

# A panel study on various noise exposure measures on objective and self-reported sleep quality

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

	AW sleep efficiency	AW sleep latency	AW sleep duration	AW moving time	SR sleep quality	SR sleepiness
AW sleep efficiency [%]	1.00					
AW sleep latency [min]	-0.79	1.00				
AW sleep duration [h]	0.26	-0.10	1.00			
AW moving time [%]	-0.12	0.07	0.10	1.00		
SR sleep quality [0-100]	0.25	-0.24	0.01	-0.20	1.00	
SR sleepiness [1-9]	-0.19	0.19	-0.01	0.07	-0.48	0.00

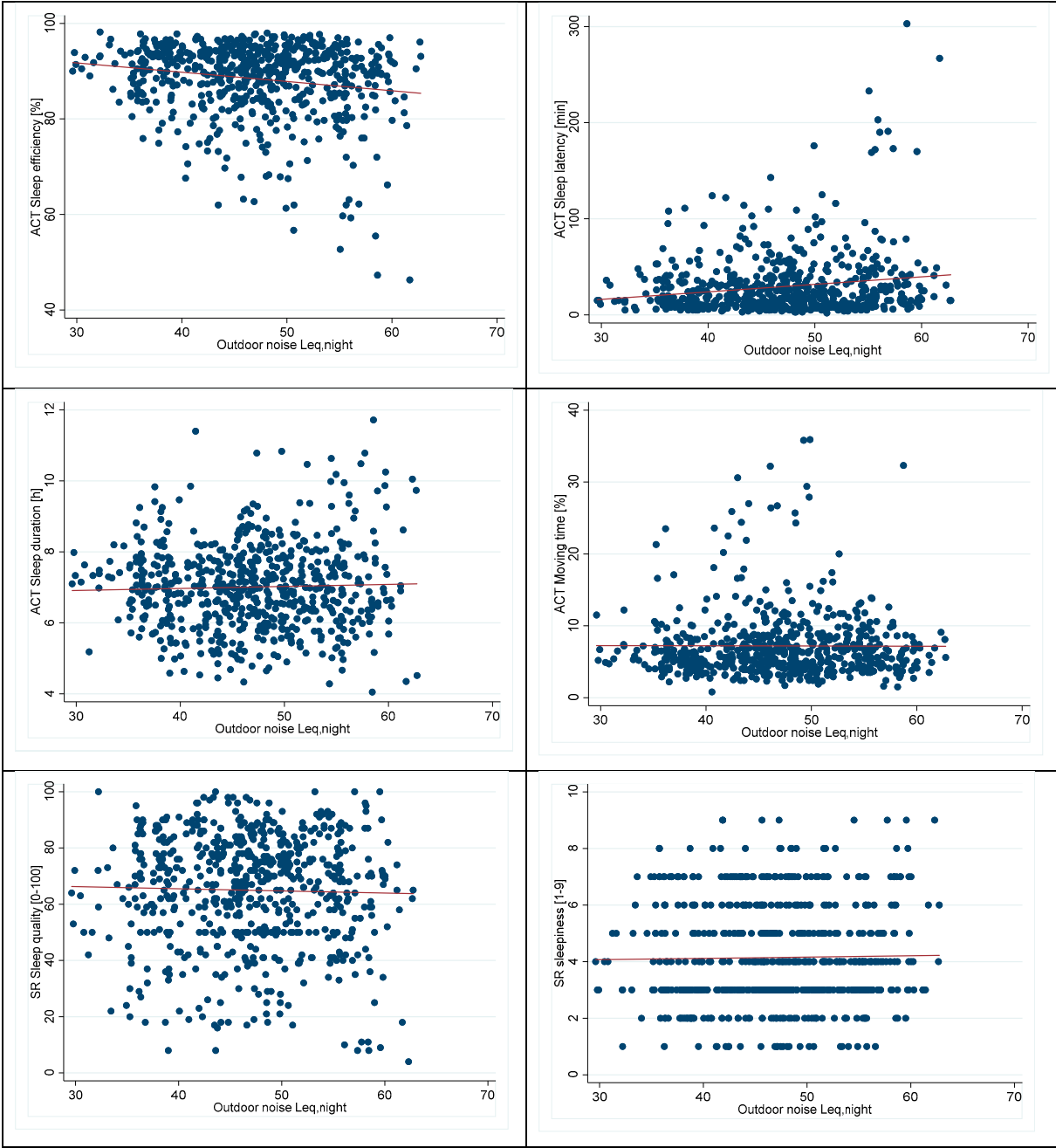
**Table S2: Summary of IR exposure data**

Exposure metric	N	Mean	SD	Min	Max
IR <sub>23-07</sub>	685	60.2	21.1	0.0	97.4
IR <sub>19-23</sub>	685	59.5	21.0	1.7	98.4
IR <sub>23-01</sub>	685	61.0	24.2	0.0	99.1
IR <sub>01-05</sub>	685	56.0	25.7	0.0	98.9
IR <sub>05-06</sub>	685	54.7	23.6	0.0	95.4
IR <sub>06-07</sub>	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.**

	Leq 23-07	Leq 19-23	Leq 23-01	Leq 01-05	Leq 05-06	Leq 06-07	IR 23-07	IR 19-23	IR 23-01	IR 01-05	IR 05-06	IR 06-07
Leq 23-07	1											
Leq 19-23	0.81	1										
Leq 23-01	0.86	0.78	1									
Leq 01-05	0.86	0.72	0.79	1								
Leq 05-06	0.88	0.76	0.70	0.82	1							
Leq 06-07	0.89	0.72	0.63	0.70	0.87	1						
IR 23-07	0.19	0.16	0.16	-0.03	-0.04	0.17	1					
IR 19-23	-0.10	0.13	-0.15	-0.21	-0.15	-0.05	0.63	1				
IR 23-01	0.18	0.23	0.26	-0.02	0.06	0.14	0.77	0.57	1			
IR 01-05	0.45	0.44	0.38	0.42	0.40	0.43	0.59	0.35	0.64	1		
IR 05-06	0.30	0.32	0.22	0.22	0.34	0.35	0.61	0.47	0.59	0.69	1	
IR 06-07	0.11	0.06	0.00	-0.05	-0.06	0.21	0.81	0.56	0.45	0.37	0.54	1

**Figure S1: Scatter plots of raw outcome data in relation to nighttime outdoor noise exposure (Leq,night); ACT =Actiwatch; SR=Self reported**



**Table S4: Associations between all outcomes and IR<sub>night</sub> calculated from the outdoor noise measurements per 10% increase in IR; ACT =Actiwatch; SR=Self reported**

<b>Outcome</b>	<b>N</b>	<b>Coefficient</b>	<b>Confidence interval</b>	<b>p-value</b>
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

<sup>1</sup> adjusted for L<sub>eq,night</sub>, 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