Supplementary Table S3. Medians (IQR) of processing perception (1 “not processed at all”, 7 “very processed”) of various food items in 13 categories of Dutch ($n = 104$ – 108), Italian ($n = 75$ – 83) and Brazilian (65–74) consumers.

Product category ¹	NOVA classification	MPF	High NS_UPF	Low NS_UPF	p
Cereals	Dutch	2 (2–3) ^a	4 (3–5) ^b	6 (5–7) ^c	<0.001
	Italian	3 (2–5) ^a	3 (2–5) ^a	6 (5–7) ^b	<0.001
	Brazilian	2 (1–3.5) ^a	3 (1–4) ^a	6 (5–7) ^b	<0.001
	All	2 (2–4)^a	4 (2–5)^b	6 (5–7)^c	<0.001
Bread	Dutch	5 (3–5) ^a	5 (3–6) ^a	5 (4–6) ^b	0.021
	Italian	4 (3–5) ^a	5 (4–6) ^b	5 (4–6) ^b	<0.001
	Brazilian	5 (3–6)	5 (3–6)	5 (3–7)	0.55
	All	5 (3–5)^a	5 (4–6)^b	5 (4–6)^b	<0.001
Biscuits	Dutch	4 (3–5) ^a	5 (3–5) ^a	5 (4–6) ^b	<0.001
	Italian	5 (3–6)	5 (4–6)	5 (4–6)	0.21
	Brazilian	5 (3–6) ^a	5 (3–6) ^a	6 (5–7) ^b	<0.001

	All	5 (3–5.5)^a	5 (3–5)^a	5 (4–6)^b	<0.001
Beverages	Dutch	2 (1–3) ^a	7 (6–7) ^b	6 (5–7) ^c	<0.001
	Italian	2 (1–3) ^a	7 (6–7) ^b	5 (3–6) ^c	<0.001
	Brazilian	1 (1–2) ^a	7 (7–7) ^b	5 (3–6) ^c	<0.001
	All	2 (1–3)^a	7 (6–7)^b	5 (4–7)^c	<0.001
Meat/beef	Dutch	3 (2–4) ^a	6 (5–6) ^b	5 (5–6) ^b	<0.001
	Italian	2 (1–3) ^a	6 (5–7) ^b	5 (4–7) ^b	<0.001
	Brazilian	2 (1–3) ^a	6 (5–7) ^b	7 (6–7) ^c	<0.001
	All	2 (1–3)^a	6 (5–7)^b	6 (5–7)^b	<0.001
Chicken	Dutch	3 (2–5) ^a	4 (3–5) ^b	7 (6–7) ^c	<0.001
	Italian	3 (2–5) ^a	5 (3–6) ^b	6 (5–7) ^c	<0.001
	Brazilian	2 (1–3) ^a	3 (2–5) ^b	7 (6–7) ^c	<0.001
	All	3 (2–5)^a	4 (3–5)^b	7 (6–7)^c	<0.001
Milk	Dutch	4 (2–5) ^a	5 (5–6) ^b	5 (5–6) ^b	<0.001
	Italian	5 (3–5) ^a	5 (4–6) ^b	5 (5–6) ^b	<0.001
	Brazilian	5 (3–6) ^a	6 (5–6) ^b	6 (5–7) ^b	0.004
	All	4 (3–5)^a	5 (5–6)^b	5 (5–6)^b	<0.001
Yogurt	Dutch	3 (2–5) ^a	5 (5–6) ^b	6 (5–6) ^b	<0.001
	Italian	3.5 (2–5) ^a	5 (4–5) ^b	5 (3.5–5.5) ^b	<0.001
	Brazilian	4 (3–5) ^a	5 (5–6) ^b	5 (4–6) ^b	<0.001
	All	4 (2–5)^a	5 (5–6)^b	5 (4–6)^b	<0.001
Potatoes	Dutch	2 (1–2) ^a	4 (3–5) ^b	6 (5–7) ^c	<0.001
	Italian	1 (1–2) ^a	4 (3–5) ^b	6 (6–7) ^c	<0.001
	Brazilian	1 (1–2) ^a	4 (2–5) ^b	7 (6–7) ^c	<0.001
	All	1 (1–2)^a	4 (3–5)^b	6 (6–7)^c	<0.001
Ready to eat pasta	Dutch	4 (3–5) ^a	4 (3–5) ^b	6 (6–7) ^c	<0.001
	Italian	4 (3–5) ^a	5 (3–6) ^b	6 (5–7) ^c	<0.001
	Brazilian	5 (3–6) ^a	4 (3–5) ^a	6 (5–7) ^b	<0.001
	All	4 (3–5)^a	5 (4–6)^b	6 (5–7)^c	<0.001
Tomato	Dutch	5 (3–6) ^a	5 (5–6) ^b	5 (5–6) ^b	<0.001
	Italian	4 (3–5) ^a	5 (4.5–6.5) ^b	6 (5–7) ^b	<0.001
	Brazilian	5 (3–7) ^a	6 (5–7) ^b	6 (5–7) ^b	<0.001
	All	5 (3–6)^a	6 (5–7)^b	6 (5–7)^b	<0.001
Cheese	Dutch	4 (3–5) ^b	5 (5–6) ^a	5 (5–6) ^a	<0.001
	Italian	5 (4–6)	5 (4–6)	5 (4–6)	0.048
	Brazilian	5 (3–6) ^a	5 (4–6) ^{ab}	5 (5–6) ^b	0.040
	All	5 (3–5)^a	5 (4–6)^b	5 (5–6)^b	<0.001
Peanuts	Dutch	2 (1–3) ^a	5 (5–6) ^b	5 (5–6) ^b	<0.001
	Italian	3 (2–4) ^a	5 (4–6) ^b	5 (5–6) ^c	<0.001
	Brazilian	2 (1–3) ^a	5 (3–7) ^b	5 (4–6) ^b	<0.001
	All	2 (1–4)^a	5 (4–6)^b	5 (5–6)^b	<0.001

^{a,b,c} Different letters indicate significant differences ($p < 0.05$) of post hoc comparisons. Bold numbers indicate the medians (IQR) and p -values of the countries together. MPF = minimally processed food; High NS_UPF = ultra-processed food with high Nutri_Score; Low NS_UPF = ultra-processed food with low Nutri-Score.

References

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2. Blechert, J.; Meule, A.; Busch, N.A.; Ohla, K. Food-pics: An image database for experimental research on eating and appetite. *Front. Psychol.* **2014**, *5*, 617. <https://doi.org/10.3389/fpsyg.2014.00617>.