| **Supplementary Table S1** The modified Baltic Sea Diet Score components and their contents |
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| Score component (g/d) | Component contents |
| Fruits and berries | Apples, pears, plums/prunes, berries |
| Vegetables  | Cabbages, vegetable fruits, leafy vegetables, onions, root vegetables, mushrooms, canned vegetables, peas, beans |
| Cereals | Rye, oat, barley |
| Low-fat milk  | Low-fat (<2% fat) and fat-free milk |
| Fish | Salmon, freshwater fish |
| Red and processed meat | Beef, pork, lamb, processed meat products (sausages and cold cuts) |
| Fat ratio | Ratio of polyunsaturated fatty acids to saturated and *trans*-fatty acids |
| Alcohol | Ethanol |
| Modified from Kanerva *et al.* (42). |

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| **Supplementary Table S2** The modified Baltic Sea Diet Score (mBSDS) by added sugar intake quintiles examined in the sociodemographic, lifestyle, and BMI population subgroups (means and 95% confidence intervals (CI)) |
|  |  | Added sugar intake quintilesa |  |  |
|  | n | 1 | 95% CI | 3 | 95% CI | 5 | 95% CI | *P*b,c | *P*-interactb,d |
| mBSDSe |  |  |  |  |  |  |  |  |  |
| Women |  |  |  |  |  |  |  |  |  |
| Age, years |  |  |  |  |  |  |  |  | 0.60 |
| 18─44 | 785 | 12.3  | 11.6−12.9 | 9.7 | 9.2−10.2 | 7.9 | 7.4−8.4 | <0.0001 |  |
| 45─64 | 1041 | 13.2 | 12.7−13.7 | 11.4 | 10.9−11.9 | 9.1 | 8.6−9.6 | <0.0001 |  |
| 65+ | 1018 | 13.6 | 13.2−14.1 | 12.4 | 11.9−12.9 | 10.4 | 9.9−10.9 | <0.0001 |  |
| Educationf |  |  |  |  |  |  |  |  | 0.38 |
| Low | 880 | 12.5 | 12.0−13.0 | 10.7 | 10.1−11.2 | 8.6 | 8.2−9.1 | <0.0001 |  |
| Middle | 965 | 13.4 | 12.8−13.9 | 11.4 | 10.9−11.9 | 9.7 | 9.1−10.2 | <0.0001 |  |
| High | 943 | 13.5 | 13.0−14.0 | 11.6 | 11.1−12.1 | 9.3 | 8.8−9.9 | <0.0001 |  |
| Smoking |  |  |  |  |  |  |  |  | 0.57 |
| Current smoker | 353 | 11.9 | 11.0−12.8 | 9.2 | 8.3−10.1 | 7.1 | 6.4−7.7 | <0.0001 |  |
| Former smoker | 595 | 13.2 | 12.6−13.8 | 11.7 | 11.0−12.3 | 9.3 | 8.7−10.0 | <0.0001 |  |
| Never smoker | 1862 | 13.3 | 12.9−13.7 | 11.5 | 11.2−11.9 | 9.8 | 9.4−10.2 | <0.0001 |  |
| Physical activityg |  |  |  |  |  |  |  |  | 0.47 |
| Inactive | 739 | 12.1 | 11.4−12.8 | 10.3 | 9.8−10.9 | 8.7 | 8.2−9.2 | <0.0001 |  |
| Moderately active | 1343 | 13.3 | 12.9−13.7 | 11.6 | 11.2−12.0 | 9.4 | 8.9−9.9 | <0.001 |  |
| Active | 727 | 13.8 | 13.3−14.4 | 11.6 | 11.0−12.2 | 9.8 | 9.2−10.4 | <0.0001 |  |
| Sleep durationh, hours |  |  |  |  |  |  |  |  | 0.73 |
| <7 | 560 | 13.0 | 12.3−13.7 | 11.4 | 10.6−12.1 | 8.5 | 7.9−9.1 | <0.0001 |  |
| 7─<9 | 2010 | 13.3 | 13.0−13.7 | 11.3 | 11.0−11.6 | 9.5 | 9.2−9.9 | <0.0001 |  |
| ≥9 | 219 | 12.4 | 11.2−13.7 | 10.9 | 9.7−12.0 | 9.0 | 8.0−10.0 | 0.002 |  |
| BMI, kg/m2 |  |  |  |  |  |  |  |  | 0.96 |
| <25 | 1083 | 13.2 | 12.7−13.7 | 11.3 | 10.9−11.8 | 9.0 | 8.5−9.5 | <0.0001 |  |
| 25─<30 | 1011 | 13.2 | 12.7−13.8 | 11.6 | 11.1−12.1 | 9.3 | 8.8−9.8 | <0.0001 |  |
| ≥30 | 711 | 13.1 | 12.5−13.6 | 10.7 | 10.1−11.3 | 9.5 | 8.9−10.2 | <0.0001 |  |
| Men |  |  |  |  |  |  |  |  |  |
| Age, years |  |  |  |  |  |  |  |  | 0.45 |
