**APPENDIX A. Correlation coefficients between food environment measures, by geographic definition and food outlet type**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | SM, density, CT | SM, density, tailored classic NB | SM, density, classic NB | SM, density, sausage NB | FF, density, CT | FF, density, tailored classic NB | FF, density, classic NB | FF, density, sausage NB | SM, relative, CT | SM, relative, tailored classic NB | SM, relative, classic NB | SM, relative, sausage NB | FF, relative, CT | FF, relative, tailored classic NB | FF, relative, classic NB | FF, relative, sausage NB |
| SM, density, CT | 1 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| SM, density, tailored classic NB | 0.19 | 1 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| SM, density, classic NB | 0.26 | 0.72 | 1 |  |  |  |  |  |  |  |  |  |  |  |  |  |
| SM, density, sausage NB | 0.16 | 0.70 | 0.79 | 1 |  |  |  |  |  |  |  |  |  |  |  |  |
| FF, density, CT | 0.33 | 0.39 | 0.40 | 0.39 | 1 |  |  |  |  |  |  |  |  |  |  |  |
| FF, density, tailored classic NB | 0.12 | 0.74 | 0.60 | 0.68 | 0.54 | 1 |  |  |  |  |  |  |  |  |  |  |
| FF, density, classic NB | 0.19 | 0.62 | 0.73 | 0.71 | 0.56 | 0.80 | 1 |  |  |  |  |  |  |  |  |  |
| FF, density, sausage NB | 0.12 | 0.65 | 0.65 | 0.83 | 0.49 | 0.80 | 0.84 | 1 |  |  |  |  |  |  |  |  |
| SM, relative, CT | 0.95 | 0.08 | 0.18 | 0.07 | 0.22 | 0.00 | 0.08 | 0.00 | 1 |  |  |  |  |  |  |  |
| SM, relative, tailored classic NB | 0.13 | 0.04 | -0.01 | -0.21 | -0.16 | -0.41 | -0.29 | -0.38 | 0.21 | 1 |  |  |  |  |  |  |
| SM, relative, classic NB | 0.32 | 0.40 | 0.70 | 0.40 | 0.23 | 0.22 | 0.33 | 0.24 | 0.33 | 0.28 | 1 |  |  |  |  |  |
| SM, relative, sausage NB | 0.24 | 0.16 | 0.32 | 0.42 | 0.13 | 0.07 | 0.11 | 0.13 | 0.27 | 0.22 | 0.55 | 1 |  |  |  |  |
| FF, relative, CT | 0.22 | 0.07 | 0.10 | 0.06 | 0.71 | 0.15 | 0.22 | 0.12 | 0.20 | 0.10 | 0.14 | 0.13 | 1 |  |  |  |
| FF, relative, tailored classic NB | 0.13 | 0.29 | 0.23 | 0.26 | 0.37 | 0.59 | 0.39 | 0.34 | 0.07 | -0.27 | 0.23 | 0.19 | 0.29 | 1 |  |  |
| FF, relative, classic NB | 0.19 | 0.21 | 0.34 | 0.27 | 0.39 | 0.35 | 0.56 | 0.36 | 0.16 | -0.05 | 0.39 | 0.25 | 0.42 | 0.58 | 1 |  |
| FF, relative, sausage NB | 0.15 | 0.08 | 0.14 | 0.18 | 0.25 | 0.16 | 0.26 | 0.31 | 0.13 | 0.02 | 0.26 | 0.34 | 0.36 | 0.45 | 0.61 | 1 |

NOTE: SM=supermarket; FF=fast food restaurants; CT=census tract; dens=density; rel=relative, tail=tailored; NB=network-based. Buffer-based measures are calculated using 3.2-km (2-mile) buffer size (i.e., network) or 5-km buffer size (i.e., sausage).

**APPENDIX B. Model-based associations between food environment measures and Mediterranean diet score, by geographic definition, food outlet type, and buffer size (n=21,033)**

|  |  |  |  |
| --- | --- | --- | --- |
|   | Census tract | “Classic” network buffera | Sausage network buffer |
|  | β (SE) | p-value | β (SE) | p-value | β (SE) | p-value |
| Supermarkets |  |  |  |  |  |  |
| Density, tailoredb | **0.09 (0.02)** | **<0.001** | **0.15 (0.03)** | **<0.001** | **0.13 (0.03)** | **<0.001** |
| Density, 1 km | **0.05 (0.01)** | **<0.001** | **0.07 (0.02)** | **<0.001** |
| Density, 5 km | **0.17 (0.04)** | **<0.001** | **0.22 (0.04)** | **<0.001** |
| Density, 8 km | **0.30 (0.04)** | **<0.001** | **0.26 (0.04)** | **<0.001** |
| Density, 16 km | **0.38 (0.05)** | **<0.001** | **0.36 (0.05)** | **<0.001** |
|  |  |  |  |  |  |  |
| Percentage, tailoredb | -0.04 (0.10) | 0.64 | -0.29 (0.15) | 0.06 | -0.08 (0.15) | 0.57 |
| Percentage, 1 km | **-0.19 (0.09)** | **0.03** | -0.08 (0.07) | 0.28 |
| Percentage, 5 km | -0.15 (0.10) | 0.14 | -0.10 (0.12) | 0.38 |
| Percentage, 8 km | -0.29 (0.17) | 0.09 | **0.31 (0.15)** | **0.04** |
| Percentage, 16 km | **-0.59 (0.23)** | **0.01** | -0.48 (0.25) | 0.06 |
|  |  |  |  |  |  |  |
| Fast food restaurants |  |  |  |  |  |  |
| Density, tailoredb | **0.04 (0.01)** | **<0.001** | **0.08 (0.01)** | **<0.001** | **0.08 (0.01)** | **<0.001** |
| Density, 1 km | **0.05 (0.01)** | **<0.001** | **0.05 (0.01)** | **<0.001** |
| Density, 5 km | **0.08 (0.02)** | **<0.001** | **0.10 (0.02)** | **<0.001** |
| Density, 8 km | **0.15 (0.02)** | **<0.001** | **0.13 (0.02)** | **<0.001** |
| Density, 16 km | **0.18 (0.02)** | **<0.001** | **0.17 (0.02)** | **<0.001** |
|  |  |  |  |  |  |  |
| Percentage, tailoredb | -0.03 (0.04) | 0.46 | -0.10 (0.08) | 0.23 | -0.09 (0.08) | 0.26 |
| Percentage, 1 km | 0.002 (0.05) | 0.96 | -0.03 (0.04) | 0.44 |
| Percentage, 5 km | -0.06 (0.06) | 0.30 | **-0.16 (0.06)** | **0.01** |
| Percentage, 8 km | -0.05 (0.09) | 0.58 | -0.14 (0.08) | 0.07 |
| Percentage, 16 km | -0.21 (0.12) | 0.08 | -0.16 (0.12) | 0.20 |

