

Exploring the deep connections between adolescent sleep and overall health

June 20 2023



Credit: Unsplash/CC0 Public Domain

As director of SRI's Human Sleep Research Program, Fiona Baker studies the complex interplay between sleep and overall health and well-being.

Much of her work has been focused on [sleep patterns](#) in adult women, but recently her attention has turned to adolescents. Adolescence is a crucial time for developing healthy [sleep](#) patterns as it is for [brain](#) development. In her research, Baker draws clear lines of connection between the two.

"Sleep is so important to us all, but especially for teenagers or adolescents," Baker says. "Between the ages of 10 and 21, or so, and even a little later, the brain develops and matures in fundamental ways. By studying sleep we're trying to understand not just sleep as a behavior but also its importance for the entire brain and for lifetime well-being."

During this period, Baker explains, the brain is becoming more efficient, getting rid of—or "pruning" in neurological terms—brain connections that are more relevant in childhood, while strengthening more important ones that the young person will rely on the rest of their lives.

If a teen's sleep patterns are less than ideal, it can affect brain development and overall health. In addition to studying underlying mechanisms linking sleep, the developing brain, and health in teens, Baker's lab is also working to develop behavioral guidelines to help adolescents find healthier balances.

"Sufficient, quality sleep is really important for healthy behavioral, emotional, and cognitive development in adolescents, and lack of sleep is tied to weight gain, poor cognitive development, and socioemotional difficulties," Baker says. "We really need to understand this period better in terms of sleep's connection to these concerns."

From too much screentime to anxiety and alcohol use, there is litany of familiar teenage concerns that can disrupt sleep and, by consequence, [brain development](#). In [one recent study](#), she looked at bedtime screen use (phone, computer, television) in more than 10,000 children between the

ages of 10 and fourteen to uncover several interesting findings.

More than a quarter (28%) experienced sleep disturbances, but those who had a TV or an Internet-connected electronic device in the bedroom had more trouble falling and staying asleep and more overall sleep disturbance. Worse yet, those who left their ringers on overnight had it much worse than those who turned them off. Common teenage bedtime routines, such as streaming movies, playing video games, listening to music, talking/texting on the phone, and using [social media](#) or chat rooms, were all associated with greater sleep challenges.

[Another study](#) looked at how changing sleep patterns like later bedtimes and increased [screen time](#) brought on by the COVID-19 pandemic had lasting impacts on teenage sleep. Screen time increased steeply in the pandemic period as teens attended school online, wiled away free time on video games, and turned to social media to stay connected to friends. In the study, social media use and [video gaming](#) were particularly associated with shorter time in bed, later bedtimes, and delayed sleep onset.

"Sleep patterns for teens during the pandemic were dramatically different than before COVID-19," Baker says. "These trends are both intriguing and concerning. It is important to promote teen awareness and education about better use of screens and to help families to develop workable media use plans for their kids such as turning off all devices before bedtime and allowing a winding-down period of at least 30 minutes without screens before sleep."

A [third recent paper](#) by Baker and colleagues was an observational study that tracked brain scans of a cohort of 94 teens over a four-year period looking at how emergent [alcohol use](#) altered sleep continuity, sleep architecture—the different parts of sleep—and the brain's electrical patterns as measured by EEG.

"We're seeing that if teenagers start to drink heavily they have a more disturbed sleep," Baker says. "It's too early to tell, however, if stopping drinking can return things to normal or if the changes persevere."

All of Baker's recent studies point to greater adolescent awareness of the detrimental behaviors that can impact sleep, health and well-being, as well as to the need for greater parental oversight of teen activities that are known to have a harmful effect on teen sleep. They also point to the positive effects that sufficient quality sleep might have to support healthy development.

"Better understanding of teenage sleep and its connections to overall health is helping us to develop strategies to address these troubling patterns," Baker says. "The good news, however, is that the teenage brain is quite resilient, and we are hopeful that with behavioral adaptations we can help these kids recover and get back on track for a lifetime of good sleep and good health."

Provided by SRI International

Citation: Exploring the deep connections between adolescent sleep and overall health (2023, June 20) retrieved 27 April 2024 from <https://medicalxpress.com/news/2023-06-exploring-deep-adolescent-health.html>

<p>This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.</p>
--