It's Time To Let Teenagers Sleep The Way They Want—And Start School Later

Teenagers physically can't wake up early, and chronic sleep deprivation could be having an effect on their academics and well-being. There's a very simple solution.

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Over the last few weeks, millions of children across the Northern Hemisphere have headed back to school for the beginning of a new school year. Sadly, for many of them, the beginning of the school year also marks the beginning of a prolonged period of cumulative sleep deprivation that will progressively affect their physical and mental well-being and consequently their capacity to learn.

As many a parent with teenagers will attest, rousing an adolescent for the start of a school day requires near-heroic levels of perseverance and patience; and as the school year progresses, the latter often gives way to increasing levels of cajoling, bargaining, and punishment.

We all know from experience that, when left to their own devices, teenagers like to go to bed late and will happily sleep in until late morning or even early afternoon. For many parents, this is simply yet another manifestation of the moodiness and rebelliousness associated with adolescence. And as for the difficulties in getting up in the morning, these too are viewed as either self-inflicted or just another ruse to avoid the unpleasant business of having to go to school. But what if the causality worked the other way round? What if the moodiness and rebelliousness were, at least in part, caused by cumulative sleep deprivation over which adolescents and their parents have little or no control? What if there were easy policy and parental solutions that, at little or no cost, could improve both the health and academic performance of middle and high schoolers?

The effects of extreme sleep deprivation are well understood, particularly by the military, which, for self-evident reasons, takes a keen interest in the topic. Most studies and experiments show that after about 36 hours without sleep, soldiers begin to experience a significant deterioration in both physical and mental performance. The effects are cumulative and exponential, so that after about 72 hours without sleep, soldiers are unable to perform complex tasks such as driving a vehicle or arming, aiming, and firing a weapon toward its intended target. Most soldiers will begin falling asleep involuntarily even when standing up and many will begin experiencing hallucinations. In experiments involving civilians, participants subjected to sleep deprivation were also reported as becoming progressively more moody, irritable, and rude. How very teenage of them.

What has been less well understood until recently is that not getting enough quality sleep over an extended period of time (a condition known as chronic sleep deprivation) can also have a detrimental effect on physical and mental well-being. Even getting just one and a half fewer hours of sleep than the recommended amount over the course of just one night can reduce alertness by almost a third. Other short-term effects include memory and cognitive impairment and a higher propensity for getting involved in automobile accidents. Over the long term, chronic sleep deprivation has been linked to other harmful conditions, including hypertension, heart disease, and obesity.

While the causes of chronic sleep deprivation in adults are many and varied, there is a growing body of evidence to suggest that we may be intentionally subjecting our adolescents to this unhealthy condition. According to the guidelines issued by the National Sleep Foundation in February 2015, adolescents from the ages of 14 to 18 need between 8 and 10 hours of quality sleep per day. This means that for a school start time of 8 a.m. and assuming an hour for waking up, getting ready, having breakfast, and traveling to school, then the average adolescent would need to be in bed and fast asleep sometime between 9 and 11 p.m. at the latest. The trouble with this scenario is that it fails to take into account the natural changes to the sleep cycle of adolescents that occur with the onset of puberty.

Anecdotally, we have known for some time that different people have different routines when it comes to sleep and consequently how alert they feel and are during different times of the day. In the workplace we tend to categorize people rather simplistically as being either "a morning person" or "not a morning person." What is becoming apparent, however, is that these routines are not the result of individual preferences and choices but biological imperatives.

Indeed, our understanding of the mechanics of sleep is now sufficiently well-developed that scientists can plot individual cycles over the course of a day by measuring the presence and levels of the hormones and chemicals involved in the two dominant biological processes: one that governs falling asleep (the homeostatic sleep drive), and one that governs waking up (the circadian arousal system). It turns out that these processes ebb and flow in our bodies following a set and predictable pattern that varies slightly for each individual. Leaving aside extraneous and environmental factors that can disrupt these cycles, the main driver of change over time is aging. These changes affect both the quantity of sleep (it declines as we age) and, more importantly for the purposes of this article, its timing. For reasons that we don’t yet understand, the onset of puberty shifts the sleep cycles of adolescents back by around two hours. Most adolescents find it difficult if not impossible to fall asleep before 11 p.m.

