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What the Science Tells Us About Adolescent Sleep

How much sleep do adolescents need?

Although the focus of adolescent sleep is mostly on how much sleep, there are actually three factors that create a healthy night's sleep: amount, quality, and consistency.

Amount

The National Sleep Foundation's [recommendations](#) decrease with age throughout adolescence:

- 9 to 11 hours for 6- to 13-year-olds
- 8 to 10 hours for 14- to 17-year-olds
- 7 to 9 hours for 18- to 25-year-olds

An average of 9 hours of sleep per night has been shown to be best for [peak mental health](#). While young people differ in the amount of sleep they need, almost no adolescents were in an optimal daily mood with [less than 7 hours or more than 11 hours of sleep](#). However, younger adolescents and those already experiencing mental health issues may require more sleep than the average.

Quality

Yes, time in bed counts. But the quality of sleep—the number and duration of nighttime awakenings—matters a lot, too. You can improve sleep quality by using a [comfortable pillow and bedding](#), minimizing light in the room, and reducing noisy distractions such as dings from text messages.

Consistency

It may seem logical to pack in as many hours of sleep as possible on the weekends, but “catching up” on Saturdays and Sundays by sleeping until noon creates its own problems. Wild swings from night to night make it difficult for the body to set its circadian rhythm in a predictable fashion, resulting in “[social jet-lag](#)” that amplifies mental health issues, fatigue, and academic challenges.

Sleeping in is OK sometimes, but many pediatricians recommend trying not to sleep much past 9 a.m.

Health effects of lost sleep

Sleep affects a host of physical and mental health outcomes for adolescents, including obesity, inflammation, school achievement, and anxiety and depression.

Mental health

The most significant evidence on the importance of sleep for adolescents relates to mental health. Insufficient sleep is associated with [depression and anxiety](#) and increases [emotional reactivity and impulsivity](#).

Most alarming is the [relationship between lack of sleep and suicide](#). Compared to high school students who reported sleeping 8 hours per night, those who slept less than 6 hours were three times as likely to consider or attempt suicide, and four times as likely to attempt suicide resulting in treatment.

Quality sleep can reduce depressive symptoms, [even for adolescents facing family-related stressful events](#) such as job loss or the death of a family member.

Physical health

Insufficient or inconsistent amounts of sleep across the week during adolescence is associated with short- and long-term effects on health, including an [increased risk of cardiovascular disease](#). Sleep deprivation has also been [linked to obesity and diabetes](#) as well as impaired immune function.

Brain function

The amount of sleep an adolescent gets, the quality of that sleep, and the consistency of nightly sleep all appear to [directly affect brain functioning](#) in regions crucial for self-control, learning, emotional reactivity, and reward processing. Insufficient sleep is [linked to lower academic achievement](#) in middle school, high school, and even college.

What gets in the way of adolescent sleep?

Many factors work together to prevent U.S. adolescents from getting the 9 hours (at least) of sleep they need each night.

Biological changes

[Changes in the adolescent brain](#) associated with puberty and maturation push adolescents' circadian rhythm toward a "night owl" preference of up to two hours later than in elementary school and slow the buildup of sleep pressure that makes us more and more tired as the day progresses.

Meanwhile, just as adolescent brains are shifting to a later natural bedtime anyway, they are also becoming more sensitive to external factors, such as blue lights from digital screens, that can further shift them toward later nights.

Families

Even as adolescents become more independent, their [families still impact their sleep habits](#). In general, more [positive family relationships](#) are [associated with](#) longer and better-quality sleep.

Parents should know that adolescents are not too old for bedtimes. Research has shown that [adolescents with parent-set bedtimes](#) went to bed earlier (an average of 23 minutes) and got about 20 minutes more sleep per night than their peers without bedtimes. This 20-minute difference in sleep resulted in less fatigue and less trouble staying awake. Earlier bedtimes are better than later ones. [Adolescents with parent-set bedtimes of midnight or later](#) were 24% more likely to suffer from depression and 20% more likely to have suicidal ideation than adolescents whose parents set bedtimes at 10 p.m. or earlier.

Technology

Electronic devices emit blue light that "tricks" the adolescent brain into thinking it should be awake, alert, and ready for action. The dynamic social exchanges that can occur on social media can make it [harder for young people to fall asleep](#) long after they do turn off

their devices. Adolescents who spend the most time on social media have [twice the risk of disturbed sleep](#) than those who spent less time on social media.

School demands

Many middle and high schools start earlier than elementary schools, which translates into [less sleep for students](#), particularly those who have to travel longer distances. Just as problematic, as wake-up times shift earlier, homework and extracurricular activities increase, pushing bedtimes later.

Early school start times are a major issue, given adolescents' natural shift toward later sleep and wake times. Shifting school start times later has been proven to make a difference. After the Seattle School District delayed the start of their public high schools by nearly an hour, from 7:50 a.m. to 8:45 a.m., [students daily median sleep time increased](#) by 34 minutes a day, and grades increased 4.5 percent.

Research suggests that adolescents who average [7 to 7.5 hours of sleep—less than the 9 hours needed for peak mental health—perform best academically](#). More research is needed, as these numbers suggest that academic competition might have become so intense that some students are being asked to trade incremental increases in academic performance for declines in their own mental health.

Staying up later to study actually has a [negative effect on learning](#). Sleep is not simply rest, but an active process where learning is internalized within the brain. In fact, when a high school student sacrifices sleep to study more hours than usual, that student can end up increasing academic problems—such as struggling on an assignment or a test—the next day.

Disparities

The burden of insufficient sleep appears to weigh heavier on African-American and Latinx youth and families of low socioeconomic status. One study of 250 high school students from low- to middle-income families showed that while insufficient sleep was a problem for most students, [black students slept less than their white peers](#). Loneliness and stress heightened by [experiences of ethnic discrimination](#) is also associated with shorter sleep duration and worse sleep quality. What's more, students from low-income families may face additional obstacles to sleep, such as after-school jobs and longer commute times to school.

Given the critical importance of sleep to mental and physical health and learning, the sleep deficits faced by vulnerable adolescents represent another roadblock to equitable opportunities and successful launches into adulthood.

The effect of these changes is that the late night/early morning schedule many adolescents maintain during the school year becomes increasingly unhealthy.

Takeaways

Given that sleep is habitual, intervention during early adolescence could have an important effect.

Systemic changes such as later school start times and limits on homework loads could have positive impacts on sleep duration and academic performance.

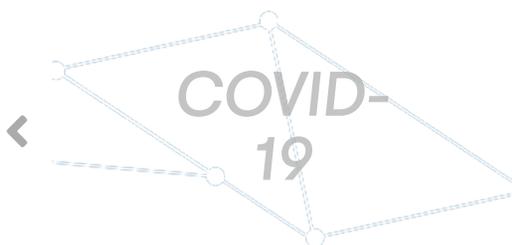
Parents still have a role to play in healthy sleep, even in high school by setting appropriate bedtimes and helping adolescents to get screens out of their rooms at night.

As always, adolescents should be part of the solution. They should have the information to make informed choices about their sleep schedules.

Finally, technology companies need to be part of the solution, too, enabling night-time turn-off periods so adolescents can get the sleep they so desperately need.

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