Argumentative Essay – School Start Times
Current research suggests that because teenagers have different sleep patterns, they would benefit from beginning the school day at a later time. Some are in favor of this change, while others oppose it.

Read the following seven sources carefully, including the introductory information for each source. Then, in a well-organized essay that synthesizes at least three of the sources for support, argue for or against a shift in school to a later start time.

Make sure your argument is central; use the sources to illustrate and support your reasoning. Avoid merely summarizing the sources. Indicate clearly which sources you are drawing from.
Why School Should Start Later in the Morning by **EMILY RICHMOND**  **AUG 17, 2015**

For the first time, the federal Centers for Disease Control and Prevention is urging education policymakers to start middle- and high-school classes later in the morning. The idea is to improve the odds of adolescents getting sufficient sleep so they can thrive both physically and academically.

The CDC’s recommendations come a year after the American Academy of Pediatrics urged schools to adjust start times so more kids would get the recommended 8.5 to 9.5 hours of nightly rest. Both the CDC and the pediatricians’ group cited significant risks that come with lack of sleep, including higher rates of obesity and depression and motor-vehicle accidents among teens as well as an overall lower quality of life.

“Getting enough sleep is important for students’ health, safety, and academic performance,” Anne Wheaton, the lead author and epidemiologist in the CDC’s Division of Population Health, said in a statement. “Early school start times, however, are preventing many adolescents from getting the sleep they need.”

“Everybody learns better when they’re awake.”

In more than 40 states, at least 75 percent of public schools start earlier than 8:30 a.m., according to the CDC’s report. And while later start times won’t replace other important interventions—like parents making sure their children get enough rest—schools clearly play an important role in students’ daily schedules, the report concluded.

While the federal recommendation is making headlines, the data on the potential risks of chronically tired adolescents isn’t new information. Indeed, the research has been accumulating steadily for years, including some recent large-scale studies.

As the *Minneapolis Star-Tribune* reported in April, the University of Minnesota’s Center for Applied Research and Educational Improvement “finally put to rest the long-standing question of whether later start times correlate to increased academic performance for high-school students”:

Researchers analyzed data from more than 9,000 students at eight high schools in Minnesota, Colorado, and Wyoming and found that shifting the school day later in the morning resulted in a boost in attendance, test scores, and grades in math, English, science, and social studies. Schools also saw a decrease in tardiness, substance abuse, and symptoms of depression. Some even had a dramatic drop in teen car crashes.

Here’s what the research shows: Adolescents’ “internal clocks”—the circadian rhythms that control a human’s responses to stimuli and determine sleep patterns—operate differently than those of other age groups. It’s typically more difficult for adolescents to fall asleep earlier in the evening than it is for other age demographics. And while teenagers are going to bed later, their school start times are often becoming earlier as they advance through middle and high school.

In a landmark study in 1998 of adolescent sleeping habits, the Brown University researcher Mary Carskadon followed 10th-graders who were making the switch to a 7:20 a.m. start time, about an hour earlier than their schedule as ninth-graders. Despite the new schedule, the students went to bed at about the same time as they did the year before: 10:40 p.m. on average.

The students bordered on “pathologically sleepy.”
Carskadon’s team found that students showed up for morning classes seriously sleep-deprived and that the 7:20 a.m. start time required them to be awake during hours that ran contrary to their internal clocks. Fewer than half of the 10th-graders averaged even seven hours of sleep each night, which is already below the recommended amount. Indeed, Carskadon’s team concluded the students bordered on “pathologically sleepy.”

So, if the science is so strong, what’s getting in the way of changing the policy?

Carskadon, a professor of psychiatry and human behavior, notes that passionate arguments abound on both sides of the debate—just about all of which she’s heard over the years. In some districts, the start times are largely dictated by local transportation companies, with school boards and superintendents contending they lack the funds or authority to change things. Meanwhile, parents are often reluctant to have teens start later, whether because they rely on having older children at home in the afternoons to take care of younger siblings or because they’re concerned that it will interfere with extracurricular opportunities. Indeed, there’s always a vocal chorus warning that later start times will hurt high-school sports.

But none of those worries override the reality that, as Carskadon put it, “everybody learns better when they’re awake.”

Implementing later start times can be feasible without causing major disruptions, as many school districts have demonstrated, Carskadon said. But it requires that all stakeholders commit to what’s often a time-consuming process of finding creative solutions, which, she added, isn’t always easy.

The medical writer and mother of three Terra Ziporyn Snider, who’s emerged as a national advocate for later start times, also cited widespread challenges hindering schools from making the switch. Getting school systems to change takes more than just presenting scientific evidence, said Snider, the co-founder and executive director of the nonprofit advocacy group Start School Later. The organization deploys volunteers to communities that are considering later school start times to bolster grassroots efforts.

“Social norms are at the root of this problem—most people don’t take [adolescent sleep deprivation] seriously and don’t see it as a public-health issue,” Snider said. “That kind of thinking has to change.”

“The real obstacles are failure of imagination.”

One of the problems facing advocates of later school start times is that the people sympathetic to their cause seldom have the authority to reset the academic clock, Snider said. Parents typically only care about the issue when it affects their own families’ schedules, she said. That means roughly every four years the key players are replaced, and the grassroots efforts have to start from scratch.

