**Supplementary Table A** Baseline characteristics of children in the imputed dataset and those with alcohol data available at age 17 (basis for complete case analysis); n(%) for categorial variables, mean(sd) for continuous variables

|  |  |  |
| --- | --- | --- |
|  | **Imputed data** | **Sample with alcohol data available (n=4148)** |
| **Maternal age (years) at delivery** | 28.0 (4.96) | 29.3 (4.57) |
| **Maternal education level**  Highb  Lowc | 34.3%  65.7% | 35.3%  64.7% |
| **Household socio-economic status**  Highd  Lowe | 29.3%  70.7% | 27.2%  72.8% |
| **Ethnicity**  White  Non-white | 97.3%  2.7% | 97.8%  2.2% |
| **Maternal AUDIT score**  < 8  ≥ 8 | 59.3%  40.7% | 60.1%  39.9% |
| **Gender**  Male  Female | 51.7%  48.3% | 51.2%  48.3% |

*a t-test for continuous data or chi-squared for categorical data*

*b Degree or A levels ((optional) exams taken at the age of 18);*

*c GCSEs/O levels (compulsory exams taken at the age of 16) or vocational qualifications*

*d classes I, II, III (non-manual): Professional, managerial/technical or skilled non-manual occupations*

*e classes III (manual), IV, V: Skilled manual, partly-skilled or unskilled occupations*

**Supplementary Table B** Association between dietary patterns at ages 3 and 7, and AUDIT score of 8 or greater at age 17 in imputed data (n=13966, those with AUDIT score of 8 or greater= 5601) ; associations with quintiles of dietary pattern score and continuous pattern score

