WELCOA
ONLINE BULLETINS

DAY IN DAY OUT
WELCOA'S ONLINE BULLETIN FOR YOUR LIFESTYLE

Naps Can Aid Learning In Preschoolers

Afternoon naps can enhance memory and support learning in preschoolers, a new study reports. The finding hints that making time for naps in the classroom might be helpful during early childhood.

Although plenty of studies have shown that overnight sleep and brief naps can boost learning and memory in adults, the effects of napping on toddlers hadn't been closely examined. To learn more, National Institutes of Health (NIH)-funded scientists played a memory game with 40 preschoolers. In the morning, the children learned where nine or 12 cartoon images were located on a grid. Then the children either took an afternoon nap (about one hour and 15 minutes) or were gently kept awake.

After nap time, the children were tested to see how well they could remember the locations of the cartoon images. The scientists found that children could recall 10% more of the items' locations when they napped than when they'd been kept awake. Children who napped had similar success in remembering items' locations even the next morning. The researchers also found that the benefits of napping were greatest for the children who regularly took naps.

To explore how memories might be stored in the brain, the team measured the brain waves of 14 additional children during naps. The researchers noticed a link between distinct bursts of brain activity during napping and a child's performance on memory tests. These bursts of activity might represent the strengthening of memories, the scientists suggest.

"We hope these results will be used by policy makers and center directors to make educated decisions regarding nap opportunities in the classrooms," says the study's lead researcher, Dr. Rebecca Spencer at the University of Massachusetts Amherst.

CONTINUED
ON NEXT PAGE

WELCOA
ONLINE BULLETINS

DAY IN DAY OUT
WELCOA'S ONLINE BULLETIN FOR YOUR LIFESTYLE

(Continued from previous page)

What Does Sleep Do For Us?

Although scientists are still trying to learn exactly why people need sleep, animal studies show that sleep is necessary for survival. For example, while rats normally live for two to three years, those deprived of rapid eye movement (REM) sleep survive only about five weeks on average, and rats deprived of all sleep stages live only about three weeks. Sleep-deprived rats also develop abnormally low body temperatures and sores on their tail and paws. The sores may develop because the rats' immune systems become impaired. Some studies suggest that sleep deprivation affects the immune system in detrimental ways.

Sleep appears necessary for our nervous systems to work properly. Too little sleep leaves us drowsy and unable to concentrate the next day. It also leads to impaired memory and physical performance and reduced ability to carry out math calculations. If sleep deprivation continues, hallucinations and mood swings may develop. Some experts believe sleep gives neurons used while we are awake a chance to shut down and repair themselves. Without sleep, neurons may become so depleted in energy or so polluted with byproducts of normal cellular activities that they begin to malfunction. Sleep also may give the brain a chance to exercise important neuronal connections that might otherwise deteriorate from lack of activity.

Deep sleep coincides with the release of growth hormone in children and young adults. Many of the body's cells also show increased production and reduced breakdown of proteins during deep sleep. Since proteins are the building blocks needed for cell growth and for repair of damage from factors like stress and ultraviolet rays, deep sleep may truly be "beauty sleep." Activity in parts of the brain that control emotions, decision-making processes, and social interactions is drastically reduced during deep sleep, suggesting that this type of sleep may help people maintain optimal emotional and social functioning while they are awake. A study in rats also showed that certain nerve-signaling patterns which the rats generated during the day were repeated during deep sleep. This pattern repetition may help encode memories and improve learning.

Getting Quality Sleep

- Go to bed the same time each night and get up the same time each morning.
- Sleep in a dark, quiet, comfortable environment.
- Exercise daily (but not right before bedtime).
- Limit the use of electronics before bed.
- Relax before bedtime. A warm bath or reading might help.
- Avoid alcohol and stimulants such as caffeine late in the day.
- Avoid nicotine.
- Consult a health care professional if you have ongoing sleep problems.

Wellness Council of America 17002 Marcy Street, Suite 140 | Omaha, NE 68118
Phone: 402.827.3590 | Fax: 402.827.3594 | www.welcoa.org