“You start talking about changing start times, and people immediately jump to [all kinds of conclusions]. Teens will miss out on sports. Little kids will go to school in the dark and get run over by a car. What will happen to my child care?” Snider said. “A lot of these fears and speculations turn out to be red herrings. The real obstacles are failure of imagination.”

Snider is hopeful that the policy pressures are reaching a tipping point, though, with the help of major voices like the CDC weighing in.

“It’s becoming increasingly embarrassing to say, ‘If we start school later, what happens to my kid’s three-hour soccer practice?’” Snider said. “We have to convince school systems this has to happen for the health of kids. It’s not a negotiable school budget item—it’s an absolute requirement.”
Adolescents today face a widespread chronic health problem: sleep deprivation. Although society often views sleep as a luxury that ambitious or active people cannot afford, research shows that getting enough sleep is a biological necessity, as important to good health as eating well or exercising. Teens are among those least likely to get enough sleep; while they need on average 9 1/4 hours of sleep per night for optimal performance, health and brain development, teens average fewer than 7 hours per school night by the end of high school, and most report feeling tired during the day (Wolfson & Carskadon, 1998). The roots of the problem include poor teen sleep habits that do not allow for enough hours of quality sleep; hectic schedules with afterschool activities and jobs, homework hours and family obligations; and a clash between societal demands, such as early school start times, and biological changes that put most teens on a later sleep-wake clock. As a result, when it is time to wake up for school, the adolescent’s body says it is still the middle of the night, and he or she has had too little sleep to feel rested and alert.

The consequences of sleep deprivation during the teenage years are particularly serious. Teens spend a great portion of each day in school; however, they are unable to maximize the learning opportunities afforded by the education system, since sleep deprivation impairs their ability to be alert, pay attention, solve problems, cope with stress and retain information. Young people who do not get enough sleep night after night carry a significant risk for fall asleep automobile crashes; emotional and behavioral problems such as irritability, depression, poor impulse control and violence; health complaints; tobacco and alcohol use; impaired cognitive function and decision-making; and lower overall performance in everything from academics to athletics.

The Biology of Adolescent Sleep

Research shows that adolescents require at least as much sleep as they did as children, generally 8 1/2 to 9 1/4 hours each night (Carskadon et al., 1980). Key changes in sleep patterns and needs during puberty can contribute to excessive sleepiness in adolescents, which can impair daytime functioning. First, daytime sleepiness can increase during adolescence, even when teens’ schedules allow for optimal amounts of sleep (Carskadon, Vieri, & Acebo, 1993). Second, most adolescents undergo a sleep phase delay, which means a tendency toward later times for both falling asleep and waking up. Research shows the typical adolescent’s natural time to fall asleep may be 11 pm or later; because of this change in their internal clocks, teens may feel wide awake at bedtime, even when they are exhausted (Wolfson & Carskadon, 1998). This leads to sleep deprivation in many teens who must wake up early for school, and thus do not get the 8 1/2 - 9 1/4 hours of sleep that they need. It also causes irregular sleep patterns that can hurt the quality of sleep, since the weekend sleep schedule often ends up being much different from the weekday schedule as teens try to catch up on lost sleep (Dahl & Carskadon, 1995).

Adolescents in Study Show Changing Sleep Patterns

Since the 1970s, there has been a growing awareness of the changes in sleep patterns as children transition to adolescence. In a study at a summer sleep camp at Stanford during the 1970s, boys and girls who enrolled at 10-12 years of age were monitored every year for 5-6 years. While researchers had thought older children would need less sleep during the 10 hour nocturnal window they were given, from 10 pm to 8 am, they found that regardless of age, the children all slept about 9 1/4 of the 10 hours. As they progressed through adolescence, participants continued to get the same amount of sleep, but they no longer woke spontaneously before the end of the sleep window at 8 am (Carskadon et al., 1979). In addition, when the Multiple Sleep Latency Test (MSLT)—given at designated periods throughout the day to determine the speed of falling asleep, to measure sleepiness—was given to the adolescents, they showed more alertness at 8 pm than earlier in the day, and even greater alertness at 10 pm. Also, at midpuberty, adolescents became sleepier in the middle of the day.
According to the tests, more mature adolescents showed signs of reduced alertness during the day even though they slept an equivalent amount at night (Carskadon et al., 1980).

**Changes in Melatonin**

Another experiment, conducted by Dr. Mary A. Carskadon of Brown University, found that more mature adolescents had later circadian rhythm timing, based on melatonin secretions in saliva samples. This finding shows that melatonin secretion occurs at a later time in adolescents as they mature; thus, it is difficult for them to go to sleep earlier at night. The melatonin secretion also turns off later in the morning, which makes it harder to wake up early (Carskadon et al., 1998).

Another important finding from many studies is that the circadian timing system can be reset if light exposure is carefully controlled (Carskadon et al., 1997). In studies where adolescents are paid to keep a specific sleep schedule and wear eyeshades to exclude light during evening hours, measurements of melatonin secretion show that the rhythm had moved significantly toward a designated time. This means that with time, effort, and money, researchers can get adolescents to reset their clocks. This approach, however, is not necessarily realistic for teens who have full and busy lives. Nevertheless, the interaction of light exposure and sleep timing is important to keep in mind.

