|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Table S1. P-values for Linearity of the Ambient Air Pollution, Road Traffic Noise, Blood Pressure and Insulin Resistance Relationships.** | | | | |
|  | NO2 (µg/m3) | | Lden (dB) | |
|  | Prenatal | Postnatal | Prenatal | Postnatal |
| Systolic blood pressure (mmHg) | 0.03 | 0.98 | 0.83 | 0.40 |
| Diastolic blood pressure (mmHg) | 0.11 | 0.51 | 0.60 | 0.87 |
| Plasma fasting glucose (mmol/l) | <0.001 | <0.001 | 0.36 | 0.37 |
| Insulin (pmol/l) | 0.59 | 0.30 | 0.73 | 0.61 |
| HOMA-IR | 0.08 | 0.01 | 0.93 | 0.77 |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Table S2. Characteristics for the Included and Excluded Study Population.** | | | | |
| Characteristics | Included (N=629) | Excluded (n=605) | p | |
| Sex |  |  | <0.001 | |
| Boy | 329 (52.3) | 288 (47.6) |  | |
| Girl | 300 (47.7) | 281 (46.4) |  | |
| Missing |  | 36 (6.0) |  | |
| Puberty started |  |  | <0.001 | |
| No | 123 (19.5) | 166 (27.4) |  | |
| Yes | 360 (57.2) | 273 (45.2) |  | |
| Missing | 146 (23.2) | 166 (27.4) |  | |
| Maternal smoking |  |  | <0.001 | |
| No | 462 (73.5) | 400 (66.1) |  | |
| Yes | 150 (23.9) | 148 (24.5) |  | |
| Missing | 17 (2.7) | 57 (9.4) |  | |
| Maternal BMI (kg/m2) |  |  | <0.001 | |
| <25 kg/m2 | 406 (64.6) | 307 (50.7) |  | |
| ≥25kg/m2 | 197 (31.3) | 233 (38.5) |  | |
| Missing | 26 (4.1) | 65 (10.7) |  | |
| Maternal GDM |  |  | <0.001 | |
| No | 464 (73.8) | 392 (64.8) |  | |
| Yes | 165 (26.3) | 177 (29.3) |  | |
| Missing |  | 36 (6.0) |  | |
| Household disposable income |  |  | <0.001 | |
| Low | 115 (18.3) | 114 (18.8) |  | |
| Middle | 179 (28.5) | 180 (29.8) |  | |
| High | 327 (52.0) | 270 (44.6) |  | |
| Missing | 8 (1.3) | 41 (6.8) |  | |
| Maternal education |  |  | <0.001 | |
| Low | 77 (12.4) | 99 (16.4) |  | |
| Middle | 303 (48.2) | 288 (47.6) |  | |
| High | 237 (37.7) | 173 (28.6) |  | |
| Missing | 12 (1.9) | 45 (7.4) |  | |
| Area of living |  |  | 0.12 | |
| Greater Copenhagen | 128 (20.4) | 97 (16.0) |  | |
| Big cities and suburbs | 268 (42.6) | 261 (43.1) |  | |
| Provincial and rural | 233 (37.0) | 247 (40.8) |  | |
| Area-level income |  |  | <0.001 | |
| Low | 232 (36.9) | 200 (33.1) |  | |
| Medium-low | 140 (22.3) | 126 (20.8) |  | |
| Medium-high | 155 (24.6) | 156 (25.8) |  | |
| High | 102 (16.2) | 87 (14.4) |  | |
| Missing |  | 36 (6.0) |  | |
| Moved after age 7 |  |  | 0.05 | |
| No | 489 (77.7) | 441 (72.9) |  | |
| Yes | 140 (22.3) | 164 (27.1) |  | |
| **Table S2. Characteristics for the Included and Excluded Study Population - Continued.** | | | | |
