**Supplementary Figure 1**

138 000 participants included between May 2009 and June 2015

16 199 participants excluded

Under-reporters for energy intakes

99 641 participants included in the analyses

115 840 participants

20 037 participants excluded

Under-reporters for energy intakes

135 877 participants

2 123 participants excluded

Number of dietary records <3

**Supplemental Table 1: Characteristics and computation methods for each of the scores included in the study**

|  |  |  |
| --- | --- | --- |
| Score | Reference | Score computation |
| **AHEI**Alternate Healthy Eating Index | Chiuve et al. (2012) | **Score range: 0-100 points each sub score is proportional in a recommended range****Desirable components** (0 to 10 points each)Vegetables without potatoes, fruit, whole grains, nuts and legumes, long-chain omega-3 fatty acids (EPA+DPA), polyunsaturated fatty acids and moderate alcohol consumption **Undesirable components** (0 to 10 points each)Sodium, sugar sweetened drinks and fruit juice, red and processed meat |
| **DQI-I**Diet Quality Index–International  | Kim et al. (2003)  | **Score range : 0-100 points** Four groups of components:**Variety**: overall food group variety (0–15 points); within-group variety for protein source (0–5 points)**Adequacy**: vegetables, fruits, cereals, fibre, protein, Fe, Ca, vitamin C (0–5 points each). Nutritional recommendations are specific to the country where the score is applied, here France.**Moderation**: total fat, saturated fat, cholesterol, Na, empty-energy foods (0–6 points each)**Overall** **balance**: macronutrient ratio (carbohydrate:protein:fat, 0–6 points); fatty acid ratio (PUFA:MUFA:SFA, 0–4 points) |
| **FSA-NPS DI**Food Standards Agency Nutrient Profiling system Dietary Index | Julia et al.(2014) | The FSA-NPS score is composed of **7 components** of each consumed food or beverage. For unfavorable components, i.e. content in energy (KJ), total sugar (g), saturated fatty acids (g) and sodium (mg), 0 to 10 are allocated. For positive components, i.e. fruits and vegetables (%), fibers (g) and proteins (g), 0 to 5 points are subtracted from the previous sum. The FSA-NPS score for foods and beverages was calculated considering nutrient content for 100g/100ml of food. FSA-NPS scores for foods and non-alcoholic beverages are based on a ordinal scale ranging from -15 (most healthy) to +40 (less healthy). The FSA-NPS DI was computed using arithmetic energy-weighted means with the following equation:$FSA-NPS-DI = \frac{\sum\_{i=1}^{n}FS\_{i}E\_{i}}{\sum\_{i=1}^{n}E\_{i}}$ i represents a food or beverage consumed by the subject, FSi represents the food (or beverage) score, Ei represents the mean daily energy intake from this food or beverage n represents the number of different food/beverage items consumed by the individual across his/her dietary records |
| **WHO-HDI**Based on the World Health Organization's 2003 Dietary Guidelines | Huijbregts et al. (1997)  | Score range : **0-9 points****Moderation** : saturated fatty acids, mono-and disaccharides, cholesterol, polyunsaturated fatty acids, proteins**Adequacy**: total dietary fiber, fruits and vegetables  |
| **PANDiet** Diet Quality Index Based on the Probability of Adequate NutrientIntake | Verger et al. (2012) | **Score range: 0-100 points****Adequacy***:* 100\* theaverage of the probability of adequacy (sufficient consumption) for the following items: protein, total carbohydrate, total fat, poly-unsaturated fatty acids, fibre, vitamine A, thiamin, riboflavin, niacin, vitamin B6, folate, vitamine B12, vitamin C, vitamin D, vitamin E, calcium, magnesium, zinc, phosphorus, potassium, iron.**Moderation***:* 100\* the average of the probability of adequacya (non-excessive consumption) for the following items: protein, total carbohydrate, total fat, saturated fatty acids, cholesterol, and sodium. **Penalty**: Diminuation of the moderation score in the case of excessive consumption (> published upper limits) of: retinol, niacin, vitamin B6, folate, vitamin C, vitamin D, vitamin E, calcium, magnesium, zinc, phosphorus, iron.*Overall score:* average of the adequacy and the moderation score. |
| **Provegetarian Score** |  | Score range : **12-60 points**Subscores range from 1 to 5 (reverse for animal products) according to sex-specific energy-adjusted quintiles**7 beneficial components** (**vegetable foods groups)**: vegetables, fruits, legumes, cereals, potatoes, nuts, oil**5 detrimental components (animal foods groups):** meats and meat products, animal fats for cooking or as spread, eggs, fish and other seafood, dairy product |
| **MDS** Mediterranean Diet Scale  | Trichopoulou et al. (2003)  | Score range : **0-9 points****5 beneficial components** 1 point if above median, 0 if below : fruit, vegetable, legumes, grains, fish**2 detrimental components** 1 point if below median, 0 if above : meat, dairy products**1 component on fat** : MUFA/SFA ratio**1 component on ethanol** : 1 point if within a range of intake (10-50g/day for men, 5-25g/d for women) |
| **MEDI-LITE**Literature-based adherence score to Mediterranean diet  | Sofi et al. (2014) | Score range: Score range : **0-18 points**Subscores are 0,1, or 2 according to fixed cut-off as regards the daily or weekly consumption **6 beneficial components** 1 point if above median, 0 if below : fruit, vegetable, legumes, grains, fish, MUFA/SFA ratio**2 detrimental components** 1 point if below median, 0 if above : meat, dairy products**1 component on ethanol** (moderation): 1 point if within a range of intake (10-50g/day for men, 5-25g/d for women) |
| **PNNS-GS**Programme National Nutrition Santé Guideline-Score | Estaquio et al. (2009)  | **Score range : up to 15**, can be negative due to negative points and penalties on energy intake**12 nutritional components** : fruit and vegetables 0-2 points, starchy foods 0-1 point, whole grain 0-1 point, dairy products 0-1 point, meat 0-1 point, seafood 0-1 point, added fat 0-1 point, vegetable fat 0-1 point, sweets -0.5 to 1 points, water and soda 0-1 point, alcohol 0-1 point, salt -0.5 to 1.5 points.**1 component** on **physical activity** 0-1.5 points**Penalties if energy intake** > 5% of energy need |
| **RMED**Relative Mediterranean diet score | Buckland et al. (2010) | Score range: Score range : **0-18 points**Subscores are 0,1, or 2 according to the population-based sex-specific tertiles of intake (g)/1000 kcal **6 beneficial components:** grains, vegetables (excluding potatoes), legumes, fruits and nuts, fresh fish, olive oil**2 detrimental components:** meat, dairy products**1 component on ethanol** (moderation), 2 points were assigned if ethanol consumption was in the range 5-25 g/day for women and 10-50 g/day for men; otherwise, 0 point was attributed |

