Supplementary

A panel study on various noise exposure measures on objective and subjective sleep quality

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Table S1: Pearson correlation matrix of sleep outcomes. Positive correlations are highlighted in green, negative correlations in orange



Table S2: Summary of IR exposure data

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Exposure metric** | **N** | **Mean** | **SD** | **Min** | **Max** |
| IR23-07 | 685 | 60.2 | 21.1 | 0.0 | 97.4 |
| IR19-23 | 685 | 59.5 | 21.0 | 1.7 | 98.4 |
| IR23-01 | 685 | 61.0 | 24.2 | 0.0 | 99.1 |
| IR01-05 | 685 | 56.0 | 25.7 | 0.0 | 98.9 |
| IR05-06 | 685 | 54.7 | 23.6 | 0.0 | 95.4 |
| IR06-07 | 685 | 54.1 | 23.3 | 0.3 | 99.0 |

Table S3: Pearson correlation matrix for measured night time noise exposure metrics: Leq and IR at different time window. Positive correlations are highlighted in green.



Table S4: Associations between all outcomes and IRnight calculated from the outdoor noise measurements per 10% increase in IR; ACT =Actiwatch; SR=Self reported

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Outcome** | **N** |  | **Coefficient** | **Confidence interval** | **p-value** |
| ACT Sleep efficiency [%] | 634 |  | 0.02 | -0.26 to 0.30 | 0.90 |
| ACT Sleep latency [min] | 634 |  | -0.73 | -1.86 to 0.39 | 0.20 |
| ACT Sleep duration [h] | 634 |  | -0.03 | -0.09 to 0.04 | 0.39 |
| ACT Moving time [%] | 634 |  | -0.01 | -0.17 to 0.15 | 0.89 |
| SR Sleep quality [0-100] | 639 |  | -0.18 | -1.11 to 0.76 | 0.71 |
| SR sleepiness [1-9] | 633 |  | 0.01 | -0.07 to 0.09 | 0.79 |

1 adjusted for Leq,night, age, sex, education, evening caffeine intake, evening alcohol consumption, evening screen time, day of the week, season and whether woken up by an alarm clock