| Characteristics | Included (N=629) | Excluded (n=605) | | P |
| Age (years) | 12.7 (10.1-14.9) | 12.0 (9.8-14.7) | | <0.001 |
| Weight (kg) | 47.0 (32.5-71.0) | 44.9 (29.6-70.0) | | 0.005 |
| Missing | 1 | 2 | |  |
| Height (cm) | 159.8 (142.0-177.0) | 155.4 (135.0-176.0) | | <0.001 |
| Missing | 0 | 2 | |  |
| Systolic blood pressure (mmHg) | 109.0 (97.0-126.0) | 109.0 (97.0-125.0) | | 0.25 |
| Missing | 0 | 8 | |  |
| Diastolic blood pressure (mmHg) | 62.0 (54.0-72.0) | 62.0 (54.0-74.0) | | 0.001 |
| Missing | 0 | 8 | |  |
| Plasma fasting glucose (mmol/l) | 4.8 (4.2-5.6) | 4.9 (4.2-5.9) | | <0.001 |
| Missing | 0 | 151 | |  |
| Insulin (pmol/l) | 21.0 (3.0-38.0) | 12.0 (1.0-38.0) | | <0.001 |
| Missing | 0 | 0 | |  |
| HOMA-IR | 2.0 (0.9-4.6) | 2.0 (0.9-5.0) | | 0.009 |
| Missing | 0 | 201 | |  |
| Prenatal exposure to NO2 (µg/m3) | 11.5 (7.5-28.0) | 11.1 (7.7-24.4) | | 0.05 |
| Missing | 0 | 39 | |  |
| Postnatal exposure to NO2 (µg/m3) | 10.7 (9.3-20.9) | 10.5 (9.3-19.5) | | 0.06 |
| Missing | 0 | 434 | |  |
| Prenatal exposure to Lden (dB) | 57.7 (49.7-70.3) | 58.2 (48.9-71.1) | | 0.26 |
| Missing | 0 | 39 | |  |
| Postnatal exposure to Lden (dB) | 58.1 (50.1-68.8) | 58.5 (49.7-70.5) | | 0.45 |
| Missing | 0 | 434 | |  |

n (%) P50 (P5-P95). P-values from chi-square and Kruskal-Wallis test

**Table S3. Spearman Correlations Between Exposures.**

|  |  |  |  |
| --- | --- | --- | --- |
|  | Postnatal exposure  to NO2 (µg/m3) | Prenatal exposure  to Lden (dB | Postnatal exposure  to Lden (dB) |
| Prenatal exposure to NO2 (µg/m3) | 0.63 | 0.54 | 0.40 |
| Prenatal exposure to Lden (dB) | 0.55 | 0.77 | . |
| Postnatal exposure to Lden (dB) | 0.51 | . | . |

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Table S4. Prenatal Exposure to Ambient Air Pollution and Road Traffic Noise in Associations with Blood Pressure and Insulin Resistance.** | | | | | | | | | | | | |
|  | NO2 | | | | | | Lden | | | | | | |
|  | Unadjusted | | Adjusted | | Adjusted +Lden | | Unadjusted | | Adjusted | | Adjusted +NO2 | | |
|  | β | (95% CI) | β | (95% CI) | β | (95% CI) | β | (95% CI) | β | (95% CI) | β | (95% CI) | |
| Systolic blood pressure | |  |  |  |  |  |  |  |  |  |  |  | |
| per 10 unit increment | na |  | na |  | na |  | -1.00 | (-2.01, 0.01) | -0.77 | (-1.76, 0.22) | -1.27 | (-2.51, -0.04) | |
| Quartile 1 (lowest) | Ref |  | Ref |  | Ref |  | Ref |  | Ref |  | Ref |  | |
| Quartile 2 | 0.25 | (-1.60, 2.10) | -0.75 | (-2.54, 1.03) | -0.46 | (-2.26, 1.34) | 0.05 | (-1.81, 1.90) | 0.84 | (-0.93, 2.62) | 0.76 | (-1.02, 2.55) | |