**A Widespread and High-Impact Part of Teens' Lives**

Findings of the tendency for adolescent sleep patterns to be delayed have been reported not only in North America, but also in South America, Asia, Australia and Europe (Andrade & Menna Barreto, 2002; Carskadon & Acebo, 1997; Ishihara, Honma & Miyake, 1990; Bearpark & Michie, 1987; Strauch & Meier, 1988; LeBourgeois et al., 2005; Thorleifsdottir et al., 2002). The diversity of such research supports the view that intrinsic developmental changes play a role in delayed sleep patterns in adolescents. This biological shift sets the stage for other social and environmental conditions that make it easier for these adolescents to stay awake at night and wake up sleepdeprived. The effects of changing sleep patterns are compounded by the demands older students face in academics, extracurricular activities, social opportunities, after-school jobs, and other obligations.

"Sleep isn’t a priority for teenagers, and it typically isn't made one by parents or schools."

--Jodi Mindell, PhD, Director of Graduate Program in Psychology, St. Joseph’s University and Children’s Hospital of Philadelphia

**The School Start Time Issue**

Adolescent sleep deprivation is largely driven by a conflict between teens’ internal biological clocks and the schedules and demands of society. Therefore, it makes sense to look at school start times, which set the rhythm of the day for students, parents, teachers and members of the community at large.

"Given that the primary focus of education is to maximize human potential, then a new task before us is to ensure that the conditions in which learning takes place address the very biology of our learners."

Mary A. Carskadon, PhD, Director of E.P. Bradley Hospital Research Laboratory and professor in Department of Psychiatry and Human Behavior at Brown University School of Medicine

**Research on School Start Times and Biology**
In a project spearheaded by Dr. Mary A. Carskadon and colleagues, researchers investigated what would happen to sleep and circadian rhythms in a group of young people for whom the transition from junior high to senior high required a change in school starting time from 8:25 am to 7:20 am (Carskadon et al., 1998).

The 25 students completed the study at two time points, in the spring of 9th grade and autumn of 10th grade. The students kept their usual schedules, wore small activity monitors on their wrists, and kept diaries of activities and sleep schedules for two consecutive weeks. At the end, participants came to Carskadon’s sleep lab for assessment of the onset phase of melatonin secretion, an overnight sleep study, and daytime testing with MSLT. The in-lab sleep schedule was fixed to each student’s average school night schedule, based on data from the wrist monitors.

Carskadon and colleagues found that in the 10th grade:

- On a typical school morning, the students woke up earlier for high school, but only 25 minutes earlier instead of the 65 minutes reflected in the start time change.
- Sleep onset times did not change, and averaged about 10:40 pm in both 9th and 10th grade.
- The average amount of sleep on school nights fell from 7 hours 9 minutes to 6 hours 50 minutes, which is significant because the students were already accumulating a sleep deficit.
- Nearly one-half of the 10th graders showed a reversed sleep pattern on the morning MSLT. This pattern is similar to the sleep disorder narcolepsy, moving immediately into REM sleep before non-REM sleep. The 12 students who showed this pattern did not have narcolepsy, but they did have a mismatch between their school day waking times and their circadian rhythms. Indeed, at 8:30 in the morning, they fell asleep within three minutes.
- None of the students made an optimal adjustment to the new schedule; none was sleeping even 8 1/4 hours on school nights.

"Even without the pressure of biological changes, if we combine an early school starting time--say 7:30 am, which, with a modest commute, makes 6:15 am a viable rising time--with our knowledge that optimal sleep need is 9 1/4 hours, we are asking that 16-year olds go to bed at 9 pm. Rare is a teenager that will keep such a schedule. School work, sports practices, clubs, volunteer work, and paid employment take precedence. When biological changes are factored in, the ability even to have merely 'adequate' sleep is lost," Carskadon explains.

School Start Time Initiatives and Outcomes

MINNESOTA (1996)

Early results from schools that have changed their start times are encouraging. For example, successful high school start time changes were made in Edina and Minneapolis, Minnesota after the Minnesota Medical Association issued a 1993 resolution, Sleep Deprivation in Adolescents, based on the research that puberty resets teens’ internal biological clocks. The schedule was changed from:

A 7:15 am-1:45 pm day to an 8:40 am-3:20 pm day in Minneapolis

A 7:25 am-2:10 pm day to an 8:30 am-3:10 pm day in Edina

RESULTS

The Center for Applied Research and Educational Improvement (CAREI) at the University of Minnesota conducted a study on the impact of changing school start times on academic performance, behavior and safety in urban and suburban schools (Wahlstrom, 2002). Results from three years of data from both Edina and Minneapolis showed:
• Improved attendance
• Increase in continuous enrollment
• Less tardiness
• Students making fewer trips to the school nurse

In suburban districts, students reported:

• Gaining an average of about one hour of sleep per night, since their bed times stayed the same even after the start time change.
• Eating breakfast more frequently
• Being able to complete more of their homework during school hours, because they were more alert and efficient during the day.

Grades showed a slight improvement, although the change was not statistically significant. Researchers noted that it was difficult to assess changes in grades due to differences in school schedules, course names, grading policies, student transience, and the subjective nature of grading by teachers.

Suburban teachers and principals reported:

• Students seemed more alert in class.
• Improvements in student behavior, with a calmer atmosphere in the hallways and cafeteria.
• Fewer disciplinary referrals to the principal.