**Supplemental Table 2: Participant characteristics across mPNNS-GS weighted quintiles, NutriNet-Santé cohort1**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|   | Q1 | Q2 | Q3 | Q4 | Q5 | P trend |
| Quintile cut-offs |  |  |  |  |  |  |
| Men | <5.8 | 5.8-<7.3 | 7.3-<8.3 | 8.3-<9.3 | ≥9.3 |  |
| Women | <5.55 | 5.55-<7 | 7-<7.8 | 7.8-<9 | ≥9 |  |
| n (%) Unweighted  | 18957 | 19289 | 20062 | 20177 | 21156 |  |
| n (%) Weighted  | 19922.16 | 19927.05 | 19931.67 | 19919.83 | 19940.29 |  |
| Age, y | 38.82 ( 15.32) | 39.80 ( 15.82) | 44.00 ( 15.77) | 48.23 ( 15.10) | 52.77 ( 14.19) | <.0001 |
| Women, % | 78.5 | 78.5 | 78.5 | 78.5 | 78.5 |  |
| Educational level, % |  |  |  |  |  | <.0001 |
|  | < High-school diploma | 49.36 | 45.44 | 48.96 | 53 | 58.91 |  |
|  | High school diploma | 20.31 | 21.32 | 18.11 | 15.59 | 12.9 |  |
|  | Postgraduate | 30.33 | 33.23 | 32.93 | 31.41 | 28.19 |  |
| Occupational status, %, |  |  |  |  |  | <.0001 |
|  | Self-employed, farmer | 2.54 | 2.14 | 2.66 | 2.19 | 1.56 |  |
|  | Unemployed | 16.41 | 14.42 | 12.88 | 12.74 | 12.03 |  |
|  | Managerial staff, intellectual profession | 10.97 | 11.96 | 12.7 | 12.9 | 11.16 |  |
|  | Employee, manual worker | 29.96 | 27.32 | 25.49 | 21.47 | 17.66 |  |
|  | Student | 14.44 | 15.97 | 11.23 | 7.37 | 4.99 |  |
|  | Intermediate professions | 12.56 | 12.08 | 12.63 | 12.14 | 10.02 |  |
|  | Retired | 13.1 | 16.12 | 22.41 | 31.19 | 42.59 |  |
| Monthly income per household unit, %  |  |  |  |  |  | <.0001 |
|  | < 1,200€ | 32.48 | 28.34 | 23.92 | 19.03 | 15.04 |  |
|  | 1,200-1,800€ | 32.03 | 33.56 | 32.42 | 33.06 | 31.42 |  |
|  | 1,800-2,700€ | 21.34 | 22.9 | 24.49 | 26.05 | 28.36 |  |
|  | > 2,700€ | 14.14 | 15.2 | 19.17 | 21.87 | 25.18 |  |
| Smoking habits, % |  |  |  |  |  | <.0001 |
|  | Never smoker | 46.23 | 49.05 | 49.9 | 50.47 | 53.51 |  |
|  | Former smoker | 29.47 | 30.66 | 35.02 | 38.12 | 38.94 |  |
|  | Current smoker | 24.3 | 20.3 | 15.08 | 11.41 | 7.55 |  |
| Physical activity, % |  |  |  |  |  | <.0001 |
|  | High (1) | 30.9 | 31.4 | 35.6 | 39.5 | 46.7 |  |
|  | Moderate (2) | 38.2 | 40.7 | 40.1 | 40.1 | 37.7 |  |
|   | Low (3) | 30.9 | 27.9 | 24.3 | 20.4 | 15.6 |   |

Abbreviations: Q, quintile

1All values presented are weighted data (unless otherwise specified). Values are means ± SD or percent, as appropriate

2Linear contrast test for continuous variables or Mantel-Haenszel chi-square test for categorical variable.

Occupational status: Chi²-test, as the variables were not ordinal

3Optional questionnaire, 12037 missing value

**Supplemental Table 3: Participant characteristics across AHEI weighted quintiles, NutriNet-Santé cohort1**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|   | Q1 | Q2 | Q3 | Q4 | Q5 | P trend |
| Quintile cut-offs |  |  |  |  |  |  |
| Men | <32,4 | 32,39-39,91 | 39,91-46,66 | 46,64-54,92 | >54,92 |  |
| Women | <34,68 | 34,67-42,23 | 42,23-49,06 | 49,06-56,91 | >56,91 |  |
| n (%) Unweighted  | 17169 | 19303 | 20198 | 20717 | 22254 |  |
| n (%) Weighted  | 19894.93 | 19939.03 | 19939.58 | 19929.11 | 19938.34 |  |
| Age, y | 38.82 ( 15.32) | 39.80 ( 15.82) | 44.00 ( 15.77) | 48.23 ( 15.10) | 52.77 ( 14.19) |  |
| Women, % | 78.49 | 78.44 | 78.45 | 78.43 | 78.44 |  |
| Educational level, % |  |  |  |  |  | <.0001 |
|  | < High-school diploma | 45.43 | 46.65 | 51.53 | 55.14 | 56.93 |  |
|  | High school diploma | 24.56 | 19.78 | 16.06 | 14.47 | 13.38 |  |
|  | Postgraduate | 30.01 | 33.57 | 32.41 | 30.39 | 29.69 |  |
| Occupational status, %, |  |  |  |  |  | <.0001 |
|  | Self-employed, farmer | 1.86 | 2.21 | 2.58 | 1.76 | 2.67 |  |
|  | Unemployed | 16.14 | 14.36 | 13.12 | 12.86 | 12.01 |  |
|  | Managerial staff, intellectual profession | 10.02 | 12.5 | 13.04 | 12.6 | 11.5 |  |
|  | Employee, manual worker | 31.87 | 28.13 | 24.59 | 20.82 | 16.5 |  |
|  | Student | 21.2 | 12.86 | 8.75 | 6.19 | 5.03 |  |
|  | Intermediate professions | 11.98 | 12.96 | 12.47 | 11.27 | 10.74 |  |
|  | Retired | 6.93 | 16.99 | 25.45 | 34.48 | 41.55 |  |
| Monthly income per household unit, %  |  |  |  |  |  | <.0001 |
|  | < 1,200€ | 36.79 | 27.48 | 21.17 | 18.66 | 15.14 |  |
|  | 1,200-1,800€ | 32.93 | 33.03 | 33.13 | 32.71 | 30.69 |  |
|  | 1,800-2,700€ | 19.04 | 23.19 | 25.32 | 26.46 | 28.96 |  |
|  | > 2,700€ | 11.25 | 16.3 | 20.38 | 22.17 | 25.2 |  |
| Smoking habits, % |  |  |  |  |  | <.0001 |
|  | Never smoker | 49.57 | 48.95 | 49.35 | 50.15 | 51.15 |  |
|  | Former smoker | 25.56 | 32.5 | 35.93 | 37.96 | 40.24 |  |
|  | Current smoker | 24.87 | 18.55 | 14.73 | 11.89 | 8.61 |  |
| Physical activity, % |  |  |  |  |  | <.0001 |
|  | High (1) | 29.99 | 32.18 | 36.85 | 40.16 | 44.71 |  |
|  | Moderate (2) | 39.39 | 40.84 | 38.99 | 38.01 | 39.69 |  |
|   | Low (3) | 30.62 | 26.98 | 24.16 | 21.83 | 15.6 |   |

Abbreviations: Q, quintile

1All values presented are weighted data (unless otherwise specified). Values are means ± SD or percent, as appropriate

2Linear contrast test for continuous variables or Mantel-Haenszel chi-square test for categorical variable.

