Phenotypes GeoLaus

B: Base 2003-2008 **F1:** Followup 2009-2013 **F2:** Followup 2014-2018 **F3:** Followup 2018-2021 **F4:** Followup 2022-2026

Socio-economic environment

Townsend deprivation Index	B	F1	F2	F3	F4

Noise environment

Night noise	B	F1	F2	F3	F4

Additional information
Socio-economic environment:
The Townsend index is a measure of material deprivation within a population (TDI).
It was first described by sociologist Peter Townsend in 1988.
The measure incorporates four variables:
1.Percentage of households without access to a car or van.
2.Percentage of households with more than one person per room (overcrowding).
3.Percentage of households not owner-occupied (tenure).
4.Percentage of economically active residents who are unemployed.
These percentages are then converted into a z-score.
The sum of the four z-scores is the final Townsend Score.
The variables used to build the Townsend deprivation Index are based 1) on the Swiss Federal Population Census of 2000 (http://www.bfs.admin.ch/) for the year 2000. And the variables used to build the TDI variable for 2010 are based on the New Swiss Federal Population Census of 2010 (http://www.bfs.admin.ch/bfs/portal/en/index/news/02/04.html).
GeoColaus participants are characterized by means of the georeferenced version of the Population Censuses, whose data are available at the hectometric level. Therefore, participants belonging to households located in the same hectare show similar values.

Noise:
Base de données SonBase de l'Office Fédéral de l'Environnement
To characterize nighttime road traffic noise (22:00 – 6:00) exposure throughout the city of Lausanne, we used the sonBASE georeferenced database produced by the Swiss Federal Office for the Environment (FOEN, 2014). These nationwide data deliver exposure to nighttime road traffic noise sources in a georeferenced 10 x 10 m grid. The emissions from noise sources were computed in a GIS using the original data available (Federal Offices for Spatial Development [ARE], Roads [FEDRO], Transport [FOT], Civil Aviation [FOCA], Statistics [FSO] and Civil Protection and Sport [DDPS]). Then, propagation losses were calculated using CadnaA noise prediction software (http://www.datakustik.com) which incorporates a digital elevation model (DEM) to determine the modeled noise exposure at the reception points. This noise model was first computed in 2008, based on traffic data calculated over 72,000 km of roads; the analysis carried out in this study use an updated sonBASE dataset from 2014. The sonBASE data were used to quantify the nighttime noise at the place of residence of the GeoHypnoLaus participants. To capture a representative noise level in the area surrounding the place of residence, we calculated the median value in dB(A) within a 25-meter radius of each participant's address; the median values were then used in the subsequent analysis.

FOEN, 2014. sonBASE – Noise levels: road traffic noise (night). Web GIS.
https://www.bafu.admin.ch/bafu/en/home/topics/noise/state/gis-laermdatenbanksonbase.html

COMPLEMENTARY INFORMATION ON ASSESSEMENTS OF COLAUS|PSYCOLAUS here

CoLaus Study, CHUV
Rue du Bugnon 19
1011 Lausanne
Switzerland
Phone: +41 21 314 73 61
Fax: +41 21 314 80 37
research.colaus@chuv.ch

PsyCoLaus Study, CHUV
CEPP, Route de Cery 25
1008 Prilly
Switzerland
Phone: +41 21 314 35 52
Fax: +41 21 314 84 69
research.psycolaus@chuv.ch

FNSNF Fonds national suisse Schweizerischer Nationalfonds Fondo nazionale svizzero Swiss National Science Foundation
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