| Quartile 3 | 1.69 | (-0.16, 3.54) | 0.25 | (-1.63, 2.13) | 0.96 | (-1.01, 2.93) | -1.57 | (-3.43, 0.30) | -1.41 | (-3.18, 0.36) | -1.58 | (-3.39, 0.23) | |
| Quartile 4 (highest) | 0.89 | (-0.96, 2.73) | 0.34 | (-1.61, 2.29) | 1.72 | (-0.54, 3.99) | -1.13 | (-3.00, 0.74) | -0.71 | (-2.53, 1.11) | -1.17 | (-3.25, 0.92) | |
|  |  |  |  |  |  |  |  |  |  |  |  |  | |
| Diastolic blood pressure | |  |  |  |  |  |  |  |  |  |  |  | |
| per 10 unit increment | 0.18 | (-0.44, 0.80) | 0.17 | (-0.54, 0.88) | 0.13 | (-0.76, 1.01) | 0.10 | (-0.58, 0.78) | 0.15 | (-0.56, 0.86) | 0.08 | (-0.81, 0.97) | |
| Quartile 1 (lowest) | Ref |  | Ref |  | Ref |  | Ref |  | Ref |  | Ref |  | |
| Quartile 2 | -0.51 | (-1.76, 0.79) | -0.29 | (-1.57, 1.00) | -0.24 | (-1.54, 1.06) | -0.84 | (-2.08, 0.41) | -0.34 | (-1.62, 0.94) | -0.34 | (-1.63, 0.94) | |
| Quartile 3 | -0.32 | (-1.56, 0.92) | 0.13 | (-1.22, 1.48) | 0.24 | (-1.18, 1.66) | -1.05 | (-2.30, 0.21) | -0.65 | (-1.93, 0.63) | -0.66 | (-1.96, 0.65) | |
| Quartile 4 (highest) | 0.72 | (-0.52, 1.96) | 0.94 | (-0.46, 2.34) | 1.15 | (-0.49, 2.78) | 0.19 | (-1.06, 1.44) | 0.35 | (-0.96, 1.66) | 0.33 | (-1.17, 1.84) | |
|  |  |  |  |  |  |  |  |  |  |  |  |  | |
| Plasma fasting glucose |  |  |  |  |  |  |  |  |  |  |  |  | |
| per 10 unit increment | na |  | na |  | na |  | -0.15 | (-0.22, -0.08) | -0.14 | (-0.21, -0.07) | -0.07 | (-0.16, 0.01) | |
| Quartile 1 (lowest) | Ref |  | Ref |  | Ref |  | Ref |  | Ref |  | Ref |  | |
| Quartile 2 | -0.03 | (-0.15, 0.09) | -0.04 | (-0.16, 0.08) | -0.03 | (-0.15, 0.09) | -0.02 | (-0.15, 0.10) | -0.03 | (-0.15, 0.09) | -0.00 | (-0.13, 0.12) | |
| Quartile 3 | -0.20 | (-0.32, -0.08) | -0.24 | (-0.36, -0.11) | -0.21 | (-0.34, -0.07) | -0.22 | (-0.35, -0.10) | -0.24 | (-0.36, -0.12) | -0.19 | (-0.32, -0.07) | |
| Quartile 4 (highest) | -0.31 | (-0.43, -0.19) | -0.34 | (-0.47, -0.21) | -0.29 | (-0.44, -0.13) | -0.20 | (-0.33, -0.08) | -0.19 | (-0.31, -0.06) | -0.06 | (-0.20, 0.08) | |
|  |  |  |  |  |  |  |  |  |  |  |  |  | |
| Insulin |  |  |  |  |  |  |  |  |  |  |  |  | |
| per 10 unit increment | -1.29 | (-2.55, -0.03) | -1.76 | (-2.99, -0.53) | -1.78 | (-3.32, -0.24) | -1.13 | (-2.52, 0.25) | -1.02 | (-2.27, 0.22) | 0.05 | (-1.50, 1.59) | |
| Quartile 1 (lowest) | Ref |  | Ref |  | Ref |  | Ref |  | Ref |  | Ref |  | |
| Quartile 2 | 1.62 | (-0.91, 4.15) | 0.07 | (-2.16, 2.30) | 0.08 | (-2.17, 2.33) | -2.47 | (-5.00, 0.07) | -1.49 | (-3.73, 0.75) | -1.17 | (-3.41, 1.07) | |