Occupational status: Chi²-test, as the variables were not ordinal

3Optional questionnaire, 12037 missing value

**Supplemental Table 4: Participant characteristics across Medi-Lite weighted quintiles, NutriNet-Santé cohort1**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|   | Q1 | Q2 | Q3 | Q4 | Q5 | P trend |
| Quintile cut-offs |  |  |  |  |  |  |
| Men | <7 | 7-<9 | 9-<10 | 10-<12 | >12 |  |
| Women | <7 | 7-<8 | 8-<10 | 10-<11 | >11 |  |
| n (%) Unweighted  | 16464 | 18392 | 19925 | 20848 | 24012 |  |
| n (%) Weighted  | 19922.67 | 19915.43 | 19925.86 | 19934.42 | 19942.62 |  |
| Age, y | 37.63 ( 16.27) | 42.63 ( 16.49) | 44.88 ( 15.80) | 48.32 ( 15.36) | 50.15 ( 13.95) | <.0001 |
| Women, % | 78.46 | 78.5 | 78.38 | 78.5 | 78.4 |  |
| Educational level, % |  |  |  |  |  | <.0001 |
|  | < High-school diploma | 51.49 | 51.38 | 50.39 | 52.81 | 49.63 |  |
|  | High school diploma | 22.34 | 19.21 | 16.73 | 15.43 | 14.5 |  |
|  | Postgraduate | 26.17 | 29.41 | 32.88 | 31.76 | 35.87 |  |
| Occupational status, %, |  |  |  |  |  | <.0001 |
|  | Self-employed, farmer | 1.68 | 2.06 | 2.27 | 2.53 | 2.55 |  |
|  | Unemployed | 16.94 | 14.06 | 12.61 | 12.67 | 12.17 |  |
|  | Managerial staff, intellectual profession | 8.84 | 11.02 | 12.43 | 13.31 | 14.09 |  |
|  | Employee, manual worker | 32.77 | 27.43 | 25.72 | 18.99 | 16.96 |  |
|  | Student | 17.26 | 12.25 | 9.88 | 8.23 | 6.36 |  |
|  | Intermediate professions | 11.48 | 12.09 | 12.64 | 11.71 | 11.51 |  |
|  | Retired | 11.05 | 21.1 | 24.44 | 32.55 | 36.35 |  |
| Monthly income per household unit, %  |  |  |  |  |  | <.0001 |
|  | < 1,200€ | 35.02 | 26.72 | 22.61 | 19.26 | 15.62 |  |
|  | 1,200-1,800€ | 34.27 | 34.05 | 31.73 | 32.17 | 30.35 |  |
|  | 1,800-2,700€ | 19.39 | 23.44 | 26.41 | 26.47 | 27.26 |  |
|  | > 2,700€ | 11.32 | 15.79 | 19.25 | 22.11 | 26.78 |  |
| Smoking habits, % |  |  |  |  |  | <.0001 |
|  | Never smoker | 48.06 | 50.61 | 49.6 | 48.37 | 52.52 |  |
|  | Former smoker | 28.4 | 32.81 | 34.99 | 38.53 | 37.5 |  |
|  | Current smoker | 23.53 | 16.58 | 15.4 | 13.1 | 9.98 |  |
| Physical activity, % |  |  |  |  |  | <.0001 |
|  | High (1) | 31.46 | 35.03 | 36.64 | 38 | 42.84 |  |
|  | Moderate (2) | 38.3 | 38.77 | 38.95 | 39.88 | 40.84 |  |
|   | Low (3) | 30.24 | 26.2 | 24.41 | 22.12 | 16.32 |   |

Abbreviations: Q, quintile

1All values presented are weighted data (unless otherwise specified). Values are means ± SD or percent, as appropriate

2Linear contrast test for continuous variables or Mantel-Haenszel chi-square test for categorical variable.

Occupational status: Chi²-test, as the variables were not ordinal

3Optional questionnaire, 12037 missing value

**Supplemental Table 5: Participant characteristics across PANDIET weighted quintiles, NutriNet-Santé cohort1**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|   | Q1 | Q2 | Q3 | Q4 | Q5 | P trend |
| Quintile cut-offs |  |  |  |  |  |  |
| Men | <56,98 | 56,98-<61,38 | 61,38-<65,68 | 65,68-70,65 | >70,63 |  |
| Women | <55,44 | 55,44-60,51 | 60,51-65,01 | 65,01-70,39 | >70,39 |  |
| n (%) Unweighted  | 17908 | 19651 | 20271 | 20456 | 21355 |  |
| n (%) Weighted  | 19913.96 | 19937.58 | 19917.82 | 19933.56 | 19938.08 |  |
| Age, y | 38.06 ( 15.98) | 42.47 ( 15.91) | 45.51 ( 15.74) | 47.86 ( 15.57) | 49.71 ( 14.75) | <.0001 |
| Women, % | 78.45 | 78.45 | 78.49 | 78.42 | 78.43 |  |
| Educational level, % |  |  |  |  |  | <.0001 |
|  | < High-school diploma | 47.93 | 48.4 | 50.17 | 53.76 | 55.44 |  |
|  | High school diploma | 21.97 | 18.62 | 17.48 | 15.48 | 14.68 |  |
|  | Postgraduate | 30.1 | 32.99 | 32.35 | 30.76 | 29.88 |  |
| Occupational status, %, |  |  |  |  |  | <.0001 |
|  | Self-employed, farmer | 2.43 | 2.06 | 2.25 | 2.15 | 2.2 |  |
|  | Unemployed | 16.37 | 14.34 | 13.41 | 13.31 | 11.06 |  |
|  | Managerial staff, intellectual profession | 10.62 | 12.3 | 12.68 | 12.03 | 12.05 |  |
|  | Employee, manual worker | 29.76 | 26.12 | 23.2 | 21.59 | 21.22 |  |
|  | Student | 16.56 | 12.28 | 9.68 | 8.32 | 7.17 |  |
|  | Intermediate professions | 11.28 | 12.52 | 12.35 | 11.73 | 11.54 |  |
|  | Retired | 12.99 | 20.38 | 26.43 | 30.87 | 34.75 |  |
| Monthly income per household unit, %  |  |  |  |  |  | <.0001 |
|  | < 1,200€ | 33.4 | 25.67 | 21.64 | 20.34 | 17.94 |  |
|  | 1,200-1,800€ | 32.45 | 31.93 | 32.86 | 34.22 | 31.01 |  |
|  | 1,800-2,700€ | 20.49 | 25.05 | 25.05 | 24.6 | 27.89 |  |
|  | > 2,700€ | 13.67 | 17.35 | 20.46 | 20.84 | 23.16 |  |
| Smoking habits, % |  |  |  |  |  | <.0001 |
|  | Never smoker | 45.79 | 49.86 | 50.81 | 51.46 | 51.23 |  |
|  | Former smoker | 28.2 | 33.01 | 35.02 | 36.5 | 39.47 |  |
|  | Current smoker | 26 | 17.13 | 14.17 | 12.04 | 9.3 |  |
| Physical activity, % |  |  |  |  |  | <.0001 |
|  | High (1) | 29.19 | 32.99 | 37.43 | 39.09 | 45.29 |  |
|  | Moderate (2) | 39.36 | 41.04 | 39.06 | 39.94 | 37.54 |  |
|   | Low (3) | 25.68 | 21.58 | 20.05 | 17.84 | 14.85 |   |

Abbreviations: Q, quintile

1All values presented are weighted data (unless otherwise specified). Values are means ± SD or percent, as appropriate

2Linear contrast test for continuous variables or Mantel-Haenszel chi-square test for categorical variable.