| 18─44 | 592 | 11.5 | 10.8−12.2 | 10.6 | 10.0−11.2 | 8.6 | 8.1−9.2 | <0.0001 |  |
| 45─64 | 884 | 12.3 | 11.7−12.9 | 1.4 | 10.9−11.9 | 9.1 | 8.6−9.5 | <0.0001 |  |
| 65+ | 774 | 13.8 | 13.2−14.4 | 12.8 | 12.2−13.4 | 10.9 | 10.3−11.5 | <0.0001 |  |
| Education |  |  |  |  |  |  |  |  | 0.10 |
| Low | 700 | 11.8 | 11.1−12.4 | 10.9 | 10.3−11.6 | 9.1 | 8.6−9.6 | <0.0001 |  |
| Middle | 707 | 12.2 | 11.5−12.9 | 11.2 | 10.6−11.8 | 9.6 | 9.1−10.2 | <0.0001 |  |
| High | 813 | 13.5 | 13.0−14.1 | 12.5 | 12.0−13.0 | 10.0 | 9.4−10.7 | <0.0001 |  |
| Smoking |  |  |  |  |  |  |  |  | 0.09 |
| Current smoker | 369 | 10.1 | 8.9−11.2 | 10.6 | 9.7−11.4 | 8.6 | 8.0−9.3 | 0.001 |  |
| Former smoker | 742 | 12.5 | 12.0−13.1 | 11.8 | 11.2−12.3 | 9.8 | 9.2−10.4 | <0.0001 |  |
| Never smoker | 1114 | 13.3 | 12.7−13.8 | 12.0 | 11.5−12.5 | 9.8 | 9.4−10.3 | <0.0001 |  |
| Physical activity |  |  |  |  |  |  |  |  | 0.005 |
| Inactive | 497 | 10.3 | 9.5−11.1 | 10.1 | 9.3−10.9 | 8.2 | 7.7−8.8 | <0.0001 |  |
| Moderately active | 1015 | 12.8 | 12.2−13.3 | 11.8 | 11.4−12.3 | 10.4 | 9.9−10.9 | <0.0001 |  |
| Active | 724 | 13.6 | 13.0−14.1 | 12.2 | 11.7−12.8 | 9.6 | 8.9−10.2 | <0.0001 |  |
| Sleep duration, hours |  |  |  |  |  |  |  |  | 0.48 |
| <7 | 499 | 11.9 | 11.2−12.7 | 11.3 | 10.6−12.0 | 9.2 | 8.5−9.9 | <0.0001 |  |
| 7─<9 | 1575 | 12.8 | 12.4−13.3 | 11.9 | 11.5−12.2 | 9.7 | 9.3−10.1 | <0.0001 |  |
| ≥9 | 149 | 12.6 | 10.9−14.3 | 11.3 | 9.4−13.1 | 9.3 | 7.9−10.6 | <0.001 |  |
| BMI, kg/m2 |  |  |  |  |  |  |  |  | 0.09 |
| <25 | 651 | 13.0 | 12.3−13.7 | 11.9 | 11.3−12.6 | 9.2 | 8.5−9.8 | <0.0001 |  |
| 25─<30 | 1016 | 12.8 | 12.2−13.4 | 11.7 | 11.3−12.2 | 10.3 | 9.8−10.8 | <0.0001 |  |
| ≥30 | 557 | 11.7 | 11.1−12.4 | 11.5 | 10.7−12.2 | 8.7 | 8.1−9.3 | <0.0001 |  |
| Abbreviations: BMI, body mass indexaQuintile medians and minimum and maximum values (g/d) are: women Q1: 23.2 (6.4−28.7), Q2: 32.4 (28.7−36.3), Q3: 40.4 (36.3−44.9), Q4: 50.0 (44.9−56.6), Q5: 68.3 (56.7−371.0), men Q1: 24.5 (2.9−29.9), Q2: 34.3 (29.9−38.6), Q3: 42.8 (38.6−47.5), Q4: 52.7 (47.5−60.5), Q5: 72.2 (60.5−206.5). b*P*-trends across added sugar intake quintiles were tested with linear regression by using added sugar intake quintile medians as continuous independent variables.cAdjusted for age (continuous), education (low, middle, high), smoking (a current smoker, a former smoker, a never smoker), physical activity (inactive, moderately active, active), BMI (continuous), and energy intake (continuous). The corresponding variable was excluded from adjustment when examining it as a dependent variable.dP-interaction for the differences in the p-trends between variable subgroups was tested with linear regression.eThe mBSDS ranged between 0 and 22.fSelf-reported total school years adjusted by birth year to consider the increase in average school years and the extension of the basic education system.gSelf-reported leisure-time physical activity: inactive (e.g., reading, watching television), moderately active (e.g., walking, gardening ≥4 hours/week), active (e.g., running, swimming ≥3 hours/week).hSelf-reported average sleep duration at night. |