

Researchers highlight the influence of behavior on the circadian preferences of college students

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Many people perceive that they are night owls or morning larks, and that can't be changed. It's called a chronotype—your body's need for sleep at

a certain time—and it is generally considered to be unchangeable. However, a new study from researchers with Baylor University's Sleep Neuroscience and Cognition Laboratory shows that chronotypes are more flexible than originally thought.

The research team's findings, "Chronotype in college science students is associated with behavioral choices and can fluctuate across a semester," were recently published in the journal *Chronobiology International*.

While genetics may predispose an individual to prefer the morning or evening hours, being a night owl can also result from behavioral choices. Whether driven by biology, institutional factors or behavioral choices, being an evening chronotype can be a detriment to [sleep](#) health, alertness in class and [academic success](#).

Baylor sleep researcher Michael K. Scullin, Ph.D., associate professor of psychology and neuroscience, and Blake Barley, doctoral candidate in psychology in Scullin's sleep lab, examined how institutional factors, [biological factors](#) and behavioral choices play a role in sleep problems for college students and if chronotypes may more malleable than current theories suggest.

Through a series of questionnaires given throughout the 2018–19 academic year, researchers asked 858 [undergraduate students](#) enrolled in demanding [science courses](#) to assess their [sleep behaviors](#) and quality, state their chronotype and rate their academic demands and stress levels, as well as the amount of their caffeine consumption and social media usage throughout the day.

Findings

Evening- and morning-type students showed similar stress levels and academic demands, but evening chronotypes showed significantly worse

sleep quality and duration. Evening types are disadvantaged when they have to wake up early for class or work.

The [college students](#) who identified as evening-types had several behaviors that are known to delay bedtimes, shorten sleep duration and worsen sleep quality. They used social media for 40 minutes while in bed, consumed caffeine later in the day and napped more than morning-types, which resulted in less night-time sleeping, worse sleep quality and greater sleepiness while in class.

As the semester progressed, some students reported a switch in chronotype. This chrono-switching was linked to changes in behavior, which resulted in improved sleep health, less sleepiness and higher semester GPAs.

Actions

"Engaging in healthier daytime behaviors can lead to better sleep that then feeds back into better daytime life," Scullin said. "When your daytime life is better, you can often get to bed and fall asleep earlier, enjoy better sleep quality and get into a good cycle."

Students who switched from evening- to morning-types or who had stayed morning-types showed significantly better semester GPAs than students who stayed evening-types or switched from morning-to-evening types. They also reported consuming less caffeine after 5 p.m. and showed significantly better sleep quantity and quality.

Barley said some simple changes can improve sleep quality.

- Avoid electronics near bedtime.
- Avoid caffeine and other stimulants at least six hours before bedtime.

- Avoid long daytime naps.
- Avoid exercising in the evenings.

Scullin emphasized that chronotype malleability is a new idea, and that not all night owls should try to become morning larks or vice versa. The focus for each individual should be on getting the quality sleep they need to be healthy and productive.

More information: Blake K. Barley et al, Chronotype in college science students is associated with behavioral choices and can fluctuate across a semester, *Chronobiology International* (2023). [DOI: 10.1080/07420528.2023.2203251](https://doi.org/10.1080/07420528.2023.2203251)

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