



Long term sleep and fatigue at sea: a field study

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Introduction

Although anecdotic reports are frequent, real field studies on long-term fatigue and sleep at sea are lacking. This will be the first such study, testing the hypothesis that sleepiness and fatigue will increase with time at sea.

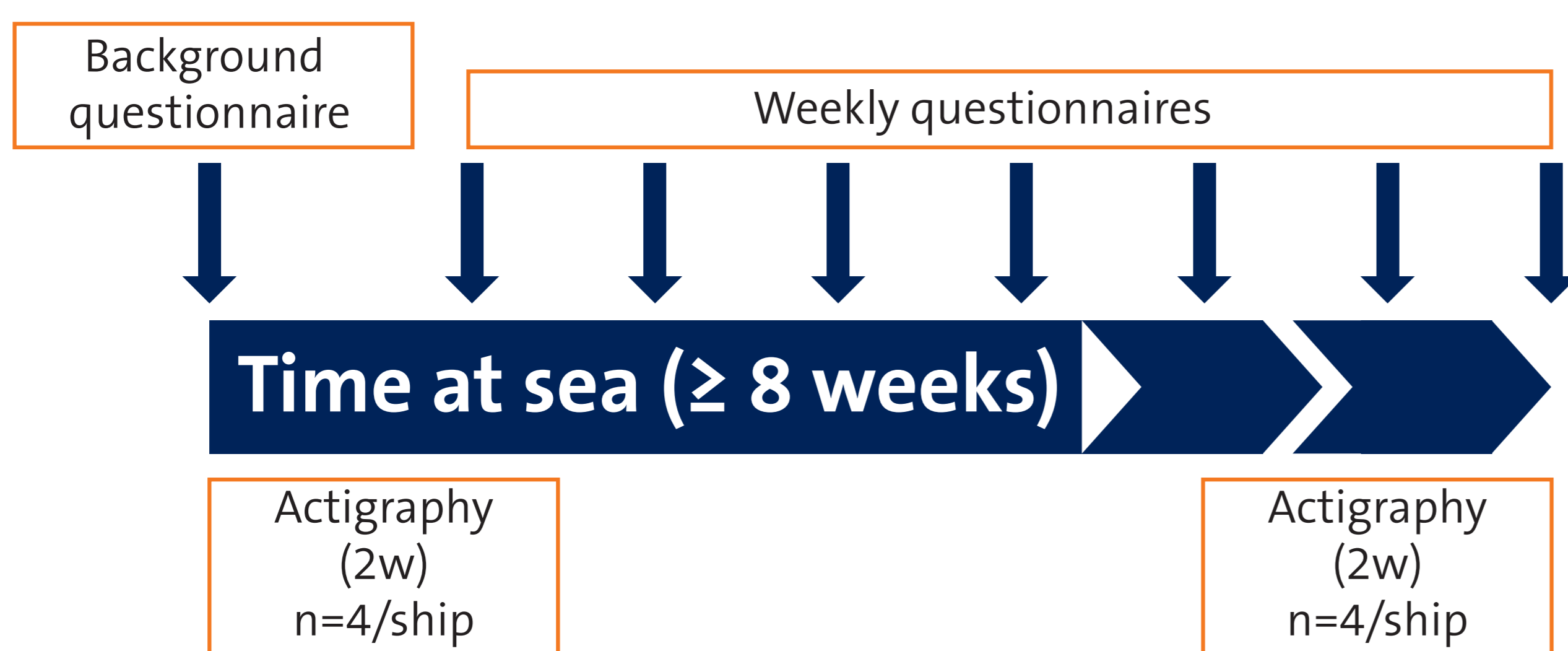
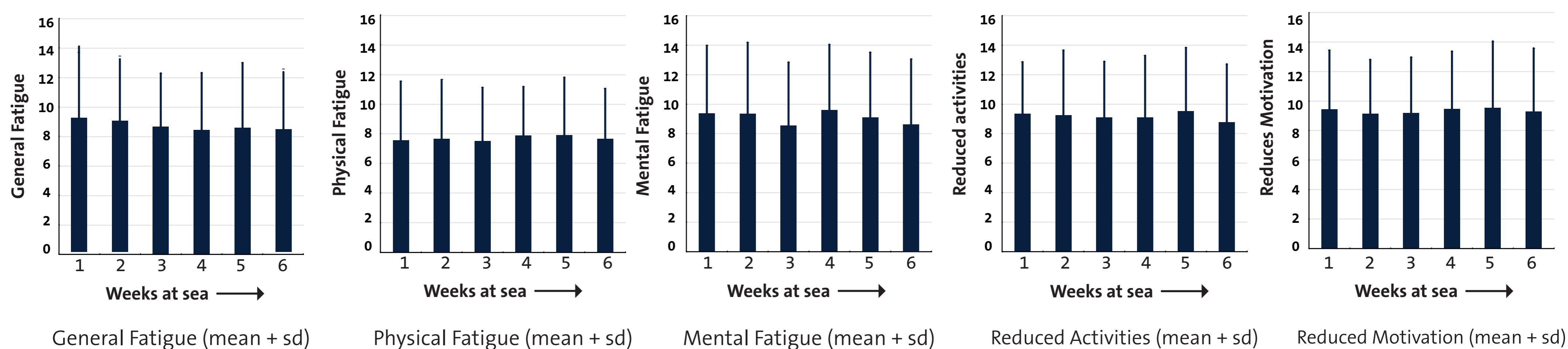
Conclusion

Preliminary analyses (i.e. of the first six weeks at sea) indicate no increase in the percentage of seafarers showing severe sleepiness (KSS ≥ 7) nor an increase of fatigue with time at sea.

