NORAH
Lärmwirkungsstudie

# Does aviation noise disturb lessons?



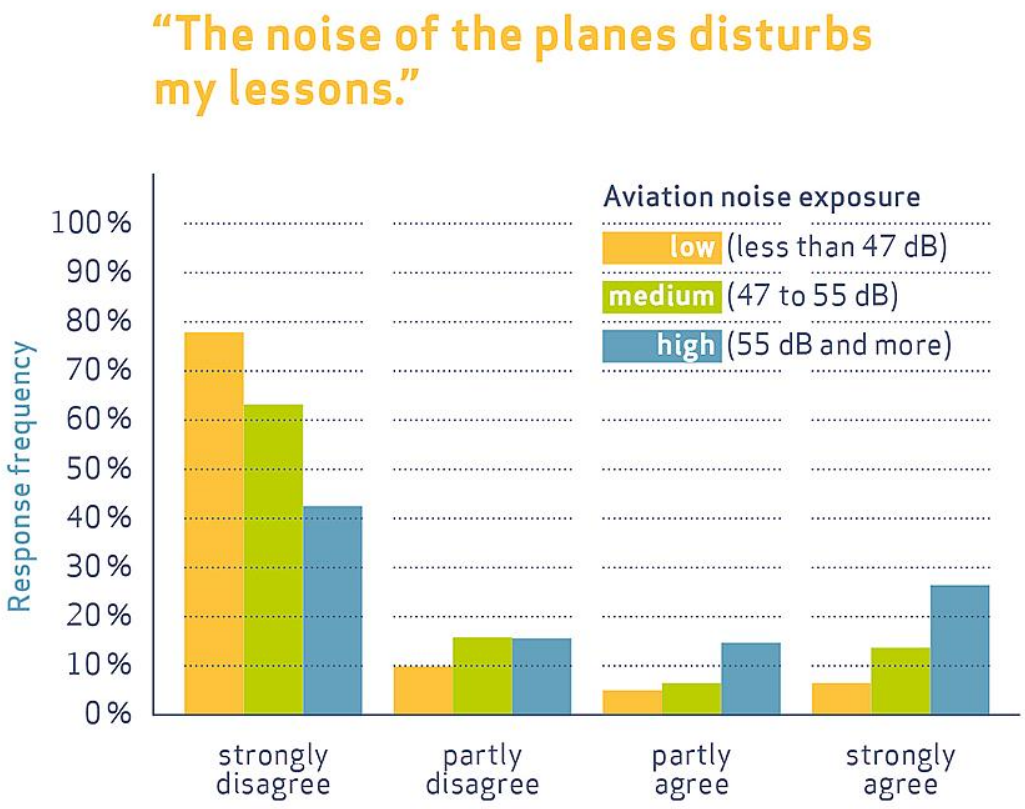
The degree of annoyance caused by noise is subjective: the same sound can bother one person more than it does another. This is why it is not possible to deduce from the noise level alone how burdened people feel by aviation noise. In order to find this out within the framework of the Child Study, the scientists asked parents, children and teachers whether and, if yes, to what extent, the aviation noise disturbed children when learning.

## Noise exposure from the point of view of the children

In order to find out whether the children felt disturbed by aviation noise, the scientists asked them several questions. For example, the NORAH team asked the second-grade pupils to assess the statement "The noise of the planes disturbs my lessons." They could choose from four possible answers: "strongly disagree", "partly disagree", "partly agree" and "strongly agree".

In the group of children whose schools were exposed to a relatively high level of aviation noise, 27 percent stated that the noise disturbs their lessons. Only 7 percent of the children in the group with low noise exposures gave the same answer.
Communication in the classroom also suffers from aviation noise: 38 percent of the children – i.e. more than one third – at the schools with high exposure stated that they were sometimes unable to

hear the teacher properly due to aviation noise.




