

## 8:30 start time

Starting this school year, California became the first and only state to mandate later school start times. High school students, who need a recommended eight to ten hours of sleep per night, now start classes no earlier than 8:30 a.m.

"The 8:30 start time is nice," said junior Ben Ricket. "There's plenty of time in the morning to eat breakfast, even if people wake up at 7:30."

Many schools have tested later start times and boasted positive results. As part of a National Institute of Health study, Seattle Public Schools saw an average increase of 34 minutes of sleep and a 4.5% increase in grades after delaying their start time by 55 minutes.

In 2017, the San Mateo Union High School District conducted a survey to gauge the response to a potential later start. Student responses were generally divided equally. However, 71% answered that they did not usually feel well-rested in the morning and around 95% claimed they felt tired on at least some days at school.

The board introduced a 9 a.m. start time during the online 2020-21 school year and has since adjusted it to 8:30 a.m.

Many agree that the later start time improves their sleep schedule with some noticeable changes during the transition from the earlier middle school start time.

"I like [our start time] because in middle school I remember waking up so early to go to school," said junior Trish Clemente. "You had to get there around 8 or 8:10. When I got to high school, I felt like I got more sleep."

However, the subsequent later release time was met with mixed reactions.

"It's a bit regrettable that we get out at almost 4 [p.m.]," Ricket said. "That can be difficult for people who have a lot of extracurriculars."

One major exception of the later start time is zero period, which starts at 7:45 a.m. Students take zero period either for an earlier release time or a specific class only offered before school.

Sophomore Thomas Nie, who is in Aragon's Chamber Singers zero period class, expressed his frustrations.

"Sometimes you wake up and you're like 'I don't want to do it,'" Nie said. "I don't want to brush my teeth or wash my face."

Some students cited Advanced Placement Biology, a class which starts at 8 or 8:15 a.m. depending on the day, as an influencer of their sleep schedule.

"Having A.P. Bio is a little trickier because I have to get to school earlier than 8," said junior Aaron-James Sanchez.

"And I had to finish more of the assignments that are due that day."

Andre Wang, a student in Chamber Singers and former AP Biology student, asserts that although he loses an hour with zero period, there are perks to starting earlier.

"There's some days I really don't want to get up," Wang said. "I get so tired...but once I'm actually singing, it actually feels pretty good...[There's] less traffic so that's definitely better."

While later start times receive praise and criticism, the general consensus of many researchers is that adolescents require more sleep. Later start times are gaining traction in school districts across the country as a means to address the sleep deprivation amongst teenagers.

## What keeps people up at night?



## school culture around sleep

It's late at night, and students who still have a pile of assignments to do have a decision to make: sleep or homework. In a survey of 152 Aragon students, 80.3% reported that homework impacted their sleep.

Some students theorize that the habit of sleeping late builds as their career through high school progresses.

"The older I got in school, [the later] I was sleeping," said junior Aaron-James Sanchez. "When you're a freshman, you don't really have to care as much [about the amount of activities] you are doing."

Sometimes, sleep habits become a regular topic for conversation.

"I have a few friends and a few classmates that talk about [a lack of sleep]," said junior Trish Clemente. "And I overhear that they probably only get 5 or 3 hours of sleep, especially if they have A.P. [classes]."

However, this is not the case for everyone around campus.

"[The people I hang out with don't say], 'I got x hours of sleep,'" said junior Ben Ricket. "That might have been more of [an occurrence] in middle school ... Now, people are either tired or they're not."

Some students reported using time in class to catch up on sleep. Math and computer science teacher Lisa Kossiver describes how she responds to sleeping students.

"I have a policy about sleeping," Kossiver said. "[My students are] welcome to sleep, but [they] can't be in my classroom. Some teachers allow [students] to have their heads down and ignore them [but] I won't. ... I tell [my students] they can take a chair and go outside [to sleep] ... I respect the fact that [they are] exhausted ... I just don't want [sleeping students] in my classroom."

Some students, such as junior Nicole Jin, believe the key to finding balance between school and sleep is time management. Jin aims to go to bed by 10 p.m., and wakes up at 7 every morning, finding that the nine hours of sleep help her feel awake and stay productive throughout the day.

"I've been planning out my time and everything so it's easier to manage," Jin said. "Usually I get all the urgent [homework] done right after school ... relax [and] have dinner as a family ... Then I try to get all my schoolwork done by 9 to 9:30 [p.m.] so I have 30 minutes [to] put my phone away. I turn off my computer so I don't go on any devices before bed."

Students have observed trends between work and sleep. Junior Trish Clemente discusses how her sleep depends on her workload.

"If I don't have work, I usually go to sleep at like 9:30 or 8," Clemente said. "If I do have work, and it depends on the load I have, I ... sleep by 12:30 and I wake up at 6."

This trend towards losing more and more sleep over academics may have serious repercussions on students' short-term and long-term mental and physical health.

## impacts of sleep deprivation

For many high school students, sleep and school seem mutually exclusive. A few hours of sleep are often sacrificed to get a paper in or go to a sports practice. In reality, sleep deprivation's harmful effects are greater than any letter grade.

Because sleep plays a vital role in brain function, sleep deprivation can have numerous negative effects on a person's physical, mental, and cognitive health both in the short and long term.

During the night, a person's brain is still active and goes through sleep cycles. In these cycles, the brain takes information stored in the synapses during the day, and synthesizes it, strengthening important connections and pruning off less necessary ones.

"The hypothesis is that you're taking a snapshot at the end of the day of what all those learning synapses look like," said Dr. Teresa Steininger, PhD, Director of Medical Communications, Global Scientific Affairs at Jazz Pharmaceuticals. "You downscale everything [when you sleep], offloading some of those or finding a way to consolidate them. The hippocampus puts [short-term memories] into longer-term storage in the cortex so you can learn again the next day and keep those memories intact."

