**Exploring absolute and relative measures of exposure to food environments in relation to dietary patterns among European adults**

**Supplementary tables**

**Supplementary Table 1.** Coefficients and 95% confidence intervals (95%CI) as derived from GEE-linear regression analyses indicating the associations between absolute measures of exposure to food retailers with dietary patterns among adults in neighbourhoods from five urban regions in Europe. Sensitivity analysis including full-service restaurants in the less healthy food retailers category. The SPOTLIGHT Project (n=4,942).

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|  |  | **Healthy dietary pattern (c) (e)****Coefficient (95%CI)** | **p value** | **Less healthy dietary pattern (d) (e)****Coefficient (95%CI)** | **p value** |

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| **Tertiles of density of healthier food retailers per km2 (a)** | Lowest | 1 |  | 1 |  |
| Medium | -51.0 (-242.5 ; 140.5) | 0.602 | 15.5 (-94.3 ; 125.2) | 0.782 |
| Highest  | -9.74 (-182.9 ; 163.4) | 0.912 | -48.3 (-156.8 ; 60.2) | 0.382 |
| **Tertiles of density of less healthy food retailers per km2 (b)** | Lowest | 1 |  | 1 |  |
| Medium | -120.2 (-297.2 ; 56.8) | 0.183 | -79.0 (-196.1 ; 38.0) | 0.186 |
| Highest  | -2.52 (-159.3 ; 154.3) | 0.975 | -87.0 (-180.2 ; 6.07) | 0.067 |
| **Tertiles of spatial access score for healthier food retailers (a)** | Lowest | 1 |  | 1 |  |
| Medium | -73.8 (-177.3 ; 29.8) | 0.163 | -21.7 (-117.0 ; 73.6) | 0.655 |
| Highest  | -92.8 (-214.0 ; 28.4) | 0.133 | -29.1 (-128.7 ; 70.5) | 0.567 |
| **Tertiles of spatial access score for less healthy food retailers (b)** | Lowest | 1 |  | 1 |  |
| Medium | -11.9 (-126.6 ; 102.8) | 0.839 | 50.9 (-55.2 ; 156.9) | 0.347 |
| Highest  | -81.8 (-220.8 ; 57.2) | 0.249 | 24.0 (-93.4 ; 141.3) | 0.689 |

(a) Healthier food retailers: supermarket and local shops; (b) Less healthy food retailers: full service restaurants, fast food restaurants, café/bars and convenience/liquor stores; Dietary patterns obtained from principal component analysis. (c) Healthy dietary pattern is composed of fruit, vegetables and fish. (d) less healthy dietary patterns is composed of fast food, sweets and sweetened beverages; All models were adjusted for age, sex, educational attainment, household composition, urban region and self-selection variables; (e) Scores for healthy and less dietary patterns were multiplied by 1000; GEE = generalized estimating equation.

**Supplementary Table 2.** Coefficients and 95% confidence intervals (95%CI) as derived from GEE-linear regression analyses indicating the associations between absolute measures of exposure to food retailers with dietary patterns among adults in neighbourhoods from five urban regions in Europe. Sensitivity analysis including full-service restaurants in the less healthy food retailers category. The SPOTLIGHT Project (n=4,942).

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|  |  | **Healthy dietary pattern (c) (e)****Coefficient (95%CI)** | **p value** | **Less healthy dietary pattern (d) (e)****Coefficient (95%CI)** | **p value** |
| **Tertiles of the Modified Retail Food Environment Index** | Lowest | 1 |  | 1 |  |
| Medium | 46.8 (-140.9 ; 234.6) | 0.625 | 28.8 (-81.4 ; 139.3) | 0.607 |
| Highest  | 23.1 (-175.9 ; 221.3) | 0.820 | 83.3 (-37.4 ; 204.0) | 0.176 |
| **Tertiles of the ratio for spatial access scores**  | Lowest | 1 |  | 1 |  |
| Medium | -53.8 (-158.7 ; 51.1) | 0.315 | -1.27 (-82.0 ; 79.4) | 0.975 |
| Highest  | -17.0 (-165.3 ; 131.2) | 0.822 | -7.60 (-118.5 ; 103.3) | 0.893 |

 (a) Healthier food retailers: supermarket and local shops; (b) Less healthy food retailers: full service restaurants, fast food restaurants, café/bars and convenience/liquor stores; Dietary patterns obtained from principal component analysis. (c) Healthy dietary pattern is composed of fruit, vegetables and fish. (d) less healthy dietary patterns is composed of fast food, sweets and sweetened beverages; All models were adjusted for age, sex, educational attainment, household composition, urban region and self-selection variables; (e) Scores for healthy and less dietary patterns were multiplied by 1000; GEE = generalized estimating equation.

