BioSpectrum
the business of Bio & Health Sciences
ASIA EDITION

Singapore researchers solves challenges of adolescent sleep inadequacy

22 July 2020 | News

Researches say, "students can balance a fulfilling sleep through a 1.5-hour mid-afternoon nap added to 6.5 hours of nocturnal sleep, to achieve 8 hours in total across 24 hours to maintain vigilance, working memory, speedy process, and positive mood"

Adolescents in academically competitive societies often fail to obtain adequate sleep on school-day nights. 85% of secondary school students from top schools in Singapore obtain less than the 8 hours of nocturnal sleep recommended by the US National Sleep Foundation, and average, only 6.5 hours a night on weekdays. In prior work, *Researchers from Yong Loo Lin School of Medicine and Duke-NUS Medical School in Singapore,* showed successive nights of 6.5 hours of nocturnal sleep does not suffice, giving rise to degraded vigilance, short and long-term memory, and positive mood.

To makeup, students report being more likely to nap on weekdays and to sleep longer over weekends. Greater sleep extension on weekends, staying up late to study, coupled with early school start times are deeply entrenched societal norms. Is there a way forward for sleep-deprived youths?

A recently published research paper from the National University of Singapore, in the leading journal *Sleep*, found a sleep schedule students could adopt to fulfill sleep requirements while being socially acceptable: a 1.5-hour mid-afternoon nap added to 6.5 hours of nocturnal sleep, will achieve 8 hours *in total* across 24 hours.

Their quasi-laboratory study evaluated 53 adolescents aged 15 to 19, over 15 days, simulating 1.5 school-term weeks. During “school nights”, all participants had a total sleep opportunity of 8 hours per 24 hours – one group slept 8 hours continuously at night, while the other split the 8 hours into 6.5 hours at night and a 1.5-hour afternoon nap. Adolescents on the split sleep schedule showed *comparable* vigilance, working memory, speed of processing and mood compared to those who slept the entire 8 hours at night. Although only about half these students declared they habitually take naps, everyone was able to nap on multiple afternoons during the study, without significant adverse impact on nocturnal sleep. Such structured napping opportunities are certainly preferable to the brief, ad hoc ones that teachers regularly observe in class.

This study is the fifth in the series of ‘Need for Sleep’ studies that evaluated adolescents’ sleep and cognitive performance across different sleep schedules in a simulated school-term. In earlier studies, relative preservation of cognitive performance

came at the possible expense of a weaker response to a glucose load that could have metabolic system consequences. Adequate total sleep over 24 hours may thus be a pre-requisite to optimal health and cognition.