

Supplemental Material

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Table S1. Comparison of survey samples retained in analysis to those omitted due to non-geocodeable residential cross-streets.

| Variable | Sample Kept (N = 1281) | Omitted from Analysis (N = 278) ^a | <i>p</i> -Value ^b |
|--|--|---|------------------------------|
| Sex (categorical) | 63.6% female | 64.3% female | 0.80 |
| Education (categorical) | Median = 6 (Associate's degree) | Median = 5 (some college, no degree) | <0.001 |
| Income (categorical) | Median = 3 (\$46,000 to just under \$70,000) | Median = 2 (\$23,000 to just under \$46,000) | 0.10 |
| Age (continuous) | Mean = 44.7 | Mean = 46.4 | 0.2 |
| How long lived in neighborhood (categorical) | Median = 4 (10 years or more) | Median = 4 (10 years or more) | 0.3 |
| Study Arm (categorical) | 9.5 % landline 32.0% cell phone 58.5% online | 15.5 % landline 46.4% cell phone 38.1% online | <0.001 |
| Season (categorical) | 48.6% season 1 | 56.8% season 1 | 0.02 |

^a Number of observations for those dropped from analysis varies by variable and some were dropped due to missing values, ^b *p*-value from χ^2 test for categorical variables and t-test for continuous variables.

Table S2. RRs of self-reported “very good” or “excellent” health of increasing quartiles of percent vegetation within a 1000 m radius and a 300 m radius of the reported nearest cross-street adjusted for different combinations of air pollutants.