| Quartile 3 | 0.30 | (-2.23, 2.83) | -2.46 | (-4.81, -0.11) | -2.44 | (-4.91, 0.03) | 0.64 | (-1.92, 3.19) | 0.39 | (-1.84, 2.63) | 1.08 | (-1.19, 3.35) | |
| Quartile 4 (highest) | -1.60 | (-4.13, 0.92) | -3.23 | (-5.66, -0.80) | -3.18 | (-6.01, -0.34) | -1.38 | (-3.94, 1.17) | -1.25 | (-3.55, 1.04) | 0.60 | (-2.02, 3.21) | |
|  |  |  |  |  |  |  |  |  |  |  |  |  | |
| HOMA-IR |  |  |  |  |  |  |  |  |  |  |  |  | |
| per 10 unit increment | na |  | na |  | na |  | -0.18 | (-0.32, -0.04) | -0.15 | (-0.27, -0.02) | -0.22 | (-0.38, -0.07) | |
| Quartile 1 (lowest) | Ref |  | Ref |  | Ref |  | Ref |  | Ref |  | Ref |  | |
| Quartile 2 | 0.23 | (-0.02, 0.49) | 0.10 | (-0.12, 0.33) | 0.11 | (-0.11, 0.33) | -0.29 | (-0.55, -0.03) | -0.19 | (-0.41, 0.04) | -0.15 | (-0.37, 0.07) | |
| Quartile 3 | -0.00 | (-0.26, 0.25) | -0.23 | (-0.46, 0.01) | -0.20 | (-0.44, 0.04) | -0.02 | (-0.28, 0.24) | -0.00 | (-0.23, 0.21) | 0.07 | (-0.16, 0.30) | |
| Quartile 4 (highest) | -0.22 | (-0.47, 0.04) | -0.39 | (-0.63, -0.15) | -0.35 | (-0.61, -0.09) | -0.28 | (-0.54, -0.02) | -0.24 | (-0.47, -0.01) | -0.04 | (-0.29, 0.23) | |

aAdjusted for child’s age, sex, height, weight, maternal active smoking during pregnancy, maternal education, household disposable income and area-income.

**Table S5. Effect Modification of the Associations between Postnatal Exposure to Ambient Air Pollution, Road Traffic Noise, Blood Pressure and Insulin Resistance.**

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | Systolic blood pressure | | | | | | Diastolic blood pressure | | | | | |
|  | NO2 | | | Lden | | | NO2 | | | Lden | | |
|  | β | (95% CI) | p | β | (95% CI) | P | β | (95% CI) | p | β | (95% CI) | P |
| Road traffic noise (Lden) |  |  | 0.71 |  |  |  |  |  | 0.81 |  |  |  |
| Low (≤58.1 dB) | 0.54 | (-1.26, 2.35) |  |  |  |  | 0.38 | (-0.93, 1.68) |  |  |  |  |
| High (>58.1 dB) | 1.57 | (-3.53, 6.69) |  |  |  |  | 0.67 | (-0.93, 1.68) |  |  |  |  |
| Air pollution (NO2) |  |  |  |  |  | 0.20 |  |  |  |  |  | 0.92 |
| Low (≤10.7 μg/m3) |  |  |  | -2.09 | (-3.74, -0.44) |  |  |  |  | 0.06 | (-1.13, 1.25) |  |
| High (>10.7 μg/m3 ) |  |  |  | -0.52 | (-2.24, 1.20) |  |  |  |  | 0.25 | (-1.00, 1.49) |  |
| Sex |  |  | 0.72 |  |  | 0.23 |  |  | 0.28 |  |  | 0.39 |
| Boys | 0.51 | (-1.86, 2.88) |  | -0.35 | (-1.96, 1.26) |  | 1.25 | (-0.45, 2.95) |  | 0.55 | (-0.61, 1.71) |  |
| Girls | -0.68 | (-2.75, 1.39) |  | -1.67 | (-3.11, -0.23) |  | -0.39 | (-1.88, 1.09) |  | -0.12 | (-1.16, 0.92) |  |
| In puberty |  |  | 0.54 |  |  | 0.25 |  |  | 0.78 |  |  | 0.08 |
| No | -1.74 | (-5.72, 2.23) |  | -1.20 | (-3.55, 1.16) |  | 1.06 | (-1.88, 4.00) |  | 1.77 | (0.03, 3.50) |  |