Suburban counselors reported:

• Fewer students seeking help for stress relief due to academic pressures.
• Fewer students coming to them with peer relationship problems and difficulties with parents.

Urban teachers, on the other hand, did not see any general improvement in student behavior.

In suburban schools, after-school athletic and other activity practices and rehearsals were shortened, with students arriving home later; however, actual participation in extracurricular activities and after-school jobs remained at the same level after the start time change. Urban schools, on the other hand, reported fewer students being involved in extracurricular activities, as well as conflicts with after-school jobs and compromised earnings. While some coaches whose sports involved long practices and traveling long distances for events disliked the change, most coaches and activity leaders supported the change because they felt students were less tired and more mentally alert at the end of the day.

Most suburban parents supported the change; urban parents had mixed reactions because of work schedules and transportation limitations. Both groups said their children were easier to live with, with fewer confrontations and more actual conversations and connecting time in the morning.

**MASSACHUSETTS (2004)**

Middle school students, many of whom are entering puberty and experiencing changes to their sleep patterns, have also benefited from later start times (Wolfson et al., 2007). In a study comparing 7th and 8th graders at two different schools—one starting at 7:15 am, the other starting at 8:37 am—the students who started school earlier reported inadequate sleep and struggling to stay awake in school more often than the students who started later. While there was no difference in weekend sleep patterns between the students at the two schools, the students who started school later reported sleeping an hour longer on school nights than those with early start times. This difference was due to later rise times; there was no difference in bed times. Academic benefits were also apparent, as students whose school started earlier were tardy four times more often, and 8th grade
transcripts showed significantly worse grades. These results occurred in the fall following the start time change, and these findings were replicated in the spring. Although students at both schools were not getting enough sleep, the negative effects of sleep deprivation were far more pronounced in the earlier starting school.

**KENTUCKY (1998): PREVENTING DROWSY DRIVING CRASHES**

Other school districts have focused on improved safety as a successful outcome of later start times. In fall 1998, a school district in Fayette County, Kentucky moved its start time from 7:30 am to 8:30 am, and students averaged up to 50 minutes more sleep per night. Comparisons in the collision rates of Fayette County teens revealed that the crash rate for 16-18 year olds dropped following the change, even while crash rates for 17-18 year olds actually rose in the rest of the state.

This finding is especially important considering data from the National Highway Traffic Safety Administration, which estimates that up to 100,000 police-reported crashes annually are related to drowsiness, and that among drivers age 15-24, more than 1,500 fatalities each year are associated with such crashes. In a North Carolina state study, 55% of fall asleep crashes involved drivers 25 years old or younger.

Thus, unstable wakefulness and lapses in attention are not just detrimental to performance, like students missing an important piece of information from a teacher—they can also be dangerous, such as a sleepy driver missing a stop sign and causing a fatal accident.

**Collaborating in the Best Interests of Students**

Many schools across the country are working to synchronize school clocks with students’ body clocks, so that teens are in school during their most alert hours and can achieve their full academic potential. Working to bring school start times in line with teens’ sleep needs presents a number of challenges and opportunities. Individual communities can vary greatly in their priorities and values; factors to consider include bell schedules of elementary and middle schools; transportation; athletic programs and extracurricular activities; use of schools for community activities; student employment; and safety issues for younger students who either may be waiting for a bus in the dark or need supervision of older siblings after school. There are also safety issues for older students, since violent activities, sex, recreational use of alcohol or drugs, and criminal and other risky behaviors frequently occur between 2 and 4 pm, according to data from the Federal Bureau of Investigation. It is also important that any consideration of a school start time change takes into account the impact on families, including transportation, dependence on teens’ income, chores and other family responsibilities, and teens’ mood and behavior at home.

Changing a school’s start time involves a wide array of people—parents, teachers, students, principals, school boards, superintendents, counselors and healthcare professionals, among others. The impact is felt at a community level, but it is also felt individually, and the individuals who are affected need to have their views heard and acknowledged so that discussions can move forward in search of common ground.

Obviously, moving bell times is one major step in a larger picture of ensuring that adolescents get the sleep they need. It will not put more hours in the day, so it is important for teens to know about their sleep needs and have the skills to make a conscious effort to get a good night’s sleep. Many teens assume they are expected to function with a lack of sleep, but sleep is not optional; it is biologically necessary. If sleep is incorporated into educational efforts, teens will be armed with information that will enable them to use a later school start time to their advantage.

Source:

http://www.sleepfoundation.org/article/hot-topics/backgrounder-later-school-start-times
"Making teens start school in the morning is ‘cruel,’ brain doctor claims." So declared a British newspaper headline in 2007 after a talk I gave at an academic conference. One disbelieving reader responded: "This man sounds brain-dead."

That was a typical reaction to work I was reporting at the time on teenage sleep patterns and their effect on performance at school. Six years on, there is growing acceptance that the structure of the academic day needs to take account of adolescent sleep patterns. The latest school to adopt a later start time is the UCL Academy in London; others are considering following suit.

So what are the facts about teenage slumber, and how should society adjust to these needs?