| Buffer | Exposure | Covariates | First Quartile (Reference) | Second Quartile | Third Quartile | Fourth Quartile | |
|------------------|------------------|--|--|---------------------|---------------------|---------------------|-------------------|
| 1000 m | Trees | SES + NO ₂ | 1 | 1.24 (1.05, 1.46) * | 1.17 (0.98, 1.39) | 1.37 (1.15, 1.63) * | |
| | | SES + PM _{2.5} | 1 | 1.24 (1.05, 1.45) * | 1.17 (0.98, 1.39) | 1.34 (1.13, 1.59) * | |
| | | SES + NO ₂ + PM _{2.5} | 1 | 1.24 (1.05, 1.46) * | 1.17 (0.98, 1.39) | 1.36 (1.15, 1.62) * | |
| | | SES + population density | 1 | 1.19 (1.01, 1.40) * | 1.10 (0.93, 1.30) | 1.25 (1.07, 1.46) * | |
| | | SES + NO ₂ + population density | 1 | 1.22 (1.03, 1.44) * | 1.15 (0.96, 1.37) | 1.34 (1.13, 1.60) * | |
| | Grass | SES + NO ₂ | 1 | 1.09 (0.91, 1.30) | 1.23 (1.00, 1.50) * | 1.25 (1.00, 1.57) * | |
| | | SES + PM _{2.5} | 1 | 1.08 (0.91, 1.29) | 1.21 (1.00, 1.47) * | 1.23 (0.99, 1.52) * | |
| | | SES + NO ₂ + PM _{2.5} | 1 | 1.09 (0.91, 1.30) | 1.23 (1.00, 1.50) * | 1.25 (1.00, 1.57) * | |
| | | SES + population density | 1 | 1.02 (0.87, 1.20) | 1.13 (0.96, 1.34) | 1.14 (0.95, 1.37) | |
| | | SES + NO ₂ + population density | 1 | 1.08 (0.91, 1.29) | 1.24 (1.01, 1.52) * | 1.30 (1.03, 1.63) * | |
| | Total Vegetation | SES + NO ₂ | 1 | 1.09 (0.91, 1.31) | 1.27 (1.07, 1.52) * | 1.42 (1.15, 1.74) * | |
| | | SES + PM _{2.5} | 1 | 1.09 (0.91, 1.32) | 1.26 (1.06, 1.50) * | 1.36 (1.12, 1.67) * | |
| | | SES + NO ₂ + PM _{2.5} | 1 | 1.10 (0.91, 1.32) | 1.28 (1.07, 1.52) * | 1.41 (1.15, 1.74) * | |
| | | SES + population density | 1 | 1.03 (0.86, 1.22) | 1.14 (0.98, 1.33) | 1.22 (1.04, 1.44) * | |
| | | SES + NO ₂ + population density | 1 | 1.09 (0.90, 1.31) | 1.25 (1.05, 1.49) * | 1.41 (1.15, 1.74) * | |
| | 300 m | Trees | SES + NO ₂ | 1 | 0.99 (0.83, 1.17) | 1.10 (0.94, 1.29) | 1.05 (0.88, 1.26) |
| | | | SES + PM _{2.5} | 1 | 0.99 (0.83, 1.17) | 1.11 (0.95, 1.30) | 1.04 (0.88, 1.24) |
| | | | SES + NO ₂ + PM _{2.5} | 1 | 0.99 (0.83, 1.17) | 1.11 (0.94, 1.30) | 1.04 (0.87, 1.24) |
| | | | SES + population density | 1 | 0.95 (0.80, 1.13) | 1.06 (0.91, 1.23) | 0.99 (0.84, 1.17) |
| | | | SES + NO ₂ + population density | 1 | 0.96 (0.81, 1.15) | 1.08 (0.92, 1.27) | 1.03 (0.86, 1.23) |
| Grass | | SES + NO ₂ | 1 | 0.84 (0.70, 1.01) | 0.85 (0.71, 1.03) | 0.98 (0.80, 1.22) | |
| | | SES + PM _{2.5} | 1 | 0.85 (0.71, 1.02) | 0.86 (0.72, 1.04) | 1.00 (0.81, 1.22) | |
| | | SES + NO ₂ + PM _{2.5} | 1 | 0.85 (0.71, 1.02) | 0.86 (0.71, 1.04) | 0.99 (0.80, 1.23) | |
| | | SES + population density | 1 | 0.85 (0.71, 1.01) | 0.86 (0.72, 1.02) | 1.00 (0.83, 1.20) | |
| | | SES + NO ₂ + population density | 1 | 0.86 (0.72, 1.03) | 0.88 (0.72, 1.07) | 1.03 (0.82, 1.29) | |
| Total Vegetation | | SES + NO ₂ | 1 | 0.89 (0.75, 1.06) | 0.98 (0.82, 1.18) | 1.01 (0.82, 1.24) | |
| | | SES + PM _{2.5} | 1 | 0.90 (0.76, 1.07) | 0.99 (0.83, 1.17) | 1.00 (0.82, 1.22) | |
| | | SES + NO ₂ + PM _{2.5} | 1 | 0.90 (0.76, 1.07) | 0.99 (0.82, 1.18) | 1.00 (0.81, 1.23) | |
| | | SES + population density | 1 | 0.87 (0.74, 1.03) | 0.95 (0.81, 1.12) | 0.97 (0.82, 1.16) | |
| | | SES + NO ₂ + population density | 1 | 0.88 (0.75, 1.05) | 0.98 (0.82, 1.17) | 1.01 (0.82, 1.24) | |

All models additionally controlled for season, sampling frame, neighborhood tenure, age, sex, race/ethnicity, individual SES (two-level categorical variable for education, and a six-level categorical variable for income), and area-level SES (% of census tract unemployed and % of census tract living below twice the FPL). * $p < 0.05$, SES: socio-economic status.