| **Exposure** | | **Unadjusted OR (95% CI)** | | **P value** | | **Adjusted OR (95% CI)[[1]](#footnote-1)** | | **P value** | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **“Processed” diet pattern – age** | |  | |  | |  | | | |
| Quintile 1 (baseline - lowest “processed” pattern) | | 1 | |  | | 1 | |  | |
| Quintile 2 | | 1.12 (0.95; 1.31) | | 0.172 | | 1.12 (0.95; 1.32) | | 0.164 | |
| Quintile 3 | | 1.13 (0.97, 1.31) | | 0.112 | | 1.13 (0.96, 1.33) | | 0.128 | |
| Quintile 4 | | 1.15 (0.95, 1.40) | | 0.149 | | 1.16 (0.95, 1.41) | | 0.140 | |
| Quintile 5 (highest “processed” pattern) | | 1.31 (1.03, 1.68) | | 0.031 | | 1.30 (1.01, 1.68) | | 0.040 | |
| Linear effect | | 1.08 (1.01, 1.17) | | 0.034 | | 1.08 (1.00, 1.17) | | 0.047 | |
| **“Processed” diet pattern – age 7** | |  | |  | |  | | | |
| Quintile 1 (baseline - lowest “processed” pattern) | | 1 | |  | | 1 | |  | |
| Quintile 2 | | 1.06 (0.91; 1.22) | | 0.466 | | 1.04 (0.89; 1.21) | | 0.584 | |
| Quintile 3 | | 1.08 (0.91, 1.29) | | 0.395 | | 1.05 (0.88, 1.25) | | 0.620 | |
| Quintile 4 | | 1.17 (0.97, 1.42) | | 0.100 | | 1.13 (0.93, 1.37) | | 0.207 | |
| Quintile 5 (highest “processed” pattern) | | 1.19 (0.96, 1.49) | | 0.115 | | 1.13 (0.91, 1.41) | | 0.274 | |
| Linear effect | | 1.06 (0.98, 1.14) | | 0.127 | | 1.04 (0.97, 1.13) | | 0.252 | |
|  | |  | |  | |  | |  | |
| **“Healthy” diet pattern – age 3** | |  | |  | |  | | | |
| Quintile 1 (baseline - lowest “healthy” pattern) | | 1 | |  | | 1 | |  | |
| Quintile 2 | | 1.04 (0.90; 1.21) | | 0.593 | | 1.05 (0.91; 1.22) | | 0.495 | |
| Quintile 3 | | 1.04 (0.87, 1.23) | | 0.671 | | 1.05 (0.89, 1.26) | | 0.550 | |
| Quintile 4 | | 1.07 (0.87, 1.30) | | 0.530 | | 1.09 (0.88, 1.36) | | 0.426 | |
| Quintile 5 (highest “healthy” pattern) | | 1.10 (0.89, 1.37) | | 0.381 | | 1.15 (0.91, 1.47) | | 0.239 | |
| Linear effect | | 1.03 (0.96, 1.11) | | 0.440 | | 1.04 (0.96, 1.12) | | 0.366 | |
| **“Healthy” diet pattern – age 7** | |  | |  | |  | | | |
| Quintile 1 (baseline - lowest “healthy” pattern) | | 1 | |  | | 1 | |  | |
| Quintile 2 | | 1.00 (0.86; 1.16) | | 0.988 | | 1.00 (0.87; 1.16) | | 0.988 | |
| Quintile 3 | | 0.92 (0.77, 1.10) | | 0.379 | | 0.93 (0.77, 1.11) | | 0.420 | |
| Quintile 4 | | 0.96 (0.81, 1.15) | | 0.693 | | 0.98 (0.81, 1.17) | | 0.799 | |
| Quintile 5 (highest “healthy” pattern) | | 1.04 (0.83, 1.29) | | 0.749 | | 1.06 (0.85, 1.32) | | 0.626 | |
| Linear effect | | 1.02 (0.95, 1.09) | | 0.446 | | 1.02 (0.96, 1.11) | | 0.446 | |
|  | |  | |  | |  | |  | |
| **“Traditional” diet pattern – age 3** | |  | |  | |  | | | |
| Quintile 1 (baseline - lowest “traditional” pattern) | | 1 | |  | | 1 | |  | |
| Quintile 2 | | 0.97 (0.85; 1.11) | | 0.705 | | 0.97 (0.85; 1.11) | | 0.667 | |
| Quintile 3 | | 0.95 (0.82, 1.09) | | 0.452 | | 0.96 (0.83, 1.10) | | 0.542 | |
| Quintile 4 | | 0.91 (0.75, 1.09) | | 0.303 | | 0.92 (0.76, 1.12) | | 0.412 | |
| Quintile 5 (highest “traditional” pattern) | | 0.90 (0.74, 1.08) | | 0.258 | | 0.92 (0.76, 1.12) | | 0.401 | |
| Linear effect | | 0.96 (0.91, 1.02) | | 0.188 | | 0.96 (0.91, 1.03) | | 0.254 | |
| **“Traditional” diet pattern – age 7** | |  | |  | |  | | | |
| Quintile 1 (baseline - lowest “traditional” pattern) | | 1 | |  | | 1 | |  | |
| Quintile 2 | | 0.94 (0.81; 1.09) | | 0.407 | | 0.94 (0.81; 1.09) | | 0.437 | |
| Quintile 3 | | 0.91 (0.77, 1.07) | | 0.245 | | 0.91 (0.77, 1.07) | | 0.268 | |
| Quintile 4 | | 0.89 (0.75, 1.05) | | 0.170 | | 0.90 (0.76, 1.07) | | 0.225 | |
| Quintile 5 (highest “traditional” pattern) | | 0.82 (0.67, 1.00) | | 0.048 | | 0.83 (0.68, 1.01) | | 0.068 | |
| Linear effect | | 0.94 (0.88, 1.00) | | 0.059 | | 0.94 (0.88, 1.00) | | 0.061 | |
| **“Snack” diet pattern – age 3** |  | |  | |  | | | |
| Quintile 1 (baseline - lowest “traditional” pattern) | 1 | |  | | 1 | |  | |
| Quintile 2 | 0.93 (0.81, 1.08) | | 0.358 | | 0.92 (0.80, 1.07) | | 0.289 | |
| Quintile 3 | 0.92 (0.77, 1.11) | | 0.398 | | 0.92 (0.76, 1.10) | | 0.349 | |
| Quintile 4 | 0.92 (0.75, 1.14) | | 0.450 | | 0.91 (0.74, 1.11) | | 0.371 | |
| Quintile 5 (highest “traditional” pattern) | 0.95 (0.75, 1.20) | | 0.679 | | 0.93 (0.74, 1.17) | | 0.537 | |
| Linear effect | 0.99 (0.91, 1.07) | | 0.760 | | 0.98 (0.90, 1.07) | | 0.678 | |

