Being a 'night owl' is associated with mental sharpness, study finds

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A study investigating the effect of sleep on brain performance has found a link between an individual's preference for morning or evening activity.
and their brain function, suggesting that self-declared "night owls" generally tend to have higher cognitive scores.

Researchers at Imperial College London looked at data from more than 26,000 people to find out how different aspects of sleep—including duration, patterns, and quality—affect mental sharpness and overall cognitive ability.

Using data from the extensive UK Biobank database, they analyzed information on U.K. adults who had completed a number of cognitive tests—including whether people described themselves as a "morning person" or an "evening person," referring to which time of the day they felt more alert and productive.

The study, published in *BMJ Public Health*, found that sleeping between seven to nine hours a night was optimum for brain function, boosting cognitive functions such as memory, reasoning and speed of processing information. By contrast, sleeping for fewer than seven hours or more than nine hours had a clearly detrimental effect on brain function.

It also found that a person's chronotype—an individual's preference for evening or morning activity, commonly referred to as "night owls" and "morning larks" respectively—also affected test scores.

Owls—or adults who are naturally more active in the evening—performed better in tests compared to those who were morning-oriented. Larks consistently showed the lowest cognitive scores in both groups analyzed, with scores improving for "intermediate" types—those who expressed a mild preference for either day or night—and reaching higher levels for evening types.

Evening types, or owls, scored about 13.5% higher than morning types in one group and 7.5% higher than morning types in another group.
Intermediate sleepers—a mixture of both—also did better, scoring around 10.6% and 6.3% higher than morning types in the two groups. These differences were highly significant, meaning they are very unlikely to be due to chance.

The analysis was adjusted for other health and lifestyle factors, such as age, gender, smoking and alcohol consumption, and the presence of chronic diseases such as heart disease and diabetes. Younger individuals and those without chronic conditions generally scored higher in cognitive tests, while healthier lifestyle choices were usually associated with better cognitive performance.

Lead author of the study, Dr. Raha West, from the Department of Surgery and Cancer at Imperial College London, said, "Our study found that adults who are naturally more active in the evening (what we called 'eveningness') tended to perform better on cognitive tests than those who are 'morning people.' Rather than just being personal preferences, these chronotypes could impact our cognitive function."

Dr. West, who is also an NIHR Doctoral Fellow, explained, "It's important to note that this doesn't mean all morning people have worse cognitive performance. The findings reflect an overall trend where the majority might lean towards better cognition in the evening types.

"While it's possible to shift your natural sleep habits by gradually adjusting your bedtime, increasing evening light exposure, and keeping a consistent sleep schedule, completely changing from a morning to an evening person is complex."

She added, "While understanding and working with your natural sleep tendencies is essential, it's equally important to remember to get just enough sleep, not too long or too short. This is crucial for keeping your brain healthy and functioning at its best."
The researchers also found that while sleep duration was vital, people who reported insomnia did not score significantly lower in cognitive performance in their cohorts. This may indicate that the specific aspects of insomnia, such as its severity and the length of time suffered, need to be considered.

Co-study leader Professor Daqing Ma, also at Imperial's Department of Surgery and Cancer, said, "We've found that sleep duration has a direct effect on brain function, and we believe that proactively managing sleep patterns is really important for boosting, and safeguarding, the way our brains work. We'd ideally like to see policy interventions to help sleep patterns improve in the general population."


Provided by Imperial College London

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