



Sleep, sleepiness and performance on the bridge and in the engine room during a simulated voyage under a 6h on/ 6h off maritime watch regime

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Introduction

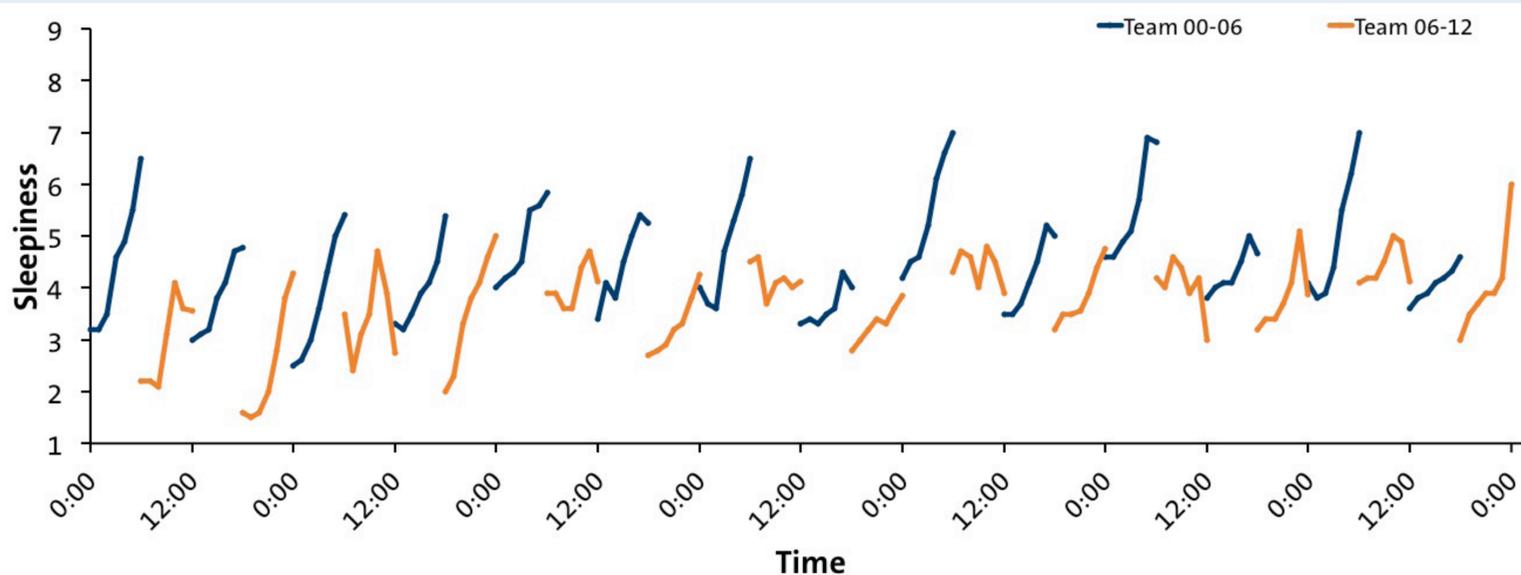
Fatigue among watch keepers is a growing concern in the maritime industry. This study investigated sleep, sleepiness, and performance on watch in a simulated 6h on/6h off watch system on the bridge and in the engine room.

Conclusion

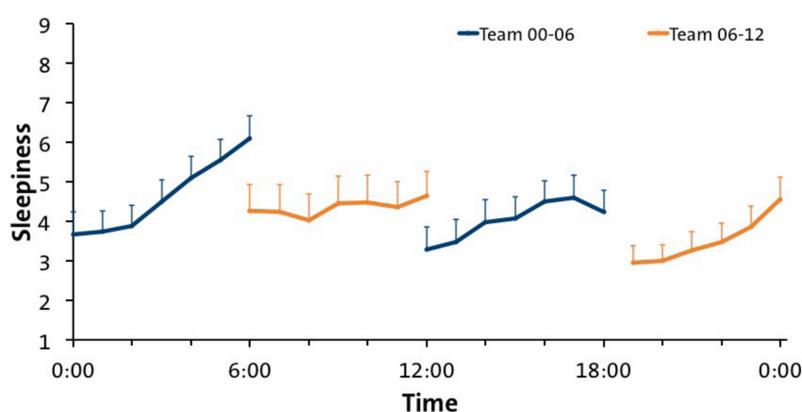
Sleepiness peaked at the end of night and morning watches. About a quarter of participants slept on duty. This poses a potential safety risk for longer voyages adopting a 6h on/6h off- watch keeping regime.

Results

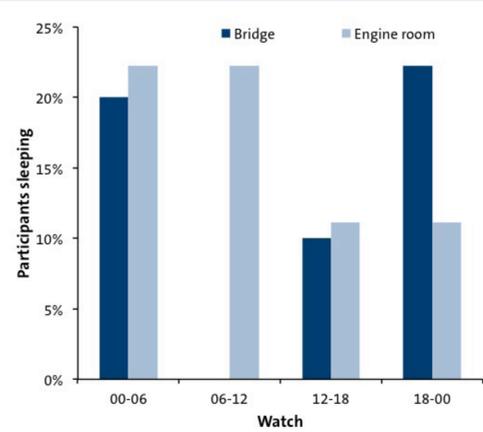
Sleepiness (KSS) increased with hours in watch ($p < .001$) and was higher during night/morning watches than during afternoon/evening watches. Furthermore, it increased over the course of the week, but only on the bridge ($p < .01$).



Sleepiness (KSS) over the course of the week for participants in the bridge simulators



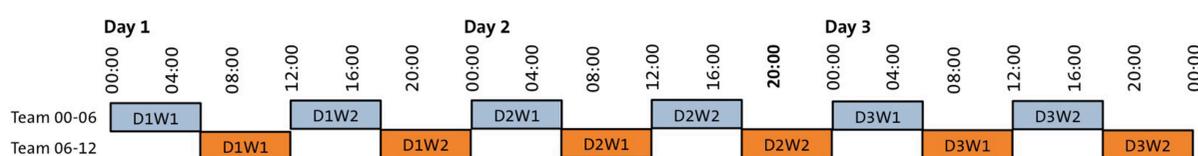
Sleepiness (KSS) on an average day for participants in the engine room (+ SEM)



Percentage of participants that slept while on watch

Method

40 seafarers participated in bridge (n=20) or engine room (n=20) simulators on a 1 week voyage through North Sea and English Channel. Sleepiness (Karolinska Sleepiness Scale, KSS) was rated hourly and waking EEG was recorded during 4 watches. The 6h on/ 6h off watch keeping regime is illustrated to the left



Representation of the first three days of the study, which continued like shown until day 7. Coloured boxes indicate the watches for both teams.



CONTACT