



Schools Waking Up to Teens' Unique Sleep Needs

Some Officials Are Pushing Back Start Times to Give Students the Slumber Their

Biology Craves

By Valerie Strauss

Washington Post Staff Writer

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Brown University Prof. Mary Carskadon thinks most U.S. school systems should pay close attention to what she found in the saliva of teenagers.

If they did, she said, high schools would start later than they do, and teachers would educate students about a subject as basic as reading and math: sleep.

Carskadon, who teaches human behavior and is director of sleep research at E.P. Bradley Hospital in Rhode Island, led a team of researchers who helped prove that -- biologically speaking -- teenagers really are out of it early in the morning.

The researchers measured the presence of the sleep-promoting hormone melatonin in teenagers' saliva at different times of the day. They learned that the melatonin levels rise later at night than they do in children and adults -- and remain at a higher level later in the morning.

"Children learn from kindergarten on about the food pyramid," Carskadon said. "But no one is teaching them the life pyramid that has sleep at the base.

"Add to that the disrespect that sleep gets when schools say you have to be there at such an early time. So why should they think sleep is important?"

Issues surrounding sleep -- who needs how much and when -- are usually given short shrift in efforts to improve student achievement. But modern brain researchers say it is time that more schools faced the biological facts.

Sleep deprivation can affect mood, performance, attention, learning, behavior and biological functions, said Stephen Sheldon, chief of sleep medicine at Children's Memorial Hospital in Chicago and an associate professor at Northwestern University.

"Sleeping is like eating," Sheldon said. "It is performing a biological function that is required."

Teenagers have long complained that starting school about 7 a.m. -- the typical start time for many high schools -- is cruel and inhumane. But some adults tend to blame the griping on their behavior -- procrastination that leads many teens to stay up late to do homework, or nightly marathon phone sessions with friends. Now, computer games and instant messaging have made it even more alluring to stay up.

"People tell me that changing school start times to later is just molycoddling the kids," said Kyla Wahlstrom, interim director of the University of Minnesota's Center for Applied Research and Educational Improvement. "I'd say they are people who don't want to accept the fact that there is a different biology for teens."



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That might be one reason that it's not unusual to find a high school parking lot at 7 a.m. filled with students clutching cups of coffee.

"If I was able to get more sleep, I think I'd be able to last through my afternoon classes a lot more often," said Andrew Nazdin, 17, a senior at Walter Johnson High School in Bethesda.

Some school systems are waking up to the science.

In 1996, the suburban school system of Edina, Minn., changed its start time for 3,000 high school students from 7:25 a.m. to 8:30 a.m. Two years later, Minneapolis followed suit for more than 50,000 teenagers.

Teachers reported that students were more alert, and research conducted by Wahlstrom showed a range of benefits to students and teachers -- and contradicted some of the biggest fears about the change: that after-school sports and jobs would suffer.

With the later start time, teenagers were less depressed, and it turned out that employers did not have big problems with students getting out of school later, Wahlstrom said. Although student grades did not rise significantly, the trends have been upward, she said. And some sports practices were shortened, but Edina and Minneapolis teams have played just as competitively as they had before.

"It seemed that the research resonated with everyone who has been an adolescent or who has raised one, which is all of us," said Laura Tueting Nelson, Edina's director of communications and public affairs.

But in Pinellas County, Fla., where high school starts at 7:05 a.m., the superintendent of schools late last year dropped a plan to move the start to 9 a.m.; a St. Petersburg Times poll showed that most parents opposed it, many citing fear that students' after-school jobs would be in jeopardy.

Scores of school systems -- though no one has an exact number -- have moved back the start of high school from 15 minutes to more than an hour, including Arlington Public Schools. Some swapped start times with elementary schools, whose students go to bed and wake up earlier for behavioral and biological reasons.

Said Don Fox, a Montgomery County parent: "Currently, elementary school begins about 9 o'clock. As anyone who has ever had a child that age knows, by 9 o'clock they have been up on their own for two to three hours."

In fall 2004, Denver began a bold experiment allowing high school students to make their own schedules, and this fall it launched a program in which high school students used city buses to



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get to school. Mark Brown, spokesman for Denver Public Schools, said that it was too early to determine the results of the experiment but that it was "so far, so good."

Anne Arundel County's school system is considering a proposal to open its 12 high schools about 40 minutes later. School there begins at 7:17 a.m., the earliest start time among Maryland public schools.

However, there are more than 13,000 school systems in the United States, and the vast majority of high schools still start about 7 a.m.

"There is no magic number about when to start school, but closer to 8 is better than closer to 7, and closer to 8:30 is probably better than 7:30," Carskadon said.

Though times vary for individuals, Carskadon said levels of melatonin start to rise in teenagers generally between 10 and 11 p.m. -- and don't stop until about 8 a.m. This changes when people are in their twenties, she said.

So although it's not impossible for adolescents to go to sleep before 11 p.m., or even to be alert in the morning, Carskadon said, their bodies make it hard, and in some cases nearly impossible, to do.