PRESS RELEASE

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Take a 30-minutes afternoon nap for a mid-day refresh and memory boost

Singapore, 23 February 2023 – Naps are short periods of sleep that occur outside a main nocturnal period that are differentiated from bouts of uncontrollable and unintended sleep. The latter may underlie significantly inadequate nocturnal sleep, jetlag, a sleep disorder, or a neurological condition.

Voluntary naps in contrast, serve as an intended midday refresh that can enhance learning and productivity. “Many know the benefits of napping, but the pressure to optimise time in the workday poses constraints for some on the practicality of napping regularly,” explained Dr Ruth Leong, Research Fellow from the Centre for Sleep and Cognition at the Yong Loo Lin School of Medicine, National University of Singapore (NUS Medicine), when outlining the motivation for the study.

Is there a recommended duration for a mid-afternoon nap that achieves a balance between practicability and meaningful benefits?

This question was addressed in a study led by Dr Ruth Leong and Prof Michael Chee of the Centre for Sleep and Cognition at NUS Medicine, and published in leading journal SLEEP. Following their usual amount of sleep at night, 32 young adults underwent four experimental conditions: wake, a 10-minutes nap, a 30-minutes nap, and a 60-minutes nap on separate days.

The researchers compared sleep time measured objectively with polysomnography rather than just the amount of time provisioned for the nap. This allowed for unambiguous decision-making about how long one should allocate for a nap, taking into account the average time taken to fall asleep. Mood, subjective sleepiness, cognitive performance were measured at intervals of five minutes, 30 minutes, 60 minutes and 240 minutes after waking from the mid-afternoon naps in order to compare how sustained the respective nap benefits were. The effect of these nap lengths on memory encoding was also examined.

On average, participants took 10 to 15 minutes to fall asleep. Compared to wake, all nap durations ranging from 10 to 60 minutes had clear benefits for positive mood, subjective sleepiness, and alertness that lasted up to 240 minutes post-nap, suggesting that even a short 10-minutes can act as a midday refresh. However, of the nap durations, only the 30-minutes nap had benefits for memory encoding, indicating that minimally, 30 minutes may be needed for benefits to memory.

Improvements for vigilance were moderate, and benefits for speed of processing were not seen. Sleep inertia, the grogginess just after waking that can manifest as temporary

decrements in performance, was only observed for the 30 to 60 minutes naps. Even so, decrements were minimal and were resolved within 30 minutes of waking.

While no clear 'winning' nap duration was found, a 30-minutes nap appears to have the best trade-off between practicability and benefit. 30 minutes may be the duration to recommend for a mid-afternoon nap, while provisioning an additional ~10 minutes to fall asleep.

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Our multidisciplinary and real-world approach to education, research and entrepreneurship enables us to work closely with industry, governments and academia to address crucial and complex issues relevant to Asia and the world. Researchers in our faculties, research centres of excellence, corporate labs and more than 30 university-level research institutes focus on themes that include energy; environmental and urban sustainability; treatment and prevention of diseases; active ageing; advanced materials; risk management and resilience of financial systems; Asian studies; and Smart Nation capabilities such as artificial intelligence, data science, operations research and cybersecurity.

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