

# Sleep may help you become a 'Guitar Hero'

EurekAlert

WESTCHESTER, IL Your performance of a complex motor-learning task such as "Guitar Hero" may improve after sleep, suggests a research abstract that will be presented Wednesday, June 9, 2010, in San Antonio, Texas, at SLEEP 2010, the 24th annual meeting of the Associated Professional Sleep Societies LLC.

Results indicate that the improvement in performance accuracy on "Guitar Hero III" was greater after a night of sleep than after a similar length of daytime wakefulness. At acquisition participants played about 61 percent of the notes correctly. Performance accuracy improved to 63 percent in the wake condition and 68 percent in the sleep condition. There was a significant correlation between sleep duration and the total percent improvement across sleep.

"Consistent with previous studies, these results demonstrate a significant link between sleep and motor learning," said principal investigator Kevin Peters, PhD, associate professor in the department of psychology at Trent University in Ontario, Canada. "Our results extend this link to include more complex and ecologically-valid tasks. This is important as these results indicate that sleep can help consolidate the skills that people encounter in their daily lives."

Peters, lead author Caitlin Higginson and their research team studied 15 college students 13 women and two men with a mean age of 20 years. Participants completed both the wake (9 a.m. to 9 p.m.) and sleep (9 p.m. to 9 a.m.) conditions, which were separated by one week.

For each condition they played one of two songs on the Activision video game "Guitar Hero III: Legends of Rock" until they reached an accuracy level of 50 to 75 percent. After the 12-hour interval they played the song twice at retest. Sleep duration was measured by actigraphy.

Activision Publishing Inc. reports that in 2009 "Guitar Hero" was one of the top-five, best-selling franchises across all video game platforms in the U.S. and Europe. Consumers worldwide have purchased more than 38 million units of the game since the original "Guitar Hero" was released in 2005.

Peters added that he plans to continue using the popular video game to study the relationship between sleep and learning.

"We intend to follow up on this in the future by examining how the amount of time spent playing the game affects brain activity during subsequent sleep," he said.

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Published on Medical Design Technology (<http://www.mdtmag.com>)

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