New York State School Boards Association

A Governmental Relations Department Support Document

Delayed School Start Times

Numerous studies have shown the importance of sleep among adolescents and that early school starting times can contribute to sleep deprivation. By nature, teenagers typically fall asleep after 11:00 p.m., which delays the release of melatonin in their bodies until much later in their sleep cycle. As a result, they tend to have difficulty waking up early and focusing throughout the school day - especially in early morning classes. Teens need about 9 hours of sleep on average, but most only get about 7 hours a night. This impacts their learning and alertness during the day, affects their attendance, and contributes directly to the grades they receive. There has been increased interest in proposals to move middle and high school start times later, if school districts can make the necessary schedule adjustments.

Support for Delayed Start Times

Discussions about creating age-appropriate school start times have become popular nationwide, while schools have seen increasing support for such changes. Insufficient sleep is known to be associated with increased risk for obesity, diabetes, injuries, poor mental health, attention and behavior problems, and poor academic performance among students. Despite some logistical challenges, the benefits of starting school later can outweigh many negative impacts, as students can have better health outcomes and improved academic performance. Currently, several school districts across the country have introduced delayed start times, while hundreds more are looking into their feasibility.

Sleep deprived teens often struggle to learn and focus. Not only are they less attentive due to impaired daytime functioning, but their overall school performance can suffer. With modest increases in the amount of sleep students receive each night, grades typically improve while tardiness and absenteeism decrease. Many middle and high schools across the country that previously started their instructional days before 8:00 a.m. have seen improvements in student academic performance and productivity after delaying start times.

Multiple factors determine why teens fall asleep later in the night, but biology plays the most significant role. A study conducted by Brown University found that melatonin secretions, which control the body's circadian rhythm, occur later at night in more mature adolescents, making it more difficult for teens to fall asleep early. Melatonin secretions also stop later in the morning, making it more difficult to wake up early. Often confused with mere laziness, science tells us that this age group has a natural biological clock that struggles to work well in early mornings.

Research on this topic is not restricted to North America. South America, Europe, Asia, and Australia have all produced studies pointing to delayed sleep patterns of adolescents. This further supports the biological evidence that adolescents face a body clock that keeps them awake later in

KEY TAKEAWAYS

- **Teens need** about 9 hours of sleep on average. Most only get about 7 hours a night.
- **Quality sleep** is instrumental for cognitive growth and development.
- **Insufficient sleep** increases the risk for obesity, diabetes, injuries, poor mental health, attention and behavior problems, and poor academic performance among students.
- **Biology** plays a significant role in teenage sleep patterns.

the night. Together with responsibilities such as academics, extracurricular activities, and social opportunities, early school start times means teens are prone to sleep deprivation.

It is important to highlight the significant impact sleep has on the body. Particularly among youth throughout puberty, quality sleep is instrumental for cognitive growth and development. It decreases the risk of depression and memory impairment, strengthens the immune system, and promotes daily physical activity. As a result, school performance improves with increased alertness and attentiveness, fatigue decreases, and the risk of engaging in risky behaviors decreases. Overall, a change in school start times can contribute greatly to improving school performance and health outcomes among students.

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Challenges & Considerations

Though there are many benefits that come with starting middle and high schools later in the morning, changing school schedules can be a logistical challenge for everyone in the community.

Transportation is one of the more difficult challenges, as bus schedules are interdependent on a number of other variables. Each district may have its own unique transportation system, but costs, recruiting drivers, and/or redesigning routes can become burdensome.

Local traffic must also be taken into account as teens driving to school at a later time may worsen already existing traffic in certain areas. A study in partnership with the local municipality may be needed in order to determine whether traffic will be negatively impacted. There is evidence that teenage car accidents decrease with later start times, as teens are less drowsy and more alert. Though traffic could worsen depending on the location of the district, the decrease in the risk of accidents is something districts should consider.

After-school activities present obvious challenges, as later start times result in later release times. This may interfere with sports and student work schedules. Sports scheduling may result in students needing to leave classes early for athletic events, while shortening the time available to practice, especially during daylight hours. Later release times can result in competition for the use of athletic facilities, particularly among smaller schools with fewer resources.

Delaying release times can also impact students with after-school jobs. It may require that students work fewer hours or work later into the night. This disproportionately affects low-income students, as some families may rely on the income earned by teenage students. However, studies have shown that students working more than 15 hours a week are negatively affected academically, so working fewer hours as a result of a later release time may be beneficial for teenage students.