The biology of human sleep timing, like that of other mammals, changes as we age. This has been shown in many studies. As puberty begins, bedtimes and waking times get later. This trend continues until 19.5 years in women and 21 in men. Then it reverses. At 55 we wake at about the time we woke prior to puberty. On average this is two hours earlier than adolescents. This means that for a teenager, a 7 a.m. alarm call is the equivalent of a 5 a.m. start for people in their 50s.

Precisely why this is so is unclear, but the shifts correlate with hormonal changes at puberty and the decline in those hormones as we age.

However, biology is only part of the problem. Additional factors include a more relaxed attitude to bedtimes by parents, a general disregard for the importance of sleep, and access to TVs, DVDs, PCs, gaming devices, cellphones, and so on, all of which promote alertness and eat into time available for sleep.

The amount of sleep teenagers get varies between countries, geographic region, and social class, but all studies show they are going to bed later and not getting as much sleep as they need because of early school starts.

Mary Carskadon at Brown University, who is a pioneer in the area of adolescent sleep, has shown that teenagers need about nine hours a night to maintain full alertness and academic performance. My own recent observations at a U.K. school in Liverpool suggested many were getting just five hours on a school night. Unsurprisingly, teachers reported students dozing in class.

Evidence that sleep is important is overwhelming. Elegant research has demonstrated its critical role in memory consolidation and our ability to generate innovative solutions to complex problems. Sleep disruption increases the level of the stress hormone cortisol. Impulsive behaviors, lack of empathy, sense of humor, and mood are similarly affected.

All in all, a tired adolescent is a grumpy, moody, insensitive, angry, and stressed one. Perhaps less obviously, sleep loss is associated with metabolic changes. Research has shown that blood-glucose regulation was greatly impaired in young men who slept only four hours on six consecutive nights, with their insulin levels comparable to the early stages of diabetes.

Similar studies have shown higher levels of the hormone ghrelin, which promotes hunger, and lower levels of leptin, which creates a sense of feeling full. The suggestion is that long-term sleep deprivation might be an important factor in predisposing people to conditions such as diabetes, obesity, and hypertension.
Adolescents are increasingly using stimulants to compensate for sleep loss, and caffeinated and/or sugary drinks are the usual choice. The half-life of caffeine is five to nine hours. So a caffeinated drink late in the day delays sleep at night. Tiredness also increases the likelihood of taking up smoking.

Collectively, a day of caffeine and nicotine consumption, the biological tendency for delayed sleep, and the increased alertness promoted by computer or cellphone use generates what Carskadon calls a perfect storm for delayed sleep in teenagers.

In the United States, the observation that teenagers have biologically delayed sleep patterns compared with adults prompted several schools to put back the start of the school day. An analysis of the impact by Kyla Wahlstrom at the University of Minnesota found that academic performance was enhanced, as was attendance. Sleeping in class declined, as did self-reported depression.

In the U.K., Monkseaton High School near Newcastle instituted a 10 a.m. start in 2009 and saw an uptick in academic performance.

However, a later start by itself is not enough. Society in general and teenagers in particular must start to take sleep seriously.

Sleep is not a luxury or an indulgence but a fundamental biological need, enhancing creativity, productivity, mood, and the ability to interact with others.

If you are dependent upon an alarm clock or parent to get you out of bed; if you take a long time to wake up; if you feel sleepy and irritable during the day; if your behavior is overly impulsive, it means you are probably not getting enough sleep. Take control. Ensure the bedroom is a place that promotes sleep—dark and not too warm—don't text, use a computer, or watch TV for at least half an hour before trying to sleep, and avoid bright lights. Try not to nap during the day and seek out natural light in the morning to adjust the body clock and sleep patterns to an earlier time. Avoid caffeinated drinks after lunch.

It is my strongly held view, based upon the evidence, that the efforts of dedicated teachers and the money spent on school facilities will have a greater impact, and education will be more rewarding when, collectively, teenagers, parents, teachers, and school governors start to take sleep seriously. In the universal language of school reports: We must do better.

This article originally appeared in New Scientist.

Source: http://www.slate.com/articles/health_and_science/new_scientist/2013/04/teenage_sleep_patterns_why_school_should_start_later.single.html
Do Later School Start Times Really Help High School Students? Published on February 27, 2011 by John Cline, Ph.D. in Sleepless in America

It is now well established that teenagers have a tendency toward later bedtimes and rise times. Most high schools in the US have early morning start times. For many high school students this results in a conflict between their sleep needs and the requirements of their school schedules. So, do later school times really help high school students? Based on accumulating evidence, the answer is unequivocally yes. Increasing numbers of studies conducted in various parts of the country show that a change in the start time of the school day can make a significant positive change in the lives of students.

Many high school students live in what Dr. Mary Carskadon calls a continuous state of jet lag. Dr. Carskadon has been involved in some of the most important research on the sleep need of teens. This research indicates that adolescents need about 8.5 to 9.5 hours of sleep a night. If you know any teenagers today, you realize that very few are getting anywhere near this amount. Starting school later could help students get more sleep. Starting classes later, closer to when their biological clocks are most ready for learning, could make a real difference in how much knowledge a teen acquires at school.

Several studies have been conducted over the past 15 years that indicate how a later start time for school can affect students. Most have been carried out in public schools although some research is happening at private schools as well.