**Supplementary Table C** Association between dietary patterns at ages 3 and 7, and consumption of more than one drink per week at age 17 in imputed data (n=13966, those consuming more than one drink per week=949) ; associations with quintiles of dietary pattern score and continuous pattern score

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Exposure** | **Unadjusted OR (95% CI)** | **P value** | **Adjusted OR (95% CI)** | **P value** |
| **“Processed” diet pattern – age 3** |  |  |  | |
| Quintile 1 (baseline - lowest “processed” pattern) | 1 |  | 1 |  |
| Quintile 2 | 0.90 (0.73; 1.12) | 0.358 | 0.93 (0.74; 1.16) | 0.507 |
| Quintile 3 | 0.96 (0.77, 1.21) | 0.731 | 1.00 (0.79, 1.27) | 0.988 |
| Quintile 4 | 0.75 (0.59, 0.95) | 0.018 | 0.81 (0.62, 1.04) | 0.097 |
| Quintile 5 (highest “processed” pattern) | 0.70 (0.54, 0.91) | 0.008 | 0.80 (0.68, 1.06) | 0.115 |
| Linear effect | 0.89 (0.82, 0.97) | 0.009 | 0.93 (0.84, 1.02) | 0.110 | |
| **“Processed” diet pattern – age 7** |  |  |  | |
| Quintile 1 (baseline - lowest “processed” pattern) | 1 |  | 1 |  |
| Quintile 2 | 0.95 (0.75; 1.20) | 0.669 | 0.94 (0.52; 1.20) | 0.638 |
| Quintile 3 | 0.92 (0.73, 1.16) | 0.481 | 0.92 (0.74, 1.17) | 0.497 |
| Quintile 4 | 0.97 (0.77, 1.23) | 0.800 | 0.99 (0.72, 1.27) | 0.947 |
| Quintile 5 (highest “processed” pattern) | 0.81 (0.63, 1.04) | 0.097 | 0.84 (0.78, 1.09) | 0.194 |
| Linear effect | 0.97 (0.89, 1.06) | 0.494 | 0.99 (0.90, 1.09) | 0.843 | |
| **“Healthy” diet pattern – age 3** |  |  |  | |
| Quintile 1 (baseline - lowest “healthy” pattern) | 1 |  | 1 |  |
| Quintile 2 | 0.86 (0.66; 1.13) | 0.288 | 0.85 (0.65; 1.12) | 0.255 |
| Quintile 3 | 1.06 (0.82, 1.36) | 0.651 | 1.04 (0.81, 1.35) | 0.742 |
| Quintile 4 | 1.20 (0.93, 1.53) | 0.156 | 1.17 (0.90, 1.51) | 0.242 |
| Quintile 5 (highest “healthy” pattern) | 1.34 (1.06, 1.71) | 0.017 | 1.26 (0.98, 1.63) | 0.070 |
| Linear effect | 1.15 (1.06, 1.24) | <0.001 | 1.12 (1.04, 1.22) | 0.004 | |
| **“Healthy” diet pattern – age 7** |  |  |  | |
| Quintile 1 (baseline - lowest “healthy” pattern) | 1 |  | 1 |  |
| Quintile 2 | 1.02 (0.78; 1.35) | 0.869 | 0.99 (0.75; 1.31) | 0.961 |
| Quintile 3 | 0.88 (0.66, 1.16) | 0.366 | 0.82 (0.62, 1.09) | 0.177 |
| Quintile 4 | 1.16 (0.90, 1.51) | 0.249 | 1.09 (0.83, 1.42) | 0.533 |
| Quintile 5 (highest “healthy” pattern) | 1.52 (1.17, 1.96) | 0.002 | 1.37 (1.04, 1.80) | 0.023 |
| Linear effect | 1.19 (1.10, 1.27) | <0.001 | 1.17 (1.08, 1.27) | <0.001 | |
| **“Traditional” diet pattern – age 3** |  |  |  | |
| Quintile 1 (baseline - lowest “traditional” pattern) | 1 |  | 1 |  |
| Quintile 2 | 1.19 (0.93; 1.52) | 0.168 | 1.21 (0.94; 1.56) | 0.132 |
| Quintile 3 | 0.97 (0.75, 1.25) | 0.813 | 1.01 (0.79, 1.31) | 0.910 |
| Quintile 4 | 1.04 (0.82, 1.33) | 0.740 | 1.11 (0.86, 1.42) | 0.425 |
| Quintile 5 (highest “traditional” pattern) | 1.00 (0.79, 1.29) | 0.970 | 1.08 (0.84, 1.39) | 0.536 |
| Linear effect | 1.00 (0.92, 1.08) | 0.946 | 1.01 (0.94, 1.09) | 0.777 | |
| **“Traditional” diet pattern – age 7** |  |  |  | |
| Quintile 1 (baseline - lowest “traditional” pattern) | 1 |  | 1 |  |
| Quintile 2 | 0.90 (0.70; 1.17) | 0.452 | 0.92 (0.71; 1.20) | 0.531 |
| Quintile 3 | 0.98 (0.77, 1.26) | 0.891 | 1.00 (0.78, 1.28) | 0.977 |
| Quintile 4 | 0.93 (0.72, 1.20) | 0.592 | 0.96 (0.74, 1.24) | 0.763 |
| Quintile 5 (highest “traditional” pattern) | 0.90 (0.70, 1.16) | 0.423 | 0.95 (0.74, 1.23) | 0.717 |
| Linear effect | 0.97 (0.89, 1.06) | 0.484 | 0.98 (0.90, 1.06) | 0.606 | |
| **“Snack” diet pattern – age 3** |  |  |  |  |
| Quintile 1 (baseline - lowest “snack” pattern) | 1 |  | 1 |  |
| Quintile 2 | 0.87 (0.66, 1.12) | 0.313 | 0.81 (0.62, 1.06) | 0.122 |
| Quintile 3 | 0.86 (0.66, 1.11) | 0.246 | 0.79 (0.61, 1.02) | 0.074 |
| Quintile 4 | 0.92 (0.72, 1.18) | 0.532 | 0.83 (0.65, 1.07) | 0.015 |
| Quintile 5 (highest “snack” pattern) | 1.06 (0.83, 1.36) | 0.620 | 0.93 (0.72, 1.20) | 0.577 |
| Linear effect | 1.03 (0.95, 1.12) | 0.450 | 0.99 (0.91, 1.08) | 0.867 |

