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JISFA2#3 - Long term annoyance and its impact on health

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In this second presentation, researches that focus on the overall feeling of residents towards their sound environment will be presented. This corresponds to the long-term annoyance. It can only be studied in the field, during surveys. Numerous studies show that this does not simply depend on the exposure of populations to noise, which explains only a third of the annoyance expressed by the residents. The annoyance also depends on so-called non-acoustic factors. An individual sensitivity to noise in general is one of the important non-acoustic factors, which also explains around a third of the annoyance reported. The last third could be explained by the attitude of residents towards their strategies to cope with noise problems. These three factors, one being directly linked to the sound environment and the other two linked to non-acoustic parameters, share the explanation for the long-term annoyance. Long term annoyance is one of the critical health outcomes among cardiovascular disease, effects on sleep, cognitive impairment, hearing impairment and tinnitus. The WHO environmental noise guideline for Europe considers that the risk for noise to have an impact on the health starts when 10% of the population is highly annoyed. According to the WHO, average aircraft noise exposure above about 45 dB is associated with adverse health effects, because 10% of the population is highly annoyed when living at LDEN 45 dB. This value is much lesser than the average exposure for road or railway noise exposure (53 dB). This value is still debated with new method of analysis or with new data around French airports.

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