High School Naps May Boost Learning for Sleep-Deprived Teenagers

By Sarah D. Sparks on August 1, 2019, 4:00 PM

For chronically sleep-deprived adolescents—which, according to the Centers for Disease Control, is most of them—afternoon naps could help bolster memory and learning, according to a new study in the journal Nature.

Nearly 7 in 10 U.S. teenagers get less than the recommended eight hours of sleep a night, with some getting less than six hours on weekdays. In middle and high school, that sleep deficit is driven by a perfect storm of changing adolescent sleep cycles, increased homework and extracurricular activities, and rising late-night use of technology. While some high schools across the country have tried to counter the problem with later school start times or less homework, these attempts often face budget or parental pushback.

Researchers from the Center for Cognitive Neuroscience at the Duke-National University of Singapore Medical School in Singapore randomly assigned 58 adolescents into two groups. One group got six and a half hours of sleep each night for two weeks, to simulate a typical school week for a sleep-deprived student. The other group got only five hours of sleep each night, but also took a one-and-a-half-hour nap each day at 2 p.m. At the end of the first school-week, both groups of students studied a set of pictures, which they were tested on the following Monday, after having the weekend to sleep normally. For three days during the second week, the students learned about different species of amphiphians in the mornings and afternoons.

Students who got an afternoon nap performed better than students who got more nightly sleep in remembering both the first week's pictures and the facts learned in the afternoons of the second week. (Both groups equally remembered what they learned in the mornings.) The researchers found students with split-sleep schedules also reported being more focused, alert, and motivated in the afternoons:
Naps have long been shown to benefit younger students, but these findings add to growing evidence that they can boost memory for older students as well. Prior studies have shown teenagers can get as much benefit from a two-hour nap as from cramming for a test, and that naps can help them remember tested information longer.

Some districts, including in Chicago and Las Cruces, N.M., have been experimenting with setting aside resting periods and even sleep areas for students.

"Critically, the split sleep schedule did not impair memory for information learned in the morning, despite less nocturnal sleep and less total sleep across 24 hours," concluded the researchers. "The optimization of sleep schedules has been proposed as a low-cost way to improve educational outcomes. The afternoon learning improvement we observed for both memory tasks suggests that splitting sleep could be one such strategy to improve learning."

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Chart Source: Nature

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Students with sleep disorder breathing conditions (SDBC), may not be sleeping well, though they report sleeping longer periods at night. Interrupted sleep patterns are more prevalent than often reported. It has been well documented that children between the ages of 3-5, who have SDBC's have learning issues because they do not develop the neurocognitive networks for learning, reading particular. Perhaps more attention/focus to the cause effect relationship of SDBC's and student performance be apart of the evaluation process. See the website AAPMD.org

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