

# **ANNOYANCE REACTIONS TO AIR- AND ROAD TRAFFIC NOISE OF SCHOOLCHILDREN , THEIR PARENTS AND TEACHERS; COMPARING EXPOSURE- RESPONSE CURVES: THE RANCH STUDY**

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**Introduction** One of the objectives of the 5<sup>th</sup> Framework project RANCH (Road traffic and Aircraft noise exposure and children's cognition and health) is to provide knowledge on exposure-response relationships in children between chronic noise and annoyance. Although some previous studies have addressed this issue regarding road- and rail-traffic noise (1,2,3), no source specific exposure-response curves are as yet available for noise annoyance of children. The data derived from three large field surveys among schoolchildren in the RANCH framework, enable us to study the exposure-response relations in more detail. This paper presents a first comparison between noise-annoyance curves of children and parents. The data will be presented per noise-source and noise situation (home, school).

**Method** In 2002 a total of 2839 schoolchildren aged 9-11 were surveyed in their classroom around three major airports from some 85 schools. The samples comprise of children aged 9-11 years attending primary schools around London Heathrow Airport (N=1182), Amsterdam Schiphol Airport (N=737) and Madrid Airport Barajas (N=920). As part of a paper-and-pencil test battery, the children completed a questionnaire on perceived health, sleep quality, coping with noise, annoyance and noise interference with activities. Additionally, the parents of the children completed a questionnaire on annoyance, social support, environmental attitudes, perceived health and behaviour of their child. Also the teachers completed a questionnaire on their own health, environmental perception, air and road traffic noise in the classroom, pupil behaviour and activities. The data will be pooled and noise annoyance curves will be obtained making use of the Miedema approach, which relates noise levels to the percentage highly annoyed as well as continuous annoyance data, based on a 5 as well as 11 point annoyance scales for noise source and noise situation separately. This paper is restricted to annoyance data from children and their parents. Where possible a comparison will be made with generalised curves as well as curves obtained in other studies (1,2,3).

**Results** Figures 1a to 1c present the change in noise annoyance/inteference score per noise category and per centre for children and their parents.

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## **References**

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