

The Impact of Getting Adequate Sleep and the Role of School Start Times

Adolescent Sleep Phase Shift

When teens go through puberty, their bodies release melatonin about two hours later. This results in a shift from a bedtime of 8-9 p.m. to 10-11 p.m., or even later for some teens. The Forbidden Zone is when we are maximally alert and cannot fall asleep. While everyone is individual in their sleep needs, with some teens early to bed and others being more night owls, the majority of teens are not getting the sleep they need. Two out of three high school students get less than 8 hours of sleep a night. Experts recommend that adolescents get 8.5–9.5 hours of sleep per night.

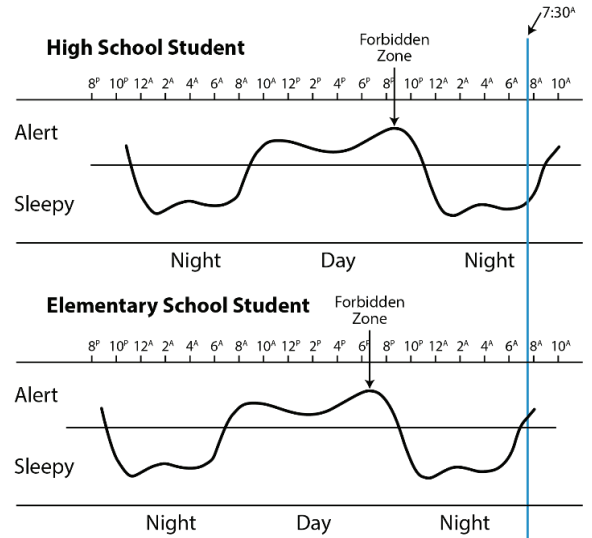


Chart modified from Ferber R *Solving Your Child's Sleep Problems* 2006

In schools with later start times, studies show teens will get more sleep. Getting adequate sleep helps with:

- Attention, learning, and memory, which directly impacts academic performance
- Physical and mental health to help prevent obesity and minimize depression as well as many other benefits
- Behavior and emotional regulation
- Decreased risk of sports and other injury, teens getting less than 8 hours of sleep each night experience 68% more sports injuries
- Decreased risky behaviors

Starting school later, and giving our children the ability to gain more sleep, is just one piece of the puzzle in helping to manage our children's stress level.

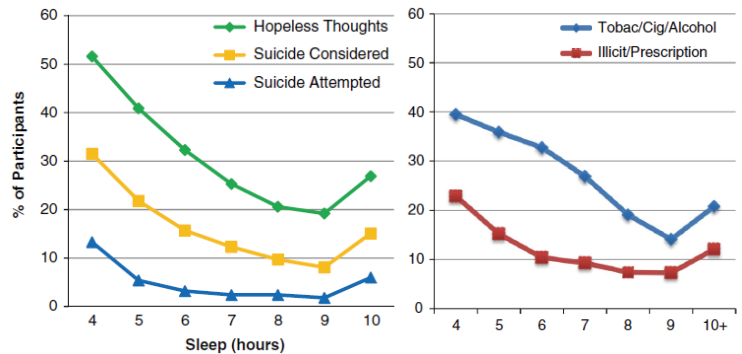


Fig. 3 Hopelessness and suicide by reported number of hours of sleep. Note: Each hour less of sleep is associated with a significant increase in odds of the outcome, $p < .001$

Fig. 4 Substance use by hours of sleep. Note: Each hour less of sleep is associated with a significant increase in odds of the outcome, $p < .001$

Sleepless in Fairfax: The Difference One More Hour of Sleep Can Make for Teen Hopelessness, Suicidal Ideation, and Substance Use

If we start school later, won't students just go to bed later or stay up later doing homework?

This common misconception seems reasonable enough. But it has not proven true in most studies of students who have had their schools shift to later start times. Several studies found that when schools move to later morning starts, students consistently got more sleep per school night because they went to bed at or near the same time each night and were able to rise later in the morning. When teens sleep and wake up in their more natural sleep/wake cycles, they are less drowsy and more focused in morning classes, and more efficient in getting their assignments done. They are no longer struggling to keep up with their homework due to fatigue.

Percent of High School Students Sleeping at Least 8 Hours per Night by School Start Time

Start Time	7:30am	7:35am	8:00am	8:05am	8:20am	8:35am	8:35am	8:35am	8:35am	8:55am
Sample Size	333	446	1379	884	1353	902	1249	960	1407	459
Sleep >8 hours/night	33.6%	44.2%	44.5%	49.7%	42.5%	49.8%	57.0%	58.9%	60.0%	66.2%

Multi-state study, Wahlstrom 2014

Advocates for Later Start Times

- American Academy of Pediatrics (AAP)
- American Medical Association (AMA)
- Centers for Disease Control and Prevention (CDC)
- National Association of School Nurses
- Society of Pediatric Nurses
- American Academy of Child & Adolescent Psychiatry
- National Sleep Foundation
- The AAP, AMA, and CDC recommend that middle and high schools start no earlier than 8:30 a.m.

Experience With Later Start Times

- Hundreds of schools across the country have changed to start middle and high schools later and this has allowed for longitudinal research on the effectiveness of this intervention.
- Results show that starting school later leads to increased sleep, improved attendance and attention, increases in educational performance and standardized testing, less sleeping in class, and fewer disciplinary referrals.
- Other results include: decreased number of traffic accidents and reduced incidents of depression and anxiety in middle and high school students.

Resources

- American Academy of Pediatrics, Policy Statement: School Start Times for Adolescents
- School Start Time Change: An In-Depth Examination of School Districts in the United States by The Children's National Medical Center's Blueprint for Change Team
- Center for Applied Research and Educational Improvement (CAREI) College of Education and Human Development University of Minnesota School Start Time Study Final Report Summary
- Examining the Impact of Later High School Start Times on the Health and Academic Performance of High School Students: A Multi-Site Study
- A's from Zzzz's? The Causal Effect of School Start Time on the Academic Achievement of Adolescents, American Economic Journal: Economic Policy, 3(3): 62-81.
- Insufficient Sleep in Adolescents and Young Adults: An Update on Causes and Consequences, American Academy of Pediatrics
- Extensive research and information on startschoollater.net and sleepin Fairfax.org
- Wheaton AG, Olsen EO, Miller GF, Croft JB. Sleep Duration and Injury-Related Risk Behaviors Among High School Students — United States, 2007–2013. MMWR Morb Mortal Wkly Rep 2016; 65:337–341.
- AMA Supports Delayed School Start Times to Improve Adolescent Wellness, American Medical Association Press Release, June 14, 2016.
- Wheaton, A. G., Chapman, D. P. and Croft, J. B. (2016), School Start Times, Sleep, Behavioral, Health, and Academic Outcomes: A Review of the Literature. Journal of School Health, 86: 363–381.
- Most US middle and high schools start the school day too early, Centers for Disease Control and Prevention Press Release, August 6, 2015
- Appleman MA, Stavitsky Gilbert K, Au R. (2015) School Start Time Changes and Sleep Patterns in Elementary School Students. Sleep Health, 1: 109-114.
- Beyond Measure: Rescuing an Overscheduled, Overtested, Underestimated Generation by Vicki Abeles