Occupational status: Chi²-test, as the variables were not ordinal

3Optional questionnaire, 12037 missing value

**Supplemental Table 6: Participant characteristics across HDI weighted quintiles, NutriNet-Santé cohort1**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|   | Q1 | Q2 | Q3 | Q4 | Q5 | P trend |
| Quintile cut-offs |  |  |  |  |  |  |
| Men | <1 | 01-févr | 2-3 | 3-3 | >3 |  |
| Women | <1 | 1-2 | 2-3 | 3-3 | >3 |  |
| n (%) Unweighted  | 18758 | 19283 | 19704 | 19799 | 22097 |  |
| n (%) Weighted  | 19922.5 | 19913.77 | 19944.53 | 19917.46 | 19942.74 |  |
| Age, y | 39.33 ( 15.42) | 42.63 ( 15.71) | 44.84 ( 16.27) | 48.05 ( 15.92) | 48.77 ( 15.33) | <.0001 |
| Women, % | 78.46 | 78.46 | 78.43 | 78.43 | 78.45 |  |
| Educational level, % |  |  |  |  |  | <.0001 |
|  | < High-school diploma | 46.86 | 50.77 | 50.97 | 55.32 | 51.8 |  |
|  | High school diploma | 20.53 | 18.55 | 18.2 | 15.28 | 15.65 |  |
|  | Postgraduate | 32.61 | 30.69 | 30.83 | 29.4 | 32.55 |  |
| Occupational status, %, |  |  |  |  |  | <.0001 |
|  | Self-employed, farmer | 2.1 | 1.77 | 2.17 | 2.58 | 2.47 |  |
|  | Unemployed | 14.4 | 14.73 | 14.26 | 12.46 | 12.62 |  |
|  | Managerial staff, intellectual profession | 12.02 | 12.62 | 11.94 | 11.06 | 12.05 |  |
|  | Employee, manual worker | 30.07 | 27.9 | 23.28 | 21.61 | 19.01 |  |
|  | Student | 14.4 | 10.86 | 11.61 | 8.09 | 9.01 |  |
|  | Intermediate professions | 13.27 | 12.72 | 11.38 | 11.24 | 10.83 |  |
|  | Retired | 13.74 | 19.42 | 25.36 | 32.97 | 34.02 |  |
| Monthly income per household unit, %  |  |  |  |  |  | <.0001 |
|  | < 1,200€ | 28.31 | 25.32 | 24.1 | 21.89 | 19.26 |  |
|  | 1,200-1,800€ | 33.89 | 33.47 | 31.81 | 32.25 | 31.07 |  |
|  | 1,800-2,700€ | 22.88 | 22.95 | 25.71 | 25.31 | 26.26 |  |
|  | > 2,700€ | 14.92 | 18.27 | 18.38 | 20.55 | 23.41 |  |
| Smoking habits, % |  |  |  |  |  | <.0001 |
|  | Never smoker | 52.13 | 48.75 | 47.63 | 48.01 | 52.65 |  |
|  | Former smoker | 28.65 | 33.17 | 35.84 | 37.83 | 36.74 |  |
|  | Current smoker | 19.22 | 18.08 | 16.52 | 14.16 | 10.61 |  |
| Physical activity, % |  |  |  |  |  | <.0001 |
|  | High (1) | 31 | 33.97 | 37.19 | 39.27 | 42.76 |  |
|  | Moderate (2) | 40.34 | 38.92 | 38.76 | 38.9 | 39.97 |  |
|   | Low (3) | 28.65 | 27.11 | 24.05 | 21.83 | 17.27 |   |

Abbreviations: Q, quintile

1All values presented are weighted data (unless otherwise specified). Values are means ± SD or percent, as appropriate

2Linear contrast test for continuous variables or Mantel-Haenszel chi-square test for categorical variable.

Occupational status: Chi²-test, as the variables were not ordinal

3Optional questionnaire, 12037 missing value

**Supplemental Table 7: Participant characteristics across DQI weighted quintiles, NutriNet-Santé cohort1**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|   | Q1 | Q2 | Q3 | Q4 | Q5 | P trend |
| Quintile cut-offs |  |  |  |  |  |  |
| Men | <52,9 | 52,88-57,64 | 57,64-61,16 | 61,16-65 | >65 |  |
| Women | <52,58 | 52,57-58,09 | 58,09-62,06 | 62,06-66,15 | >66,15 |  |
| n (%) Unweighted  | 17381 | 20458 | 20783 | 21104 | 19915 |  |
| n (%) Weighted  | 19916.41 | 19932.9 | 19917.31 | 19931.98 | 19942.39 |  |
| Age, y | 36.05 ( 14.74) | 41.26 ( 15.30) | 45.43 ( 15.46) | 48.94 ( 15.00) | 51.93 ( 14.94) | <.0001 |
| Women, % | 78.46 | 78.46 | 78.43 | 78.49 | 78.41 | <.0001 |
| Educational level, % |  |  |  |  |  | <.0001 |
|  | < High-school diploma | 47.66 | 45.57 | 50.22 | 52.96 | 59.27 |  |
|  | High school diploma | 23.51 | 19.79 | 16.19 | 14.81 | 13.94 |  |
|  | Postgraduate | 28.83 | 34.64 | 33.58 | 32.23 | 26.79 |  |
| Occupational status, %, |  |  |  |  |  | <.0001 |
|  | Self-employed, farmer | 2.47 | 2.41 | 2.52 | 1.67 | 2.01 |  |
|  | Unemployed | 18.28 | 13.08 | 13.14 | 12.48 | 11.51 |  |
|  | Managerial staff, intellectual profession | 9.59 | 13.75 | 12.85 | 12.63 | 10.85 |  |
|  | Employee, manual worker | 32.32 | 26.44 | 23.61 | 20.26 | 19.28 |  |
|  | Student | 17.43 | 13.57 | 9.51 | 7.68 | 5.81 |  |
|  | Intermediate professions | 11.74 | 13.32 | 12.18 | 11.93 | 10.27 |  |
|  | Retired | 8.16 | 17.43 | 26.19 | 33.35 | 40.26 |  |
| Monthly income per household unit, %  |  |  |  |  |  | <.0001 |
|  | < 1,200€ | 36.79 | 26.78 | 20.16 | 17.94 | 17.29 |  |
|  | 1,200-1,800€ | 33.04 | 31.76 | 33.83 | 32.88 | 30.97 |  |
|  | 1,800-2,700€ | 18.84 | 23.83 | 26.18 | 26.63 | 27.61 |  |
|  | > 2,700€ | 11.33 | 17.64 | 19.83 | 22.55 | 24.13 |  |
| Smoking habits, % |  |  |  |  |  | <.0001 |
|  | Never smoker | 52.13 | 48.75 | 47.63 | 48.01 | 52.65 |  |
|  | Former smoker | 27.99 | 32.86 | 35.6 | 35.66 | 40.08 |  |
|  | Current smoker | 28.35 | 17.98 | 13.37 | 10.64 | 8.33 |  |
| Physical activity, % |  |  |  |  |  | <.0001 |
|  | High (1) | 28.83 | 32.5 | 36.72 | 39.92 | 45.94 |  |
|  | Moderate (2) | 38.76 | 41.22 | 40.37 | 39.79 | 36.77 |  |
|   | Low (3) | 32.42 | 26.28 | 22.92 | 20.29 | 17.29 |   |

Abbreviations: Q, quintile

1All values presented are weighted data (unless otherwise specified). Values are means ± SD or percent, as appropriate

2Linear contrast test for continuous variables or Mantel-Haenszel chi-square test for categorical variable.

