**Supplemental Material S1. Description of the dietary scores investigated in this study**

The food-based PNNS-GS (1) contains 12 dietary items (corresponding to the 8 food-based items of the French official nutrition guidelines) and one item related to physical activity (corresponding to the physical activity- item of the French nutrition guidelines). The highest number of points is attributed as follows: A) starchy foods; dairy products; meat/poultry, seafood and eggs: to those with moderate consumption, i.e. intakes within a certain range; B) fruits and vegetables; physical activity; whole-grain foods; seafood; ratio of vegetable added fat to total added fat: to those who maximize consumption; C) salt; total added fat; sweetened food; alcohol: to those who limit/ minimize consumption. As for the item “water and soda”, water consumption should be maximized and soda consumption minimized. If total energy intake exceeds 105% of the calculated needs, the score is reduced by the same percentage by which energy needs are exceeded, e.g. a 10%-overconsumption reduces a score of 12 points to 10.8 points. A modified score, the mPNNS-GS, has been created by deleting the physical activity- component from the score. For purposes of comparability and to specifically investigate the role of diet, we used this modified score for our main analyses.

The nutrient-based PANDiet (2) contains two subscales named *adequacy* and *moderation*. For each nutrient, the ‘probability of adequacy’, i.e. intake above minimum values (*adequacy* score) or below maximum values (*moderation* score) is calculated on the basis of country-specific reference values. The construction of the PANDiet follows a similar reasoning as that of the PNNS-GS, as there are items for which consumption should be maximized (e.g. poly-unsaturated fatty acids which are part of the adequacy score only), items for which consumption should be limited (e.g. saturated fatty acids which are part of the moderation score only), and items for which consumption should be well-balanced (e.g. protein which is part of both scores). The final score is the average of the two subscores.

The food- and nutrient- based DQI-I (3) is calculated by summing up the points obtained for four groups of components : *variety*, *adequacy*, *moderation*, and *overall balance*. The component *variety* includes overall food group variety (considering the food groups meat/poultry/fish/eggs; dairy/beans; grains; fruits; and vegetables) and variety for protein source (considering the protein sources meat, poultry, fish, eggs, dairy, and beans). The *adequacy* and *moderation* components follow a similar logic as the respective PANDiet-subscores. Finally, the component *overall balance* considers the ratios carbohydrate:protein:fat and PUFA:MUFA:SFA. The cut-offs for vitamin C, calcium, and iron (*adequacy* component) depend on the specific national recommendations of each country – France in our case (4).

**References**

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