Table S3. Coefficients (and 95% CI) of continuous self-reported health (with higher values indicating better health) of increasing quartiles of percent vegetation from linear models.

| Buffer | Exposure | Covariates | First Quartile (Reference) | Second Quartile | Third Quartile | Fourth Quartile |
|--------|------------------|---------------------|----------------------------|------------------------|---------------------|---------------------|
| 1000 m | Trees | SES | 0 | 0.15 (0.01, 0.30) * | 0.04 (-0.09, 0.18) | 0.20 (0.07, 0.33) * |
| | | SES+NO ₂ | 0 | 0.17 (0.02, 0.31) | 0.08 (-0.06, 0.22) | 0.26 (0.11, 0.40) * |
| | Grass | SES | 0 | 0.01 (-0.14, 0.16) | 0.08 (-0.08, 0.24) | 0.06 (-0.08, 0.20) |
| | | SES+NO ₂ | 0 | 0.08 (-0.08, 0.24) | 0.18 (0.00, 0.36) | 0.21 (0.01, 0.41) * |
| | Total Vegetation | SES | 0 | 0.03 (-0.11, 0.17) | 0.06 (-0.09, 0.21) | 0.13 (-0.01, 0.27) |
| | | SES+NO ₂ | 0 | 0.09 (-0.06, 0.25) | 0.14 (-0.02, 0.31) | 0.28 (0.1, 0.46) * |
| 300 m | Trees | SES | 0 | 0.00 (-0.14, 0.15) | 0.07 (-0.07, 0.21) | -0.03 (-0.18, 0.12) |
| | | SES+NO ₂ | 0 | 0.02 (-0.13, 0.16) | 0.09 (-0.06, 0.24) | 0.00 (-0.16, 0.16) |
| | Grass | SES | 0 | -0.17 (-0.31, -0.02) * | -0.15 (-0.29, 0.00) | -0.08 (-0.23, 0.06) |
| | | SES+NO ₂ | 0 | -0.16 (-0.32, 0.00) | -0.14 (-0.31, 0.04) | -0.07 (-0.28, 0.14) |
| | Total Vegetation | SES | 0 | -0.05 (-0.20, 0.09) | -0.06 (-0.21, 0.09) | -0.04 (-0.19, 0.11) |
| | | SES+NO ₂ | 0 | -0.03 (-0.19, 0.12) | -0.02 (-0.19, 0.15) | 0.02 (-0.16, 0.21) |

All models additionally controlled for season, sampling frame, neighborhood tenure, age, sex, race/ethnicity, individual SES (two-level categorical variable for education, and a six-level categorical variable for income), and area-level SES (% of census tract unemployed and % of census tract living below twice the FPL). * $p < 0.05$.

Table S4. RRs and 95% CIs for the association between % trees, grass, and total vegetation as a continuous measure by buffer size with self-reported “very good” or “excellent” health compared to “good”, “fair”, or “poor” self-reported health.

| Buffer | Exposure | Covariates | RR (95% CI) |
|--------|------------------|-----------------------|------------------------|
| 1000 m | Trees | SES | 1.004 (0.997, 1.011) |
| | | SES + NO ₂ | 1.010 (1.001, 1.018) * |
| | Grass | SES | 1.001 (0.992, 1.009) |
| | | SES + NO ₂ | 1.012 (1.001, 1.024) * |
| | Total Vegetation | SES | 1.002 (0.997, 1.006) |
| | | SES + NO ₂ | 1.009 (1.003, 1.016) * |
| 300 m | Trees | SES | 0.998 (0.991, 1.005) |
| | | SES + NO ₂ | 1.002 (0.994, 1.010) |
| | Grass | SES | 0.997 (0.989, 1.005) |
| | | SES + NO ₂ | 1.003 (0.993, 1.014) |
| | Total Vegetation | SES | 0.998 (0.994, 1.003) |
| | | SES + NO ₂ | 1.002 (0.996, 1.008) |

All models additionally controlled for season, sampling frame, neighborhood tenure, age, sex, race/ethnicity, individual SES (two-level categorical variable for education, and a six-level categorical variable for income), and area-level SES (% of census tract unemployed and % of census tract living below twice the FPL). * $p < 0.05$.