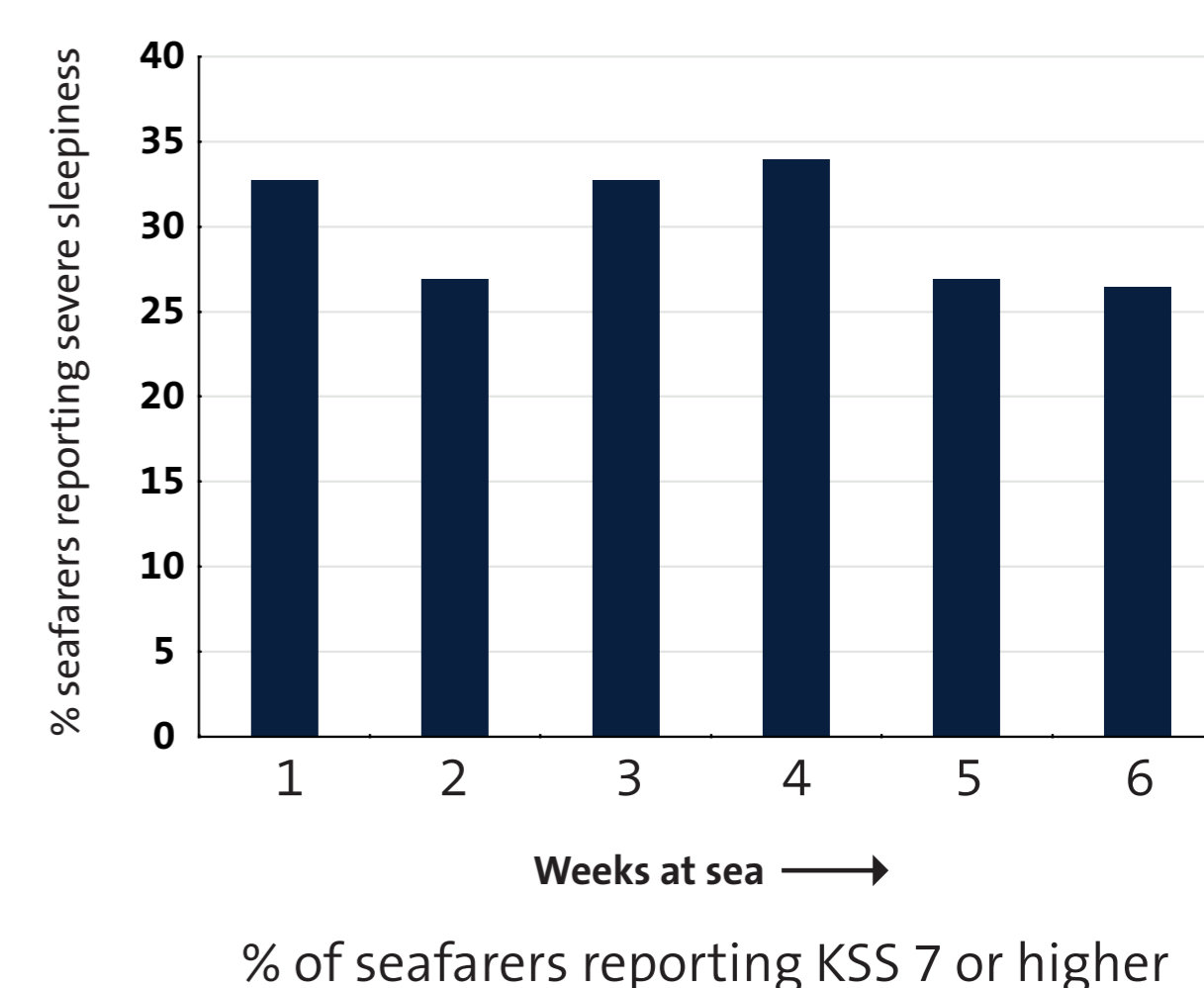
Results

Fatigue

Subscales of the multiple fatigue inventory (MFI-20)



Severe sleepiness



Method

2 European shipping companies participate with the entire crew of in total 8 ships during their routine operations for a period of on average 15 weeks at sea. Sleep is assessed using sleep diaries in combination with actigraphy, sleepiness (Karolinska Sleepiness Scale, KSS) is rated two-hourly during a full day every week. Fatigue (Multiple Fatigue Inventory, MFI-20) is measured weekly. See graphic representation above.

Background questionnaire

Average working-time is 69 ± 11 hours/week and 83% of seafarers do overtime work at least once a week. 50% of seafarers report having split sleep (2 sleep episodes of >1.5 hours per 24h). Self reported daily sleep need is $8,2 \pm 1,1$ hours, self reported daily sleep duration only $7,7 \pm 1,5$ hours. 70% naps once a week or more. Twice as many report being morning type as compared to evening type. 43% report

higher fatigue levels at the end of a journey at sea compared to the start. Coffee consumption is considerably higher during working days ($2,8 \pm 1,9$ cups) than during days off ($1,0 \pm 1,2$ cups).