| Yes | 0.65 | (-3.24, 7.93) |  | -1.02 | (-16.0, 16.9) |  | 0.08 | (-1.49, 1.65) |  | -0.54 | (-1.63, 0.55) |  |
| GDM |  |  | 0.96 |  |  | 0.10 |  |  | 0.77 |  |  | 0.75 |
| No | -0.51 | (-4.58, 3.57) |  | 0.34 | (-1.70, 2.38) |  | 1.03 | (-1.90, 3.96) |  | 0.57 | (-0.91, 2.05) |  |
| Yes | -0.13 | (-1.88. 1.62) |  | -1.67 | (-2.96, -0.39) |  | 0.13 | (-1.12, 1.39) |  | -0.03 | (-0.96, 0.90) |  |
| Pre-pregnancy BMI |  |  | 0.30 |  |  | 0.33 |  |  | 0.43 |  |  | 0.73 |
| ≥18.5-25 kg/m2 | 1.74 | (-1.34, 4.82) |  | -0.41 | (-2.27, 1.44) |  | 1.45 | (-0.78, 3.68) |  | -0.12 | (-1.47, 1.22) |  |
| ≥25 kg/m2 | -0.96 | (-2.83, 0.91) |  | -1.54 | (-2.90, -0.20) |  | -0.09 | (-1.44, 1.26) |  | 0.38 | (-0.60, 1.37) |  |
| Maternal education |  |  | 0.45 |  |  | 0.26 |  |  | 0.95 |  |  | 0.70 |
| Low | 3.20 | (-2.02, 8.42) |  | -0.68 | (-3.79, 2.43) |  | 0.54 | (-3.22, 4.31) |  | -1.15 | (-3.38, 1.08) |  |
| Middle | 0.55 | (-2.19, 3.29) |  | -0.82 | (-2.72, 1.07) |  | 0.10 | (-1.87, 2.08) |  | 1.49 | (0.13, 2.85) |  |
| High | -0.97 | (-2.98, 1.04) |  | -1.32 | (-2.76, 0.12) |  | 0.38 | (-1.07, 1.83) |  | -0.30 | (-1.33, 0.74) |  |
| Area of living |  |  | 0.25 |  |  | 0.23 |  |  | 0.08 |  |  | 0.86 |
| Greater Copenhagen | -0.76 | (-3.05, 1.51) |  | -1.12 | (-3.41, 1.19) |  | 0.35 | (-1.30, 1.99) |  | 0.78 | (0.89, 2.45) |  |
| Big cities and suburbs | 5.44 | (-0.71, 11.6) |  | -1.54 | (-3.23, 0.15) |  | -1.00 | (-3.52, 1.52) |  | -0.07 | (-1.29, 1.15) |  |
| Provincial and rural | -1.43 | (-4.93, 2.07) |  | -0.54 | (-2.40, 1.33) |  | 5.56 | (1.23, 9.99) |  | 0.14 | (-1.21, 1.49) |  |

**Table S5. Effect Modification of the Associations between Postnatal Exposure to Ambient Air Pollution, Road Traffic Noise, Blood Pressure and Insulin Resistance - cont.**

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | Plasma fasting glucose | | | | | | Insulin | | | | | |
|  | NO2 | | | Lden | | | NO2 | | | Lden | | |
|  | β | (95% CI) | p | β | (95% CI) | P | β | (95% CI) | p | β | (95% CI) | P |
| Road traffic noise (Lden) |  |  | 0.14 |  |  |  |  |  | 0.66 |  |  |  |
| Low (≤57.5 dB) | -0.15 | (-0.27, -0.02) |  |  |  |  | -2.69 | (-4.96, -0.41) |  |  |  |  |
| High (>57.5 dB) | -0.42 | (-0.77, -0.07) |  |  |  |  | -4.15 | (-10.58, 2.29) |  |  |  |  |
| Air pollution (NO2) |  |  |  |  |  | 0.59 |  |  |  |  |  | 0.57 |
| Low (≤11.4 μg/m3) |  |  |  | 0.02 | (-0.11, 0.14) |  |  |  |  | -1.05 | (-3.13, 1.03) |  |
| High (>11.4 μg/m3 ) |  |  |  | -0.07 | (-0.20, 0.07) |  |  |  |  | -0.41 | (-2.58, 1.76) |  |