Changes made in school start times in several locations in Minnesota in the 1990's showed early positive results. Keeping the length of the school day the same but changing the start of the school day from 7:15 AM to 8:40 AM or from 7:25 AM to 8:30 AM resulted in improved functioning for both urban and suburban students. Urban students had better attendance, decreased tardiness and fewer visits to the school nurse. Suburban students tended to keep their regular bed times and so added about an hour of sleep per night and were able to get more homework done during the day because of increased alertness and efficiency. In Massachusetts a change in middle-school start times for younger teens also proved beneficial. Students at a school with a 8:37 AM start time slept about one hour more, had less difficulty staying awake in school, and had better grades than students at a school with a 7:15 AM start time. A recent study at a private Rhode Island high school showed that shifting the start time from 8:00 AM to 8:30 AM increased the number of students getting 8 hours of sleep a night from 16% to 55%, improved attendance, and resulted in fewer visits by students to the health center. Mood improvements were also noted among the students. Perhaps most dramatic of all were results from a school district in Fayette County, Kentucky. In the 1990's, after a change in start time from 7:30 AM to 8:30 AM a decrease was found in car accident rates for 16 - 18 year olds in the Fayette County school district, while rates actually increased in the rest of the state for 17 - 18 year olds. Given the danger posed to young people from car accidents this is a strong reason in itself to change school start times. A great source for information on students and sleep can be found at the National Sleep Foundation web site.

There are, of course, some potential negative effects associated with later start times and longer sleep periods. It can be disruptive to parents' work schedules, result in shortened times for after-school activities such as sports and clubs, cause students to get home later in the day, and may also impact hours available for after school jobs. These challenges may be more difficult to accommodate in some settings than others. For example, parents in suburban schools may have greater difficulty coping with the changes in transportation and work schedules than those in an urban setting. But on the whole, the benefits outweigh the costs of making this change. By simply adjusting school start times, far fewer students will be sleepless in America.


SOURCE E
Eight Major Obstacles to Delaying School Start Times

The following are eight major obstacles to changing school start times:

1. Transportation

Because most school districts have a delicately balanced bus transportation system designed to run as efficiently and inexpensively as possible, any change in the school schedule can have a severe impact. The specific circumstances in each district vary, but problems that arise can include cost, recruiting drivers, and/or redesigning the routes.

One solution that has worked to solve this problem is flipping start times, most commonly elementary with high school. This solution requires no extra buses or drivers, just a change in the order of pickups. This schedule also seems to be more appropriate to elementary school students’ sleep schedules, because young children tend to wake up earlier in the morning. This is a very dicey issue; however, in districts where the start time is quite early. If the young students have to go to school so early, they have to go to bed VERY early (because they need 10 - 11 hours of sleep). Parents may not get home from work until very near or after bedtime. The direct flip cannot work unless all start times are reasonable.

Another solution that may be implemented is a shift to public transportation for older students. In many cases, the public bus routes are similar to yellow bus routes, and can be used by students. Many districts have found they can actually save money by buying students bus passes and eliminating a large portion of their yellow bus fleet.

Some communities face another problem, which is that shifting start times will impact traffic congestion and commuting for both teachers and students. Teen drivers are at the highest risk for fall asleep auto crashes; however, and preliminary studies have shown that delaying their school start time has a significant effect in lowering the occurrence of such crashes.

2. After School Activities

High school athletics are very important to many students who have obvious concerns about the impact of a change in start times on their ability to participate. Any delay in the start of school will most likely result in a later release time, which may reduce time available for practice and matches (especially daylight hours). One result of later release times may be greater competition for field and gym space, which may result in the cancellation of some programs (JV and sports like swimming and golf, for example, which often require the use of facilities during off-peak hours). If school gets out later, some athletes might be required to leave class early in order to attend a match. In this case, students may have to choose between a game and a test, a choice no student should have to make.

Despite all these concerns, most districts that have changed their start time have experienced few problems with regard to athletics. Practice times are rescheduled, and in some cases lights are installed so practice can run a little later. Match times are changed so that students do not have to leave class early. Many districts have even seen increased participation in sports (Edina, MN) and improved performance by their teams (Wilton, CT; Nathan Hale, Seattle, WA). Research has shown that sleep deprivation has a severe negative impact on coordination and endurance, so it makes sense that better rested student athletes would perform better.

Also, while athletics are obviously very important to many students and their families, everyone must remember that a school’s first obligation is to provide its students with an environment conducive to learning.

The delay in release time for students also means that students with after-school jobs may be affected. This issue is important for certain students and their families who rely on the extra income to get by. Therefore, the
change may disproportionately affect low income families. On the other hand, studies have shown that employers indicate a change in start times has not affected their business or the number of hours their student employees can work. They indicate that extra help is not usually needed until school gets out anyway, so they can easily adjust to the new schedule.

Other researchers have found that students who are employed for more than 15 hours per week are negatively impacted academically, so working fewer hours may be better for students who don’t rely on the income for substantive needs, which includes the great majority of working teens.

Participation in other activities such as after-school tutorials, religious classes, community service, or clubs may also be jeopardized by a later release time. On the other hand, many students find that if they sleep more, they can finish their homework faster and have ample time to participate in extracurricular activities.

3. Other Students and Programs

As mentioned above, a change in schedule for high school students will usually result in a change for younger students. If elementary students have the earliest start times, they may be waiting for the bus in the dark early mornings, or waiting at home alone after school. Research is lacking on the effect of school start times on younger students, so it is hard to justify their earlier start.