The implications are staggering. With most middle and high schools around the world starting between 7:30 and 8:30 a.m., our education systems are knowingly subjecting teenagers to cumulative sleep deprivation (sometimes up to two hours or more per night) during the course of the school year. And if teenagers are sleep-deprived, is it any surprise that they become moody, intemperate, and prone to making poor decisions?

The matter is now considered serious enough by health professionals, and the evidence so compelling, that last year both the American Association of Pediatrics (AAP) and the Centers for Disease Control issued warnings and policy recommendations strongly advocating later starting times for middle and high schools. The policy statement from the AAP could not have been more explicit. Citing the lead author, Dr. Judith Owens, the press release reads:

"Chronic sleep loss in children and adolescents is one of the most common—and easily fixable—public health issues in the U.S. today. . . . The research is clear that adolescents who get enough sleep have a reduced risk of being overweight or suffering depression, are less likely to be involved in automobile accidents, and have better grades, higher standardized test scores and an overall better quality of life. . .

. Studies have shown that delaying early school start times is one key factor that can help adolescents get the sleep they need to grow and learn."

And yet despite the weight of scientific evidence and the clarity of the policy recommendations, not a single major education system around the world has announced—let alone implemented—changes to traditional school hours for middle and high schools. The only notable exception to this is the United Kingdom, which has sanctioned a series of potentially groundbreaking trials involving students in grades 9 and 10 in 100 schools, who will be allowed to start at 10 a.m. In one early pilot study involving a single school, starting school one hour later was found to have improved exam performance in core subjects by around 20%.

As our children ease back into school, policymakers, educators, and parents need to all ask themselves why such a seemingly simple and sensible policy prescription has not yet been adopted more widely. Why aren't there more countries, states, and cities following the example of the United Kingdom? And if our systems are incapable of introducing changes to something as simple as school hours, what hope is there for introducing the more substantive innovations that many of us agree are necessary to realize the full potential of education?

While waiting for policymakers to act, here are a few common-sense ideas of what parents and educators could do to minimize the detrimental effects of cumulative sleep deprivation:

1. KEEP ADOLESCENTS AWAY FROM BACKLIT LED LIGHT

At least one hour—and preferably two—before they need to be asleep, all the screens should be off. Several studies have shown that levels of melatonin (a chemical that helps us fall asleep) decrease with exposure to a type of blue light emitted by LED screens. This means no reading, gaming, or texting from smartphones, tablet computers, or laptops before bedtime. This is also good advice for adults!

2. LET THEM SLEEP IN

On weekends and holidays, let them make up the sleep they've missed, and avoid the temptation of organizing too many activities in the early morning. Extra sleep during weekends and holidays can, to a certain but not total extent, replenish the shortfall accumulated during the week.

3. BRING BACK THE AFTERNOON NAP

It appears that the tendency many people have to want to sleep sometime in the afternoon is a normal part of the biological processes we discussed above. Many teenagers come back from school in the afternoon feeling tired. Our temptation as parents is to prevent them from going to sleep because we believe that this will prevent them from going to bed early enough at night. But the evidence shows that even short naps of around 30 minutes can help improve performance in adults. In the case of teenagers, naps can also make up for some of the lost sleep. For that matter, why not introduce nap rooms in middle and high schools so that adolescents can take advantage of free periods during school or downtime between afternoon extracurricular activities to catch up on sleep?

4. START EVERY SCHOOL DAY WITH A BRISK 30-MINUTE WALK

There is increasing evidence to support the proposition that light exercise and movement are just as important for mental well-being as they are for physical fitness. It stands to reason, therefore, that a brisk but not strenuous 30-minute walk at the beginning of the school day can compensate for some of the effects of insufficient sleep.

Of course, at the end of the day, the above are little more than Band-Aids. What we really need is for policymakers to act.

1. Based on the article, what is the normal sleeping pattern of a teenager?
2. Why do adolescents find it hard to fall asleep before 11pm? Speak from your experience. What causes this?
3. How would delaying the start of the school day impact students and their sleeping?
4. Would you support a school day that started later?
5. Create a school start and end time for a school day that last 7 hours. (That's how long your school day lasts.)
6. What are the four solutions that the author came up with? List them.
7. For each solution, explain if you agree or disagree with it and why.