

“Standard Schooling”

By Jeannie Liu

After a fun and stress-free weekend out with friends, students spend the rest of Sunday night cramming in any last-minute homework assignments that are due at 11:59 PM or have to be turned in at school the next day. With a blink of an eye, the dreaded Monday morning rolls around, and before anyone ever wants it, the loud and obnoxious alarm is blasting in the ears of parents and students. Startling people out of their dream, the sound of alarms bring tension and irritation to many students. As students get out of their warm, soft beds still half asleep and overly drowsy, they force themselves to get ready for school. Pulling into the crowded school parking lot fighting for a spot while still half-asleep at 7:45 to 8:00 AM, students remain sleepy until after the second period. Due to this being a typical weekday for most high school and middle school students, it is critical that departments of education are aware that early start times hinder students’ mental and physical well-being. Delaying the start of high school and middle school times will improve students’ quality of sleep, their overall health, and their ability to perform in school, despite the challenges.

Middle-schoolers and high-schoolers lack adequate sleep. Despite humans sleeping for a majority of their life and how critical sleep is to adolescents, a majority of high school and middle school students do not get enough sleep throughout the night. The Centers for Disease Control and Prevention (CDC) recommends that children ages from six to twelve years should get nine to twelve hours of sleep every night, but teenagers ages thirteen to nineteen years old should get eight to ten hours of sleep every night (“Sleep in Middle and High School Students”). The CDC found in a research study done in 2015, that analyzed a survey of the amount of sleep that middle and high schoolers get, six out of ten middle schoolers do not get enough sleep while

seven out of ten high schoolers do not get enough sleep each night. It is clearly shown with this data that a majority of children do not get enough sleep (“Sleep in Middle and High School Students”).

Many may believe that adolescents should just go to sleep earlier in order to get the desired amount of sleep. However, it is biologically challenging for teenagers to go to bed earlier due to their circadian rhythm, which is a person’s internal “clock,” which communicates to the body when to sleep, eat, rest, and work. James Urton, a scientific writer at the University of Washington, interviewed Giedon Duntser, a University of Washington Doctoral student in biology. Urton quoted Dunster saying that “teenagers' circadian rhythms are fundamentally different from those of adults and children.” Dunster continues to explain that “when [teenagers] generally fall asleep is biologically determined.” Through puberty, their circadian rhythms are already lengthened and makes them less sensitive to light in the morning allowing them to sleep longer. While there are other factors that could impact when teenagers go to bed, like the activities they participate in such as sports or on the other hand the lack of activities they do, the circadian rhythm is the main powerhouse in determining sleep schedules. Due to these changes, teens tend to sleep later at night and wake up later in the morning.

Although it may go unnoticed, the brain remains active while one is sleeping, possibly even more active compared to while one is awake. According to the National Institute of Neurological Disorders and Stroke (NIH), many parts of the brain are active during sleep like the hypothalamus, the brain stem, thalamus, pineal gland, basal forebrain, midbrain, and the amygdala are all active during sleep. The hypothalamus, brain stem, pineal gland, basal forebrain and midbrain all contribute to how and when we fall asleep. The thalamus is one of the most important brain functions during sleep. It is in charge of moving what we learned during the day

into our long term memory, and this part is only active during the rapid eye movement stage of sleep (“Brain Basics”). With the lack of sleep, our thalamus decreases in function, which also reduces our ability to remember new information as well as retrieving the information when it is needed. Lacking sleep can be more detrimental than one thinks.

Getting adequate sleep has many overall benefits to one’s well-being. Sleep deprivation is when one goes numerous days without getting the recommended hours of sleep, and the first stage of starting sleep deprivation is going twenty-four hours without sleep (“Sleep Deprivation”). As James B. Maas, psychologist at Cornell University and also one of the world’s leading sleep experts, states, “almost all [teenagers], as they reach puberty, become walking zombies because they are getting far too little sleep” (“Sleep Deprivation”). With sleep deprivation being so common among teens, there will be extensive consequences if there is no additional support for students. If one continues to operate on a day to day basis with severe sleep deprivation, there will be more health crisis in the future, like “high blood pressure, diabetes, stroke, heart attack, or even heart failure.” Along with this, long-term sleep deprivation can contribute to obesity, reduce immune system function, increase stress hormones, and depression (Brian and Spine Team). Not only will teenagers' health deteriorate, their grades and performance in school will too.

