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Habitual snoring, intermittent hypoxia, and impaired behavior in primary school children.

[Urschitz MS](#), [Eitner S](#), [Guenther A](#), [Eggebrecht E](#), [Wolff J](#), [Urschitz-Duprat PM](#), [Schlaud M](#), [Poets CF](#).

Department of Neonatology, University Children's Hospital, Tuebingen, Germany.

OBJECTIVES: Sleep-disordered breathing is associated with impaired behavior and poor academic performance in children. We aimed to determine the extent of behavioral problems in snoring children, clarify the role of intermittent hypoxia, and test the reversibility of impaired behavior and poor academic performance. **METHODS:** In 1144 children, habitual snoring (HS; snoring frequently or always) and impaired behavior were assessed using parental questionnaires. Intermittent hypoxia (ie, presence of $>$ or $=5$ arterial oxygen desaturations by $>$ or $=4\%$ or $>$ or $=1$ desaturation to $<$ or $=90\%$) was investigated with pulse oximetry. Poor academic performance (grade 4-6 on a 6-point scale in mathematics, science, or spelling) was based on the last school report. HS, impaired behavior, and academic performance were reevaluated after 1 year. Adjusted odds ratios (ORs) were calculated using unconditional logistic regression. **RESULTS:** HS was significantly associated with hyperactive (OR: 2.4) and inattentive behavior (OR: 4.0), daytime tiredness (OR: 7.1), and sleepiness (OR: 2.6-4.8). These associations were independent of intermittent hypoxia. HS was also significantly associated with bad conduct (OR: 2.8), emotional symptoms (OR: 5.5), and peer problems (OR: 9.7). At follow-up, hyperactive and inattentive behavior but not academic success had significantly improved in children in whom HS had ceased. **CONCLUSIONS:** We suggest that impaired behavior is a key feature of HS independent of intermittent hypoxia and improves when HS ceases.

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