Occupational status: Chi²-test, as the variables were not ordinal

3Optional questionnaire, 12037 missing value

**Supplemental Table 8: Nutritional characteristics across mPNNS-GS weighted quintiles, NutriNet-Santé cohort1**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|   | Q1 | Q2 | Q3 | Q4 | Q5 | P2 |
| Energy intake, kcal/d | 1982.66 (617.47) | 1889.33 (506.18) | 1802.50 (451.40) | 1763.01 (421.07) | 1719.54 (380.59) | <.0001 |
| Alcohol, g/d | 8.57 ( 15.28) | 8.35 ( 13.15) | 7.33 ( 10.36) | 6.63 ( 9.19) | 5.44 ( 7.20) | <.0001 |
| Proteins, %3 | 17.08 ( 4.31) | 17.19 ( 4.01) | 18.07 ( 3.97) | 18.74 ( 4.02) | 19.42 ( 3.91) | <.0001 |
| Cholesterol, g/d | 316.87 (118.54) | 320.20 (110.16) | 317.45 (104.98) | 312.27 (100.74) | 298.78 ( 94.56) | <.0001 |
| Carbohydrates, %3 | 42.71 ( 7.17) | 42.53 ( 6.79) | 42.50 ( 6.76) | 42.98 ( 6.38) | 43.92 ( 6.25) | <.0001 |
| Lipids, %3 | 39.93 ( 6.52) | 39.99 ( 6.00) | 39.11 ( 6.02) | 37.92 ( 5.80) | 36.22 ( 5.92) | <.0001 |
| SFA, %3 | 16.71 ( 3.86) | 16.75 ( 3.36) | 15.94 ( 3.37) | 14.95 ( 3.12) | 13.65 ( 3.12) | <.0001 |
| MUFA, %3 | 14.90 ( 3.32) | 14.90 ( 3.18) | 14.71 ( 3.14) | 14.39 ( 3.09) | 13.80 ( 3.07) | <.0001 |
| PUFA, %3 | 5.44 ( 1.94) | 5.44 ( 1.80) | 5.53 ( 1.75) | 5.63 ( 1.73) | 5.80 ( 1.79) | <.0001 |
| n-3 PUFA, g/d | 1.14 ( 0.70) | 1.15 ( 0.60) | 1.27 ( 0.61) | 1.44 ( 0.71) | 1.66 ( 0.77) | <.0001 |
| n-6 PUFA, g/d | 9.22 ( 4.17) | 9.25 ( 3.68) | 9.35 ( 3.37) | 9.43 ( 3.26) | 9.57 ( 3.32) | <.0001 |
| Fruits, g/d | 115.63 (126.46) | 121.29 ( 99.33) | 158.81 (110.32) | 211.32 (126.33) | 294.58 (140.98) | <.0001 |
| Vegetables, g/d | 164.37 (110.25) | 170.79 ( 90.04) | 198.74 (105.80) | 236.30 (100.59) | 291.66 (116.57) | <.0001 |
| Beta-caroten, µ/d | 2562.15 (2171.1) | 2673.63 (1960.6) | 3078.05 (2054.3) | 3600.48 (2063.7) | 4444.89 (2591.4) | <.0001 |
| Calcium, mg/d | 853.15 (279.32) | 867.47 (241.43) | 894.23 (218.34) | 928.34 (208.69) | 981.39 (201.16) | <.0001 |
| Iron, mg/d | 11.83 ( 4.04) | 12.08 ( 3.34) | 12.77 ( 3.43) | 13.41 ( 3.33) | 14.63 ( 3.60) | <.0001 |
| Fibers, g/d | 15.71 ( 5.84) | 16.33 ( 4.76) | 17.91 ( 4.93) | 20.11 ( 5.12) | 23.72 ( 5.68) | <.0001 |
| Sel, g/d | 8.55 ( 2.38) | 8.79 ( 2.21) | 8.73 ( 1.96) | 8.66 ( 1.91) | 8.23 ( 1.63) | <.0001 |
| Folates, mg/d | 272.83 ( 97.21) | 279.77 ( 78.42) | 303.21 ( 81.78) | 335.60 ( 80.48) | 386.23 ( 92.20) | <.0001 |
| Vitamin C, mg/d | 93.31 ( 68.85) | 94.85 ( 69.03) | 103.69 ( 55.17) | 119.60 ( 55.88) | 141.68 ( 59.30) | <.0001 |
| Vitamine E, mg/d | 10.84 ( 4.59) | 10.95 ( 4.02) | 11.25 ( 3.51) | 11.80 ( 3.41) | 12.52 ( 3.19) | <.0001 |

 **Abbreviations:** FSA-NPS DI: Food Standards Agency Nutrient Profiling system Dietary Index ;

1 Values are means (standard deviations)

2 P estimated by linear contrast using ANOVA

3 % of daily energy intake without alcohol intake.

