

Stress during pandemic linked to poor sleep

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Many people likely lost sleep over COVID-19. A study of twins led by Washington State University researchers found that stress, anxiety and depression during the first few weeks of the pandemic were associated with less and lower quality sleep.

In a survey of more than 900 twins taken shortly after COVID-19 lockdown measures began, about half of the respondents reported no change in their [sleep](#) patterns, but around a third, 32.9%, reported decreased sleep. Another 29.8% reported sleeping more. In the analysis, the researchers found that any change in sleep was connected to self-reported [mental health issues](#), though it was more strongly associated with decreased sleep.

"The results show that deviations from your typical sleep behavior may be associated with depression, anxiety and stress," said Siny Tsang, lead author on the study published in *Frontiers in Neuroscience*.

Tsang, a staff scientist with the WSU Elson S. Floyd College of Medicine, emphasized that this showed a connection, not a cause, but the study supports previous research that has found a two-

way relationship between disrupted [sleep patterns](#) and poor mental health. In other words, when people don't sleep well, they are more likely to feel stress, anxiety and depression, and when they are dealing with those same problems, they are more likely to sleep less—and sometimes more—than the typical six to nine hours a night.

This study analyzes survey responses collected between March 26 and April 5, 2020 from participants in the Washington State Twin Registry. Since then, the same group has answered three more waves of survey questions. Researchers are particularly interested in studying twins, so they can investigate whether associations are mediated by genetic factors, shared environment, or both. The pandemic also offered an opportunity for a natural experiment to see how a stressful situation affects sleep amount and quality among individuals in the community, Tsang said.

The research relies on the self-reported perception of sleep length and quality, but the researcher said that when it comes to mental health, perception can matter more than the real amount of sleep.

"Even if your cell phone says you consistently sleep eight hours every day, you may feel that you slept less or slept poorly, and that may be linked to stressful or anxious feelings," Tsang said. "It may not matter whether or not the actual number has changed. It's how you are feeling that is associated with your mental health."

WSU researchers have also conducted twin-studies on COVID-19 lockdown effects on alcohol use and pandemic stress and exercise. These have all been initial studies taken at the early stages of the pandemic and associated social distancing measures. The scientists are still analyzing results of later surveys, but they are starting to see a common theme.

"A pattern that is consistent across these three studies is that people who reported change in physical exercise, alcohol use or sleep are more

stressed, anxious and depressed than those who had said that they have had no change," Tsang said.

More information: Siny Tsang et al, Is COVID-19 Keeping us Up at Night? Stress, Anxiety, and Sleep Among Adult Twins, *Frontiers in Neuroscience* (2021). DOI: [10.3389/fnins.2021.665777](https://doi.org/10.3389/fnins.2021.665777)

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