NOTE: Bold denotes statistically significant at α <0.05 level. Supermarkets and fast food restaurants were included in separate regression models; and we controlled for total food outlets (continuous) in models with relative measures.

aMeasure is tailored to the community type (high-density urban, low-density urban, suburban/small town, rural) of participants’ residential census tract.

b“Classic” network buffer distances for “one-size-fits-all” measures are 1 mile (~1.6 km), 2 miles (~3.2 km), 6 miles (~9.7 km), and 10 miles (~16.1 km).

**APPENDIX C. Model-based associations between food environment measures and diabetes status, by geographic definition, food outlet type, and buffer size (n=28,751)**

|  |  |  |  |
| --- | --- | --- | --- |
|   | Census tract | “Classic” network buffera | Sausage network buffer |
|   | β (SE) | p-value | β (SE) | p-value | β (SE) | p-value |
|  |  |  |  |  |  |  |
| Supermarkets |  |  |  |  |  |  |
| Density, tailoredb | **-0.06 (0.03)** | **0.02** | **-0.07 (0.03)** | **0.03** | **-0.06 (0.03)** | **0.049** |
| Density, 1 km | -0.04 (0.03) | 0.14 | -0.002 (0.02) | 0.94 |
| Density, 5 km | **-0.09 (0.04)** | **0.02** | **-0.10 (0.04)** | **0.02** |
| Density, 8 km | **-0.14 (0.05)** | **<0.001** | -0.13 (0.04) | **<0.01** |
| Density, 16 km | **-0.15 (0.06)** | **0.02** | **-0.14 (0.06)** | **0.02** |
|  |  |  |  |  |  |  |
| Percentage, tailoredb | 0.03 (0.11) | 0.82 | -0.10 (0.19) | 0.60 | -0.04 (0.17) | 0.82 |
| Percentage, 1 km | -0.002 (0.12) | 0.99 | 0.16 (0.09) | 0.07 |
| Percentage, 5 km | -0.04 (0.14) | 0.78 | 0.09 (0.17) | 0.59 |
| Percentage, 8 km | -0.38 (0.24) | 0.12 | 0.13 (0.22) | 0.54 |
| Percentage, 16 km | 0.29 (0.31) | 0.35 | 0.52 (0.33) | 0.11 |
|  |  |  |  |  |  |  |
| Fast food restaurants |  |  |  |  |  |  |
| Density, tailoredb | -0.002 (0.01) | 0.86 | **-0.04 (0.02)** | **0.01** | **-0.03 (0.01)** | **0.02** |
| Density, 1 km | -0.01 (0.01) | 0.40 | 0.002 (0.01) | 0.84 |
| Density, 5 km | **-0.05 (0.02)** | **0.01** | **-0.06 (0.02)** | **0.004** |
| Density, 8 km | **-0.09 (0.02)** | **<0.001** | **-0.09 (0.02)** | **<0.001** |
| Density, 16 km | **-0.10 (0.03)** | **<0.001** | **-0.09 (0.03)** | **<0.001** |
|  |  |  |  |  |  |  |
| Percentage, tailoredb | **0.14 (0.05)** | **0.01** | **0.30 (0.10)** | **<0.01** | **0.24 (0.09)** | **0.01** |
| Percentage, 1 km | 0.07 (0.06) | 0.23 | **0.13 (0.05)** | **0.01** |
| Percentage, 5 km | 0.05 (0.08) | 0.55 | 0.08 (0.09) | 0.37 |
| Percentage, 8 km | 0.20 (0.13) | 0.12 | 0.17 (0.11) | 0.14 |
| Percentage, 16 km | **0.50 (0.18)** | **<0.01** | **0.44 (0.17)** | **0.01** |

NOTE: Bold denotes statistically significant at α <0.05 level. Supermarkets and fast food restaurants were included in separate regression models; and we controlled for total food outlets (continuous) in models with relative measures.

aMeasure is tailored to the community type (high-density urban, low-density urban, suburban/small town, rural) of participants’ residential census tract.

b“Classic” network buffer distances for “one-size-fits-all” measures are 1 mile (~1.6 km), 2 miles (~3.2 km), 6 miles (~9.7 km), and 10 miles (~16.1 km).