

ScienceTalk

Why students should start school later

**Joshua Gooley,
June Lo and
Michael Chee**

Sleep is one of the trio of lifestyle health factors that include diet and exercise.

Improving sleep will impact how we learn, work and play.

Based on a multitude of considerations including data collected from Singapore, it is recommended that all secondary schools and junior colleges here start at 8.30am every day.

Why start school later?

Secondary school students here report sleeping an average of 6½ hours on weekday nights.

Data collected in Singapore indicates that this is insufficient for optimal vigilance and mood.

Eight hours is enough, but fewer than 15 per cent of secondary school students achieve this.

Sleep inadequacy has long-term economic, health and well-being consequences.

Insufficient sleep time results from a late bedtime combined with having to wake up early.

During Covid-19 lockdowns, most people in major industrialised countries, including Singapore, slept later but woke up even later, resulting in improved sleep duration.

Local undergraduates, who have

some discretion over their time, show the lowest attendance during morning lectures at 8am.

These observations suggest that merely advising people to sleep earlier and expecting them to exercise self-control will not shift the status quo.

Starting school later makes a structural provision for more sleep in a group where it is inadequate.

Starting middle and high schools no earlier than 8.30am has been endorsed by the American Academy of Paediatrics, Society of Behavioural Medicine, American Medical Association and American Academy of Sleep Medicine.

The same recommendation can be applied here because extensive local research shows that the sleep needs of Singaporean adolescents are consistent with US-based recommendations.

Why start at 8.30am?

Delaying school start time by an hour has a greater impact on sleep duration than delaying it by only 30 minutes. This is supported by meta-analyses that examine effect sizes across multiple independent studies.

Starting school at 8.30am makes provision for sufficient increase of the current, inadequate average sleep duration of 6½ hours a night towards the eight-hour range that we know to be adequate for most, while reducing the likelihood of other scheduling conflicts.

Secondary school students could experience the greatest benefits from this change.

Between Secondary 2 and 3, nocturnal sleep in Singapore students falls by almost an hour, from 7½ hours to 6½ hours.

This is due to several reasons. Maturation change in the circadian clock delays preferred sleep time, there is greater school workload, and teens exercise greater autonomy over their time and social interactions.

Secondary school students are also more likely to travel to school using public transport.

Critics argue that a later start to school will just mean that students

sleep later, not more.

This is the most common objection encountered. While intuitive, it is not supported by data.

Across longitudinal studies where delayed start times of more than 30 minutes are provisioned for, later wake-up times have consistently been observed.

Bedtimes either do not change or are delayed by a smaller amount, resulting in real gains in sleep time.

The largest experiment in “starting life later” took place during Covid-19 lockdowns.

With the exception of healthcare or essential workers, most other persons slept in later, extending sleep duration.

Secondary school children in Singapore obtained about 40 minutes more sleep during the lockdown compared with their usual (short) amount of sleep.

Secondary school children in Singapore obtained about 40 minutes more sleep during the lockdown compared with their usual (short) amount of sleep.... In a top secondary school in Singapore, an increase of about 20 minutes of sleep on school nights was associated with fewer depression symptoms and lower daytime sleepiness. Studies here are also consistent in showing gains in subjective sleep quality, reduction in weekday-weekend sleep duration difference (a marker of weekday sleep debt accumulation), improved alertness and improved mood.

Research conducted in Singapore has shown that the difference in sustained concentration over successive nights of sleep restriction of five to 6½ hours total sleep were comparable, but when sleep was extended to eight hours, performance resembled having nine hours of sleep.

This suggests that every few minutes closer to the recommended sleep duration is worth reclaiming.

In a top secondary school in Singapore, an increase of about 20 minutes of sleep on school nights was associated with fewer depression symptoms and lower daytime sleepiness.

Studies here are also consistent in showing gains in subjective sleep quality, reduction in weekday-weekend sleep duration difference (a marker of weekday sleep debt accumulation), improved alertness and improved mood.

Poor sleep quality by itself is an independent risk predictor of negative health outcomes.

Many international schools in Singapore start later and end later than local schools, and their students obtain more sleep than local students.

Hence, reducing curriculum time is not a prerequisite for students to obtain more sleep.

Local data suggests that feeling the need to complete homework before sleeping is a dominant reason why our students sleep later, and less.

Improving learning efficiency has benefits and there is an opportunity to creatively re-engineer education in Singapore’s transformational road maps.

In a 10,000-strong adolescent student cohort in the United States, students who better complied with both sleep and screen time recommendations achieved higher cognitive test scores.

Our choices reveal our values

Although it is widely stated that

sleep is important for health, well-being and productivity, our education policies do not reflect this.

For the past decade, numerous students and parents have appealed through different channels to start school later, but the stock reply they have been given is that schools have the choice to do so already.

However, schools are reluctant to make changes that require substantial effort if there is no mandate to spur them into action.

This inertia was solved by the State of California, by passing a law requiring secondary schools to start no earlier than 8.30am. The law was viewed as necessary because healthy start times are a public health issue.

If sleep is indeed valued, then examining contrasting policies on provisions for more sleep and Covid-19 control is informative.

After all, people are not given the choice of whether they want to wear masks or practise social distancing.

Time to act

Ultimately, one can help an undernourished person by providing nutritious food. This does not guarantee that the person will eat appropriately.

But having a mandatory start time would mean the authorities would have done their bit.

As we emerge from Covid-19, if we do not deliberately reallocate time saved from commuting for sleep, it will be claimed by competing time sinks such as the blurring of work/non-work boundaries and increased “recreational” e-device usage.

It is time to make time for sleep.

• ABOUT THE WRITERS:

Associate Professor Joshua Gooley from Duke-NUS Medical School, and Assistant Professor June Lo and Professor Michael Chee from the Yong Loo Lin School of Medicine, are internationally recognised sleep scientists who seek to use their extensive research findings to transform lives.