

# Tots' sleep differences due to genes, environment, study suggests

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But parents should still try to correct bad sleep habits, expert says.

(HealthDay)—A new study of twins suggests that genes may play a big role in how long babies and toddlers sleep at night, while environment is key during nap time.

Researchers found that among nearly 1,000 twins they followed to age 4, genes seemed to explain much of the difference among [youngsters'](#) nighttime [sleep](#) habits. In contrast, napping seemed mainly dependent on the environmental setting—especially for toddlers and preschoolers.

So does this mean the amount of sleep your little one gets at night is out of your control?

No, said the lead researcher on the study, which was published online

May 27 in the journal *Pediatrics*.

"[Parents] should not give up on trying to correct inadequate sleep [duration](#) or bad [sleep habits](#) early in childhood," said Evelyne Touchette, of Laval University in Quebec, Canada.

For one, the study found that environment did matter in [babies'](#) and [toddlers'](#) nighttime sleep—and even seemed to overshadow genes by the age of 18 months.

The reasons for the findings are unclear, Touchette said. But she said it makes sense that environment would matter more at the age of 18 months versus 6 months, when the [maturation](#) of the brain may be key in infants' ability to sleep for longer stretches at night.

There's no clear explanation, though, for why genetic influences became stronger again after the age of 18 months, Touchette said.

A sleep researcher not involved in the study said it's not really possible to break down children's sleep into "[nature or nurture](#)" questions.

"Everything is a complex interaction between genes and environment," said Hawley Montgomery-Downs, an associate professor of psychology at West Virginia University in Morgantown.

It's not possible, she said, to parse out what proportion of young children's sleep duration is due to genes, and what proportion is environment.

For the study, Touchette's team followed nearly 1,000 Canadian twins whose mothers reported on their sleep habits from the ages of 6 months through 4 years. About 400 children were identical twins, which means both twins share all of the same genes; the rest were fraternal [twins](#), who

are no more genetically similar than non-twin siblings.

In general, such studies can help researchers sort out the influences of genes versus "shared environment," which could include anything from a mom's diet during pregnancy to family income.

When it came to hours slept at night, genes seemed to explain more than half of the variance among children at the ages of 30 months and 4 years. [Genes](#) were nearly as important at the age of 6 months.

The exception was the age of 18 months, when environment seemed to account for about half of the variance among the children.

As for napping, environment became a bigger influence as kids got older, explaining most of the differences in children's habits by age 4, Touchette said.

What can parents take away from all of this? "We've still got a lot to learn about children's sleep," Montgomery-Downs said.

For many parents, bedtime is anything but peaceful. Getting your child to settle down and fall asleep may be a battle, and then there are the questions: How much sleep is enough? Is your child waking up too often at night? Is he napping too much or too little?

There are no clear-cut answers, Montgomery-Downs said.

Experts have tried to come up with some general advice, based on what's typical for young children. According to the National Sleep Foundation, babies aged 3 months to 11 months sleep for an average of nine to 12 hours at night (total, not straight through), and take one to four naps during the day—fewer as they approach 1 year. The average toddler gets about 12 to 14 hours of sleep over 24 hours, with most taking at least one

daytime nap.

But that doesn't mean parents should worry if their child gets a little less sleep than that, or is stubborn about napping, Montgomery-Downs said. "Just because most kids average a certain amount of sleep doesn't mean that's the 'normal' amount," she said.

"We know that with adults, there's a lot of individual variation in how much sleep a person needs," Montgomery-Downs said. So children, too, may vary in how much sleep is enough, she said. But the research isn't there to know for sure.

There are things parents can do to help their little ones sleep at night, Touchette said. In one study, her team found that 5-month-olds were less likely to sleep for six straight hours at night when their parents fed them each time they woke.

Staying with your child until he falls asleep and picking him up each time he fusses are not good ideas, either, Touchette said.

Setting routines, including a consistent bedtime and a soothing activity such as reading a story, is important, Montgomery-Downs said.

Many parents try to keep their toddler awake during the day, thinking that will help them fall asleep at night. But that can backfire, she said, since overly tired kids may become irritable or hyperactive. "We know that nap deprivation is not good," she said.

If your child refuses to nap, however, you can't force him, Montgomery-Downs said. For a 3-year-old, it may signal that he's outgrown his need for an afternoon snooze. And the general rules are the same as for bedtime: Set up a consistent, quiet sleep [environment](#) and see what happens.

**More information:** The National Sleep Foundation has [sleep tips](#) for parents.

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