



# The Importance of Sleep for Youth

Getting enough sleep is important for the body to stay active and healthy. Research using data from the **ABCD Study**<sup>®</sup>, the largest long-term study of brain development and child health in the United States, has looked at how much sleep youth typically get, what influences their sleep, and what might happen when they don't get enough.



## How much sleep do youth need?

Experts recommend:

**6-12 Year-Olds**

**9-12 Hours**

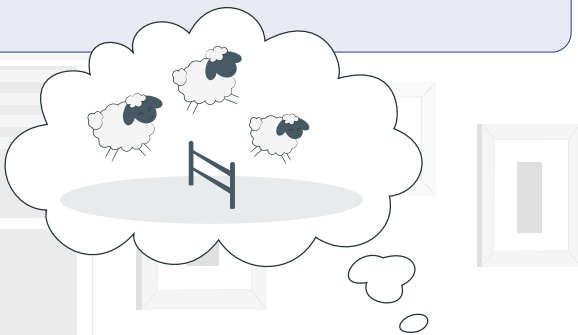
Per Day



**Teens**

**8-10 Hours**

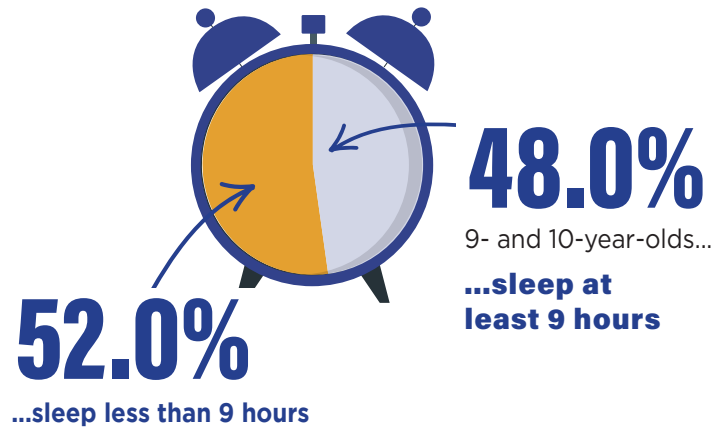
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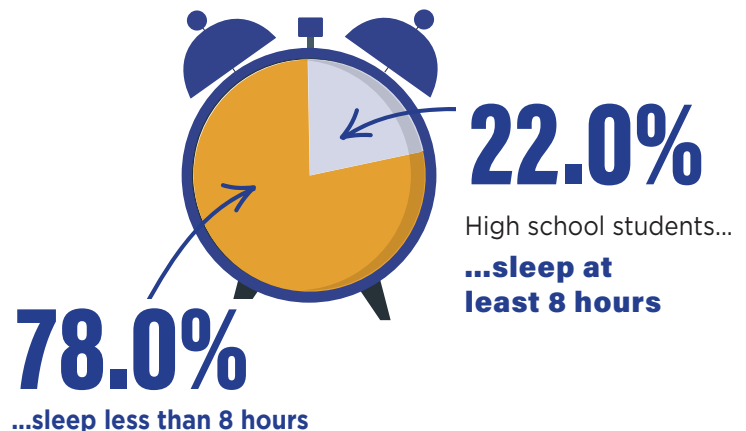
## Are Youth Getting Enough Sleep?

Only half of 9- and 10-year-olds in the ABCD study get the recommended amount of sleep per night.

Many who don't sleep enough **still don't get the sleep they need 2 years later.**



In other surveys, only 22% of high school students report getting the recommended amount of sleep (at least 8 hours) on school nights. Older teens are less likely to get enough sleep than younger teens are (Healthy People 2030).





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## Sleep is connected to mental health.

Youth who feel anxious or depressed sleep less than youth who do not feel anxious or depressed.\*

### Not sleeping enough may be associated with:

- Feeling sad or anxious
- Being impulsive
- Experiencing memory problems
- Having difficulty concentrating

Longer sleep time is associated with fewer problem behaviors such as rule breaking, social problems, memory problems, or aggression.



**! Not getting enough sleep at age 9 or 10 can affect youth's behavior, cognition, and mental health over 2 years. This suggests that sleeping too little may have lasting impacts across development.**

\*Note: Other studies found that depression can also be associated with more sleep.

