Healthy Urban Planning: Body Mass Index association with exposure to night-time noise in the canton of Geneva

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Health and Land-Use Planning project (HeLP):
The HeLP project purpose is to produce an improved and adapted tool for urban planning to make Switzerland healthier; promoting healthy housing, active travel, healthy environment and vibrant neighbourhoods. The study of the spatial dependence of health determinants, e.g. obesity, and the study of the association with patterns of urbanization, allow us to validate the approach and identify the priorities.

REFERENCES

10. Geneva is listed as one of the cities with the best quality of life in the world (8th): no health impact of noise pollution due to the presence of other positive health determinants located in the town center.

Obseravtions:
- Noise sampling from SonBase around each participant.
- Variables: Mean, Median, Max.
- OBSERVATION 1: Linking BMI and Noise pollution.
- OBSERVATION 2: Linking BMI and Noise pollution.

ANOVA (analysis of variance) and multiple T-test of noise variables between clusters:

Clusters are significantly different. Low-Low cluster are exposed to higher noise level compared to the High-High (e.g. 50.7 vs 45.6 dB(A) of mean noise level with adjusted BMI by median revenue). The resulting association is inverse.

Observations:
- Geneva is listed as one of the city with the best quality of life in the world (8th): no health impact of noise pollution due to the presence of other positive health determinants located in the town center.
- Annoyance from noise may be caused by high variability when mean is under the thresholds.

STATISTICAL ANALYSIS

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