



Hi graduate friends,

Students often view sleep as something they can easily modify and reduce. They tell me they'll just sleep less for a few days or try to train their bodies to require less sleep overall, so that they can get more work done.

I'd like to tell you about a study carried out specifically on this topic. Van Dongen et al. (2003) experimented on 48 healthy adults put into four groups. For 14 nights, one group got 4 hours of time in bed, one group got 6 hours, another group got 8, and the last group got no sleep at all for 3 nights in a row. None of the groups were allowed to sleep during the day, and they didn't use any caffeine, alcohol, tobacco, or any medication during the experiment and 2 weeks prior to it. Overall, a well-designed study I'd say.

At first, with less sleep, people felt sleepy, but as the days went by, they got used to it and felt less sleepy. Interestingly, those who slept for 4 hours a night didn't feel hugely different from those who slept 6 hours.

Ok, so they felt alright, but how did they function?



Participants in all 3 groups with reduced sleep were tested regularly throughout the day on a variety of cognitive tasks (attention, reaction time, working memory, etc.) and they all displayed lower cognitive performance compared to those who got 8 hours of sleep. Obviously, those with no sleep at all were the worst, followed by those who got 4 hours, and then 6 hours of sleep at night. However, the interesting point here is that these participants' performance got worse over time, meaning the cost of reducing sleep was cumulative. For example, those who slept only 4 or 6 hours a night, after 14 days, showed cognitive performance deficits similar to those who had 1-2 days of no sleep at all.

I want to point out that this study isn't talking about those who have habitually slept less than 7-8 hours a day for years, or those who sleep at different times in the day. That's a whole different story with other impacts, for another day. This, however, is for those of you who occasionally think of reducing sleep to get more done or those who want to try and get used to sleeping less at this point in your life. If after 10 days of sleeping less you feel alright, it doesn't mean your brain is also functioning at its best, or even normal. You may sit at your laptop for longer, but you may not necessarily get more done. I say leave the sleepless nights only for extreme situations and don't rely on continuously reducing sleep, hoping for continuous improvement and productivity.

Best,



**Najmeh Keyhani (she/her/hers), PhD, from your [Learning Development & Success](#) team!**

**Reference:**

Van Dongen, H. P., Maislin, G., Mullington, J. M., & Dinges, D. F. (2003). The cumulative cost of additional wakefulness: Dose-response effects on neurobehavioral functions and sleep physiology from chronic sleep restriction and total sleep deprivation. *Sleep*, 26(2), 117-126.

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