## The COVID-19 Pandemic and Sleep

Youth with better sleep before the COVID-19 pandemic felt less anxious and depressed during the pandemic.



## What are some common sleep problems?

- Difficulty falling or staying asleep
- Breathing problems during sleep, such as gasps or snores
- Sleepwalking or nightmares
- Twitching, jerking, or talking during sleep
- Too much sweating at night
- Daytime sleepiness

## What influences how long and how well youth sleep?



**Recreational screen activities**, such as watching TV or videos, playing video games, texting, or using social media



**Drinking beverages with caffeine**



**Negative childhood experiences**, such as experiencing or witnessing violence or abuse, or living in unsafe or unstable environments



**Perceived threat** (e.g., crime, conflict) in the neighborhood, at school, or in the family

## 3 in 10 youth have difficulty sleeping,

and about **5%** have problems serious enough to be considered sleep disorders. Sleep disturbances can last a long time. Many youth with sleep problems still experience them 1 year later.





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## Sleep Disparities

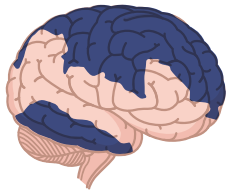
Research found that some disparities in sleep health exist between groups with different household income, education levels, and other characteristics. It isn't clear what contributes to these differences. For example, people with lower household income may live in noisier neighborhoods, which may interfere with getting enough sleep. Large studies like the ABCD Study can help disentangle the many factors that contribute to sleep health.



## How is the brain involved in sleep?

Various brain areas control whether you are **awake or asleep**, as well as the transitions between wake and sleep. Other brain regions are important for sleep duration. Many of these brain areas are also involved in mental health and cognition.

This suggests that changes in the brain related to how long a person sleeps may contribute to observed mental health problems.



Brain areas associated with both sleep and depression.



Brain areas associated with both sleep and thinking skills.



These studies show that differences in sleep duration and sleep problems exist and that sleep problems were associated with a higher risk of certain mental health problems at the time the data were collected. They don't show if or how one thing causes another and if these relationships differ between population subgroups. These studies included data from participants when they were 9-12 years old. Many things could affect these findings, which may also change over time. More research is needed to know for sure.



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**This information is made possible by the Adolescent Brain Cognitive Development<sup>SM</sup> Study.**

Teens participating in this study help scientists answer important questions that improve their understanding about sleep health in teens. These and other ABCD-supported studies let us learn more about how the brain develops, improving the health and well-being of children now and for future generations. [Learn more: https://abcdstudy.org/families](https://abcdstudy.org/families)



## ABCD Sleep Articles

### Impact of Too Little Sleep

#### Too Little Sleep May Harm Young Kids Brains

<https://www.usnews.com/news/health-news/articles/2022-08-03/too-little-sleep-may-harm-young-kids-brains>

#### Sleep-Deprived Youth At Risk for Depression, Cognitive Problems

<https://www.psychiatryadvisor.com/home/topics/neurocognitive-disorders/sleep-deprived-youth-at-risk-for-depression-cognitive-problems/>

### COVID-19 and Sleep

#### COVID Tied to Profound Impact on Children's Sleep

<https://www.medscape.com/viewarticle/975244>

#### Social connectedness, sleep, and physical activity associated with better mental health among youth during the COVID-19 pandemic

<https://nida.nih.gov/news-events/news-releases/2022/01/social-connectedness-sleep-and-physical-activity-associated-with-better-mental-health-among-youth-during-the-covid-19-pandemic>

### Sleep and Brain Development

#### Children's Sleep Linked to Brain Development

<https://www.nih.gov/news-events/nih-research-matters/children-s-sleep-linked-brain-development>

## References (Continued)

Giddens NT, Juneau P, Manza P, et al. Disparities in sleep duration among American children: effects of race and ethnicity, income, age, and sex. *Proc Natl Acad Sci U S A* 2022;119(30):e2120009119. <https://pubmed.ncbi.nlm.nih.gov/35858412/>

Goldstone A, Javitz HS, Claudatos SA, et al. Sleep disturbance predicts depression symptoms in early adolescence: initial findings from the Adolescent Brain Cognitive Development study. *J Adolesc Health* 2020;66(5):567-574. <https://pubmed.ncbi.nlm.nih.gov/32046896/>

Guerrero MD, Barnes JD, Chaput JP, Tremblay MS. Screen time and problem behaviors in children: exploring the mediating role of sleep duration. *Int J Behav Nutr Phys Act* 2019;16:105 <https://pubmed.ncbi.nlm.nih.gov/31727084/>

Healthy People 2030. Increase the proportion of high school students who get enough sleep — SH-04. Data. <https://health.gov/healthypeople/objectives-and-data/browse-objectives/sleep/increase-proportion-high-school-students-who-get-enough-sleep-sh-04/data>.

