

Research shows impact of school start times on teens' sleep

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Delaying high school start times by as little as 10 minutes can increase

adolescents' length of sleep by almost 25 minutes, says new Brock-led research.

Similarly, shifts to earlier start times for [secondary school](#) were associated with less [sleep](#) among the students, says the study, "School start [time](#) changes in the COMPASS study: associations with youth sleep duration, [physical activity](#), and [screen time](#)."

Lead author, Brock Assistant Professor of Health Sciences Karen Patte, says the results are significant because at least one-third of adolescents don't get the recommended eight to 10 hours of sleep.

"Sleep deficiency increases the risk of various health concerns and risk behaviours, such as substance use, lower academic achievement, poor mental health, accidents and injuries, obesity and unhealthy eating habits," says Patte.

Patte and her team examined data on students' health behaviours and [school](#) policies included in the wider COMPASS study.

Headquartered at the University of Waterloo, the nine-year study follows about 70,000 students from Grades 9 to 12 at more than 120 Canadian schools to learn more about youth [health](#) behaviours and the effect of programs and policies over time. The Canadian Institutes of Health Research (CIHR) and Health Canada fund the research.

Patte and her team examined data on students attending 49 secondary schools across Ontario. Thirteen start time changes of five to 10 minutes were reported among the group of schools while participating in the study.

"We found that students slept an average of 23.7 minutes longer after their school delayed the start time by 10 minutes, whereas changing start

times to 10 minutes earlier was associated with shorter sleep durations," says Patte. Changes of five minutes either way had no effect on sleep.

Patte says there were concerns that adolescents would use the extra time from the later start of school to be on their phones or devices. There were also fears that starting school later would mean less time for extracurricular activities, particularly those involving sports and other physical activities.

When the researchers compared adolescents' screen times and physical activity levels with changes in school start times, they found no association.

"Results do not support notions that youth will spend more time on their phones or other screens instead of using the extra time afforded to sleep—at least when it comes to minor shifts in start times," says Patte.

Patte explains that during puberty, there's a shift in the body's circadian clock so that melatonin is released at a later time, meaning that adolescents get tired later at night.

The result is that teenagers need extra sleep time in the morning to adjust to this biological change to get sufficient rest, hence the advantage in starting school later, she says.

"This study demonstrates how sensitive student sleep is to school schedules and suggests we need to take caution when making changes."

In addition to delaying school start times, there are several other ways of getting adolescents to get the sleep they need. A comprehensive approach is likely needed, including consistent bedtimes, avoiding caffeine in the evenings, being active during the day, getting natural light and keeping phones outside of the bedroom, says Patte.

More information: Karen A. Patte et al. School start time changes in the COMPASS study: associations with youth sleep duration, physical activity, and screen time, *Sleep Medicine* (2018). [DOI: 10.1016/j.sleep.2018.09.020](https://doi.org/10.1016/j.sleep.2018.09.020)

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