

Regular bedtimes and sufficient sleep for children may lead to healthier teens

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Having a regular, age-appropriate bedtime and getting sufficient sleep from early childhood may be important for healthy body weight in adolescence, according to researchers at Penn State.

The researchers identified groups of children by [bedtime](#) and sleep routines and tested longitudinal associations for each group with adolescent body mass index (BMI). Results are published Dec. 4 in the journal *Sleep*.

The findings suggest that childhood bedtime and sleep routine groups predict adolescent sleep patterns and BMI.

In a national study of urban households, one-third of children consistently adhered to age-appropriate bedtimes for ages 5 through 9. Those who had no bedtime routine at age 9 had shorter self-reported sleep duration and higher BMI at age 15, when compared to those children with age-appropriate bedtimes (after adjusting for age 3 BMI).

"Parenting practices in childhood affect [physical](#)

[health](#) and BMI in the teenage years. Developing a proper routine in childhood is crucial for the future [health](#) of the child," said co-author Orfeu Buxton, professor of biobehavioral health at Penn State, and director of the Sleep, Health, and Society Collaboratory at Penn State. "We think sleep affects physical and mental health, and the ability to learn."

Bedtimes should be determined by various factors, such as when the child has to wake up based on the time it takes for that child to get ready for school, and the time it takes to get to school, as well as the school start time. School start times aren't determined by parents, but bedtimes and bedtime routines can be adjusted by parents, suggests Buxton.

"Giving children the time frame to get the appropriate amount of sleep is paramount," Buxton said, as achieving recommended duration of sleep can have an impact on BMI in adolescent years, according to the findings.

Bedtime should provide enough of a "window" for the child to get an appropriate amount of sleep, even if the child doesn't fall asleep right away, said Buxton.

This study supports existing pediatric recommendations that having a regular and age-appropriate bedtimes is important for children's health, said lead author Soomi Lee, now assistant professor of aging studies in the College of Behavioral and Community Sciences at the University of South Florida. Lee, who was at Penn State at the time of the study, received her [graduate degree](#) in [human development](#) and family studies, and her post-doctoral degree in biobehavioral health, at Penn State.

Additionally, the study shows continuity in sleep behaviors, Lee said, in that those who had most optimal bedtime and sleep routines during

childhood also had sufficient sleep duration in adolescence, whereas those with suboptimal bedtime and sleep routines had insufficient sleep duration in adolescence, she said.

Researchers analyzed longitudinal data from the Fragile Families and Child Wellbeing Study, a national cohort from 20 United States cities, with 2,196 subjects.

Childhood bedtime and sleep routines were assessed by mothers' reports of their children's presence and timing of bedtimes, adherence to bedtimes, and habitual sleep duration at ages 5 and 9. At age 15, these adolescents reported their height and weight, which were used to calculate BMI.

Lee said the study highlights the importance of educating parents in bedtime parenting, especially for those in low-income households.

"In our sample that includes a large proportion of low-income, low-education, and ethnic minority households, only less than one third of children had age-appropriate bedtime routines at age 5 and 9," Lee said. "This raises a concern about development and health of children in disadvantaged households. Future family interventions may need to include parental educations about sleep health, particularly focusing on parents with low income and low education."

Additionally, future studies should focus on whether [childhood](#) sleep behavior interventions promote healthier sleep and weight in later life course stages, said Lee.

More information: Soomi Lee et al, Longitudinal associations of childhood bedtime and sleep routines with adolescent body mass index, *Sleep* (2018). [DOI: 10.1093/sleep/zsy202](https://doi.org/10.1093/sleep/zsy202)

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