

# Sleeping off childhood?

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Are your 11- and 12-year-olds staying up later, then dozing off at school the next day? Parents and educators who notice poor sleeping patterns in their children should take note of new research from Tel Aviv University — and prepare themselves for bigger changes to come.

Prof. Avi Sadeh of TAU's Department of Psychology suggests that changes in children's [sleep](#) patterns are evident just before the onset of physical changes associated with puberty. He counsels [parents](#) and educators to make sure that pre-pubescent children get the good, healthy sleep that their growing and changing bodies need.

"It is very important for parents to be aware of the importance of sleep for their developing children and to maintain their supervision throughout the adolescent years," says Sadeh, who reported his research findings in a recent issue of the journal *Sleep*. "School health education should also provide children with compelling information on how insufficient sleep compromises their well-being, psychological functioning and school achievements."

## Every minute counts

Results of the study, supported by the Israel Science Foundation, show that over a two-year period, sleep onset was significantly delayed by an average of 50 minutes in the study subjects, and sleep time was significantly reduced by an average of 37 minutes. Girls also had higher sleep efficiency and reported fewer night wakings than boys. For both, initial levels of sleep predicted an increase in pubertal development over

time. This suggests that the neurobehavioral changes associated with puberty may be seen earlier in sleep organization than in bodily changes.

"Biological factors have a significant influence on sleep during puberty, although psychosocial issues such as school demands, social activities and technological distractions can also lead to the development of bad sleep habits," he explains.

According to Prof. Sadeh, sleep-wake organization undergoes significant changes during the transition to adolescence. These changes include a delayed sleep phase, which involves a tendency towards later bedtimes and risetimes; shorter sleep, which is associated with increased levels of daytime sleepiness; and irregular sleep patterns, which involve sleeping very little on weekdays and sleeping longer during weekends to compensate. During maturation, adolescents also develop a greater tolerance for sleep deprivation or extended wakefulness.

## **Catching up on weekends**

Sleep-wake patterns were observed subjectively through the use of sleep diaries and objectively through the use of an actigraph, which the 94 children involved in the study (10 and 11 years old at its start) wore on their wrists. The assessment was repeated annually for two successive years. Eighty-two children completed the second assessment, and 72 completed the third assessment.

The authors noted that Israel has a six-day school week, with Friday the only day that is not followed by school. As expected, significant differences were found between sleep on Friday nights and sleep on school nights. On Fridays, sleep onset was delayed, sleep time was extended and sleep quality was poorer in comparison with [school](#) nights. These differences were not associated with puberty status or gender, suggesting that the tendency for weekend compensatory sleep is

relatively steady over the period of early adolescence.

"A deeper understanding of the interrelationships between sleep and pubertal maturation may provide new insights into the emergence of vulnerabilities for behavioral and emotional health problems in early adolescence," says Prof. Sadeh. "This could improve prevention and early intervention efforts."

Provided by Tel Aviv University

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