

Java and nighttime jobs don't mix: study

November 3 2009

Night-shift workers should avoid drinking coffee if they wish to improve their sleep, according to research published in the journal *Sleep Medicine*. A new study led by Julie Carrier, a Université de Montréal psychology professor and a researcher at the affiliated Hôpital du Sacré-Cœur Sleep Disorders Centre, has found the main byproduct of coffee, caffeine, interferes with sleep and this side-effect worsens as people age.

"[Caffeine](#) is the most widely used stimulant to counteract sleepiness, yet it has detrimental effects on the [sleep](#) of night-shift workers who must slumber during the day, just as their biological clock sends a strong wake-up signal," says Carrier. "The older you get, the more affected your sleep will be by coffee."

Twenty-four men and women participated in the study: one group was aged 20 to 30, while a second group was aged 45 to 60. Everyone spent two sleepless nights in lab rooms before being allowed to sleep. "We all know someone who claims to sleep like a baby after drinking an espresso. Although they may not notice it, their sleep will not be as deep and will likely be more perturbed," says Professor Carrier.

Both participant groups had to take a pill three hours before sleeping; either 200 milligrams of caffeine or a lactose-based placebo. All subjects who consumed caffeine pills had their sleep affected, especially older participants who slept 50 percent less than usual. In both age groups, caffeine decreased sleep efficiency, sleep duration, slow-wave sleep (SWS) and REM sleep.

The combined influence of age and caffeine made the sleep of middle-aged subjects particularly vulnerable to the circadian waking signal. Professor Carrier suggests that lower brain synchronization - caused by age and caffeine - produces greater difficulty in overriding circadian waking signals during daytime and that leads to fragmented sleep.

These results have implications for the high proportion of the population using caffeine to cope with night work and jetlag, particularly the middle-aged. Carrier recommends that everyone over 40 reduce their coffee consumption, especially if they work at night. Her study builds on recent findings that reducing coffee consumption is the best way to improve sleep for the middle-aged.

More information: [The study](#), "Effects of caffeine on daytime recovery sleep: A double challenge to the sleep-wake cycle in aging," published in the journal [Sleep Medicine](#), was authored by Julie Carrier, Jean Paquet, Marta Fernandez-Bolanos, Laurence Girouard, Joanie Roy, Brahim Selmaoui and Daniel Filipini of the Hôpital du Sacré-Coeur de Montréal and the Université de Montréal.

Source: University of Montreal ([news](#) : [web](#))

Citation: Java and nighttime jobs don't mix: study (2009, November 3) retrieved 24 April 2024 from <https://medicalxpress.com/news/2009-11-java-nighttime-jobs-dont.html>

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