| Sex | -0.26 | (-0.42, -0.09) | 0.54 |  |  | 0.80 |  |  | 0.41 |  |  | 0.55 |
| Boys | -0.20 | (-0.34, -0.05) |  | 0.01 | (-0.11, 0.13) |  | -1.48 | (-4.45, 1.48) |  | -0.51 | (-2.54, 1.52) |  |
| Girls |  |  |  | -0.04 | (-0.14, 0.07) |  | -3.13 | (-5.72, -0.53) |  | -1.35 | (-3.17, 0.47) |  |
| In puberty |  |  | 0.10 |  |  | 0.92 |  |  | 0.77 |  |  | 0.19 |
| No | -0.46 | (-0.72, -0.20) |  | 0.03 | (-0.15, 0.21) |  | -2.54 | (-7.59, 2.51) |  | -1.16 | (-4.17, 1.84) |  |
| Yes | -0.23 | (-0.37, -0.09) |  | -0.01 | (-0.13, 0.10) |  | -3.44 | (-6.13, -0.75) |  | -1.61 | (-3.49, 0.28) |  |
| GDM |  |  | 0.12 |  |  | 0.39 |  |  | 0.69 |  |  | 0.39 |
| No | -0.53 | (-0.80, -0.25) |  | -0.09 | (-0.25, 0.06) |  | -3.20 | (-8.30, 1.89) |  | -1.54 | (-4.12, 1.03) |  |
| Yes | -0.16 | (-0.28, -0.04) |  | 0.03 | (-0.06, 0.13) |  | -2.16 | (4.35, 0.04) |  | -0.62 | (-2.24, 1.01) |  |
| Pre-pregnancy BMI |  |  | 0.27 |  |  | 0.48 |  |  | 0.23 |  |  | 0.51 |
| ≥18.5-25 kg/m2 | -0.32 | (-0.53, -0.11) |  | 0.05 | (-0.09, 0.19) |  | -4.16 | (-8.02, -0.31) |  | -0.90 | (-3.24, 1.43) |  |
| ≥25 kg/m2 | -0.19 | (-0.31, -0.06) |  | -0.05 | (-0.15, 0.05) |  | -1.54 | (-3.88, 0.79) |  | -0.77 | (-2.48, 0.93) |  |
| Maternal education |  |  | 0.51 |  |  | 0.76 |  |  | 0.31 |  |  | 0.28 |
| Low | -0.29 | (-0.66, 0.07) |  | -0.02 | (-0.25, 0.22) |  | -7.15 | (-13.69, -0.60) |  | -3.78 | (-7.69, 0.13) |  |
| Middle | -0.22 | (-0.41, -0.03) |  | -0.07 | (-0.22, 0.07) |  | -1.65 | (-5.08, 1.78) |  | -1.13 | (-3.51, 1.26) |  |
| High | -0.22 | (-0.35, -0.07) |  | 0.02 | (-0.09, 0.13) |  | -2.22 | (-4.74, 0.29) |  | -0.33 | (-2.14, 1.48) |  |
| Area of living |  |  | 0.12 |  |  | 0.90 |  |  | 0.52 |  |  | 0.11 |
| Greater Copenhagen | 0.02 | (-0.13, 0.17) |  | -0.02 | (-0.20, 0.15) |  | -2.66 | (-5.54, 0.21) |  | -3.69 | (-6.57, -0.80) |  |
| Big cities and suburbs | -0.03 | (-0.26, 0.20) |  | -0.03 | (-0.16, 0.10) |  | 0.47 | (-3.93, 4.87) |  | 0.56 | (-1.56, 2.68) |  |
| Provincial and rural | -0.60 | (-1.00, -0.20) |  | 0.04 | (-0.10, 0.18) |  | -1.31 | (9.06, 6.43) |  | -0.40 | (-2.74, 1.94) |  |

**Table S5. Effect Modification of the Associations between Postnatal Exposure to Ambient Air Pollution, Road Traffic Noise, Blood Pressure and Insulin Resistance- cont.**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | HOMA-IR | | | | | |
|  | NO2 | | | Lden | | |
|  | β | (95% CI) | p | β | (95% CI) | P |
| Road traffic noise (Lden) |  |  | 0.61 |  |  |  |
| Low (≤57.5 dB) | -0.38 | (-0.61, -0.16) |  |  |  |  |
| High (>57.5 dB) | -0.55 | (-1.19, 0.09) |  |  |  |  |