***Responses of the children to the statement "The noise of planes disturbs my lessons." in the groups with low, medium and high aviation noise exposure.***

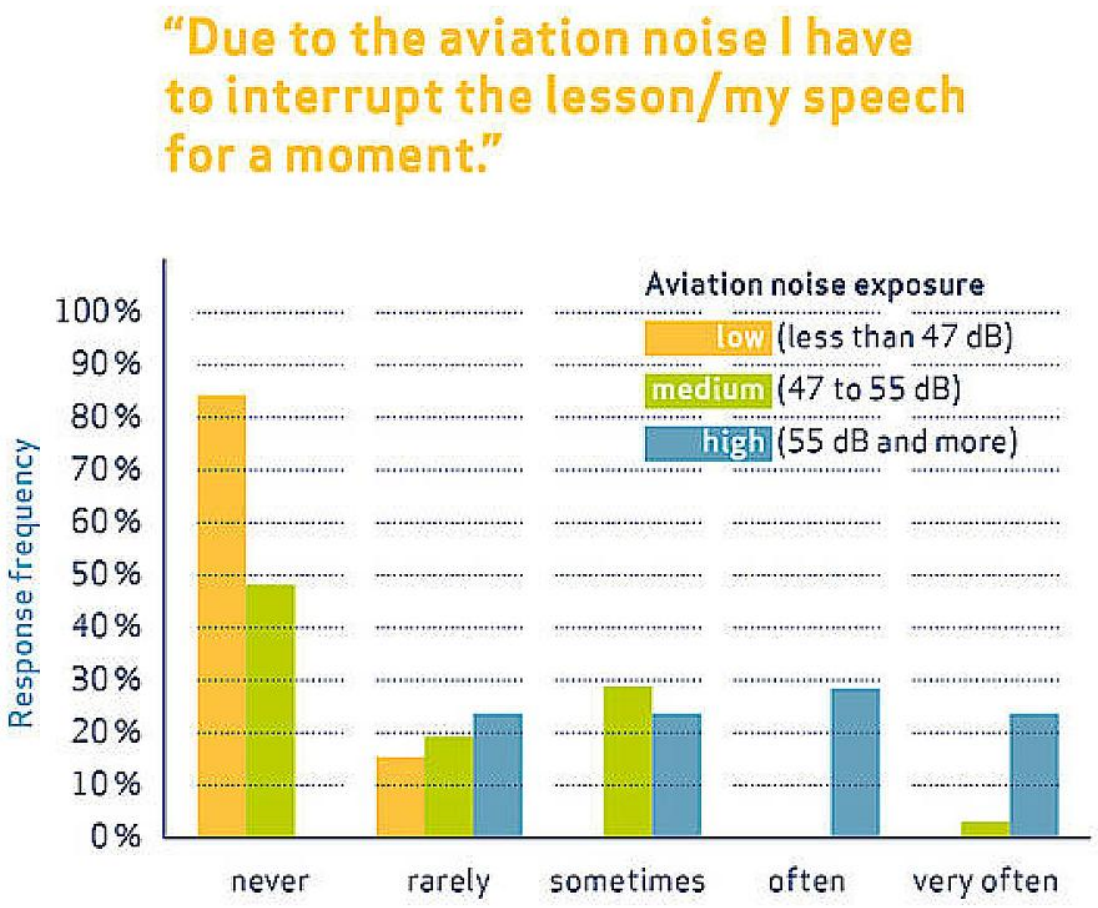
## The point of view of the teachers

From the teachers the NORAH scientists wanted to know how aviation noise affects classes – for example, how often it leads to interruption of lessons. The teachers in the areas with relatively high aviation noise exposure reported unanimously that the noise causes a considerable disturbance of lessons: 24 percent stated here that they have to interrupt lessons due to aviation noise "very often", a further 29 percent answered with "often". In the areas with low noise exposure, nobody chose the answers "very often" or "often" or "sometimes".

Questions regarding the teaching process showed a connection with aviation noise exposure: 52 percent of the teachers in the areas with high exposure said that the children were "often" or "very often" distracted from their lessons due to aviation noise, 57 percent said they always keep the windows closed even when the weather is warm. 76 percent stated that aviation noise could be heard "often" or "very often" even with the windows closed.

