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Testimony of Maine Chapter of the American Academy of Child & Adolescent Psychiatry, in Favor of LD257, An Act to Provide for Later starting Time for High Schools

Senator Rafferty and Representative Brennan and members of the Committee on Education and Cultural Affairs, my name is Dr. Robyn Ostrander. I reside in Falmouth. I am testifying on behalf of the Maine Council of Child and Adolescent Psychiatry, the local chapter of the American Academy of Child & Adolescent Psychiatry, in favor of LD 257, an Act to Provide for Later Starting Times for High Schools. I have practiced Child & Adolescent Psychiatry for the last 18 years, the last 7 of them in Maine. As an undergraduate I conducted research in sleep and circadian rhythms. My medical degree is from Harvard Medical School, and I did my Psychiatry and Child Psychiatry training at Dartmouth-Hitchcock Medical Center.

Insufficient sleep is a public health problem. High School aged youth are recommended to sleep 8.5 - 10 hours each night, or an average of 9.25 hours per night. At this age, teens' normal biology shifts them from larks to night owls; it becomes difficult for them to fall asleep before 11pm and to normally awaken later. Data from the 2021 Maine Integrated Youth Health Survey notes that only 29% of 55,291 Maine high school students surveyed report at least 8 hours sleep per night. Lack of sleep impacts overall student health, wellbeing, and academic success, and has long-term health consequences. Even mild sleep deprivation is associated with increased risk for accidents and injuries, impaired learning, poor emotional regulation, aggression, memory loss, poor self-esteem, obesity, and changes in metabolism and immune system function. In a noteworthy appraisal of prominent sleep research studies, researchers found that later bed times paired with earlier wake times, which is how high schoolers with early start times are required to operate, were associated with lower academic performance, grade point averages (GPAs) and motivation levels. More sleep and later weekday rise times were associated with better grades and a higher motivation to do well in school.

The current and growing interest in secondary schools' adoption of later start times has been preceded by approximately 20 years of research concerning the issues of adolescent sleep needs, sleep deprivation, adolescents' peak periods of alertness, and the best times of day for learning. There exists evidence that a change in school starting times by one hour could improve strongly school performance and the educational achievements of adolescents, with associated gains in lifetime earnings. 8:30am or later high school start times have also been shown to improve the following: eating breakfast, school attendance, attending more first period classes, focusing on tasks and being more alert in school, GPA, state assessment scores, and college admissions test scores. They have also been shown to decrease the following among youth: Sleeping in class, delinquency, disciplinary action, student-involved car accidents, stress-related complaints to school nurses, rates of depression, obesity, migraines, self harm, and suicide attempts. Not all of these complex outcomes are likely directly and only related to sleep. Some of them may be due to later school start times resulting in ending the school-day later, closer to the time that parents are home from work – which decreases unsupervised afternoons.

The benefits of later start times outweigh the immediate costs, such as changes to teacher, bus and sports schedules. A RAND study estimated a 2 year economic gain of \$8.6 billion to the U.S. economy, outweighing the costs per student from delaying school start times to 8:30am. Even if we only consider the beneficial effect on rates of depression, a growing epidemic among Maine youth (36% endorse clinical depression in the 2021 Maine Integrated Youth Health Survey, and 9% reported a suicide attempt in the last year), later high school start times make sense. Both the American Academy of Sleep Medicine and the American Academy of Pediatrics recommend that both middle and high schools begin no earlier than 8:30 a.m. The Maine Chapter of the American Association of Child & Adolescent Psychiatry urges you to support this legislation.

References:

Adolescent Sleep Working Group; Committee on Adolescence; Council on School Health. School start times for adolescents. *Pediatrics*. 2014 Sep;134(3):642-9. <https://pubmed.ncbi.nlm.nih.gov/25156998/>

Hafner, Marco, Martin Stepanek, Jirka Taylor, Wendy M. Troxel and Christian Van Stolk. Why sleep matters — the economic costs of insufficient sleep: A cross-country comparative analysis. Santa Monica, CA: RAND Corporation, 2016. https://www.rand.org/pubs/research_reports/RR1791.html.

Hafner, Marco, Martin Stepanek and Wendy M. Troxel. Later school start times in the U.S.: An economic analysis. Santa Monica, CA: RAND Corporation, 2017. https://www.rand.org/pubs/research_reports/RR2109.html.

Hirshkowitz, M., Whiton, K., Albert, S. M., Alessi, C., Bruni, O., DonCarlos, L., Hazen, N., Herman, J., Katz, E. S., Kheirandish-Gozal, L., Neubauer, D. N., O'Donnell, A. E., Ohayon, M., Peever, J., Rawding, R., Sachdeva, R. C., Setters, B., Vitiello, M. V., Ware, J. C., & Adams Hillard, P. J. (2015). National Sleep Foundation's sleep time duration recommendations: methodology and results summary. *Sleep Health*, 1(1), 40–43. <https://pubmed.ncbi.nlm.nih.gov/29073412/>

Marx R, Tanner-Smith EE, Davison CM, Ufholz LA, Freeman J, Shankar R, Newton L, Brown RS, Parpia AS, Cozma I, Hendrikx S. Later school start times for supporting the education, health, and well-being of high school students. *Cochrane Database Syst Rev*. 2017 Jul 3;7(7):CD009467. doi: 10.1002/14651858.CD009467.pub2. PMID: 28670711; PMCID: PMC6483483.

Watson NF, Martin JL, Wise MS, Carden KA, Kirsch DB, Kristo DA, Malhotra RK, Olson EJ, Ramar K, Rosen IM, Rowley JA, Weaver TE, Chervin RD; American Academy of Sleep Medicine Board of Directors. Delaying Middle School and High School Start Times Promotes Student Health and Performance: An American Academy of Sleep Medicine Position Statement. *J Clin Sleep Med*. 2017 Apr 15;13(4):623-625. <https://pubmed.ncbi.nlm.nih.gov/28416043/>

Wheaton AG, Chapman DP, Croft JB. School start times, sleep, behavioral, health, and academic outcomes: a review of the literature. *Journal of School Health* 2016;86(5):363-81.

Wolfson AR, Spaulding NL, Dandrow C, Baroni EM. Middle school start times: the importance of a good night's sleep for young adolescents. *Behavioral Sleep Medicine* 2007;5(3):194-209.

Wolfson AR, Carskadon MA. Understanding adolescents' sleep patterns and school performance: a critical appraisal. *Sleep Medicine Reviews* 2003;7(6):491-506.

2021 Maine Integrated Youth Health Survey [Maine High School Detailed Tables.pdf](#)