

Short sleepers are four times more likely to catch a cold: Researchers connect sleep loss to higher rates of illness

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Credit: Vera Kratochvil/public domain

Scientists have long associated sufficient sleep with good health. Now they've confirmed it.

In 2009, Carnegie Mellon University's Sheldon Cohen found for the first time that insufficient [sleep](#) is associated with a greater likelihood of catching a cold. To do this, Cohen, who has spent years exploring psychological factors contributing to illness, assessed participants self-reported sleep duration and efficiency levels and then exposed them to a [common cold virus](#).

Now, Cohen, the Robert E. Doherty University Professor of Psychology in the Dietrich College of Humanities and Social Sciences, and researchers from UC San Francisco and the University of Pittsburgh Medical Center have confirmed that insufficient sleep is connected to an increased chance of getting sick. Published in the journal *Sleep*, the researchers used objective sleep measures to show that people who sleep six hours a night or less are more than four times more likely to catch a cold, compared to those who sleep more than seven hours in a night.

Aric Prather, assistant professor of psychiatry at UCSF and lead author of the study, said that the findings add to growing evidence emphasizing how important sleep is for health.

"It goes beyond feeling groggy or irritable," Prather said. "Not getting enough sleep affects your physical health."

Cohen's lab is renowned for using the common cold virus to safely test how various factors affect the body's ability to fight off disease. Prather approached Cohen about the possibility of investigating sleep and susceptibility to colds using data collected in a recent study in which participants wore sensors to get objective, accurate sleep measures.

"We had worked with Dr. Prather before and were excited about the

opportunity to have an expert in the effects of sleep on health take the lead in addressing this important question," Cohen said.

For the study, 164 adults underwent two months of health screenings, interviews and questionnaires to establish baselines for factors like stress, temperament, and alcohol and cigarette use. The researchers also tracked their [sleep patterns](#) for seven days using a watch-like sensor that measured the duration and quality of sleep throughout the night. Then, the participants were sequestered in a hotel, administered the cold virus via nasal drops and monitored for a week, collecting daily mucus samples to see if the virus had taken hold.

They found that subjects who slept less than six hours a night were 4.2 times more likely to catch the cold compared to those who got more than seven hours of sleep, and those who slept less than five hours were 4.5 times more likely.

"Sleep goes beyond all the other factors that were measured," Prather said. "It didn't matter how old people were, their stress levels, their race, education or income. It didn't matter if they were a smoker. With all those things taken into account, statistically sleep still carried the day and was an overwhelmingly strong predictor for susceptibility to the [cold virus](#)."

Prather said the study shows the risks of chronic sleep loss better than typical experiments in which researchers artificially deprive subjects of sleep, because it is based on subjects' normal sleep behavior.

"This could be a typical week for someone during cold season," he said.

The study adds another piece of evidence that sleep should be treated as a crucial pillar of public health, along with diet and exercise, the researchers said. But it's still a challenge to convince people to get more

sleep.

"In our busy culture, there's still a fair amount of pride about not having to sleep and getting a lot of work done," Prather said. "We need more studies like this to begin to drive home that sleep is a critical piece to our well-being."

Provided by Carnegie Mellon University

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