**Supplemental Table 9: Nutritional characteristics across AHEI weighted quintiles, NutriNet-Santé cohort1**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|   | Q1 | Q2 | Q3 | Q4 | Q5 | P2 |
| Energy intake, kcal/d | 1966.94 (482.32) | 1846.96 (483.16) | 1747.88 (462.33) | 1762.64 (511.38) | 1832.60 (472.17) | <.0001 |
| Alcohol, g/d | 7.55 ( 16.63) | 7.54 ( 12.45) | 7.47 ( 10.87) | 7.16 ( 8.59) | 6.59 ( 7.28) | <.0001 |
| Proteins, %3 | 18.14 ( 3.94) | 18.64 ( 4.56) | 18.15 ( 3.87) | 18.38 ( 3.96) | 17.20 ( 4.18) | <.0001 |
| Cholesterol, g/d | 313.30 (111.31) | 323.13 (106.53) | 323.58 (102.46) | 317.29 (101.68) | 288.26 (105.27) | <.0001 |
| Carbohydrates, %3 | 41.79 ( 6.02) | 41.51 ( 6.79) | 42.92 ( 6.46) | 43.06 ( 6.58) | 45.34 ( 6.82) | <.0001 |
| Lipids, %3 | 39.80 ( 5.27) | 39.54 ( 5.98) | 38.61 ( 5.93) | 38.19 ( 6.30) | 37.05 ( 6.94) | <.0001 |
| SFA, %3 | 17.63 ( 3.15) | 16.74 ( 3.24) | 15.63 ( 3.03) | 14.99 ( 3.10) | 13.01 ( 3.41) | <.0001 |
| MUFA, %3 | 14.38 ( 2.49) | 14.56 ( 2.92) | 14.64 ( 3.11) | 14.50 ( 3.31) | 14.62 ( 3.81) | <.0001 |
| PUFA, %3 | 4.82 ( 1.29) | 5.26 ( 1.55) | 5.40 ( 1.76) | 5.77 ( 1.77) | 6.60 ( 2.01) | <.0001 |
| n-3 PUFA, g/d | 0.89 ( 0.44) | 1.12 ( 0.49) | 1.30 ( 0.55) | 1.50 ( 0.67) | 1.86 ( 0.84) | <.0001 |
| n-6 PUFA, g/d | 8.44 ( 3.33) | 8.85 ( 3.00) | 9.03 ( 2.96) | 9.45 ( 3.14) | 11.06 ( 4.45) | <.0001 |
| Fruits, g/d | 89.57 ( 99.91) | 140.72 (111.24) | 176.30 (118.31) | 213.31 (125.05) | 281.59 (147.18) | <.0001 |
| Vegetables, g/d | 137.36 ( 88.02) | 181.64 ( 90.48) | 212.55 (100.26) | 236.60 ( 99.51) | 293.60 (125.32) | <.0001 |
| Beta-caroten, µ/d | 2198.18 (1791.3) | 2822.54 (1934.5) | 3215.56 (1920.6) | 3620.39 (2069.3) | 4500.88 (2787.2) | <.0001 |
| Calcium, mg/d | 860.83 (275.71) | 886.64 (230.69) | 907.12 (224.41) | 926.88 (220.20) | 943.05 (219.04) | <.0001 |
| Iron, mg/d | 11.05 ( 3.40) | 12.07 ( 3.36) | 12.71 ( 3.23) | 13.52 ( 3.25) | 15.36 ( 3.68) | <.0001 |
| Fibers, g/d | 13.84 ( 4.06) | 16.39 ( 3.90) | 18.27 ( 4.22) | 20.36 ( 4.56) | 24.90 ( 6.21) | <.0001 |
| Sel, g/d | 8.78 ( 2.39) | 8.76 ( 2.07) | 8.70 ( 1.97) | 8.58 ( 1.87) | 8.12 ( 1.83) | <.0001 |
| Folates, mg/d | 255.89 ( 81.04) | 288.46 ( 77.11) | 312.10 ( 80.70) | 336.14 ( 85.58) | 384.97 ( 97.91) | <.0001 |
| Vitamin C, mg/d | 97.70 ( 82.26) | 103.94 ( 58.90) | 107.10 ( 60.87) | 113.70 ( 52.46) | 130.67 ( 61.88) | <.0001 |
| Vitamine E, mg/d | 9.76 ( 3.75) | 10.74 ( 3.39) | 11.27 ( 3.39) | 11.90 ( 3.30) | 13.68 ( 4.01) | <.0001 |

 **Abbreviations:** FSA-NPS DI: Food Standards Agency Nutrient Profiling system Dietary Index ;

1 Values are means (standard deviations)

2 P estimated by linear contrast using ANOVA

3 % of daily energy intake without alcohol intake.

**Supplemental Table 10: Nutritional characteristics across Medi-Lite weighted quintiles, NutriNet-Santé cohort1**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|   | Q1 | Q2 | Q3 | Q4 | Q5 | P2 |
| Energy intake, kcal/d | 1775.63 (576.98) | 1792.88 (520.26) | 1838.74 (488.77) | 1831.14 (453.97) | 1918.45 (409.47) | <.0001 |
| Alcohol, g/d | 6.82 ( 15.34) | 7.28 ( 12.83) | 7.17 ( 10.88) | 7.56 ( 9.75) | 7.49 ( 8.16) | <.0001 |
| Proteins, %3 | 19.01 ( 5.56) | 18.46 ( 4.38) | 18.11 ( 3.99) | 18.01 ( 3.58) | 16.93 ( 2.99) | <.0001 |
| Cholesterol, g/d | 332.12 (123.73) | 328.04 (106.72) | 320.05 (103.26) | 307.64 ( 95.77) | 277.74 ( 95.31) | <.0001 |
| Carbohydrates, %3 | 41.49 ( 7.71) | 42.30 ( 6.90) | 42.90 ( 6.62) | 43.41 ( 6.30) | 44.52 ( 5.76) | <.0001 |
| Lipids, %3 | 39.18 ( 6.87) | 38.91 ( 6.41) | 38.64 ( 6.29) | 38.24 ( 6.02) | 38.22 ( 5.61) | <.0001 |
| SFA, %3 | 16.70 ( 3.94) | 16.24 ( 3.58) | 15.84 ( 3.49) | 15.04 ( 3.27) | 14.18 ( 3.09) | <.0001 |
| MUFA, %3 | 14.31 ( 3.17) | 14.33 ( 3.12) | 14.45 ( 3.22) | 14.58 ( 3.21) | 15.02 ( 3.15) | <.0001 |
| PUFA, %3 | 5.23 ( 1.84) | 5.40 ( 1.72) | 5.41 ( 1.70) | 5.68 ( 1.71) | 6.13 ( 1.90) | <.0001 |
| n-3 PUFA, g/d | 0.98 ( 0.53) | 1.18 ( 0.59) | 1.30 ( 0.63) | 1.49 ( 0.70) | 1.71 ( 0.78) | <.0001 |
| n-6 PUFA, g/d | 9.05 ( 3.52) | 9.16 ( 3.34) | 9.03 ( 3.37) | 9.42 ( 3.37) | 10.17 ( 3.98) | <.0001 |
| Fruits, g/d | 89.88 ( 97.73) | 140.35 (120.34) | 177.22 (127.86) | 220.17 (133.49) | 273.93 (128.80) | <.0001 |
| Vegetables, g/d | 137.76 ( 94.93) | 183.09 (102.36) | 210.97 (113.18) | 244.13 (102.61) | 285.84 (102.28) | <.0001 |
| Beta-caroten, µ/d | 2189.88 (1819.3) | 2859.16 (2066.8) | 3216.41 (2162.4) | 3668.66 (2092.0) | 4424.07 (2492.1) | <.0001 |
| Calcium, mg/d | 923.77 (278.11) | 917.60 (252.41) | 905.25 (232.17) | 904.30 (222.08) | 873.73 (196.66) | <.0001 |
| Iron, mg/d | 11.72 ( 3.60) | 12.32 ( 3.52) | 12.66 ( 3.53) | 13.44 ( 3.42) | 14.57 ( 3.70) | <.0001 |
| Fibers, g/d | 14.22 ( 4.28) | 16.67 ( 4.46) | 18.23 ( 4.87) | 20.58 ( 5.03) | 24.07 ( 5.87) | <.0001 |
| Sel, g/d | 8.38 ( 2.19) | 8.59 ( 2.14) | 8.69 ( 2.02) | 8.71 ( 1.94) | 8.57 ( 1.92) | <.0001 |
| Folates, mg/d | 262.10 ( 87.96) | 292.32 ( 85.55) | 312.83 ( 92.25) | 337.48 ( 84.91) | 372.88 ( 88.85) | <.0001 |
| Vitamin C, mg/d | 89.46 ( 72.87) | 98.81 ( 55.38) | 110.30 ( 63.67) | 120.30 ( 62.07) | 134.24 ( 58.88) | <.0001 |
| Vitamine E, mg/d | 10.17 ( 3.91) | 10.92 ( 3.65) | 11.10 ( 3.51) | 12.04 ( 3.53) | 13.13 ( 3.77) | <.0001 |

 **Abbreviations:** FSA-NPS DI: Food Standards Agency Nutrient Profiling system Dietary Index ;

1 Values are means (standard deviations)

2 P estimated by linear contrast using ANOVA

3 % of daily energy intake without alcohol intake.

