





Aircraft and road traffic noise exposure and children's mental health

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Abstract

There have been few studies examining noise and psychological disorders in children and the results are equivocal. The objective of this study was to examine exposure–effect relationships between aircraft and road traffic noise exposure and children's mental health. We conducted a cross-national, cross-sectional study assessing 2844 pupils, aged 9–10, from 89 schools around three major airports in the Netherlands, Spain and United Kingdom matched within country for socio-economic position. We selected children on the basis of exposure to external aircraft and road traffic noise exposure. The Strengths and Difficulties Questionnaire (SDQ) assessed child mental health, including emotional problems, conduct disorder, hyperactivity, peer problems and prosocial behaviour. Aircraft noise exposure was significantly associated with an increased score on the hyperactivity subscale (pooled *B* estimate 0.013 CI 0.007–0.019) after full adjustment. Road traffic noise was significantly associated with lower scores on the conduct problems subscale maintained after full adjustment (pooled *B* estimate 0.010 95%CI –0.020 to –0.001). There was no association between either aircraft or road traffic noise exposure and the SDQ total score. The hyperactivity results have been found in a previous UK study.

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indicate that high aircraft noise exposure exacerbates hyperactivity symptoms in children although this finding requires further replication.

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Keywords

Children; Mental health; Noise; Aircraft; Conduct disorder; Attention deficit disorder with hyperactivity; Epidemiology

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