

SLEEP AND OCCUPATIONAL HEALTH OF SEAFARERS - A COMPARATIVE STUDY IN EUROPEAN AND CHINESE SHIPPING INDUSTRY



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INTRODUCTION

Sleepiness have negative impacts on seafarers' health and performance, and even pose threat to their safety. This study explores potential factors for sleepiness in crews on European and Chinese vessels.

CONCLUSION

The study indicates suboptimal work and sleep patterns in global seafaring and suggests that work hours and amount of sleep are the factors which relate to seafarers' sleepiness.

RESULTS

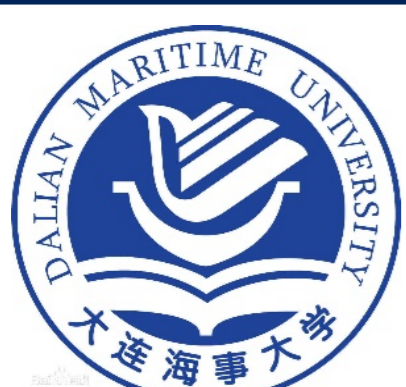
Compared to contract work time, seafarers in European and Chinese vessels had higher actual weekly work hours, respectively (European: $p < 0.001$, 95%CI = (-5.31, -2.96); Chinese: $p < 0.001$, 95%CI = (-4.80, -2.66)). There was no significant difference between European seafarers' actual sleep and their ideal amount of sleep ($p = 0.005$, 95%CI = (-0.80, -0.56)). Chinese seafarers' actual sleep was less than their ideal amount of sleep ($p < 0.001$, 95%CI = (0.09, 0.48)). A similar situation emerged between Ratings and Officers. Chinese seafarers' ideal sleep length was longer than that of European seafarers ($p < 0.001$, 95%CI = (-1.10, -0.74)). Compared to European seafarers, Chinese seafarers experienced lower quality of sleep ($p < 0.001$, 95%CI = (-0.45, -0.31)). A similar situation can be detected between Ratings and Officers.

TABLE 1. DESCRIPTIVE STATISTICS

	Chinese seafarers (Mean)	European seafarers (Mean)	Officers (Mean)	Ratings (Mean)
Contract work hours (weekly)	56.93 (n = 294, SD = 9.42, S.E = 0.55)	58.57 (n = 341, SD = 14.05, S.E = 0.76)	59.20 (n = 325, SD = 12.26, S.E = 0.68)	56.34 (n = 284, SD = 11.90, S.E = 0.71)
Actual work hours (weekly)	60.40 (n = 283, SD = 10.58, S.E = 0.63)	63.58 (n = 382, SD = 14.11, S.E = 0.72)	64.52 (n = 346, SD = 12.62, S.E = 0.68)	59.73 (n = 291, SD = 12.72, S.E = 0.75)
Actual sleep	8.06 (n = 444, SD = 1.61, S.E = 0.07)	8.06 (n = 441, SD = 1.94, S.E = 0.09)	7.82 (n = 484, SD = 1.76, S.E = 0.08)	8.38 (n = 365, SD = 1.78, S.E = 0.09)
Ideal sleep	8.68 (n = 457, SD = 1.22, S.E = 0.06)	7.76 (n = 442, SD = 1.52, S.E = 0.07)	8.13 (n = 490, SD = 1.42, S.E = 0.06)	8.36 (n = 373, SD = 1.50, S.E = 0.08)
Sleep quality	1.24 (n = 472, SD = 0.59, S.E = 0.03)	0.86 (n = 452, SD = 0.47, S.E = 0.02)	1.16 (n = 501, SD = 0.56, S.E = 0.03)	0.93 (n = 386, SD = 0.55, S.E = 0.03)

METHOD

The questionnaire was a revised version of the questionnaire designed and employed in the Cardiff Seafarers' Fatigue Research Programme. 454 and 483 seafarers in two European and two Chinese shipping companies, respectively, completed the questionnaire. Indexes indicating sleep quality were constructed by using scale reliability (Cronbach' $\alpha > 0.8$) and weighted mean. Strata were compared by application of a T-test.



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