

Study Of German Children Living Near Airports Shows Jet Aircraft Noise Impairs Long-Term Memory And Reading Ability

ScienceDaily (Oct. 9, 2002) — ITHACA, N.Y. -- Excessive noise, such as jet aircraft flying overhead, impairs children's reading ability and long-term memory, a Cornell University environmental psychologist and his European colleagues conclude in a study of schoolchildren living near airports. "This is the first long-term study of the same children before and after airports near them opened and closed. It nails down that it is almost certain that noise is causing the differences in children's ability to learn to read," says Gary Evans, an international expert on environmental stress, such as noise, crowding and air pollution.

In the past, a host of other studies have suggested that loud environmental noise interferes with children's ability to learn, but these studies primarily have been cross-sectional -- comparing children living near airports with children in quieter areas. The latest study was of German children who went from a noisy environment to a quiet one and children who went from a quiet neighborhood to a noisy one.

The good news, says Evans, is that some of the reading and memory problems caused by jet noise is reversible in a quieter environment -- in the case of the study, once the local airport had closed.

The study, the first of its kind to examine the effects of airport noise on reading, memory, attention and speech perception in children, is published in *Psychological Science* (Vol. 13, No.5, Sept. 2002).

The researchers analyzed data on 326 children (average age, 10) living near two sites in Munich: near the old airport, which was scheduled to close, and near the new airport site. The children were assessed three times: six months before the old airport closed and the new one opened, and one year and two years after the airport opening.

"Noise exposure is consistently linked to reading deficits and may interfere with speech perception and long-term memory in primary school children," says Evans. "But it wasn't until we had this unprecedented opportunity to study children near the simultaneous opening and closing of the new and former Munich airports that we could actually find stronger evidence for a causal relation."

Evans, who has been studying the effects of noise for several years, says the latest study is further evidence that exposure to chronic noise can have serious health, learning and motivational effects in children and adults.

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National Swedish Institute for Building Research. Other authors are Staffan Hygge of the Royal Institute of Technology, Gävle, Sweden, and Monika Bullinger of the University of Hamburg, Germany.

Adapted from materials provided by [Cornell University](#).

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