Hernandez LM, Kim M, Hernandez C, et al. Decoupling sleep and brain size in childhood: an investigation of genetic covariation in the Adolescent Brain Cognitive Development study. *Biol Psychiatry Glob Open Sci*, 2023;3:139-148. <https://pubmed.ncbi.nlm.nih.gov/36712562/>

Hisler GC, Hasler BP, Franzen PL, et al. Screen media use and sleep disturbance symptom severity in children. *Sleep Health* 2020;6:731-742. <https://pubmed.ncbi.nlm.nih.gov/32861729/>

Ho TC, Shah R, Mishra J, et al. Multi-level predictors of depression symptoms in the Adolescent Brain Cognitive Development (ABCD) study. *J Child Psychol Psychiatry* 2022;63(12):1523-1533. <https://pubmed.ncbi.nlm.nih.gov/35307818/>

Isiah A, Ernst T, Cloak CC, et al. Association between habitual snoring and cognitive performance among a large sample of preadolescent children. *JAMA Otolaryngol Head Neck Surg* 2021;147(5):1-9. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7907984/>

Kiss O, Alzueta E, Yuksel D, et al. The pandemic's toll on young adolescents: prevention and intervention targets to preserve their mental health. *J Adolesc Health* 2022;70:387-395. <https://pubmed.ncbi.nlm.nih.gov/35090817/>

Palmer CE, Sheth C, Marshall AT, et al. A comprehensive overview of the physical health of the Adolescent Brain Cognitive Development Study cohort at baseline. *Front Pediatr* 2021;9:734184 <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8526338/>

Paruthi S, Brooks LJ, D'Ambrosio C, et al. Recommended amount of sleep for pediatric populations: a consensus statement of the American Academy of Sleep Medicine. *J Clin Sleep Med* 2016;12(6):785-786. <https://pubmed.ncbi.nlm.nih.gov/27250809/>

Paulich KN, Ross JM, Lessem JM, Hewitt JK. Screen time and early adolescent mental health, academic, and social outcomes in 9- and 10-year old children: utilizing the Adolescent Brain and Cognitive Development SM study. *PLoS ONE* 2021;16(9):e0256591 <https://pubmed.ncbi.nlm.nih.gov/34496002/>

Yang FN, Xie W, Wang Z. Effects of sleep duration on neurocognitive development in early adolescents in the USA: a propensity score matched, longitudinal, observational study. *Lancet Child Adolesc Health* 2022;6:705-712. <https://pubmed.ncbi.nlm.nih.gov/35914537/>

Yang FN, Liu TT, Wang Z. Functional connectome mediates the association between sleep disturbance and mental health in preadolescence: a longitudinal mediation study. *Hum Brain Mapp* 2022;43:2041-2050. <https://pubmed.ncbi.nlm.nih.gov/35040524/>

## References

Brooks SJ, Katz ES, Stamoulis C. Shorter duration and lower quality sleep have widespread detrimental effects on developing functional brain networks in early adolescence. *Cereb Cortex Comm* 2020;3:1-19. <https://pubmed.ncbi.nlm.nih.gov/35047823/>

Cheng W, Rolls E, Gong W, et al. Sleep duration, brain structure, and psychiatric and cognitive problems in children. *Mol Psychiatry* 2021;26:3992-4003. <https://pubmed.ncbi.nlm.nih.gov/32015467/>

Conley MI, Hernandez J, Salvati JM, et al. The role of perceived threats on mental health, social, and neurocognitive youth outcomes: a multicontextual, person-centered approach. *Dev Psychopathol* 2022;1-22. Doi:10.1017/S095457942100184X <https://pubmed.ncbi.nlm.nih.gov/35232507/>