## S10 Table: Associations between weighted-allele-scores and potential confounders

| | Study | Difference in mean or odds ratio (95% CI) per unit increase in weighted allele score (WAS) | |
|---|---|---|---|
| | | 25(OH)D | Calcium |
| Maternal BMI (kg/m²)* | UK Biobank (N = 243,797)[c,e] | 0.001 ( -0.007 to 0.009) | 0.001 ( -0.002 to 0.005) |
| | ALSPAC (N =6,544) | -0.020 (-0.073 to 0.034) | -0.008 (-0.030 to 0.014) |
| | EFSOCH (N =844) | 0.102 (-0.042 to 0.247) | 0.031 (-0.030 to 0.092) |
| Maternal Height (m)* | UK Biobank (N = 244,363)[d,e] | -0.010 (-0.017 to -0.003) | -0.002 (-0.005 to 0.001) |
| | ALSPAC (N =6,862) | 0.020 (-0.032 to 0.073) | -0.004 (-0.026 to 0.018) |
| | EFSOCH (N =930) | 0.163 (0.024 to 0.302) | 0.026 (-0.032 to 0.084) |
| Maternal Systolic Blood Pressure (mmHg)* | UK Biobank (N = 244,183)[e] | -0.002 (-0.009 to 0.006) | -0.001 (-0.004 to 0.002) |
| | ALSPAC (N =1,451) | -0.033 (-0.150 to 0.084) | -0.033 (-0.080 to 0.014) |
| | EFSOCH (N =NA) | NA | NA |
| Maternal Townsend area deprivation*[a] | UK Biobank (N = 244,564) | 0.002 (-0.006 to 0.010) | 0.004 (0.000 to 0.007) |
| | ALSPAC (N =NA) | NA | NA |
| | EFSOCH (N =933) | -0.196 (-0.336 to -0.055) | -0.016 (-0.075 to 0.043) |
| Education (odds ratio of university degree yes or no) | UK Biobank (N = 238,261)[e] | 0.997 (0.979 to 1.014) | 0.987 (0.980 to 0.995) |
| | ALSPAC (N =6,956) | 1.032 (0.876 to 1.188) | 0.955 (0.897 to 1.012) |
| | EFSOCH (N =NA) | NA | NA |
| Maternal smoking (odds ratio of current smoker vs non-smoker) | UK Biobank (N = 160,043)[e] | 0.983 (0.951 to 1.015) | 1.008 (0.994 to 1.022) |
| | ALSPAC (N =7,237) | 0.990 (0.859 to 1.122) | 1.007 (0.950 to 1.065) |
| | EFSOCH (N =928) | 1.233 (0.549 to 1.917) | 1.001 (0.831 to 1.172) |
| Western Diet[b] | UK Biobank (N = 355,829)[e] | -0.001 (-0.008 to 0.006) | 0.001 (-0.002 to 0.004) |
| | ALSPAC (N =NA) | NA | NA |
| | EFSOCH (N =NA) | NA | NA |

*The values given are z-scores/single inverse normalized. a) A score that takes values from the census of an area (namely percentage of households without a motor vehicle, percentage of households with more than one person per room, percentage of households not owner-occupied and percentage of residents who are unemployed), converts them to z-scores, then adds the values up, with a greater value meaning

greater deprivation. b) Western Diet is a principal component of variation in reported diet in UK Biobank. c) The UK Biobank female BMI variable excluded those with a BMI <15 and those that were pregnant, the variable then being adjusted for age, assessment centre and five principal components, with the residuals being extracted and inverse-normalized. d) The UK Biobank female Height variable was adjusted for age, assessment centre and five principal components, with the residuals being extracted and inverse-normalized. e) All UK Biobank variables were adjusted for five principal components