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## Comment and Health

# We need a wake-up call when it comes to adolescent sleep

Early school start times can be harmful to the health of teenagers. But delaying the morning bell isn't a panacea, says **Kenneth Miller**

By [Kenneth Miller](#)

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THIS year marks the 30th anniversary of a study that sparked a global movement to change the timing of children's school days. Published in the journal *Sleep* by [Mary Carskadon](#) [/article/mg13818696-700-mind-body-the-big-sleep/](#) at Brown University, Rhode Island, and her colleagues, this [paper](#) <https://pubmed.ncbi.nlm.nih.gov/8506460/> set out to answer an age-old riddle: why do teenagers stay up so late, and why is it so hard to pry them out of bed in the morning?

Conventional wisdom held that teens' preference for waking up and staying up later [was driven by social forces – the pressures of school](#) [/round-up/sleep-guide/](#), the pleasures of partying. Carskadon, however, suspected that biological factors might be responsible. To test that hypothesis, she surveyed 2000 schoolchildren across the US on their preferred and actual bedtimes and wake times; the times of day when they felt most or least alert and energetic; and their physical development.

The results pointed to biology. Sixth-graders (aged 11 or 12) scored higher on “eveningness” and lower on “morningness” than younger children, even though they occupied the same social milieu – a tendency that correlated with their stage of puberty. In [earlier studies](#) <https://pubmed.ncbi.nlm.nih.gov/2315238/>, Carskadon had shown adolescents need more sleep than younger kids to avoid daytime drowsiness. Therefore, she and her team concluded, the practice of ringing the morning bell earlier at middle schools (for 11 to 13-year-olds) and high schools (for ages 14 to 18) than at elementary schools “may run precisely counter to children's biological needs”.

Carskadon went on to confirm her findings using more [direct methods](#) <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3130594/>, such as measuring levels of melatonin in teens' saliva round the clock. In response, a growing number of US municipalities began pushing back start times in middle and high

schools. Further [research linked such moves to higher test scores](#)

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4824552/#:~:text=Most%20of%20the%20studies%20saw,and%20fewer%20motor%20vehicle%20crashes,> as well as lower rates of depression, substance use, illness and vehicular accidents.

In 2014, the [American Academy of Pediatrics](#) <https://publications.aap.org/pediatrics/article/134/3/642/74175/School-Start-Times-for-Adolescents?autologincheck=redirected> recommended that middle and high schools start the day no earlier than 8:30am. The [American Psychological Association](#) <https://www.apa.org/pi/families/resources/school-start-times.pdf> and the American Medical Association later followed suit. In 2019, [California](#) <https://www.nytimes.com/2019/10/14/us/school-sleep-start.html> became the first US state to pass legislation based on those guidelines. This May, [Florida](#) <https://www.clickorlando.com/news/2023/05/22/school-start-time-changes-in-florida-raise-many-questions-heres-the-latest/> became the second. Meanwhile, school districts from Australia to South Korea have launched similar reforms.

Still, progress has been slow. In the US, more than 80 per cent of high schools still start before 8:30am, and 10 per cent before 7:30 am. In many other countries, 8 am remains the norm. Not coincidentally, most teens in high-income nations [get far less sleep](#) <https://publications.aap.org/aapnews/news/13792> than the 8 to 10 hours that experts deem optimal for them.

Altering this status quo would surely be a step towards improving adolescents' mental and physical health. Yet later school start times alone may not be sufficient to quash the [teenage exhaustion epidemic](#) <https://med.stanford.edu/news/all-news/2015/10/among-teens-sleep-deprivation-an-epidemic.html>.

In the UK, where most secondary schools (for 11 to 18-year-olds) open at around 9am, drowsy students aren't rare. And even a 10am start can confer little benefit if teens are staying up till dawn on their phones, or if socioeconomic factors make it difficult to access a comfortable bed in a quiet, dark room. That is why some [advocates also argue](#) <https://pubmed.ncbi.nlm.nih.gov/33458648/> that sleep education – teaching evidence-based practices that promote and enhance sleep – should be added to school curriculums. In small [studies](#) <https://www.scni.ox.ac.uk/research/adolescent-sleep>, researchers at the University of Oxford have found that such interventions can significantly [improve sleep quality](#) <https://www.scni.ox.ac.uk/research/adolescent-sleep>, even for children from low-income households who initially report poor sleep.

After 30 years, the [movement to start](#) <https://www.startschoollater.net/> school later is gaining new momentum. It may yet help to solve the teen sleep crisis. But it could also wind up showing us how much we have to learn.

*Kenneth Miller is the author of [Mapping the Darkness: The visionary scientists who unlocked the mysteries of sleep](#) <https://oneworld-publications.com/work/mapping-the-darkness/>*