**Supplementary Table 3.** Coefficients and 95% confidence intervals (95%CI) as derived from GEE- linear regression analyses indicating the associations between absolute measures of exposure to food retailers with dietary patterns among adults in neighbourhoods from five urban regions in Europe. Sensitivity analysis excluding the self-selection variables. The SPOTLIGHT Project (n=4,942).

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|  |  | **Healthy dietary****pattern (c) (e)****Coefficient (95%CI)** | **p value** | **Less healthy dietary pattern (d) (e)****Coefficient (95%CI)** | **p value** |
| **Tertiles of density of healthier food retailers per km2 (a)** | Lowest | 1 |  | 1 |  |
| Medium | -50.8 (-246.5 ; 144.9) | 0.611 | 13.8 (-98.6 ; 126.1) | 0.810 |
| Highest  | -3.90 (-174.3 ; 182.1) | 0.966 | -58.0 (-163.7; 47.7) | 0.282 |
| **Tertiles of density of less healthy food retailers per km2 (b)** | Lowest | 1 |  | 1 |  |
| Medium | -77.5 (-251.1 ; 96.1) | 0.382 | -61.3 (-176.3 ; 53.6) | 0.296 |
| Highest  | -5.94 (-164.4 ; 152.5) | 0.941 | **-133.4 (-226.9 ; -40.0)** | **0.005** |
| **Tertiles of spatial access score for healthier food retailers (a)** | Lowest | 1 |  | 1 |  |
| Medium | -78.1 (-184.9 ; 28.6) | 0.151 | -17.1 (-114.1 ; 79.9) | 0.730 |
| Highest  | -89.3 (-216.3 ; 37.7) | 0.168 | -36.3 (-133.8 ; 61.3) | 0.466 |
| **Tertiles of spatial access score for less healthy food retailers (b)** | Lowest | 1 |  | 1 |  |
| Medium | -65.6 (-163.0 ; 31.8) | 0.187 | -7.37 (-91.2 ; 77.5) | 0.863 |
| Highest  | -83.9 (-210.2 ; 42.3) | 0.193 | -14.7 (-122.7 ; 93.3) | 0.789 |

(a) Healthier food retailers: supermarket and local shops; (b) Less healthy food retailers: fast food restaurants, café/bars and convenience/liquor stores; Dietary patterns obtained from principal component analysis. (c) Healthy dietary pattern is composed of fruit, vegetables and fish. (d) less healthy dietary patterns is composed of fast food, sweets and sweetened beverages; All models were adjusted for age, sex, educational attainment, household composition and urban region. (e) Scores for healthy and less dietary patterns were multiplied by 1000; GEE = generalized estimating equation.

**Supplementary Table 4.** Coefficients and 95% confidence intervals (95%CI) as derived from GEE- linear regression analyses indicating the associations between relative measures of exposure to food retailers with dietary patterns among adults in neighbourhoods from five urban regions in Europe. Sensitivity analysis excluding the self-selection variables. The SPOTLIGHT Project (n=4,942).

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|  |  | **Healthy dietary pattern (c) (e)****Coefficient (95%CI)** | **p value** | **Less healthy dietary pattern (d) (e)****Coefficient (95%CI)** | **p value** |
| **Tertiles of the Modified Retail Food Environment Index** | Lowest | 1 |  | 1 |  |
| Medium | -34.7 (-247.8 ; 178.4) | 0.750 | 16.4 (-104.7 ; 137.5) | 0.791 |
| Highest  | 71.0 (-111.3 ; 253.2) | 0.445 | 98.7 (-5.61 ; 203.0) | 0.064 |
| **Tertiles of the ratio for spatial access scores**  | Lowest | 1 |  | 1 |  |
| Medium | -58.3 (-180.2 ; 63.5) | 0.348 | 24.6 (-65.2; 114.3) | 0.592 |
| Highest  | 37.9 (-106.6 ; 182.4) | 0.607 | 41.0 (-65.1 ; 142.1) | 0.426 |

 (a) Healthier food retailers: supermarket and local shops; (b) Less healthy food retailers: fast food restaurants, café/bars and convenience/liquor stores; Dietary patterns obtained from principal component analysis. (c) Healthy dietary pattern is composed of fruit, vegetables and fish. (d) less healthy dietary patterns is composed of fast food, sweets and sweetened beverages; All models were adjusted for age, sex, educational attainment, household composition and urban region. (e) Scores for healthy and less dietary patterns were multiplied by 1000; GEE = generalized estimating equation.