

Teens Fueled by Caffeine Use Too Much Technology and Don't Get Enough Sleep

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(PhysOrg.com) -- Fueled by caffeine teens are up late at night, and they aren't just focusing on homework. Web surfing, text messaging and gaming are keeping them up for hours into the night, according to a recent study by Drexel University's Dr. Christina Calamaro, assistant professor in Drexel's College of Nursing and Health Professions.

The study "Adolescents Living 24/7 Lifestyle: Effects of Caffeine and Technology on Sleep Duration and Daytime Functioning," found that the more multitasking a teen did, the more likely the teen would be to doze off during the day. The findings were published in *Pediatrics*, the official journal of the American Academy of [Pediatrics](#).

Calamaro and researchers (Mason B. Thornton and Sarah Ratcliffe) asked 100 middle and [high school students](#) aged 12 to 18 to complete a questionnaire to measure nighttime intake of caffeinated drinks, use of media-related technology and sleep patterns. The majority of the sample used some form of technology, with 66 percent having a television in their bedroom, 30 percent a computer, 90 percent a cell phone and 79 percent an MP3 digital audio player.

The researchers found that 20 percent of those studied got the recommended eight or more hours of sleep during school nights with the rest getting less than eight hours. The average sleep for U.S. adolescents is seven hours, according to Calamaro. At least 30 percent of teenagers reported [falling asleep](#) during school. Caffeine consumption tended to be 76 percent higher among those who fell asleep. Most teenagers used

multiple electronic media late into the night and consumed a variety of caffeinated beverages, including many popular energy drinks marketed to their age group, said Calamaro.

To gauge how heavily the study participants used technology at night, Calamaro and her team developed a measure they call “multitasking index.” The index took the total amount of hours a teen spent doing each of nine different activities—ranging from watching TV, listening to MP3s, watching DVDs, surfing the web and doing homework—and divided that by nine or the number of hours between 9 p.m. and 6 a.m. The index was significantly related to falling asleep during school and difficulties falling asleep on weeknights.

“Many adolescents used multiple forms of technology late into the night and concurrently consumed caffeinated beverages,” said Calamaro.

“Their ability to stay alert and fully functional throughout the day was impaired by excessive daytime sleepiness.”

At least 85 percent of those studied reported drinking caffeine. For those, the average caffeine intake was 144 mg with a range from 23 to 1458 mg. Only 27.5 percent consumed less than 100 mg of caffeine daily or the equivalent of drinking a single espresso, whereas 11.2 percent drank more than 400 mg daily or the equivalent of four espressos.

Although [caffeine consumption](#) tended to be lower for the 20 percent that slept for eight to 10 hours on a school night, it wasn’t enough to merit statistical significance. Sleep was significantly related to multitasking. Teenagers getting eight to 10 hours of sleep had lower multitasking indexes; those getting six to eight had higher multitasking indexes. At least 33 percent of the teenagers reported falling asleep at least twice during school hours.

Regardless of socioeconomic status, teenagers tasked on average four activities late into the night, according to Calamaro.

“Even though we know adolescents are on a different time schedule than adults, we still need to get them less wired at night,” she said. “Parents need to discourage teenagers from drinking [caffeine](#) past noon time and keep TVs, computers and especially cell phones out of kids’ bedrooms.”

Provided by Drexel University

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