**Supplementary Table D**: Stratification for variables that showed interaction with gender

*Outcome: Consumption of more than one drink per week[[2]](#footnote-2)*

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **“Processed” diet pattern – age 3 (unadjusted)** |  | |  | |  | |  |
| Test for interaction (p value) | 0.048 |  | |  | |  | |
| Number of observations | 1498 | |  | |  | |  |
|  |  | |  | |  | |  |
| **Exposure** | **Boys: OR (95% CI)** | | **P value** | | **Girls: OR (95% CI)** | | **P value** |
| Quintile 1 (baseline - lowest “processed” pattern) | 1 | |  | | 1 | |  |
| Quintile 2 | 0.68 (0.50, 0.93) | | 0.016 | | 1.19 (0.87, 1.63) | | 0.277 |
| Quintile 3 | 0.81 (0.58, 1.11) | | 0.184 | | 1.20 (0.87, 1.65) | | 0.279 |
| Quintile 4 | 0.74 (0.53, 1.04) | | 0.088 | | 0.75 (0.52, 1.08) | | 0.127 |
| Quintile 5 (highest “processed” pattern) | 0.55 (0.37, 0.80) | | 0.002 | | 0.92 (0.64, 1.33) | | 0.660 |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **“Traditional” diet pattern – age 7 (adjusted)** |  |  | |  | |  | |
| Test for interaction (p value) | 0.038 |  | |  | |  | |
| Number of observations | 838 | |  | | 994 | |  |
|  |  | |  | |  | |  |
| Quintile 1 (baseline - lowest “traditional” pattern) | 1 | |  | | 1 | |  |
| Quintile 2 | 0.83 (0.51, 1.34) | | 0.449 | | 1.08 (0.66, 1.75) | | 0.766 |
| Quintile 3 | 1.27 (0.79, 2.02) | | 0.321 | | 0.88 (0.53, 1.44) | | 0.609 |
| Quintile 4 | 0.99 (0.62, 1.58) | | 0.978 | | 0.96 (0.59, 1.56) | | 0.885 |
| Quintile 5 (highest “traditional” pattern) | 1.31 (0.81, 2.10) | | 0.266 | | 0.60 (0.35, 1.02) | | 0.057 |