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Outdoor activities at schools with high aviation noise exposure are also less common: 38 percent of the teachers in these areas agreed fully or partly with the statement "Due to aviation noise I am less likely to undertake outdoor activities with the class" – compared with three percent at the schools with medium exposure. Nobody chose these answer options at the schools with low exposure.

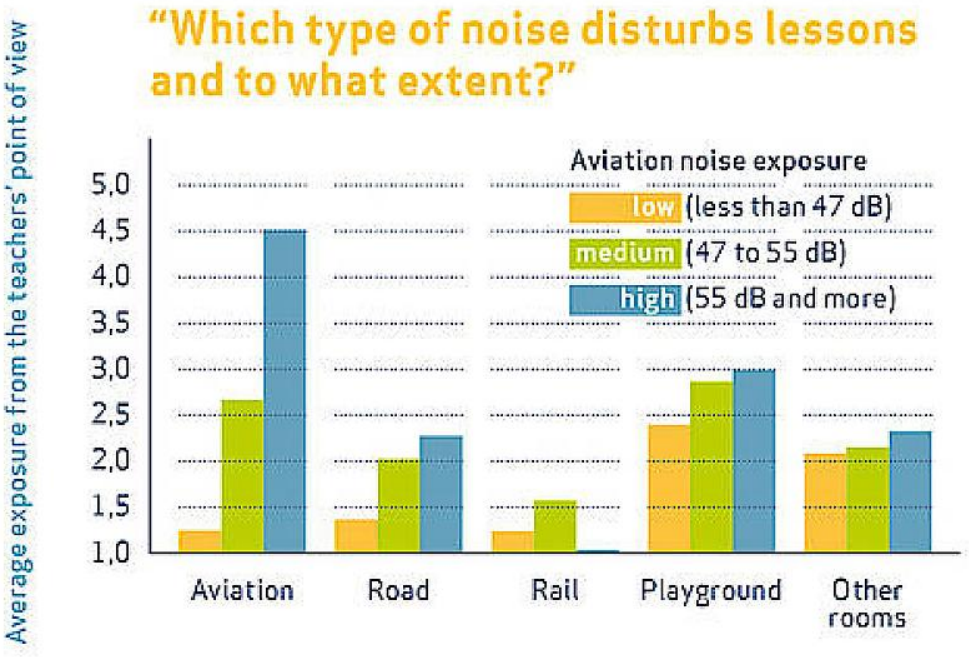



***Responses of the teachers to the statement "Due to the aviation noise I have to interrupt the lesson/my spreech for a moment." in the groups with low,medium and high aviation noise exposure at school. Almost one quarter of teachers in high-exposure areas state that they have to interrupt lessons due to aviation noise "very often".***

## Aircraft and other noise sources

Even where there is no aviation noise, schools are not quiet places: noise penetrates into the classroom from the playground and from the other classrooms. In order to estimate which role aviation noise plays compared with other noise sources, the scientists asked the teachers to estimate which types of noise their classes are exposed to and to what extent. For each source of noise the teachers estimated the degree of class disturbance on a five-point scale, where 1 stood for

"no disturbance" and 5 for a "very high disturbance".
The result: teachers perceive noise from the playground or from the other classrooms as disturbances of their class. However, at schools with relatively high aviation noise exposure, from the point of view of the teachers the greatest disturbance by far is aviation noise: On the five-point scale the answers for this type of noise reach an average value of 4.5.
In order to make the clearest possible statements about the impact of aviation noise, the NORAH Study did not include any schools with very high exposure to road or rail traffic noise. This is why the teachers assessed the disturbance of classes due to these types of noise as relatively low. This, however, cannot be generalized. In the Rhine-Main Region there are also schools with very high exposure to road or rail noise.




***Teachers assessment of the disturbance of lessons due to various noise sources at schools with low, medium and high exposure to aviation noise (mean values: 1 = no burden; 5 = very high burden). According to the teachers at schools with high exposure to aviation noise, this is more disruptive of lessons than noise from the playground or other rooms.***

## Do you have any questions?

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