

Sleep quality and duration improve cognition in aging populations

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University of Oregon doctoral student Theresa E. Gildner led a study, supported by the NIH, that looked at sleep quality and duration, and the impacts of both on health. The results are the first to emerge from a longitudinal study. Credit: University of Oregon

Maybe turning to sleep gadgets—wristbands, sound therapy and sleep-

monitoring smartphone apps—is a good idea. A new University of Oregon-led study of middle-aged or older people who get six to nine hours of sleep a night think better than those sleeping fewer or more hours.

The study, published in the June issue of the *Journal of Clinical Sleep Medicine*, reaffirms numerous small-scale studies in the United States, Western Europe and Japan, but it does so using data compiled across six middle-income nations and involving more than 30,000 subjects for a long-term project that began in 2007.

"We wanted to look at aging, particularly dementia and [cognitive decline](#) as people get older, and the importance of sleep. Our results provide compelling evidence that sleep matters a lot," said lead author Theresa E. Gildner, a doctoral student in the UO's anthropology department. "In all six countries, which are very different culturally, economically and environmentally—despite all these differences—you see similar patterns emerging."

The study, based on the first wave of data from a continuing long-term project, focuses on people 50 years old and older in China, Ghana, India, Mexico, the Russian Federation and South Africa. Among the key findings were:

- Men reported higher sleep quality than women in all six nations, with men and women in Mexico reporting the highest.
- Women reported longer sleep durations than men in all countries except Russia and Mexico. Men and women in South Africa slept longer than in any other country. The least sleep hours for both sexes occurred in India.
- Individuals sleeping less than six hours and more than nine hours had significantly lower cognitive scores compared to those in the intermediate group.

Trained native speakers in each country interviewed the participants, who rated their sleep quality on a five-point scale and the number of hours they'd slept over the two previous nights. That information was averaged. Participants then went through five standard cognitive tests involving immediate recall of a list of presented words, delayed recall of those words later, forward and backward recall of long lists of numbers, and a verbal fluency test in which they listed as many animals as possible without repetition, the use of proper nouns or descriptors.

The study concludes that the findings have important implications for future intervention strategies for dementia. The consistent associations between intermediate sleep durations, high [sleep quality](#) and enhanced cognitive performance in these diverse populations suggests that improving [sleep patterns](#) may help reduce the level of cognitive decline as seen in older adults.

Another important finding, Gildner said, is the gender difference in all sleep and cognition variables. Citing previous studies, the authors hypothesized that women's sleep patterns reflect postmenopausal changes, increased bladder instability and feelings of isolation after the loss of a spouse or lack of social support. Cognition scores of women may result from their [sleep difficulties](#) and/or lower educational levels.

The growing database in the long-term study, known as the Study on global AGEing and adult health (SAGE), is allowing researchers to mine many combinations of variables connected to health and lifestyle, said J. Josh Snodgrass, professor of anthropology at the UO. "It also will allow anthropologists to explore cultural factors that may contribute to sleeping and health patterns."

Snodgrass is a key investigator on SAGE, which is funded by a joint agreement of the National Institutes of Health and the World Health Organization.

"This study is hugely powerful and so different from what's been done in the past, simply because of the consistency of how the data was collected—multi-national, random samples of people," he said. "Sleep is something that is important but often undervalued in our society.

"From doing this research and being familiar with the literature," he added, "an emphasis on sleep issues by the media in recent years is warranted. Every single piece of evidence that people look at now as they are investigating sleep and different health associations is all showing that sleep really, really, really matters. We're just now scratching the surface on what patterns of sleep normally are, and also what are these associations between sleep and health issues."

Provided by University of Oregon

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