Table S5. RRs of self-reported “very good” or “excellent” health of increasing quartiles of percent trees, grass, or vegetation within various radii of the reported nearest cross-street.

| Exposure | Buffer Size | First Quartile (Reference) | Second Quartile | Third Quartile | Fourth Quartile |
|------------------|-------------|----------------------------|---------------------|---------------------|---------------------|
| Trees | 100 m | 1 | 1.06 (0.90, 1.24) | 0.95 (0.81, 1.11) | 0.95 (0.81, 1.12) |
| | 300 m | 1 | 0.96 (0.81, 1.14) | 1.05 (0.91, 1.22) | 0.98 (0.83, 1.15) |
| | 500 m | 1 | 1.06 (0.90, 1.25) | 1.07 (0.91, 1.26) | 1.06 (0.90, 1.25) |
| | 1000 m | 1 | 1.19 (1.01, 1.40) * | 1.09 (0.93, 1.29) | 1.23 (1.05, 1.43) * |
| | 2000 m | 1 | 1.01 (0.85, 1.20) | 1.08 (0.92, 1.26) | 1.15 (0.99, 1.34) |
| Grass | 100 m | 1 | 0.89 (0.76, 1.03) | 0.81 (0.69, 0.95) * | 0.91 (0.78, 1.06) |
| | 300 m | 1 | 0.81 (0.69, 0.95) * | 0.81 (0.69, 0.94) * | 0.90 (0.78, 1.05) |
| | 500 m | 1 | 0.84 (0.71, 0.99) * | 0.90 (0.77, 1.06) | 0.96 (0.83, 1.11) |
| | 1000 m | 1 | 0.98 (0.83, 1.16) | 1.04 (0.89, 1.22) | 1.00 (0.86, 1.17) |
| | 2000 m | 1 | 1.04 (0.88, 1.22) | 1.03 (0.87, 1.21) | 1.00 (0.85, 1.17) |
| Total Vegetation | 100 m | 1 | 0.82 (0.70, 0.96) | 0.86 (0.73, 1.00) | 0.90 (0.77, 1.04) |
| | 300 m | 1 | 0.86 (0.73, 1.02) | 0.92 (0.79, 1.07) | 0.91 (0.77, 1.06) |
| | 500 m | 1 | 1.01 (0.86, 1.20) | 0.98 (0.84, 1.16) | 1.04 (0.89, 1.22) |
| | 1000 m | 1 | 0.99 (0.83, 1.17) | 1.10 (0.95, 1.29) | 1.11 (0.96, 1.29) |
| | 2000 m | 1 | 1.09 (0.93, 1.28) | 1.09 (0.93, 1.29) | 1.18 (1.01, 1.38) * |

All models additionally controlled for season, sampling frame, neighborhood tenure, age, sex, race/ethnicity, individual SES (two-level categorical variable for education, and a six-level categorical variable for income), and area-level SES (% of census tract unemployed and % of census tract living below twice the FPL). * $p < 0.05$.

Table S6. RRs of self-reported “very good” or “excellent” health of increasing quartiles of percent trees, grass, or vegetation within various radii of the reported nearest cross-street also adjusted for NO₂ at either the 300 m or 1000 m buffer size, whichever is closer in size to the radial buffer for vegetation.