Allowing adolescents to sleep longer helps increase their consciousness and participation in school. In the early 2000s, in order to test the hypothesis of delaying school times and giving students more sleep, some schools started to convert to later start times. According to Kayla L. Wahlstrom, a senior researcher and lecturer in the College of Education and Human of Development at the University of Minnesota, as the number of students got more sleep, there was a decrease in the number of tardies and absences to school the next day. In addition to that,

she found that students involved in the study reported that they were less likely to fall asleep in class, drink caffeinated beverages, and some even reported feeling happier. Through all my years as a high school and middle school student, I was happier and able to get up with ease after a quality sleep and meeting the recommended hours. As I pulled up to school with enough sleep, I had a more excited attitude compared to the dreadful attitude I had with the lack of sleep. Giving students the chance to sleep more and allow them to be fully awake before class allows the students to be more involved and enjoy going to school. While school is not always fun and exciting, school should feel less like a punishment and more like a privilege. Students should want to be there to learn instead of feeling forced to be there.

Not only does getting more sleep improve participation in classes, but it helps improve students' memories. Memory is a complex system, but it could be one of the most critical ways to improve learning. Temporary memory is stored in the hippocampus, and similar to most storage places, the hippocampus has limited space, restricting the amount of information that could be stored. According to Kelly Capello, who has a B.A. from the University of Pennsylvania School of Medicine, taking a nap after learning new information is helpful for the brain to encode the information. She also mentions that scientists have found that with the increase of sleep, students' ability to memorize, retain, and recall information is significantly better. Along with that, students were more likely to be able to solve problems in more creative ways as well as being able to problem solve with previously retained knowledge. Mathew Walker, a professor of neuroscience and psychology at University of California Berkeley, reasons that the "slow brain waves during this sleep cycle help to move the information from the hippocampus to more permanent storage sites." Clearly, sleep plays a vital role in helping students be able to retain and recall information they learned throughout the day. Giving students

the extra time to sleep can help with encoding information in the brain, which will ultimately lead to better performances in school.

Despite the benefits of pushing back start times, this change also comes with a few challenges. Many parents find the shift in scheduling very difficult to adapt to for many reasons. Some parents may argue that they miss out on family time if their kids get out of school at a later time than usual. As a child raised from a family of working immigrant parents, due to the lack of quality time spent with my family, I understand the importance of keeping family together as often as possible. However, with the later start times and later end times, leaving school an hour later will not make a significant impact on family time. High school and middle school students would start school at eight thirty or nine, compared to the eight o'clock classes, giving them a few minutes of extra sleep, but not going too late after school. For the teenagers who get up early and enjoy the school start times as they are now, instead of rushing out the door early each morning, they get some family time in the morning to make up for the time that could be lost after school.

The change in school schedules will also impact times for after school activities. As a student athlete since the age of six, I understand the concern surrounding less time for after school activities. Throughout middle and high school, I was a part of clubs and a very time-consuming sport, swimming; I can confidently say that time is precious. However, later start times could be beneficial for athletes as well. As a swimmer doing double practices three times a week and having morning practice start at five o'clock in the morning, with the later start times, instead of having practice at five, practice could be moved to six, six-thirty, or even seven o'clock. If teenagers are already staying up late, there is also no harm in them training for a sport

or meeting for a club later in the day as well. This allows students to keep doing their activities while still getting a good amount of sleep.

Another key argument is the lack of transportation to and from school. Around the United States, there are many options of public transportation that are offered like buses, subways, commuter trains, street cars, and carpooling. Throughout America, millions of people use some sort of public transportation each day, and by taking public transportation, it reduces the likelihood that a person will get into an accident (“Public Transportation Facts”). While it may be inconvenient and a struggle at times, it outweighs the negatives of lacking sleep. There are also other forms of transportation, for those that live close enough to home are able to walk to school and back, those who live a little farther can use public transportation like school buses and city buses and even carpool. If the schools are willing to make the changes for the later start times, they will also understand that people will need transportation, and they would be likely to accommodate students and families as needed. If that is not an option or the student has clubs and activities, they can carpool with neighbors or friends within their after school activity or club. While transportation is difficult, especially when one cannot drive themselves, it should not be a reason that keeps parents from making a change that could ultimately benefit students in the long run.

Clearly, moving back the starting times of middle and high schools will be beneficial, but with this change will come numerous challenges. Allowing the kids to get more sleep will permit the students to live healthier mental and physical lifestyles, as well as assisting them in the ability to excel in school through longer and higher quality sleep. Getting enough sleep also improves students’ ability to memorize new concepts learned in school and allow them to recall it later on in life. While there will be challenges with the pushing back of school times like

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missing out on family time, lack of transportation, less time for after school curriculars, and many more, unfortunately, there will not be a perfect solution to any of these problems. There are many factors that play a role in helping a child succeed in school and each family and student will take the pushing back of school start times differently. While there are many factors that play into this situation, not all of them can be fixed. By pushing back the start times of middle and high school, each adolescent will have the opportunity to gain sleep that will help improve their overall performances in school. The challenges and changes should not prevent the departments of education from helping the students in the long run.

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