

P Lercher¹, G W Evans², M Meis³ and W W Kofler¹ Ambient neighbourhood noise and children's mental health. *Occupational and Environmental Medicine* 2002; 59: 380-386.

¹ Institute of Hygiene and Social Medicine, Sonnenburgstrasse 16, A-6020 Innsbruck, Austria

² Department of Design and Environmental Analysis and of Human Development, Cornell University, Ithaca, NY 14853- 4401, USA

³ Institute for Man-environment Relationships, University of Oldenburg, D-26111 Oldenburg, Germany

Summary

Even typical noise from main roads and railways may have a detrimental effect on children's mental health, shows research in *Occupational and Environmental Medicine*. Children born premature and/or of low birth weight seem to be more vulnerable, the research shows.

Methods

The studied children lived in 31 locations in the Tyrol, western Austria. This is a mountain area with small towns and villages in the Inn valley, with a mix of industry, small businesses, farmland and a busy North-South transit-traffic route.

The research team investigated the impact of environmental noise on over 1400 children aged 8 to 11 in two parallel studies.

A larger general population study of 1280 children with a wide range of noise exposure and a smaller study with 125 socio-economically matched children exposed to high or low levels of environmental noise.

The researchers checked the birth records of each of the children and obtained reports from their teachers on behaviour, emotions and performance in class. Finally the children were asked to score their health related quality of life: how often they felt anxious, stressed, depressed or experienced sleep problems.

Main results

Environmental noise significantly affected how all the children behaved in class in terms of their academic performance, their social behaviour and how easily distracted they were: the higher the levels of environmental noise the greater the impact on mental health.

But the most significant impact was observed on the mental health of children who had been born premature or who had been underweight at birth. Prematurely born children are generally more susceptible to behavioural problems than children born to term. Therefore, the adverse effects of environmental noise could have an even greater impact on them according to the authors.

Contact:

Associate Prof Dr Peter Lercher, Institute of Hygiene and Social Medicine, Innsbruck, Austria.

Tel: +43 512 507 3583 or 3581 (Secretary) ----- Email: Peter.Lercher@uibk.ac.at

or

Prof Dr Gary Evans, Department of Design and Environmental Analysis and of Human Development, Cornell University, Ithaca, NY 14853-4401

Tel: +1-607-255-4775 ----- Email: gwe1@cornell.edu