

Why teens stay up late — and school starts early

The majority of teens don't get the sleep experts say they should

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WASHINGTON — It's 10:45 p.m. and the light is still on in your teenager's bedroom. Your child is not the slightest bit tired — but you know that waking him or her early for school the next morning will be torture.

It may be tempting to blame this behavior on computers, cell phones and coffee. And, in some cases, those are the prime reasons for nocturnal teen behavior.

But, researchers say, this late-to-bed and late-to-rise pattern is the way teenagers are biologically programmed — even though most school systems gloss over this when setting high school start times.

Some districts have respected the science enough to give teens more sleep-in time — and researchers have found a number of benefits, including improvements in attendance and daytime alertness and decreased depression.

But most school districts cite after-school sports and other activities, bus routes, and other scheduling issues as reasons for starting between 7 and 8 a.m.

As a result, the majority of teens don't get the 8½ to 9½ hours of sleep that experts say they should, according to the National Sleep Foundation. In fact, the average is about seven hours of sleep a night for teens.

Watch exhausted teens walk into their high school on any given morning, eyes half-closed with coffee cup in hand, and you can see the scope of the problem. One study of Rhode Island teenagers found that 85 percent of teens got at least 10 hours of sleep less than they should. A Drexel University study found that only 20 percent of 12- to 18-year-olds studied got the recommended sleep on school nights.

Researchers over the past decade have learned that a teen's body is different than those of younger and older people. Most teens can't easily fall asleep until about 11 p.m., experts say, and their brains stay in sleep mode until at least 8 a.m.

A study, led by Brown University professor Mary Carskadon, tested the saliva of teens, measuring the presence of the sleep-promoting hormone melatonin at different times of the day.

Carskadon, who teaches human behavior and is director of sleep research at E.P. Bradley Hospital in Rhode Island, found 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.

Why melatonin is secreted in the teenage brain from about 11 p.m. until about 8 a.m. the next morning is unclear, experts say.

But experts say they do know that the consequences of teen sleep deprivation are more serious than classrooms full of sleepy kids. Helene Emsellem, medical director of the Center for Sleep & Wake Disorders in Chevy Chase, Md., and author of "Snooze ... or Lose!" wrote in her book that there are physical, emotional, academic and behavioral effects:

- a) Going without enough sleep can make a teen more likely to get sick. Why? Because the number of T-cells in the body — cells which help us stay healthy — falls by 30 to 40 percent.
- b) Sleep-deprived teens get more headaches than those who don't.
- c) Students who earn Cs and below go to sleep later and have less-regular sleep patterns than students who get better grades. Sleep affects learning and memory.
- d) Sleep-deprived teens are more likely to use alcohol and drugs than those who don't.

Some school systems around the country have taken heed of the research findings and moved to start high school at later times. Pioneers were two Minneapolis-area school districts — Edina, a suburban district which changed its start time from 7:20 to 8:30 a.m. in the 1990s, and then Minneapolis Public Schools, which changed the start time for thousands of high school students from 7:15 a.m. to 8:40 a.m. in the 1997-98 school year.

The effects were studied for several years by researchers at the University of Minnesota's Center for Applied Research and Educational Improvement, led by director Kyla Wahlstrom.

They found that students were more alert and students reported higher grades (though how much higher is unclear). Meanwhile, some sports practices were shortened but sports continued, as did after-school jobs.

Since then more than 80 school districts have changed their start times, according to the sleep foundation, including the Arlington, Va., public schools, which gave high school students 45 extra minutes to sleep starting in 2001. No studies were done on the effects but students reported being more alert.

In Jessamine County in Kentucky, according to a case study by the sleep foundation, the school district swapped the starting times of elementary school with high school in 2003. Though young children have no biological problem going to sleep early and waking up early, elementary school started later than high school.

Before the change, high school started at 7:30 a.m., middle school at 7:40 a.m. and elementary school at 8:30 a.m.. Afterward, elementary school started at 8 a.m., middle school at 8:50 a.m. and high school at 8:40 a.m. School officials said students were more alert and focused on their studies.