**Supplemental Table 11: Nutritional characteristics across PANDIET weighted quintiles, NutriNet-Santé cohort1**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|   | Q1 | Q2 | Q3 | Q4 | Q5 | P2 |
| Energy intake, kcal/d | 1788.27 (572.11) | 1893.39 (515.77) | 1876.12 (481.66) | 1842.99 (459.48) | 1756.17 (399.35) | <.0001 |
| Alcohol, g/d | 7.02 ( 12.94) | 7.93 ( 11.94) | 8.00 ( 11.33) | 7.60 ( 11.50) | 5.75 ( 8.84) | <.0001 |
| Proteins, %3 | 16.34 ( 3.77) | 17.48 ( 3.64) | 18.22 ( 3.78) | 18.77 ( 4.05) | 19.69 ( 4.54) | <.0001 |
| Cholesterol, g/d | 345.32 (106.01) | 338.48 (110.30) | 323.64 (100.38) | 299.36 ( 98.22) | 258.81 ( 92.13) | <.0001 |
| Carbohydrates, %3 | 41.03 ( 7.05) | 41.43 ( 6.52) | 42.46 ( 6.45) | 43.82 ( 6.33) | 45.89 ( 5.96) | <.0001 |
| Lipids, %3 | 42.40 ( 6.04) | 40.81 ( 5.43) | 39.00 ( 5.35) | 37.03 ( 5.35) | 33.96 ( 5.24) | <.0001 |
| SFA, %3 | 18.36 ( 3.50) | 17.14 ( 2.93) | 15.93 ( 2.66) | 14.51 ( 2.47) | 12.06 ( 2.51) | <.0001 |
| MUFA, %3 | 15.74 ( 3.18) | 15.24 ( 2.97) | 14.65 ( 2.96) | 14.01 ( 3.07) | 13.06 ( 3.03) | <.0001 |
| PUFA, %3 | 5.34 ( 1.83) | 5.45 ( 1.66) | 5.48 ( 1.69) | 5.61 ( 1.83) | 5.97 ( 1.94) | <.0001 |
| n-3 PUFA, g/d | 0.98 ( 0.45) | 1.16 ( 0.52) | 1.30 ( 0.63) | 1.47 ( 0.72) | 1.76 ( 0.85) | <.0001 |
| n-6 PUFA, g/d | 9.23 ( 3.57) | 9.25 ( 3.33) | 9.20 ( 3.38) | 9.33 ( 3.68) | 9.83 ( 3.79) | <.0001 |
| Fruits, g/d | 90.95 ( 86.84) | 134.30 (101.84) | 172.33 (112.72) | 216.68 (131.93) | 287.30 (154.69) | <.0001 |
| Vegetables, g/d | 138.95 ( 83.56) | 181.01 ( 91.72) | 210.16 ( 94.50) | 240.54 (115.94) | 291.15 (120.45) | <.0001 |
| Beta-caroten, µ/d | 2137.67 (1634.3) | 2780.37 (1824.5) | 3242.21 (2062.3) | 3692.77 (2308.0) | 4505.37 (2652.4) | <.0001 |
| Calcium, mg/d | 804.56 (236.47) | 878.09 (226.61) | 911.40 (221.17) | 944.25 (224.32) | 986.20 (226.55) | <.0001 |
| Iron, mg/d | 11.05 ( 3.50) | 12.01 ( 3.30) | 12.92 ( 3.31) | 13.69 ( 3.49) | 15.04 ( 3.54) | <.0001 |
| Fibers, g/d | 13.94 ( 3.80) | 16.23 ( 4.07) | 18.29 ( 4.29) | 20.59 ( 4.86) | 24.73 ( 6.18) | <.0001 |
| Sel, g/d | 8.54 ( 2.16) | 8.72 ( 2.11) | 8.71 ( 2.06) | 8.62 ( 1.95) | 8.36 ( 1.89) | <.0001 |
| Folates, mg/d | 239.41 ( 68.48) | 282.89 ( 73.19) | 313.83 ( 75.04) | 343.99 ( 83.62) | 397.47 ( 92.12) | <.0001 |
| Vitamin C, mg/d | 75.76 ( 62.47) | 95.55 ( 61.40) | 110.77 ( 56.07) | 125.46 ( 61.23) | 145.56 ( 57.67) | <.0001 |
| Vitamine E, mg/d | 10.33 ( 3.92) | 10.89 ( 3.68) | 11.19 ( 3.47) | 11.85 ( 3.61) | 13.10 ( 3.79) | <.0001 |

 **Abbreviations:** FSA-NPS DI: Food Standards Agency Nutrient Profiling system Dietary Index ;

1 Values are means (standard deviations)

2 P estimated by linear contrast using ANOVA

3 % of daily energy intake without alcohol intake.