Many communities have been able to find workable solutions for younger children. Local community organizations may be able to provide childcare. Parents can organize a rotating schedule for a “bus stop supervisor” each day for each neighborhood.

A change in transportation can be difficult for certain student populations and programs, such as special education students and career centers. Careful planning and consideration can usually resolve such difficulties.

4. Reduced Time to Access Public Resources

If school ends later, students will have less time to use the library, among many other community resources. However, students do seem to be able to work more efficiently when they are less sleep deprived, and could therefore make better use of the time they do have.

5. Teachers

Some worry that a later start time and release time will leave teachers less time with their families. But in practice, teachers rarely find this to be true. Many are able to spend more time with young students in the morning. Some elect to arrive at school at the same time and complete planning before school, meaning their schedules are unchanged. Many teachers also report having extra personal time to exercise.

Teachers can also take advantage of the extra time to sleep. This will enable them to be more alert and energetic in the classroom and more effectively handle problems and discipline procedures. Teachers also appreciate being able to incorporate the day’s news into their lessons.

Teachers who coach have seen very little impact on their role as coaches. The changes implemented to help students adjust to the new schedule also apply to the teachers who work as coaches.

6. Stress for Families

Many people are resistant to change and emotions can run high when someone is forced to alter his/her routine. Most families have a highly coordinated schedule worked out to balance the many activities of each of its
members. The thought of reworking this delicate balance can be intimidating. Many parents have a hard time looking beyond this personal disadvantage to the benefits that will result.

In reality, a community can easily adjust to change, especially if given ample time and resources to prepare. A detailed outline of the expected changes is essential. Hotlines, message boards and meetings to discuss problems are helpful resources. It is also important to involve stakeholders in the process from the beginning, so they can voice their concerns.

7. Uneducated Community

One of the biggest challenges in any campaign for change is to educate the community and convince them of the merits of your proposal. It is extremely important to spread the word to as many people as possible about sleep and school start times. The change will affect the entire community, from students and parents to businesses, libraries, police, youth sports clubs, bus drivers and many others. Create a standard presentation, and offer to give it to as many groups as possible. People must understand the biological changes that occur in teens that make them unable to fall asleep early. This means that the issue cannot just be a personal matter of putting the kids to bed earlier, or a sign that teens are lazy, obstinate or defiant, but a serious issue that must be addressed by the schools.

Your education efforts should also inform adults of their probable sleep deprivation and its effects. Sleep is important for everyone, not just the students.

8. Resistance of students

Students may not be clamoring for this change. Teens, much like the adults in their lives, will be resistant to change and will worry about the impact on their after-school activities.

Therefore, it is equally important to educate the students themselves about the benefits of a later start time. This material can be incorporated in many different subjects at all age levels. Science class is the most obvious, but sleep can also be discussed in psychology, health, math (data on sleep can be used to learn about different mathematical operations), social studies, geography, and English classes (students can write persuasive essays or research papers on this issue).

Source: [http://www.sleepfoundation.org/article/hot-topics/eight-major-obstacles-delaying-school-start-times](http://www.sleepfoundation.org/article/hot-topics/eight-major-obstacles-delaying-school-start-times)
High schools with late start times help teens but bus schedules and after-school can conflict

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NEW YORK – Quinn Cooney of Mill Creek, Wash., is excited about starting high school in September, but she's not looking forward to waking up at 5:30 a.m. to arrive on time. Classes for ninth-graders start at 7:30 a.m., 45 minutes earlier than they did in middle school.

"I think it is going to be harder to get up," said Quinn, 13. "I do think it is better to start early so that we can be finished early and do things after school, but I am worried that if I have a boring class for my first period that it will be hard to stay awake." Decades of sleep research have confirmed what parents know: It's hard for teenagers to wake up early. Some high schools have adopted late starts around 8:30 a.m. to improve attendance and performance. But other districts say it's too complicated to shift schedules because of logistics involving buses and after-school activities.

About 40 percent of U.S. public high schools open before 8 a.m., according to the U.S. Department of Education's National Center for Education Statistics, with just 15 percent starting 8:30 a.m. or later. In districts where early starts are necessary because the same bus does multiple runs for high school, middle school and elementary students, teens often get the early shift.

That's the case in Anne Arundel County, Md., where public high schools start at 7:17 a.m. and buses start running at 5:50 a.m. Lisa Rodvien taught high school there, in Annapolis, and says attendance at her first-period classes was "as low as 50 percent or below." Among those who showed up, "I would definitely see three or four kids with their heads down. You walk over to them to wake them up and get them to sit up, and you see that they're exhausted."

Earlier this year, Anne Arundel school officials laid out options for delaying start times to anywhere from 7:32 a.m. to 9:45 a.m. along with potential complications, such as additional costs if buses are added, child care issues where late-day schedules might prevent teens from picking up younger siblings after school, and implications for teams if they end up playing in the dark. Bob Mosier, spokesman for Anne Arundel schools, said no decisions have been made.

But the focus on logistics is frustrating for Heather Macintosh, spokeswoman for a national organization called Start School Later that's headquartered in Annapolis. "What is the priority?" she said. "It should be education, health and safety. All the other stuff may not be perfect — you may have to have your violin lesson before school or install lights on your field (for sports) — but it will work itself out."

