

# Delayed school start time associated with improvements in adolescent behaviors

July 5 2010

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A short delay in school start time appears to be associated with significant improvements in adolescent alertness, mood and health, according to a report in the July issue of *Archives of Pediatrics & Adolescent Medicine*, one of the JAMA/Archives journals.

"Beginning at the onset of puberty, adolescents develop as much as a two-hour sleep-wake phase delay (later [sleep](#) onset and wake times) relative to sleep-wake cycles in middle childhood," the authors write as background to the study. The study also notes that, "[adolescent](#) sleep needs do not decrease dramatically, and optimal sleep amounts remain about nine to 9 1/4 hours per night."

Judith A. Owens, M.D., M.P.H., of the Hasbro Children's Hospital, Providence, and colleagues, studied 201 students in grades 9 through 12 attending an independent high school in Rhode Island. For the purposes of the study, class start time was delayed 30 minutes, from 8 a.m. to 8:30 a.m. Additionally, students were required to complete the online retrospective Sleep Habits Survey before and after the change in school start time.

According to the study, after the delayed start time, "students reported significantly more satisfaction with sleep and experienced improved motivation. Daytime sleepiness, fatigue and depressed mood were all reduced. Most health-related variables, including Health Center visits for fatigue-related complaints, and class attendance also improved." The later start was also associated with a significant increase in sleep duration

on school nights of 45 minutes as well as a reduction in weekend oversleep (the difference between school day and non-school day wake times).

The percentage of students getting less than seven hours of sleep decreased by 79.4 percent, and those reporting at least eight hours of sleep increased from 16.4 percent to 54.7 percent. Additionally, the percentage of students rating themselves as at least somewhat unhappy or depressed decreased significantly (from 65.8 percent to 45.1 percent), as well as the percentage who felt annoyed or irritated throughout the day (from 84 percent to 62.6 percent). In terms of health consequences, significantly more students self-reported visiting the Health Center for fatigue-related symptoms before the delayed start time (15.3 percent versus 4.6 percent).

The study also found that after the delayed start, "students rated themselves as less depressed and more motivated to participate in a variety of activities and were less likely to seek medical attention for fatigue-related concerns in conjunction with the change in start times." Additionally, "despite the initial considerable resistance voiced by the faculty and athletic coaches to instituting the start time delay and the original intentions of the school administration to return to the 8 a.m. start time after the trial period, [students](#) and faculty overwhelmingly voted to retain the 8:30 a.m. start for the spring term."

**More information:** Arch Pediatr Adolesc Med. 2010;164[7]:608-614.

Provided by JAMA and Archives Journals

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