

# Tots who sleep less have more behavior problems, says study

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Four-year-olds with shorter than average sleep times have increased rates of "externalizing" behavior problems, reports a study in the July [Journal of Developmental & Behavioral Pediatrics](#), the official journal of the Society for Developmental and Behavioral Pediatrics.

"Preschool children with shorter [nighttime sleep](#) duration had higher odds of parent-reported overactivity, anger, aggression, impulsivity, tantrums, and annoying behaviors," according to the new research by Dr. Rebecca J. Scharf of University of Virginia, Charlottesville, and colleagues. They recommend that parents and health care providers discuss steps to improve sleep habits for preschool-age children with behavior problems.

## Shorter Sleep Times, More Behavior Problems

The researchers analyzed parent responses from a nationally representative study of approximately 9,000 children, followed from birth through kindergarten age. When the children were four years old, nighttime sleep duration was estimated by asking the parents what time their child typically went to bed and woke on weekdays.

On a standard child behavior questionnaire, parents rated their child on six different "externalizing" behavior problems such as anger and aggression. (Externalizing behavior problems are outward behaviors, distinguished from "internalizing" problems such as depression and anxiety.) The relationship between sleep duration and behavior scores was assessed, with adjustment for other factors that might affect sleep or behavior.

The average bedtime was 8:39 pm and wake time 7:13 am, giving a mean nighttime sleep duration of about 10½ hours. Eleven percent of children were considered to have "short sleep duration" of less than 9¾ hours (calculated as one standard

deviation below the average).

On the child behavior questionnaire, 16 percent of children had a high score for externalizing behavior problems. Behavior problems were more common for boys, children who watched more than two hours of television daily, and those whose mothers reported feeling depressed.

After adjustment for other factors, "Children in the shortest sleep groups have significantly worse behavior than children with longer sleep duration," Dr Scharf and colleagues write. The effect was greatest for aggressive behavior problems, which were about 80 percent more likely for children with nighttime sleep duration of less than 9¾ hours.

Shorter sleep times were also associated with 30- to 46-percent increases in rates of the other externalizing behaviors studied, including overactivity, anger, impulsivity, tantrums, and annoying behaviors. In a linear analysis, as sleep duration increased, troubling behaviors decreased.

Previous studies in smaller groups of children have identified shorter nighttime sleep duration as a risk factor for behavior problems in preschool children. The average 10½-hour sleep time in this nationally representative sample is less than in studies performed in past decades, and less than currently recommended for four-year-olds.

The new results, along with other recent studies, add to the evidence that preschoolers who sleep less will have more behavior problems, including disruptive behaviors like aggression and overactivity. Although the study can't draw any conclusions about causality, "there is good reason to believe that short nighttime [sleep duration](#) leads to externalizing behaviors," the researchers write.

Dr Scharf and coauthors recommend that doctors and health care providers ask about bed and wake times when talking to parents about young children

with [behavior problems](#). They add, "Advocating for regular sleep habits, healthy [sleep](#) hygiene, and regular bedtime routines may be helpful for young [children](#)."

Provided by Wolters Kluwer Health

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