| Exposure | Buffer Size | First Quartile (Reference) | Second Quartile | Third Quartile | Fourth Quartile |
|------------------|-------------|----------------------------|---------------------|---------------------|---------------------|
| Trees | 100 m | 1 | 1.07 (0.91, 1.25) | 0.97 (0.83, 1.14) | 1.00 (0.84, 1.19) |
| | 300 m | 1 | 0.98 (0.83, 1.17) | 1.10 (0.94, 1.29) | 1.06 (0.89, 1.26) |
| | 500 m | 1 | 1.09 (0.93, 1.28) | 1.12 (0.95, 1.32) | 1.15 (0.97, 1.37) |
| | 1000 m | 1 | 1.23 (1.04, 1.44) * | 1.15 (0.97, 1.37) | 1.36 (1.14, 1.61) * |
| | 2000 m | 1 | 1.03 (0.87, 1.23) | 1.12 (0.96, 1.31) | 1.27 (1.08, 1.50) * |
| Grass | 100 m | 1 | 0.91 (0.77, 1.08) | 0.85 (0.71, 1.02) | 0.97 (0.79, 1.19) |
| | 300 m | 1 | 0.84 (0.70, 1.00) | 0.85 (0.70, 1.03) | 0.97 (0.79, 1.19) |
| | 500 m | 1 | 0.90 (0.75, 1.08) | 1.01 (0.83, 1.22) | 1.11 (0.90, 1.37) |
| | 1000 m | 1 | 1.07 (0.90, 1.28) | 1.21 (0.99, 1.48) | 1.24 (0.99, 1.55) |
| | 2000 m | 1 | 1.12 (0.94, 1.34) | 1.16 (0.95, 1.41) | 1.19 (0.95, 1.48) |
| Total Vegetation | 100 m | 1 | 0.83 (0.71, 0.98) | 0.90 (0.76, 1.07) | 0.97 (0.81, 1.16) |
| | 300 m | 1 | 0.89 (0.75, 1.06) | 0.98 (0.82, 1.17) | 1.01 (0.82, 1.24) |
| | 500 m | 1 | 1.08 (0.91, 1.29) | 1.10 (0.91, 1.32) | 1.24 (1.01, 1.53) * |
| | 1000 m | 1 | 1.08 (0.90, 1.30) | 1.26 (1.05, 1.50) * | 1.40 (1.14, 1.72) * |
| | 2000 m | 1 | 1.16 (0.98, 1.38) | 1.22 (1.02, 1.46) * | 1.46 (1.19, 1.79) * |

All models additionally controlled for season, sampling frame, neighborhood tenure, age, sex, race/ethnicity, individual SES (two-level categorical variable for education, and a six-level categorical variable for income), and area-level SES (% of census tract unemployed and % of census tract living below twice the FPL). * $p < 0.05$.

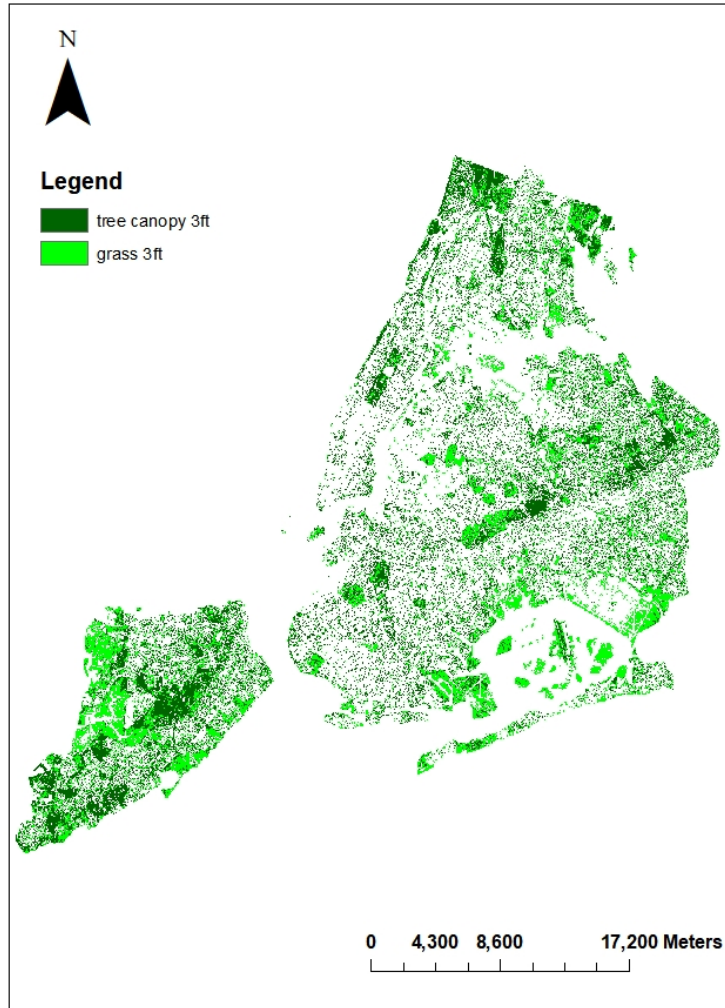


Figure S1. Map of tree and grass coverage at 3-ft resolution for all of NYC. NYC = New York City.

