

School Start Times White Paper

I. Introduction

In November 2016, Superintendent Mark Thane convened a working group for the purpose of exploring healthy starting times for high school students in the urban Missoula County Public Schools (MCPS) system. Ginny Tribe facilitated the School Day Start Time working group meetings comprised of five two-hour sessions meeting from November 2016 through February 2017. The objectives of the group were to explore the effects of school starting times on high school students and create a report for the superintendent and school board with recommendations for future action.

II. Guiding Principles

Over the course of the meetings, the group agreed to the following principles aligning with the MCPS mission of ensuring every student achieves his or her full potential, regardless of circumstance and ability.

- We believe our community values the healthy development of our children
- We believe the academic growth, physical health, and social and emotional well-being of *all* students are priorities of MCPS
- We make decisions based on research and data
- We recognize that a schedule change such as a later start time will create challenges for which we are willing to work diligently to find solutions.

As the working group developed recommendations, they also kept in mind the mission of Graduation Matters Missoula: to remove barriers to graduation, address specific challenges that impede student success, and create an environment that enhances student learning.

III. History of Process

The group began its discussion with these questions in mind:

- Why make a change to high school start times?
- How do high school start times affect student mental and physical health, academic performance, and quality of life?
- What does the research say about shifting school start times?
- How would a change in high school start times affect all stakeholders in the Missoula community?
- How do we most effectively communicate our conclusions to the school board and the community at large?

The group read articles, researched, and thoroughly discussed the pros and cons of establishing healthy start times for high schools. Group members were encouraged to educate themselves outside of the meetings and brought additional ideas and research to the group. The group explored various models, the reasoning behind them, and their outcomes. The group was impressed by the science and data supporting later start times for adolescents, while also recognizing the obstacles to change that must be addressed to successfully implement healthy school start times.

IV. Research Highlights

Studies have documented that adolescents are not getting the recommended nine hours of sleep they need, with nearly 66% getting less than eight hours and nearly 40% getting less than six hours of sleep per night. The result is “chronically sleep-deprived and pathologically sleepy adolescents.”^{1,2,3,4}

At puberty, most adolescents experience a shift in their circadian rhythm (called a sleep-wake phase delay) that makes it difficult to fall asleep before 11:00 p.m. or wake up before 8:00 a.m. The American Academy of Pediatrics asserts that “evidence strongly implicates earlier school start times (i.e. before 8:30 a.m.) as a key modifiable contributor to insufficient sleep” and *strongly supports* the efforts of school districts to optimize opportunities for adequate sleep.⁵

Studies have shown that shifting school start times later does not result in later bedtimes, and as a result students obtain additional sleep on school nights.^{6,7} Students who get more sleep show improvements in areas of memory, attention, and emotional regulation. Athletes who sleep more perform better and are 68% less likely to be injured than athletes that regularly slept less.^{8,9}

Hundreds of schools in 44 states in the US have instated later school start times and have found affordable, feasible ways to do so. These schools report benefits to physical and mental health, learning, attendance, graduation rates, car crashes, and overall student well-being.¹⁰

The American Medical Association, the Centers for Disease Control, the American Academy of Child and Adolescent Psychiatry, the Society of Pediatric Nurses, and the American Academy of Pediatrics, among others, all endorse restoring healthy school start times. The American Academy of Pediatrics list of physical, mental, and academic impacts of chronic sleep loss in adolescents is sobering.

Physical health and safety

- Increased obesity risk
- Metabolic dysfunction (hypercholesterolemia, type 2 diabetes mellitus)
- Increased cardiovascular morbidity (hypertension, increased risk of stroke)
- Increased rates of motor vehicle crashes (“drowsy driving”)
- Higher rates of caffeine consumption; increase risk of toxicity/overdoses
- Nonmedical use of stimulant medications; diversion
- Lower levels of physical activity

Mental health and behavior

- Increased risk for anxiety, depression, suicidal ideation
- Poor impulse control and self-regulation; increased risk-taking behaviors
- Emotional dysregulation; decreased positive affect
- Impaired interpretation of social/emotional cues in self and others
- Decreased motivation
- Increased vulnerability to stress

Academics and school performance

- Cognitive deficits, especially with more complex tasks
- Impairments in executive function (working memory, organization, time management, sustained effort)

- Impairments in attention and memory
- Deficits in abstract thinking, verbal creativity
- Decreased performance efficiency and output
- Lower academic achievement
- Poor school attendance
- Increased dropout rates⁵

