



The relationship between sleep and health is complex. A new study has identified four distinct types of sleepers to understand it better, and explained how each can affect long-term well-being. While research has shown poor sleep is a risk factor for numerous chronic conditions, most studies measure a single feature of slumber at a single point in time, potentially missing key information. Here, a total of 3,683 participants in an existing longitudinal study in the US were surveyed between 2004 and 2006 and again between 2013 and 2017.

They reported on their sleep patterns, how tired they felt during the day, and any chronic health conditions they had. According to the researchers, led by a team from Pennsylvania State University, each type of sleep pattern affects our health differently. They also found that people were unlikely to change their sleep habits over time. "These results may suggest that it is very difficult to change our sleep habits because sleep health is embedded into our overall lifestyle," says Soomi Lee, a sleep scientist at the Sleep, Stress, and Health (STEALTH) laboratory at Pennsylvania State University. "It may also suggest that people still don't know about the importance of their sleep and about sleep health behaviors. The researchers identified the four distinct categories of sleepers based on combinations of conditions across different measures.

- **Good sleepers** had a healthy sleep routine, with optimal regularity in timing and amount, satisfaction, alertness during the daytime, appropriate bedtimes, efficiency in nodding off and waking, and solid duration.
- There were also **weekend catch-up sleepers**, who had lower than average sleep periods

in general, but caught up at weekends or on non-working days.

- Then there were **insomnia sleepers**, who showed classic signs of insomnia: having trouble sleeping, being tired during the day, and taking a long time to fall asleep.
- The fourth type of sleeper was the **napper**, with mostly good sleep patterns and frequent daytime naps.

At the second measurement point, more than half of the study subjects were either insomnia sleepers or nappers – sleep patterns that are suboptimal, the researchers say. Insomnia sleepers who stayed as this type over the 10 years were more likely to develop a range of chronic health conditions, including cardiovascular disease, diabetes, and depression. According to the team behind the study, extra effort needs to be made to educate people about the benefits of good sleep and the link between poor sleep and poor health. From memory to creativity, sleep has a huge influence.

"Sleep is an everyday behavior," says Lee. "Sleep is also modifiable, so, if we can improve sleep almost every day, what outcomes might we see after several months, or even several years?" Older adults and retirees were more likely to be nappers, the stats showed, while those who had spent less time in education or who were facing job insecurity were more likely to be in the insomnia group. That shows what a multifaceted field of research this is – many factors affect sleep, which has many effects. By splitting sleepers into types, which has been done before, we can get more clarity on some of these associations. "There are sleep hygiene behaviors that people could do to improve their sleep, such as not using cell phones in bed, exercising regularly and avoiding caffeine in the late afternoon," says Lee. (*Psychosomatic Medicine*)