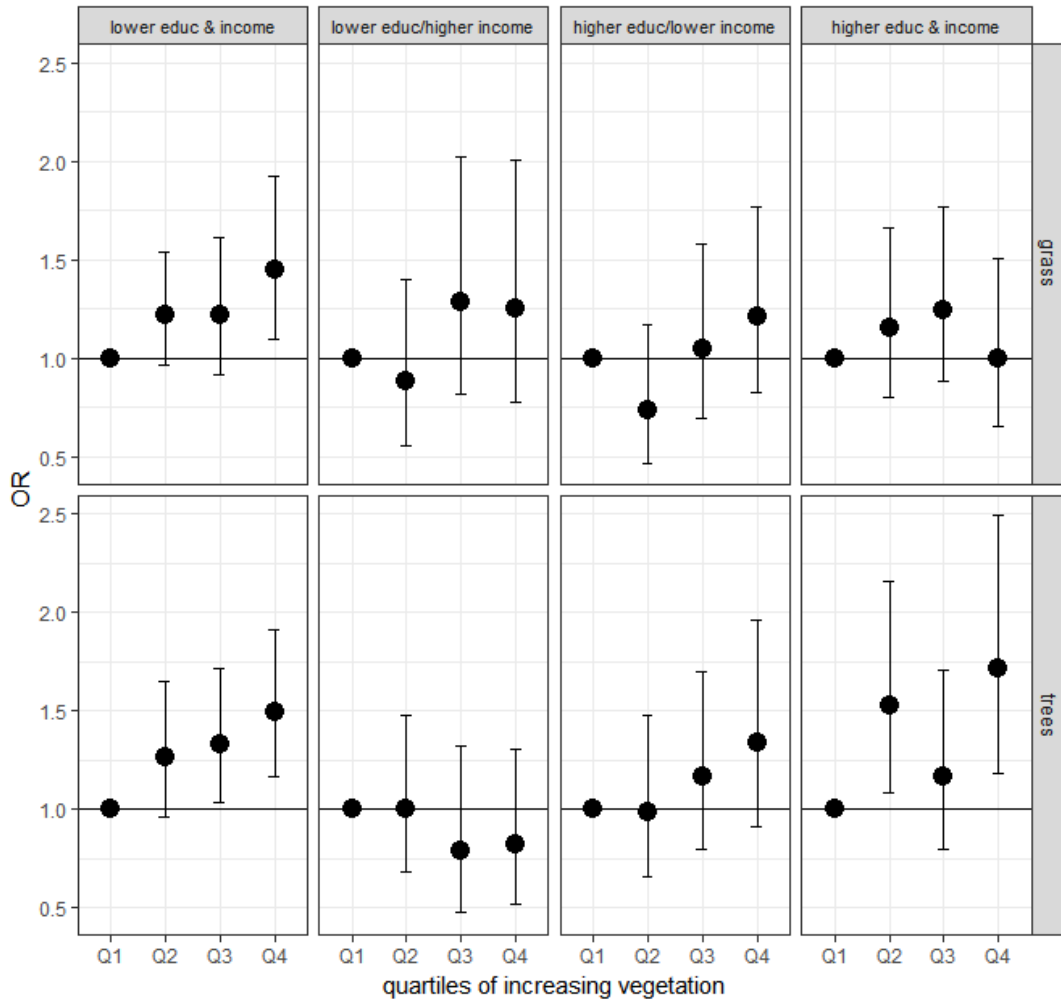


Figure S2. RRs for self-reported “very good” or “excellent” health by quartiles of % grass or % trees at 1000 m buffer by categorical SES levels additionally adjusted for individual-level and area-level SES and NO₂.