| Air pollution (NO2) |  |  |  |  |  | 0.30 |
| Low (≤11.4 μg/m3) |  |  |  | -0.18 | (-0.39, 0.03) |  |
| High (>11.4 μg/m3 ) |  |  |  | -0.02 | (-0.24, 0.19) |  |
| Sex |  |  | 0.92 |  |  | 0.93 |
| Boys | -0.36 | (-0.65, -0.06) |  | -0.17 | (-0.37, 0.03) |  |
| Girls | -0.39 | (-0.64, -0.12) |  | -0.16 | (-0.34, 0.02) |  |
| In puberty |  |  | 0.93 |  |  | 0.86 |
| No | -0.38 | (-0.88, 0.13) |  | -0.18 | (-0.48, 0.12) |  |
| Yes | -0.41 | (-0.68, -0.14) |  | -0.21 | (-0.40, -0.02) |  |
| GDM |  |  | 0.42 |  |  | 0.68 |
| No | -0.54 | (-1.04, -0.03) |  | -0.19 | (-0.45, 0.06) |  |
| Yes | -0.32 | (-0.54, -0.11) |  | -0.13 | (-0.29, 0.03) |  |
| Pre-pregnancy BMI |  |  | 0.22 |  |  | 0.56 |
| ≥18.5-25 kg/m2 | -0.56 | (-0.94, -0.18) |  | -0.10 | (-0.33, 0.13) |  |
| ≥25 kg/m2 | -0.29 | (-0.52, -0.06) |  | -0.18 | (-0.35, -0.01) |  |
| Maternal education |  |  | 0.56 |  |  | 0.22 |
| Low | -0.71 | (-1.36, -0.06) |  | -0.42 | (-0.81, -0.03) |  |
| Middle | -0.33 | (-0.67, 0.01) |  | -0.23 | (-0.47, 0.01) |  |
| High | -0.35 | (-0.60, -0.10) |  | -0.07 | (-0.26, 0.11) |  |
| Area of living |  |  | 0.36 |  |  | 0.12 |
| Greater Copenhagen | -0.25 | (-0.53, 0.03) |  | -0.40 | (-0.68, -0.11) |  |
| Big cities and suburbs | 0.03 | (-0.40, 0.46) |  | 0.07 | (-0.13, 0.29) |  |
| Provincial and rural | -0.56 | (-1.32, 0.20) |  | -0.13 | (-0.36, 0.10) |  |

aAdjusted for child’s age, sex, height, weight, maternal active smoking during pregnancy, maternal education, household disposable income and area-income.

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | | | | |  |  | | |  |  |
| **Table S6. Postnatal Exposure to Ambient Air Pollution and Road Traffic Noise in Associations with Blood Pressure and Insulin Resistance - Sensitivity Analysis.** | | | | | | | | | | |
|  | Non-movers | | | | | | Offspring of women without GDM | | | |
|  | NO2 | | Lden | | | | NO2 | | Lden | |
|  | β | (95% CI) | β | (95% CI) | | | β | (95% CI) | β | (95% CI) |
| Systolic blood pressure |  |  |  |  | | |  |  |  |  |
| per 10 unit increment | na |  | -0.56 | (-1.87, 0.75) | | | na |  | -1.69 | (-2.98, -0.40) |
| Quartile 1 (lowest) | Ref |  | Ref |  | | | Ref |  | Ref |  |
| Quartile 2 | -0.96 | (-3.03, 1.11) | 0.93 | (-1.08, 2.94) | | | -0.26 | (-2.43, 1.92) | 0.84 | (-1.29, 2.97) |
| Quartile 3 | -0.05 | (-2.20, 2.03) | -0.57 | (-2.57, 1.43) | | | -0.15 | (-2.26, 1.95) | -1.42 | (-3.43, 0.61) |
| Quartile 4 (highest) | 0.36 | (-1.85, 2.57) | -0.68 | (-2.78, 1.42) | | | 0.66 | (-1.57, 2.89) | -2.43 | (-4.54, -0.32) |
|  |  |  |  |  | | |  |  |  |  |