**Supplementary Table E:** Association between percentage of overall energy intake as NMES at ages 3 and 7, and alcohol consumption at 17 in imputed data (n=13966, those with AUDIT score of 8 or greater=5601 and those consuming more than one drink per week = 949); associations with quintiles of NMES and continuous NMES intake

Outcome 1 – AUDIT score of 8 or greater at age 17

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Exposure** | **Unadjusted OR (95% CI)** | **P value** | **Adjusted OR (95% CI)** | **P value** |
| **Sugar % overall energy intake – age 3** |  |  |  |  |
| Quintile 1 (baseline - lowest sugar) | 1 |  | 1 |  |
| Quintile 2 | 1.02 (0.88; 1.19) | 0.758 | 1.03 (0.88; 1.21) | 0.685 |
| Quintile 3 | 1.11 (0.94, 1.31) | 0.205 | 1.11 (0.94, 1.31) | 0.226 |
| Quintile 4 | 1.12 (0.93, 1.35) | 0.230 | 1.12 (0.93, 1.35) | 0.233 |
| Quintile 5 (highest sugar) | 1.26 (1.01, 1.57) | 0.045 | 1.25 (1.00, 1.56) | 0.052 |
| Linear effect | 1.02 (1.00, 1.04) | 0.068 | 1.02 (1.00, 1.04) | 0.078 | |
| **Sugar % overall energy intake – age 7** |  |  |  |  |
| Quintile 1 (baseline - lowest sugar) | 1 |  | 1 |  |
| Quintile 2 | 1.13 (0.96; 1.32) | 0.148 | 1.10 (0.94; 1.29) | 0.212 |
| Quintile 3 | 1.17 (0.99, 1.38) | 0.061 | 1.15 (0.98, 1.35) | 0.095 |
| Quintile 4 | 1.20 (1.00, 1.44) | 0.051 | 1.16 (0.97, 1.39) | 0.105 |
| Quintile 5 (highest sugar) | 1.26 (0.99, 1.61) | 0.055 | 1.22 (0.97, 1.53) | 0.094 |
| Linear effect | 1.02 (1.00, 1.04) | 0.053 | 1.02 (1.00, 1.04) | 0.097 | |

Outcome 2 – more than one drink per week

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Exposure** | **Unadjusted OR (95% CI)** | **P value** | **Adjusted OR (95% CI)** | **P value** |
| **Sugar % overall energy intake – age 3** |  |  |  |  |
| Quintile 1 (baseline - lowest sugar) | 1 |  | 1 |  |
| Quintile 2 | 0.90 (0.71; 1.14) | 0.402 | 0.92 (0.72; 1.17) | 0.487 |
| Quintile 3 | 1.05 (0.83, 1.32) | 0.690 | 1.07 (0.84, 1.35) | 0.600 |
| Quintile 4 | 1.00 (0.79, 1.27) | 0.981 | 1.03 (0.81, 1.30) | 0.808 |
| Quintile 5 (highest sugar) | 0.83 (0.64, 1.08) | 0.163 | 0.88 (0.67, 1.15) | 0.359 |
| Linear effect | 0.99 (0.97, 1.01) | 0.344 | 0.99 (0.97, 1.02) | 0.612 | |
|  |  |  |  |  |
| **Sugar % overall energy intake – age 7** |  |  |  |  |
| Quintile 1 (baseline - lowest sugar) | 1 |  | 1 |  |
| Quintile 2 | 1.05 (0.34; 1.34) | 0.673 | 1.05 (0.82; 1.34) | 0.711 |
| Quintile 3 | 1.05 (0.83, 1.33) | 0.682 | 1.05 (0.83, 1.31) | 0.706 |
| Quintile 4 | 1.08 (0.84, 1.37) | 0.559 | 1.06 (0.82, 1.40) | 0.622 |
| Quintile 5 (highest sugar) | 1.04 (0.80, 1.34) | 0.771 | 1.07 (0.38, 1.29) | 0.616 |
| Linear effect | 1.00 (0.98, 1.03) | 0.793 | 1.00 (0.98, 1.03) | 0.690 | |
|  |  |  |  |  |
|  |  |  |  |  |

1. Data adjusted for ethnicity, maternal level of education, parental social class and maternal AUDIT score [↑](#footnote-ref-1)
2. No interaction was identified for the AUDIT variable and gender [↑](#footnote-ref-2)