Later Start Times at Shrewsbury High School

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OVERVIEW

Current start times at SHS may cause reductions to the attendance and in-class performance of students in first-period classes and should be delayed. This document will discuss the scientific research and potential community impact for this change.

Scientific Justification

Dopamine, associated with positive emotions is usually used to elevate the body's consciousness or to awaken. This chemical is usually released in the morning and has been linked with sunrise. In teenagers this chemical is released quite later compared to adults, usually around 8:00 AM again with the rising sun. Serotonin has a comparably opposite effect, allowing the body to relax and triggering the onset of the rapid eye movement (REM) or deep stage of sleep. This chemical is also released later, usually around 11pm as a result of hormonal shifts during puberty. An alteration to student sleep schedules may result in lasting hormonal imbalances that can contribute to increased drug usage or susceptibility to mental illness. This is primarily due to a need for a positive release that would normally be accomplished though dopamine dispensation in the morning. In addition, the lack of dopamine during the morning commute for teenagers can cause decreased situational awareness or an inability to practice defensive driving techniques leading to car accidents.

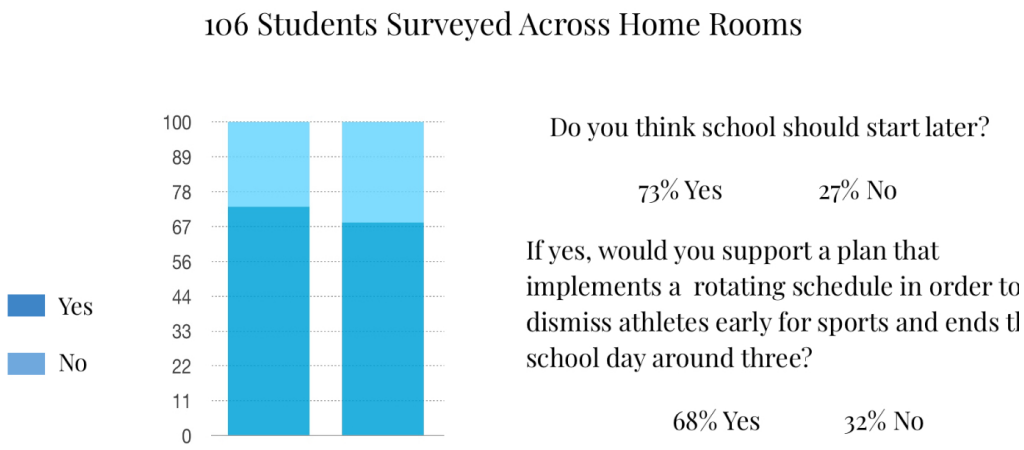
In fact, 57% of licensed teens report being too drowsy to drive but drive anyway, which leads to a disproportionately large number of youth drowsy-driving accidents every year. These effects and biological justification for later start times have been extensively researched and justified by studies carried out by both international organizations such as the World Health Organization and national organizations such as the American Academy of Pediatrics.

Predicted Community Impact/Student Response

So far, the student body at large has expressed overwhelming support for later start times. This was demonstrated in the survey our group ran during homeroom at the high school last spring.

The questions were as follows:

The results were as follows:



The results demonstrate strong support for later start times and to a lesser extent a rotating schedule with athlete early dismissal. We expect the percentages to increase if a plan to mitigate impact on athletics and extracurricular activities is created. In addition we spoke to several key members of school administration including Mr. Bazydlo, SHS Principal; Mr. Nevader, SHS Assistant Principal; and Dr. Sawyer, Superintendent of Schools, who expressed general support for starting school later. The effects of such a change may include: later start times for athletic events (practices, games, booster), a requirement for longer elementary daycare after school (an estimated increase of 45 minutes) which would contribute to an increased cost, changes to teenage workplace scheduling, and potential issues with busing schedules.

Local Attempts

Several schools within Massachusetts have already made the change including Hingham, Westborough, and Concord-Carlisle. Hingham High School, in particular, is a prime example of a school within Central Massachusetts that was successful in its attempt to institute later start times. Similarly to this proposal, Hingham High School switched their elementary and high school start times, 7:30 and 8:30, respectively, during the 2003-2004 school year. The former principal, Mrs. Paula McCann who was present during the change stated, “That change was received very positively when we made it years ago. No one has ever suggested we go back. It actually was a relatively easy change to make because the research is so supportive of later start times for high schools.” According to a report published by their principal and school committee, some academic and discipline statistics correlated positively with this change at Hingham High School:

SAT Results			
Year	Verbal	Math	Combined
2002	564	565	1129
2003	560	572	1132
2004	573	587	1160

Suspensions

02-03

51 incidents; 39 students; enrollment 946

03-04

43 incidents; 32 students; enrollment 967

04-05

43 incidents; 30 students; enrollment 1043

CONCLUSION

Research carried out and published within the last decade provide overwhelming support for later start times. Due to a combination of genetic, hormonal, and social factors teenagers must wake up later to ensure a healthy sleeping schedule and subsequently healthy development. Schools that have taken these studies to heart have seen great increases in student performance, mental health, and decreases in disciplinary incidents. This applies to schools within Massachusetts as well as those around the country. Student input also ensures that such a change is supported by the group who would be affected by it the most. Later start times would effectively make Shrewsbury High School a stronger, safer learning community and push it ahead of the curve locally and nationally.

We look forward to presenting this information and answering questions at the February 27, 2019 School Committee meeting.

SOURCES

CDC:

https://www.cdc.gov/features/school-start-times/index.html

American Academy of Pediatrics:

https://www.aap.org/en-us/about-the-aap/aap-press-room/Pages/Let-Them-Sleep-AAP-Recommends-Delaying-Start-Times-of-Middle-and-High-Schools-to-Combat-Teen-Sleep-Deprivation.aspx

World Health Organization:

https://www.who.int/maternal_child_adolescent/topics/adolescence/development/en/

(p. 38 - 55) http://www.euro.who.int/__data/assets/pdf_file/0008/114101/E84683.pdf

National Sleep Foundation:

https://www.sleepfoundation.org/articles/teens-and-sleep

https://www.sleepfoundation.org/articles/how-atypical-work-schedules-affect-performance

National Institute of Health (National Institute of Neurological Disorders and Stroke):

https://www.ninds.nih.gov/Disorders/Patient-Caregiver-Education/Understanding-Sleep