Chronic sleep deprivation can also reduce a person's capacity for creative thought and abstract thinking, all of which reduce academic performance. In a survey conducted by Mary Carskadon, PhD, on 3,000 high school students, those with higher grades reported getting more nightly sleep and sleeping in less on the weekends than their peers with lower grades.

Though students often stay up late to finish assignments or juggle busy schedules, the impacts of chronic sleep deprivation can lead to physical and emotional issues in the long run. Skipping out on a good night of sleep leads to fatigue, often reducing academic performance.

"I can definitely tell that [sleep deprivation] changes the way I think. I feel like I'm not as there as I usually am," says junior Aaron-James Sanchez.

In a survey of 152 Aragon students, over 40% shared that mental health issues such as anxiety and depression keep them up at night. Cordova finds that the impacts of sleep deprivation are cyclical because these symptoms are worsened by a lack of sleep.

"When people don't get enough sleep ... it increases [their] cortisol levels, which is the hormone that is released in your body when you're anxious or nervous," Cordova said. "[Sleep deprivation also] slows down your thinking and your ability to make [healthy] decisions ... even on a personal hygiene level. [If] you're really tired and exhausted, you don't really want to work out or shower [and] you might make unhealthy food choices, because they're easier and faster."

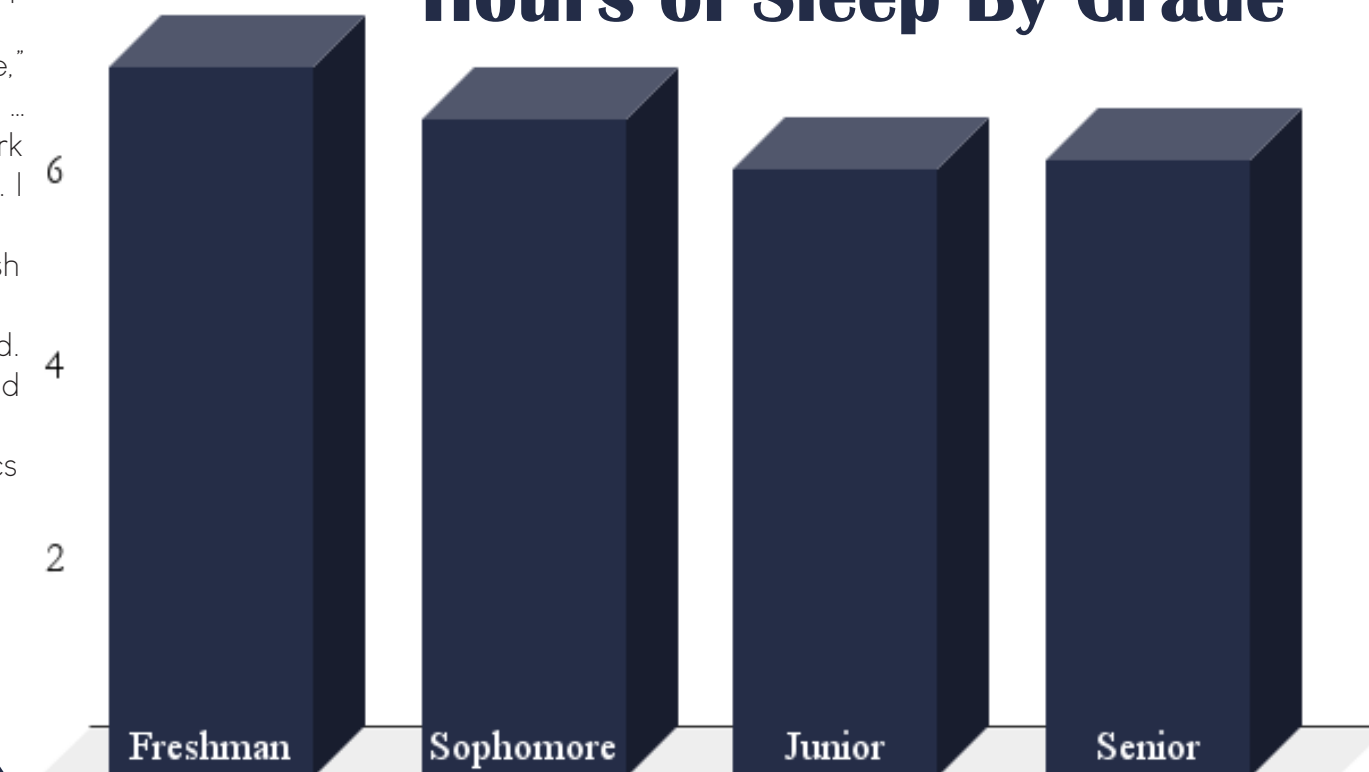
Sleep deprivation also causes a number of negative physical health effects.

"There can be some [gastrointestinal effects] because there's a circadian rhythm of the gut, [and] when you don't sleep, you can throw that off," Dr. Steininger said. "About 80% of your release of growth hormone happens during slow wave sleep, so if you're getting deprived of sleep, you're probably not getting the proper amount of growth hormone. Disturbed sleep, which includes not sleeping enough, can be linked to cardiovascular health issues down the line."

Sleep deprivation poses a particular threat to student athletes, as a study from the Sleep Foundation found that student athletes that consistently sleep fewer than eight hours per night are 1.7 times more likely to get injured.

With the overwhelming detriments of staying up late, students struggle to find a balance between finishing assignments and getting enough sleep to boost academic performance.

## Hours of Sleep By Grade



## student experiences with sleep

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