| Diastolic blood pressure |  |  |  |  | | |  |  |  |  |
| per 10 unit increment | 1.22 | (-0.29, 2.73) | 0.35 | (-0.58, 1.29) | | | 0.10 | (-1.22, 1.43) | 0.01 | (-0.95, 0.96) |
| Quartile 1 (lowest) | Ref |  | Ref |  | | | Ref |  | Ref |  |
| Quartile 2 | 0.26 | (-1.22, 1.73) | -0.35 | (-1.79, 1.09) | | | 1.33 | (-0.27, 2.92) | -0.28 | (-1.87, 1.30) |
| Quartile 3 | -0.23 | (-1.72, 1.26) | -0.66 | (-2.09, 0.77) | | | 0.92 | (-0.63, 2.46) | -0.70 | (-2.20, 0.81) |
| Quartile 4 (highest) | 1.21 | (-0.37, 2.79) | 0.65 | (-0.86, 2.16) | | | 1.63 | (-0.00, 3.27) | -0.05 | (-1.62, 1.53) |
|  |  |  |  |  | | |  |  |  |  |
| Plasma fasting glucose | na |  | -0.13 | (-0.21, -0.04) | | | na |  | -0.07 | (-0.17, 0.02) |
| per 10 unit increment | Ref |  | Ref |  | | | Ref |  | Ref |  |
| Quartile 1 (lowest) | -0.12 | (-0.26, 0.01) | -0.11 | (-0.23, 0.03) | | | -0.12 | (-0.28, 0.03) | 0.00 | (-0.15, 0.16) |
| Quartile 2 | -0.29 | (-0.42, 0.15) | -0.19 | (-0.32, -0.06) | | | -0.18 | (-0.33, -0.02) | -0.09 | (-0.24, 0.06) |
| Quartile 3 | -0.36 | (-0.50, -0.22) | -0.17 | (-0.31, -0.03) | | | -0.25 | (-0.41, -0.09) | -0.10 | (-0.25, 0.06) |
| Quartile 4 (highest) |  |  |  |  | | |  |  |  |  |
|  |  |  |  |  | | |  |  |  |  |
| Insulin |  |  |  |  | | |  |  |  |  |
| per 10 unit increment | -1.40 | (-4.00, 1.20) | -0.93 | (-2.53, 0.68) | | | -2.27 | (-4.54, -0.00) | -0.76 | (-2.41, 0.88) |
| Quartile 1 (lowest) | Ref |  | Ref |  | | | Ref |  | Ref |  |
| Quartile 2 | 0.13 | (-3.05, 2.68) | -2.64 | (-5.11, -0.17) | | | -0.56 | (-3.32, 2.19) | -2.24 | (-4.96, 0.48) |
| Quartile 3 | -0.49 | (-3.05, 2.07) | -0.52 | (-2.97, 1.92) | | | -0.96 | (-3.62, 1.71) | 0.41 | (-2.17, 3.00) |
| Quartile 4 (highest) | -1.05 | (-3.77, 1.67) | -1.13 | (-3.72, 1.45) | | | -2.29 | (-5.12, 0.54) | -1.59 | (-4.29, 1.10) |
|  |  |  |  |  | | |  |  |  |  |
| HOMA-IR |  |  |  |  | | |  |  |  |  |
| per 10 unit increment | na |  | -0.16 | (-0.32, 0.00) | | | na |  | -0.14 | (-0.29, 0.01) |
| Quartile 1 (lowest) | Ref |  | Ref |  | | | Ref |  | Ref |  |
| Quartile 2 | -0.03 | (-0.29, 0.22) | -0.30 | (-0.54, -0.05) | | | -0.11 | (-0.36, 0.14) | -0.22 | (-0.47, 0.03) |
| Quartile 3 | -0.18 | (-0.44, 0.07) | -0.13 | (-0.38, 0.11) | | | -0.24 | (-0.48, 0.01) | -0.01 | (-0.25, 0.23) |
| Quartile 4 (highest) | -0.29 | (-0.56, -0.01) | -0.20 | (-0.46, 0.06) | | | -0.40 | (-0.66, -0.14) | -0.25 | (-0.50, -0.00) |

aAdjusted for child’s age, sex, height, weight, maternal active smoking during pregnancy, maternal education, household disposable income and area-income.