

Study evaluates immersive virtual reality as a sleep aid for teens

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While teens are encouraged to turn off electronics before bedtime, a new study suggests that visiting a virtual environment may benefit their sleep health. Researchers evaluated the efficacy of a novel intervention based on virtual reality and slow breathing to promote bedtime relaxation and sleep in high school students.

Preliminary results show that perceived sleepiness increased, alertness decreased, and heart rate dropped following the relaxation and [virtual reality](#) intervention. Teens also fell asleep an average of 6 minutes faster and experienced a 3% increase in [sleep efficiency](#)—the percentage of time spent asleep while in bed—compared with a baseline night of quiet activities before bedtime.

"Our results indicate that the use of immersive virtual reality and slow breathing/relaxation techniques can help promote bedtime relaxation and improve overall sleep quality in adolescents with good sleep and in those with [insomnia symptoms](#)," said lead author Dr. Dilara Yuksel, a postdoctoral fellow at the Center for Health Sciences at SRI International in Menlo Park,

California. "While our findings are still preliminary, they suggest the potential of being able to apply immersive virtual reality and slow breathing/relaxation techniques to facilitate sleep, which could be an effective approach in problem sleepers."

The study involved 29 high school students between the ages of 16 and 18 years, 10 of whom had sleep difficulties. The participants' sleep was assessed by polysomnography for two nights. On the baseline night, they engaged in 20 minutes of quiet activities, such as reading a book, before bedtime. On the intervention night, they performed 20 minutes of [slow breathing](#) while experiencing a relaxing, immersive, virtual reality environment.

Yuksel added that the results are especially important in identifying ways to treat teenage insomnia and other sleep disturbances that are risk factors for other physical and mental disorders such as depression.

"The investigation and treatment of insomnia disorders is of great interest to the [general public](#), with particularly inexpensive and simple methods available that can be performed at home and are promising for long-term, large-scale use," she said.

The research abstract was published recently in an online supplement of the journal *Sleep* and will be presented as a poster Aug. 28-30 and as an oral presentation Sunday, Aug. 30, during Virtual SLEEP 2020. SLEEP is the annual meeting of the Associated Professional Sleep Societies, a joint venture of the American Academy of Sleep Medicine and the Sleep Research Society.

More information: D Yuksel et al, 0916 The Use of Immersive Virtual Reality and Slow Breathing to Enhance Relaxation and Sleep in Adolescents, *Sleep* (2020). [DOI: 10.1093/sleep/zsaa056.912](https://doi.org/10.1093/sleep/zsaa056.912)

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