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The effects of aircraft noise on children's memory and attention.

Louw, Phillip

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Abstract

Children have been shown to be particularly vulnerable to the effects of chronic exposure to noise and also aircraft noise. Children attending schools in the vicinity of airports have shown cognitive impairments in reading comprehension, different aspects of memory and attention. This cross-sectional study forms part of a larger longitudinal study conducted at schools in the vicinity of an airport in Durban, South Africa, that was decommissioned and moved. The aim was to investigate the effects of chronic exposure to aircraft noise on children's memory and attention before the moving of the airport. A purposive sample of 834 grade 5 and 6 learners from 5 schools in noisy and quiet areas near the airport were assessed on aspects of episodic memory, working memory, prospective memory and attention with standardised tests in a classroom context. Performance on working memory and one aspect of episodic memory was significantly better in the group exposed to noise. Prospective memory functioning was significantly better in the quiet group. These results, which to some extent unexpected, may prove important in understanding the effects of chronic noise on different aspects of memory functioning. The results and their implications are discussed in relation to previous studies and theories on the effects of noise on memory functioning.