Technology Takes its Toll on Teen Sleep

With many teens occupying bedrooms equipped to the rafters with technology, kids are getting less sleep than ever, according to the results of a 2006 poll by the National Sleep Foundation.

The poll found that only 20% of adolescents get the recommended nine hours of sleep on school nights, and 45% sleep less than eight hours on school nights.

Attention-stealing devices like televisions, computers, MP3 players and cell phones take a good chunk of the blame. Check out these stats:

- Watching television is the most popular activity (76%) for adolescents in the hour before bedtime, while surfing the internet/instant-messaging (44%) and talking on the phone (40%) are close behind.
- Boys are more likely to play video games (40%) while girls are more likely to talk on the phone (51%) in that time.
- Nearly all adolescents (97%) have at least one electronic item – such as a television, computer, phone or music device – in their bedroom. On average, 6th-graders have more than two of these items in their bedroom, while 12th-graders have about four.

Most sleep experts say it is unwise to use a computer immediately before bedtime because the bright computer screen may affect the biological rhythms that govern sleep. A study in the Journal of Applied Physiology further suggests that performing “exciting” computer tasks, such as playing a video game, may actually suppress the production of melatonin, the so-called “sleep hormone.”

Sleep Deprivation is Dangerous

Lack of sleep is a dangerous thing, especially for adolescents whose brains are still developing. The poll found that adolescents who had four or more technological devices in their bedrooms were almost twice as likely to fall asleep in school and while doing homework.

But it’s not just schoolwork that suffers... many teens also reported “driving while drowsy.” According to the National Traffic Safety Administration, drowsy driving causes more than 100,000 police-reported crashes, 71,000 injuries and 1,550 deaths each year.

Being groggy can also lead to behaviors that may be mistakenly attributed to or exacerbate existing learning disorders, like ADHD, or mental health problems, like depression.
Three ways gadgets are keeping you awake.

Our cell phones, tablets, computers and other electronic gadgets have become such a huge part of our daily lives that it’s often hard to put them down—even at bedtime. Keeping your phone on your nightstand may not seem like a big deal, but technology affects your sleep in more ways than you realize. Whether you’re surfing the web, playing a video game, or using your phone as an alarm clock in the late evening, you’re probably keeping yourself from a restful night. Learn the facts about digital devices, below, so you can nip your tech habits in the bud.

They Suppress Melatonin.

The blue light emitted by screens on cell phones, computers, tablets, and televisions restrain the production of melatonin, the hormone that controls your sleep/wake cycle or circadian rhythm. Reducing melatonin makes it harder to fall and stay asleep. Most North Americans admit to using electronics a few nights a week within an hour before bedtime. But to make sure technology isn’t harming your slumber, give yourself at least 30 minutes of gadget-free transition time before hitting the hay. Even better: Make your bedroom a technology-free zone—keep your electronics outside the room (that includes a TV!).

They Keep Your Brain Alert.

It may seem harmless to knock out a few emails before bed or unwind with a favorite movie, but by keeping your mind engaged, technology can trick your brain into thinking that it needs to stay awake. And if you’re surfing the web, seeing something exciting on Facebook, or reading a negative email, those experiences can make it hard to relax and settle into slumber. After spending an entire day surrounded by technology, your mind needs time to unwind.

They Wake You Up.

Just because you’re not using your cell phone before bed doesn’t mean that it can’t harm your sleep: Keeping a mobile within reach can still disturb slumber, thanks to the chimes of late night texts, emails, calls, or calendar reminders. About 72 percent of children ages six to 17 sleep with at least one electronic device in their bedroom, which leads to getting less sleep on school nights compared with other kids, according to their parents. The difference adds up to almost an hour per night, and the quality of snoozing is negatively affected too. To get a better night’s slumber, parents can limit their kids’ technology use in the bedroom, and mom and dad should be solid role models and set the tone by doing the same.

What’s a Parent to Do?

Remember when they were babies and you had a nice, soothing ritual to help them relax from the day and get ready to fall to sleep? Well, teens need that kind of transition period as well. And they need a restful environment.

Take the television and the video game console(s) out of the room. Same goes for the computer, handheld gaming devices and cell phones. The portables have to charge sometime—why not try putting the charging devices in another room and make it a rule that after a certain time at night, about an hour before lights out, the devices have to be in their chargers.