**Supplemental Table 12: Nutritional characteristics across HDI weighted quintiles, NutriNet-Santé cohort1**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|   | Q1 | Q2 | Q3 | Q4 | Q5 | P2 |
| Energy intake, kcal/d | 1966.94 (482.32) | 1846.96 (483.16) | 1747.88 (462.33) | 1762.64 (511.38) | 1832.60 (472.17) | <.0001 |
| Alcohol, g/d | 7.46 ( 12.29) | 7.93 ( 12.94) | 7.76 ( 11.68) | 7.35 ( 11.11) | 5.81 ( 8.50) | <.0001 |
| Proteins, %3 | 18.14 ( 3.94) | 18.64 ( 4.56) | 18.15 ( 3.87) | 18.38 ( 3.96) | 17.20 ( 4.18) | <.0001 |
| Cholesterol, g/d | 370.25 (106.43) | 344.76 (106.67) | 312.77 ( 93.64) | 296.85 ( 83.03) | 241.00 ( 91.83) | <.0001 |
| Carbohydrates, %3 | 41.79 ( 6.02) | 41.51 ( 6.79) | 42.92 ( 6.46) | 43.06 ( 6.58) | 45.34 ( 6.82) | <.0001 |
| Lipids, %3 | 39.80 ( 5.27) | 39.54 ( 5.98) | 38.61 ( 5.93) | 38.19 ( 6.30) | 37.05 ( 6.94) | <.0001 |
| SFA, %3 | 17.63 ( 3.15) | 16.74 ( 3.24) | 15.63 ( 3.03) | 14.99 ( 3.10) | 13.01 ( 3.41) | <.0001 |
| MUFA, %3 | 14.38 ( 2.49) | 14.56 ( 2.92) | 14.64 ( 3.11) | 14.50 ( 3.31) | 14.62 ( 3.81) | <.0001 |
| PUFA, %3 | 4.82 ( 1.29) | 5.26 ( 1.55) | 5.40 ( 1.76) | 5.77 ( 1.77) | 6.60 ( 2.01) | <.0001 |
| n-3 PUFA, g/d | 1.09 ( 0.52) | 1.23 ( 0.62) | 1.26 ( 0.61) | 1.41 ( 0.70) | 1.68 ( 0.86) | <.0001 |
| n-6 PUFA, g/d | 7.95 ( 2.82) | 8.88 ( 3.10) | 9.20 ( 3.38) | 9.63 ( 3.37) | 11.18 ( 4.11) | <.0001 |
| Fruits, g/d | 92.34 ( 77.88) | 131.07 (103.75) | 166.40 (109.19) | 221.46 (134.11) | 290.30 (154.42) | <.0001 |
| Vegetables, g/d | 142.05 ( 71.74) | 175.07 ( 90.31) | 201.01 ( 95.86) | 241.18 (106.79) | 302.49 (126.72) | <.0001 |
| Beta-caroten, µ/d | 2241.00 (1520.1) | 2718.42 (1838.3) | 3116.46 (2011.9) | 3622.19 (2064.1) | 4660.23 (2867.7) | <.0001 |
| Calcium, mg/d | 911.80 (248.01) | 917.18 (241.10) | 878.14 (222.22) | 916.67 (233.52) | 900.86 (228.82) | <.0001 |
| Iron, mg/d | 11.75 ( 3.30) | 12.32 ( 3.41) | 12.61 ( 3.19) | 13.14 ( 3.46) | 14.89 ( 4.14) | <.0001 |
| Fibers, g/d | 14.17 ( 3.49) | 16.09 ( 3.87) | 17.98 ( 3.82) | 20.03 ( 4.54) | 25.51 ( 6.37) | <.0001 |
| Sel, g/d | 8.28 ( 2.09) | 8.62 ( 2.04) | 8.72 ( 1.97) | 8.77 ( 1.94) | 8.55 ( 2.10) | <.0001 |
| Folates, mg/d | 264.76 ( 70.17) | 288.49 ( 82.32) | 304.77 ( 80.52) | 334.41 ( 90.08) | 385.18 (102.20) | <.0001 |
| Vitamin C, mg/d | 86.74 ( 52.54) | 96.99 ( 64.07) | 108.13 ( 61.99) | 120.16 ( 54.79) | 141.09 ( 70.96) | <.0001 |
| Vitamine E, mg/d | 9.42 ( 3.30) | 10.64 ( 3.30) | 11.11 ( 3.12) | 12.02 ( 3.25) | 14.16 ( 4.16) | <.0001 |

 **Abbreviations:** FSA-NPS DI: Food Standards Agency Nutrient Profiling system Dietary Index ;

1 Values are means (standard deviations)

2 P estimated by linear contrast using ANOVA

3 % of daily energy intake without alcohol intake.

**Supplemental Table 13: Nutritional characteristics across DQI weighted quintiles, NutriNet-Santé cohort1**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|   | Q1 | Q2 | Q3 | Q4 | Q5 | P2 |
| Energy intake, kcal/d | 1853.55 (598.50) | 1913.71 (501.54) | 1893.29 (479.59) | 1811.42 (442.23) | 1685.10 (378.30) | <.0001 |
| Alcohol, g/d | 7.96 ( 14.90) | 8.42 ( 12.73) | 7.58 ( 10.33) | 6.81 ( 9.72) | 5.54 ( 8.26) | <.0001 |
| Proteins, %3 | 17.13 ( 4.77) | 17.51 ( 4.05) | 17.71 ( 3.57) | 18.31 ( 3.62) | 19.84 ( 4.16) | <.0001 |
| Cholesterol, g/d | 343.34 (118.67) | 333.74 (106.89) | 320.66 (105.55) | 298.09 ( 93.71) | 269.77 ( 88.60) | <.0001 |
| Carbohydrates, %3 | 41.21 ( 7.32) | 41.93 ( 6.35) | 42.63 ( 5.84) | 43.53 ( 5.90) | 45.33 ( 7.28) | <.0001 |
| Lipids, %3 | 41.42 ( 6.23) | 40.28 ( 5.30) | 39.33 ( 5.17) | 37.80 ( 5.13) | 34.36 ( 6.69) | <.0001 |
| SFA, %3 | 17.51 ( 3.74) | 16.78 ( 3.13) | 16.03 ( 2.89) | 14.95 ( 2.76) | 12.73 ( 3.26) | <.0001 |
| MUFA, %3 | 15.42 ( 3.19) | 15.06 ( 2.87) | 14.80 ( 2.95) | 14.31 ( 2.92) | 13.11 ( 3.48) | <.0001 |
| PUFA, %3 | 5.54 ( 1.85) | 5.49 ( 1.67) | 5.58 ( 1.69) | 5.61 ( 1.80) | 5.64 ( 2.02) | <.0001 |
| n-3 PUFA, g/d | 1.04 ( 0.58) | 1.19 ( 0.59) | 1.34 ( 0.67) | 1.45 ( 0.68) | 1.63 ( 0.83) | <.0001 |
| n-6 PUFA, g/d | 9.43 ( 3.62) | 9.30 ( 3.37) | 9.35 ( 3.49) | 9.37 ( 3.57) | 9.38 ( 3.79) | 0.6548 |
| Fruits, g/d | 63.07 ( 74.60) | 131.05 ( 99.53) | 187.42 (111.64) | 236.10 (127.17) | 283.89 (145.52) | <.0001 |
| Vegetables, g/d | 121.54 ( 82.44) | 177.04 ( 83.06) | 216.76 ( 94.64) | 250.19 ( 98.72) | 296.25 (125.41) | <.0001 |
| Beta-caroten, µ/d | 1935.61 (1683.8) | 2752.53 (1722.2) | 3323.70 (2027.0) | 3832.16 (2072.9) | 4514.08 (2825.0) | <.0001 |
| Calcium, mg/d | 823.32 (272.75) | 883.34 (234.02) | 909.56 (217.62) | 934.19 (210.90) | 974.10 (214.29) | <.0001 |
| Iron, mg/d | 10.97 ( 3.37) | 12.11 ( 3.20) | 12.98 ( 3.41) | 13.77 ( 3.41) | 14.89 ( 3.78) | <.0001 |
| Fibers, g/d | 13.37 ( 3.76) | 16.26 ( 3.88) | 18.83 ( 4.45) | 21.16 ( 5.00) | 24.16 ( 6.07) | <.0001 |
| Sel, g/d | 8.71 ( 2.41) | 8.71 ( 2.10) | 8.76 ( 1.99) | 8.51 ( 1.89) | 8.25 ( 1.75) | <.0001 |
| Folates, mg/d | 233.56 ( 68.60) | 284.76 ( 68.19) | 320.47 ( 75.78) | 348.81 ( 81.15) | 389.98 ( 98.52) | <.0001 |
| Vitamin C, mg/d | 66.69 ( 60.90) | 99.35 ( 60.71) | 115.31 ( 53.31) | 127.77 ( 57.70) | 143.97 ( 61.04) | <.0001 |
| Vitamine E, mg/d | 10.50 ( 4.15) | 11.01 ( 3.79) | 11.49 ( 3.56) | 11.93 ( 3.63) | 12.42 ( 3.66) | <.0001 |

 **Abbreviations:** FSA-NPS DI: Food Standards Agency Nutrient Profiling system Dietary Index ;

1 Values are means (standard deviations)

2 P estimated by linear contrast using ANOVA

3 % of daily energy intake without alcohol intake.