Clearly, additional research would further document the adverse effects of early school start times; however, “it may be strongly argued that both the urgency and the magnitude of the problem of sleep loss in adolescents and the availability of an intervention that has the potential to have broad and immediate effects are highly compelling.”⁵

V. Obstacles

The group came together with varying opinions and no predetermined outcome, but all participants recognized that establishing healthy school start times would come with serious logistical challenges. An important part of the discussion involved identifying potential obstacles to making a change and the possible solutions. Obstacles include transportation, financial considerations, varying schedules among the urban high schools, and effects on extracurricular activities, such as the scheduling of competitive sports and other activities. Other considerations include family circumstances such as parents’ and students’ work schedules, childcare, and family, leisure, and study time. In addition, developing community partners, communicating background knowledge to all those impacted by such a change, and capturing input from a wide spectrum of the Missoula community are also challenges to be addressed.

The committee acknowledged the American Psychological Association’s observation that “concerns about delayed start times have generally focused less on academic/social/cognitive outcomes and more on logistical complications.” Change would broadly impact many people including teachers, staff, parents, students, businesses, and vendors, among others. Keeping in mind the guiding principles and MCPS mission, the group discussed all of these obstacles and concluded that the benefits to students outweigh the obstacles and determined that any hurdles associated with changing school start times can and must be overcome.

VI. Recommendations

The working group recommends a later start time for the urban high schools consistent with the American Academy of Pediatrics policy statement that the high school day start no earlier than 8:30 a.m.

Convinced by the data and discussion, the working group agreed it was their responsibility to explore options, provide rationale, and make recommendations to the MCPS Board of Trustees related to healthy school start times for adolescents. These recommendations should result in opportunities for students to make healthy choices about sleep so they can experience a higher quality of life and physical and mental well-being in their daily lives.

The working group recommendation options focus primarily on school day scheduling alternatives, all of which include a later start time as optional or compulsory. The recommended options include shifting the start time of Missoula’s urban high schools to 8:30 a.m. or later or creating a school day schedule that allows student choice of class times. Any recommendations

for schedule changes to the student school day should also consider and address impacts to all stakeholders, including elementary and middle schools as well as staff and teachers.

References

Kyla Wahlstrom paper, "Later Start Time for Teens improves Grades, Mood, and Safety"

"The Pros and Cons of Starting School Later" Amy Morin, August 2016

<http://www.startschoollater.net>

Footnotes

¹ Carskadon MA, Acebo C, Jenni OG. Regulation of adolescent sleep: implications for behavior. *Ann N Y Acad Sci.* 2004; 1021:276-291

² Carskadon MA. The second decade. In: Guilleminault C, ed. *Sleeping and Waking Disorders: Indications and Techniques*; Menlo Park, CA: Addison Wesley; 1982:99-125

³ Carskadon MA, Acebo C, Seifer R. Extended nights, sleep loss, and recovery sleep in adolescents. *Arch Ital Biol.* 2001; 139(3)301-312

⁴ "Let Them Sleep: AAP Recommends Delaying Start Times of Middle and High Schools to Combat Teen Sleep Deprivation." Ed. AAP Press Room. American Academy of Pediatrics, 25 Aug. 2014. Web. 5 Dec. 2016. <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>

⁵ Owens, Judith, MD, FAAP. "Policy Statement: School Start Times for Adolescents." *Official Journal of the American Academy of Pediatrics* (2014): 642-649. *AAP News & Journals: Gateway*. American Academy of Pediatrics, 25 Aug. 2014. Web. 28 Nov. 2016. <http://pediatrics.aappublications.org/content/early/2014/08/19/peds.2014-1697>

⁶ Wahlstrom K. Changing times: findings from longitudinal study of later high school start times. *NASSP Bull.* 2002; 286(633): 3-21

⁷ Wahlstrom K. Accommodating the sleep patterns of adolescents within current educational structures: an uncharted path. In: Carskadon M. ed. *Adolescent Sleep Patterns: Biological, Social, and Psychological Influences*. New York, NY, and Cambridge, England: Cambridge University Press; 2002:72-197

⁸ "Later School Start Times Promote Adolescent Well-Being," *American Psychological Association* (2014): 1-2. Print.

⁹ "Myths and Misconceptions." *Start School Later*. N.p., n.d. Web. 4 Feb. 2017. <http://www.startschoollater.net/myths-and-misconceptions.html>

¹⁰ "Success Stories." *Start School Later*. N.p., n.d. Web. 04 Feb. 2017. www.startschoollater.net