Reserve that last hour before bed for nighttime rituals like showering, brushing teeth, putting away homework, making sure there are clean socks and underwear for the next day, etc. Pleasure reading can be a great way to unwind as well.

And be courteous—it’s hard for a kid to get to sleep when the TV in the living room is emitting tantalizing sounds of mayhem and music.
Bad grades and sleep problems linked to excessive use of social media

By: Katiann Marshall, Zach Cumberland, Kyleigh Razmic

When Harshal Patel, a senior engineering major at West Virginia University, goes to sleep, he keeps his cell phone on next to his bed. He likes to use the phone as an alarm but when he gets a text or call in the middle of the night, it invariably wakes him up.

“I only answer if it’s important,” Patel says. But he acknowledges that the noise disrupts his sleep.

Patel is far from alone. According to one study, 50 percent of people who sleep with their phones on wake up in the middle of the night and check their phones. However, experts say that such practices may cause sleep deprivation. And now new research shows that excessive reliance on electronic gadgets (like cell phones and laptops) can actually hurt your academic performance. A recent study by researchers at the The Miriam Hospital’s Center for Behavioral and Preventive Medicine in Providence, RI, shows that the use of such devices to text, watch online videos and post statuses on Facebook is associated with lower grade point averages.

According to experts at the WVU Sleep Center, interacting with our gadgets at night-time is a prescription for insomnia.

“It can really affect their performance academically and has been linked to higher stress,” said Meghan Phillips, WELL WVU’s Health Promotion Specialist.

The Miriam Hospital study surveyed 483 women in their first year of college and found they were spending almost 12 hours a day texting, networking on social media sites like Facebook, listening to music online and watching some type of videos. The women who were doing this more than 12 hours were more likely to have lower grade point averages. Researchers found that social networking, cell phones, television viewing and magazine reading were associated with bad academic performance. This study was published on March 26, 2013 by the journal *Emerging Adulthood*.

The study did find some positive uses of technology, however. Reading the news online or listening to music was actually linked to better academic performance.

Research also shows that the use of technology, mainly cell phones and computer use may cause sleep deprivation. Recently, the West Virginia University Sleep Center conducted a study showing 95 percent of us surf the web, text or watch television right before going to bed. And one in four smart phone users do not turn off their cell phones before going to sleep. Young people who depend on technology to fall asleep are also at risk of sleep deprivation. Students who keep their TV, for example, are less likely to fall into a deep sleep involving Rapid Eye Movement (REM), researchers say. Studies show that REM sleep is the time when the brain processes memories and learning from the previous day and renews itself. When people are deprived of REM sleep, they don’t function as well the next day.
“It’s actually been proven that it takes longer to fall into a deep REM sleep while having the TV on and sometimes it may not even happen,” says Dr. John Young, a physician at West Virginia University Sleep Center.

Young also says that keeping your cell phone and looking at its lighted screen in the middle of the night can cause sleep deprivation.

“Light is something that [exposes] our brain to certain chemicals or changes that are counterproductive to sleep; you could be in a darkened room but still have a lighted screen in front of you that’s triggering your brain to stay awake,” said Young.

Experts say there is only one solution; turn off all technology; cell phones, computers, and TVs at least thirty minutes before trying to fall asleep. During the day, professors can also try to engage students better through the use of electronic gadgets and social media. Instead of trying to completely prevent the use of technology by students, the Miriam Hospital researchers said that asking students to post assignments on Twitter or Facebook might help to integrate the class and connect students with other classmates.

“We’re going to have to arrive at some sort of solution to this,” says Daniel Brewster, professor of sociology at WVU. “It’s definitely affecting our sleep patterns and that affects our mood and our productivity.”

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**FIGURE 2.**

Suggested bedtimes for middle and high school students*

<table>
<thead>
<tr>
<th>WAKE-UP TIME</th>
<th>10-13</th>
<th>14-17</th>
<th>18-19</th>
</tr>
</thead>
<tbody>
<tr>
<td>5:30 am</td>
<td>7:30 pm</td>
<td>8:30 pm</td>
<td>9:30 pm</td>
</tr>
<tr>
<td>5:45 am</td>
<td>7:45 pm</td>
<td>8:45 pm</td>
<td>9:45 pm</td>
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</table>

* Based on average hours of sleep per night recommended by the National Sleep Foundation, 2015.