

Health Foundation with representativeness for age, sex, location and socio-economic status, from a panel of over 220,000 Australians. The questions are taken largely from the 2002 US National Sleep Foundation Sleep in Adults survey and included the Stanford Presenteeism Scale (SPS). A three-stage randomisation process was used to minimise the risk of bias. Univariate analyses determined differences in frequencies by sex and 10 year age groups. Sleep problems are defined as difficulty falling asleep, waking up a lot overnight, excessive daytime sleepiness (EDS), daytime fatigue or exhaustion, feeling irritable or moody or pathological EDS (Epworth Scale Score >10)

Results: A quarter of adults report that their typical weekday routine does not allow them to get enough sleep. Overall, 44% of adults (47% women, 40% men) are on the internet just before bed almost every night of whom 59% have ≥ 2 sleep problems (26% overall). Device use is frequent in younger people (18–24 years:75%; 25–34 years:55%) but even in over 65 years, 22% use devices before sleeping. Similarly, 16% of all working adults do work ≥ 3 nights/week just before bed and report ≥ 2 sleep problems. In the past month 17% have missed work because they were sleepy and 17% have also fallen asleep on the job. In the past 3 months 29% of adults report making errors at work due to sleepiness or sleep problems. People with ≥ 2 sleep problems are significantly more likely to report decreased work productivity on the SPS. Driving while drowsy at least every month is reported by 29% of people, 20% have nodded off while driving and 5% have had an accident in the past year because they dozed off.

Discussion: It is common for people to do activities in the hour before bed including work that may affect their sleep and daytime function. Sleepiness and sleep problems are a major source of risk on our roads and have a major effect on work performance.

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HOW DOES THE LIKELIHOOD OF A CALL DURING AN OVERNIGHT ON-CALL SHIFT AFFECT SLEEP AND NEXT DAY COGNITIVE PERFORMANCE IN A LABORATORY ENVIRONMENT?

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On-call is a type of work which is undertaken by many Australians in a variety of different work settings (e.g. medicine, emergency response). However, to date there is little research on the impact of being on-call on sleep and next day performance when no call occurs. Previous research has indicated that the stress and anxiety associated with being on-call may result in decreases in both sleep quality and duration, which may, in turn, impact next day performance.

This study aimed to investigate the effects of being on-call, and variations in the likelihood of being called, on sleep and subsequent cognitive performance. Twenty-four healthy males, with a mean age of 24.5 years (SD = 3.6) were recruited for the study. All of these participants were within the healthy body mass index range, with a mean of 23.3 kg.m² (SD = 1.9). The protocol consisted of four nights in a sleep laboratory, with an adaptation night, a control night and two on-call nights, with the on-call nights being counterbalanced.

Bedtime on all four nights was 2300, and wake time was 0700. On one of the on-call nights, participants were told they were *definitely*

going to be called, whereas on the other on-call night told that they *may* be called. Sleep was assessed through polysomnography, and next day cognitive performance was measured using a 10-min psychomotor vigilance task (PVT). PVTs were administered at 0930, 1200, 1430 and 1700 each day. Mixed model analysis of mean reciprocal response time (RRT) showed a significant effect of day on performance of the PVT task, $F(2,135) = 4.11$, $P < 0.05$. Performance after the control night ($M = 4.23$, $SD = 0.59$) was significantly better than performance on the day after participants were told they *may* be called during the night ($M = 4.12$, $SD = 0.73$), $P < 0.05$. While performance following the night participants were told they were *definitely* going to be called ($M = 4.20$, $SD = 0.73$) was worse than following the control night, this difference was not significant.

The preliminary analysis suggests that next day performance is impacted by uncertainty about being called and this may be a result of changes to sleep. Sleep data are being analysed currently.

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THE ABILITY TO SELF-MONITOR PERFORMANCE DURING 66 H OF TOTAL SLEEP DEPRIVATION AND RECOVERY

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Introduction: Adverse cognitive consequences of sleep deprivation (SD) are well documented. The ability to accurately assess one's current performance during SD is critical in an operational context. Despite limited existing studies, evidence suggests the ability to monitor performance may not be affected by total SD. That is, individuals remain capable of recognising deficits when sleep deprived. This may have important protective effects in reducing negative consequences of SD. Given the lack of research, we aimed to investigate whether participants could accurately self-monitor performance during total SD.

Method: Forty healthy adults (18 females, aged 19–39 years) underwent a 5-day protocol, including a well-rested day, 66 h of total SD, and 2 nights of recovery sleep. Working memory was assessed using a subtraction task with 3 levels of difficulty. Vigilance was assessed using the PVT. Objective performance was measured with subtraction accuracy and PVT median reaction time. Subjective performance was measured with self-reported subtraction accuracy and self-assessed PVT speed (relative to baseline). Objective-subjective differences assessed self-monitoring ability (SMA). Daily testing occurred at 2 and 12 h post-habitual wake-time across 5 days.

Results: For subtraction, there was a significant Day by SMA interaction ($P = 0.006$, $\eta^2 = 0.07$), such that participants overestimated deficits during SD. There was a significant SMA by Task difficulty interaction ($P = 0.001$, $\eta^2 = 0.13$), with greater underestimation of performance as difficulty increased. On the PVT, there was a significant interaction of day by SMA ($P = 0.008$, $\eta^2 = 0.094$), with individuals overestimating deficits during the first day of SD and overestimating the extent of recovery on the second recovery day.

Discussion: Results indicate that sleep-deprived individuals overestimated their deficits in both tasks. This has positive implications, as individuals may avoid potentially dangerous tasks if they believe they are cognitively impaired. However, there was a different pattern of results observed between tasks on recovery days, suggesting that the effect of recovery sleep on SMA may differ across cognitive domains. On the PVT but not on the subtraction task, individuals overestimated the effect of recovery. This could have serious real world implications as individuals may perform tasks or engage in behaviours despite