

Adolescent Sleep Research: Important Findings for Secondary Schools (Draft: *What's Happening in the U.S.?*)

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1) In recent years researchers have found that most teenagers in America do not get enough sleep during the week. Many factors can influence an adolescent's ability to get a good night's sleep before tackling a demanding school day. However, no matter what the specific reasons are, it is clear that insufficient sleep causes physical, emotional and academic problems.

(2) People need different amounts of sleep in different stages of life. Babies and children require many hours of deep sleep. Until age ten most children wake up fresh and energetic. At puberty, however, the body's clock which regulates sleeping and waking hours changes. This delay in the body's "circadian clock" causes teens to be wide awake at 9 or 10 p.m. when people of other ages are getting tired. As a result, teens tend to fall asleep later. If they get up early for school, they are losing critical hours of sleep night after night.

(3) For many years scientists always assumed that after people are awake for a long time, they naturally get sleepy and fall asleep. Now they realize that circadian clocks set our sleeping patterns. Many teens experience something like the jet lag of long distance travelers. Even though teens may have had an active or demanding day, falling asleep can still be hard. The circadian clock keeps them alert just when other people get sleepy.

(4) The National Sleep Foundation states that American teenagers actually need more than nine hours of sleep every night, not just on weekends. However, surveys indicate that only 15% of teens sleep 8.5 hours or more on a regular basis. Moreover, more than 25% of adolescents sleep 6.5 hours or fewer on school nights.

(5) Going to bed earlier does not necessarily assure that a teenager will get more sleep. The circadian clock creates "forbidden zones" when falling asleep is almost impossible. For many teens the forbidden zone is in the evening hours. Therefore, even if teens go to their rooms early, they do not usually go to sleep. Instead, they will read, play games, listen to music or talk on the phone until they start to get tired at 11 p.m. or later.

(6) Surprisingly, sleeping for a long time on weekends does not fix the problem. Researchers call that "binge sleeping." Teens catch up on sleep, but they do not establish a healthy sleeping pattern. If a teen sleeps until noon or 2:00 p.m., the brain recognizes that as a time for sleep. When Monday morning comes again, the brain is still on the wrong schedule. Thus, schools may begin bright and early, but teenage brains do not wake up until considerably later in the day.

(7) When people get too little sleep, negative things are bound to happen. Chronic sleep loss affects a teen's health in numerous ways. A youth who averages only 5 to 7 hours of sleep will definitely feel tired and cranky. Being tired produces mood changes, so it causes many teens not to get along well with others at school or at home and to have arguments over really unimportant things. It often leads to a feeling of helplessness and depression. Finally, being tired slows down teens' mental reactions. Sleep deprived teens don't react quickly and struggle to follow directions, pay attention and learn, especially in their earliest classes.

(8) In addition to these impacts on mental health, physical reactions slow down. An exhausted teen will feel heavy, groggy and clumsy, even playing a favorite sport or instrument. Experts report that many car accidents involving teens actually come from their slow reactions, not from poor judgment. Moreover, researchers agree that regular sleep loss can negatively affect a teen's growth rate and immune system, which prevents us from becoming ill.

(9) A hyper-active circadian clock does indeed make falling asleep more challenging for teens. However, unproductive bedtime habits can make falling asleep all the more difficult. Medical doctors advise teens to follow these healthy bedtime habits to make falling asleep easier: 1) Go to bed around the same time each night; this helps the body get into a familiar routine. 2) Follow a calming bedtime routine such as reading or taking a bath. 3) Don't exercise just before going to bed. 4) Avoid foods and drinks with caffeine, such as sodas and chocolate. 5) Use your bed just for sleeping - not doing homework, watching TV, sending instant messages, playing video games or talking on the phone. That way, you will train your body to associate

your bed only with rest and sleep, not with recreation.

(10) In recent years a few school districts actually established a later starting time for high schools. The first was the Minneapolis School District in 1997. It changed starting times at high schools from 7:15 to 8:40 a.m. Reports now indicate that students there are getting at least five hours more sleep per week.

(11) Now teachers, parents and students are observing positive changes. Over half of the district's high school teachers report that students are more alert during the first two class periods. Attendance has increased, grades are higher, and staff and students alike say that the environment at school and home is more positive and productive.

(12) The number of school districts that start the day later is growing. Several dozen already have done it, and many others are discussing it. The U.S. Congress is even considering a bill called "Zzz's to A's" that encourages secondary schools to make the change. As a result, American teenagers may eventually see the day when clocks at school keep time with the clocks inside them.