

Research Brief

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SUBJECTIVE COGNITIVE ABILITIES CORRELATE WITH POOR SLEEP AMONG DAY-SHIFT AND NIGHT-SHIFT NURSES

Keywords: nursing, sleep quality, cognitive function, day-shift, night-shift

Purpose of the Study: To better understand the relationship between nurses' sleep and their perceived cognitive function, including mental focus, memory, and processing speed.

Key Findings:

- ✓ Overall, better sleep is associated with better perceived cognition among nurses.
- ✓ Overall, poorer sleep impacted night-shift nurses more than day-shift nurses.

Major Policy/Practice Implication: Hospitals and other health organizations that employ nurses should implement programs and policies that support nurses' sleep health.

IMPORTANT BACKGROUND INFORMATION

Poor sleep is common among nurses due to unconventional and long work shifts. Previous research shows that poor sleep is associated with poorer cognitive function and lower ratings of patient care. Perceived cognitive function (self-perception of mental focus, memory, and processing speed) has also been associated with work performance and patient safety. However, little is known regarding the relationship between daily sleep and perceived cognition, and how work characteristics, such as night/day shift, impact this relationship. The purpose of this study is to understand how sleep impacts nurses' perceived cognitive function, as well as better understand nuances among night/day shifts and work/non-work days.

STUDY METHODS

Researchers assessed the sleep of 60 nurses, including 39 day shift nurses and 21 night shift nurses. Participants completed a short background survey, then wore devices for fourteen days that measured time in bed and minutes awake while in bed. They simultaneously used their smartphones to answer daily questions about their perceived cognitive function and sleep. Each day, participants were also asked whether or not they worked, and what shift they worked (day or night). Researchers compiled and analyzed the data to understand the relationship between sleep and cognitive function collectively, as well as how the previous nights' sleep impacted the perceived cognitive function of each participant throughout the fourteen days.

KEY FINDINGS

- ✓ **Overall, better sleep is associated with better perceived cognition among nurses.** Even more, over the fourteen day period, participants regularly reported better than average cognition the day after they had a relatively better night sleep.

- ✓ **Overall, poorer sleep impacted night-shift nurses more than day-shift nurses.**
 - Day-shift nurses with better sleep quality reported better cognition, but this is not a significant association among night-shift nurses.
 - On an individual level, both day- and night-shift nurses reported better than average cognition the day after they had relatively better sleep quality. The association is stronger among night shift nurses.
 - Night-shift nurses also reported better than average cognition the day after they had a longer time in bed.

Work shift and workday moderated the sleep and cognition relationship, such that the consequences of poor sleep on subjective cognitive functioning were more apparent in night-shift nurses and on workdays.

- ✓ **Overall, feeling rested is associated with better perceived cognition among nurses.** This association is stronger on work days than it is on off days.

PRACTICE AND POLICY IMPLICATIONS

Nursing tasks, such as prescribing medications and responding to emergencies require strong cognition. Poorer cognition, such as diminished focus and slowed processing speeds, can impact patient safety and quality. The results of this study demonstrate that good sleep is an important component of supporting nurses' cognition so that they can excel in their work, particularly among night-shift nurses.

Our study yields important findings for nurses who need efficiency of mental focus, processing speed, and memory to complete important tasks such as prescribing medication, multitasking, and responding to emergency situations.

Hospitals and other health organizations that employ nurses should implement programs and policies that support nurses' sleep health. Researchers should consider further investigation into how nurses' sleep may impact quality care and patient safety.

ORIGINAL ARTICLE

Veal, B.M., Mu, C.X., Small, B.J., & Lee, S. (2021). Subjective cognitive abilities correlate with poor sleep among day-shift and night-shift nurses. *Journal of Sleep Research*, 30(5). doi: 10.1111/jsr.13359

This policy brief was written by Chelsea Goldstein, MGS and Lindsay Peterson, Ph.D. of the University of South Florida, School of Aging Studies and Florida Policy Exchange Center on Aging.

For further information contact the study author, Britney Veal, at britneyv@usf.edu.