Other after-school activities in the community may be affected as well. Tutoring, volunteering/community service, and clubs may face difficulties with new schedules, especially if students from multiple districts and schools participate in the same programs yet have different release times. There are valid concerns regarding balancing homework and extracurricular activities, but proponents argue that more sleep can allow students to finish homework faster, leaving ample time to participate in extracurricular activities.

Other programs may be indirectly affected as a result of later school start times. Changes in high school schedules usually affect elementary schedules, which may exacerbate childcare difficulties. Despite the ample research on later start times for adolescents, there is a lack of research justifying earlier start times for elementary students. Younger children may need to wait for the bus early in the mornings in the dark and/or wait at home unsupervised after school due to parents' work schedules. Making elementary schools start earlier could increase the demand for childcare services. Challenges also arise when factoring in care for students with disabilities and the timing of when care is available.

Later release times can also reduce access to public resources. This includes public libraries and wellness centers. Proponents argue that being less sleep deprived could result in better use of students' times, therefore not affecting their use of public resources. Nonetheless, this tightened time frame could restrict students' use of public resources.

Teachers must also be considered when changing start times. Teacher contracts may specify certain work hours, possibly preventing school districts from being able to adjust their schedules. While this may be a reality in some districts, later start times may also prove beneficial to teachers. They can benefit from having more time with their families in the mornings, sleep later themselves, or use the time before school to finish lesson plans. Start time changes may also impact staff who coach sports and lead other after-school activities.

Families may have difficulties adjusting their daily routines. Most have arranged schedules around school and other activities, so sudden changes might be a challenge for some. Parents may push back against the changes for this reason, as the personal disadvantages are seen as greater than the overall benefits that would result for students.

Community reaction may also be a concern. Current school start times have often existed for years, so it may be a challenge convincing people of the merits of starting school later. People may not be familiar with the many potential academic and health benefits of more sleep for adolescents.

Not only are parents and families important voices, but a change like this may affect the entire community. Every new change brings an adjustment period and a new school schedule can quickly become the new normal. These challenges should be considered and weighed against the positive health outcomes that can impact students and their education.

Proposed solutions

Flipping school start times, most commonly elementary times with high school times, is a possible solution. This solution does not require any extra buses or drivers, but simply a change in the order of pickups. This could be beneficial for elementary students, as young children tend to wake up earlier in the morning and could manage going to school earlier. However, there may be pushback from elementary school parents who would need to put their young children to bed earlier at night and therefore spend less time with their children in the evening in order to wake up for an early start of the school day.

A shift from school buses to public transportation for older students may be a cost-effective and efficient way to mitigate transportation challenges. Purchasing student bus passes may ultimately result in savings. Each school district's municipality services may differ, so this option may not be available to all districts.

"Zero periods" are optional class sections offered by some schools before the regular school day begins. The rest of the school would start their first period at the end of zero period, allowing for a delayed start for most students in the school. This could potentially complicate bus schedules, as students living in the same neighborhood needing bus transportation may begin school at different times. This could also strain parents who drive their students to school, especially if they have children who start at two different times of the morning.

Legislation

Indiana, Maryland, New Jersey, and Pennsylvania have all established state task forces and committees to conduct studies on the effects of later start times on students.

California passed legislation mandating all but rural schools to start middle schools at 8:00 a.m. and all high schools at 8:30 a.m. The state of California will phase in the schedule changes over the course of three years to allow districts to develop plans to meet these mandates, although some districts were already in compliance with these times prior to any legislative activity.

New York State has seen bills introduced to establish task forces to assess the feasibility of all middle and high schools in New York starting at 8:30 am or later. If passed, these bills would direct the commissioner of education to establish a study on the issue of school start times and the effects they have on the health and wellbeing of adolescents, and produce a report of findings. However, no bills have made it to the floor for a vote.

Additional Resources:

Schools Start Too Early
https://www.cdc.gov/features/school-start-times/index.html

School Start Times for Middle School and High School Students – United States, 2011–12 School Year
https://www.cdc.gov/mmwr/preview/mmwrhtml/mm6430a1.htm

Later school start times for supporting the education, health, and well being of high school students
https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6483483/

Legislation
https://www.startschoollater.net/legislation.html

Sleepmore in Seattle: Later school start times are associated with more sleep and better performance in high school students
https://advances.sciencemag.org/content/4/12/eaau6200 '

Later School Start Time Is Associated with Improved Sleep and Daytime Functioning in Adolescents
https://journals.lww.com/jrnldbp/Abstract/2014/01000/Later_School_Start_Time_Is_Associated_with.2.aspx

Here's What Happens When School Starts Later
http://neatoday.org/2019/02/27/what-happens-when-schools-start-later/

School Start Search Sleep Foundation
https://www.sleepfoundation.org/?s=school+start&op=Search