Megan Kuhfeld, a graduate student at the University of California-Los Angeles who's been studying late-start debates since she was an undergrad at Duke University in North Carolina, surveyed some 35 districts that switched to later starts and found most were glad they'd made the switch. Not only did students benefit, for the most part, but "the things people had feared — how transportation would be affected, how sports would be affected — became the new normal and people adjusted," she said.

But Kuhfeld knows firsthand the pros and cons of late-start high schools, having attended one in Chapel Hill, N.C. "I enjoyed waking up later than everyone in the area next to me where there were early start times," she said, but as a member of the tennis team, she had to miss sixth and seventh period classes to compete at other schools. In junior and senior year, that meant AP classes had to be made up. "It was hard to balance everything," she said. "I'd get home at 8 p.m. and hadn't had dinner yet."

Still, advocates say several studies show the benefits of late start schools outweigh the drawbacks. In 1996, high school start times in Edina, Minn., changed from 7:20 a.m. to 8:30 a.m. The change improved attendance, decreased tardiness and left kids more alert, better prepared and even less depressed and less likely to visit school nurses, according to studies led by Kyla Wahlstrom, director of the Center for Applied Research and
Educational Improvement at the University of Minnesota. By the end of the first year, 92 percent of Edina parents also said they preferred the later start, Wahlstrom said.

Following Edina's lead, Minneapolis, with an urban, low-income population that was very different from Edina's affluent suburban kids, also decided to delay public high school start times, from 7:15 a.m. to 8:40 a.m. A five-year study there showed the new schedule "statistically improved graduation rates because kids who had been sleeping through their first hour were not short on credits," Wahlstrom said. "When kids were short on credits, they would say, 'I'm going to drop out of school.'" Today Minneapolis high schools start between 7:56 a.m. and 8:30 a.m., but none have gone back to 7:15 a.m.

The National Sleep Foundation says Wahlstrom's study of Minnesota schools demonstrates that "changing to later start times is beneficial." Other studies published in the Journal of Clinical Sleep Medicine suggest late school starts may even reduce teen driving accidents, presumably because kids are less drowsy. A study from 2007-2008 found "significantly" higher teen crash rates in Virginia Beach, Va., than in a similar district in nearby Chesapeake where classes started 75 to 80 minutes later. A similar study in the late 1990s found crash rates for teen drivers dropped 16.5 percent in a Kentucky district after high school openings went from 8 a.m. to 9 a.m.

Despite studies documenting good results for late starts, other concerns often carry the day. When a late start was proposed in Columbia, Mo., in the late 1990s, people understood the sleep issues, but "there were lots of other pragmatic concerns," recalled Harris Cooper, a school board member at the time. "No. 1 was after-school activities, especially athletics and whether or not it meant that student athletes would end up having to leave school earlier and miss academic work."

And since buses there ran double routes, elementary schools would have had to take the early opening shift. "Parents of the younger kids complained that in winter, it meant their 6-year-old would have to stand out in the dark and cold an hour earlier," said Cooper, who now teaches at Duke, where Kuhfeld was one of his students. "You don't think about these things as a school board member until you have a mother come up and say, 'I don't want my 6-year-old standing out in the dark in December.'" Parents also worried that first-graders eating breakfast before boarding the bus at 7 would be hungry for lunch by 10.

Yet often, young children are natural larks — up with the sun — while adolescents become more owl-like as puberty progresses. Groundbreaking studies done in sleep labs in the 1980s first documented teens' natural late-to-bed, late-to-rise sleep cycles, "and every study that's been done since finds the same thing," said Amy Wolfson, a sleep expert and psychology professor at College of the Holy Cross in Worcester, Mass.

Wahlstrom says research shows teens don't get sleepy until around 10:45 p.m., when their bodies begin to secrete melatonin, but once they fall asleep, they stay asleep for about nine hours and 15 minutes, waking at around 8 a.m. "It's a factor of human biology that studies have replicated in Brazil, Italy, Israel and Korea," Wahlstrom said. "All have found identical sleep-wake patterns in teenagers. It's a human phenomenon, not geared to any culture."

These inborn sleep cycles explain why students often slumped at their desks in Rodvien's 7:17 a.m. classes in Annapolis. "I don't think most people understand how big of an impact this has both on kids' behavior in class and also getting to class," she said. This fall, though, she won't have to deal with it. She's switching to a middle school, where "it's going to be drastically better. School starts at 8:45."

Studies show teens get sleepy later than adults and need more sleep. We should start the school day later...

Source: Paul Fell
Most U.S. middle and high schools start the school day too early

5 out of 6 U.S. middle and high schools start the school day before 8:30 AM

The American Academy of Pediatrics has recommended that middle and high schools should aim to start no earlier than 8:30 AM to enable students to get adequate sleep.

Teens need at least 8 hours of sleep per night. Younger students need at least 9 hours.

2 out of 3 U.S. high school students sleep less than 8 hours on school nights

Adolescents who do not get enough sleep are more likely to

- be overweight
- not get enough physical activity
- suffer from depressive symptoms
- engage in unhealthy risk behaviors such as drinking alcohol, smoking tobacco, and using illicit drugs
- perform poorly in school

For more information: www.cdc.gov

Source: Time

http://time.com/3987375/sleep-school/