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Seafarers' views on the impact of the Maritime Labour Convention 2006 on their living and working conditions: results from a pilot study

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ABSTRACT

Background: *The Maritime Labour Convention 2006 (MLC2006) entered into force in 2013 and is the first comprehensive set of standards for better living and working conditions covering aspects such as wages, contracts, food, medical care and social security. Currently, the Convention covers more than 90% of the world's shipping fleet. The aim of the study was to investigate the impact of the MLC2006 on the living and working conditions of seafarers and to test and adjust the methods for future use through a pilot study. This article presents the seafarers' perceived impact of MLC2006.*

Materials and methods: *A mixed-method research approach was used (February to April 2018). The quantitative data of 55 seafarers were analysed using descriptive statistics. Qualitative data obtained through a focus group interview and thematic content analysis was applied.*

Results: *Remarkably, one third of the respondents pointed out a complete lack of improvement, while 43.6% stated that the MLC2006 had improved their working and living conditions "somewhat" and only 7.3% "to a great extend". The focus group participants agreed that the MLC2006 did not improve working conditions but mostly increased paperwork. Other issues of concern were the safety on board including safety training, long working hours connected to low manning, food and social difficulties.*

Conclusions: *For Danish seafarers, the MLC2006 did not have a significant impact, as most standards were in place before. It must be further investigated what the MLC2006 achieved for other flag states, especially in the light of its 5-year anniversary. Both methods yielded valuable data. Focus groups are an ideal setting to study the views of seafarers.*

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Key words: MLC2006, seafaring, working conditions, occupational health, pilot study

INTRODUCTION

Worldwide, approximately 1.5 million seafarers work and live in unique, often hazardous conditions that can negatively affect physical and mental health. Not only are seafarers exposed to an environment with constant exposure to heat, noise and movement, poor diet and accommodation, shift work and the separation from family and friends, they also often have to face exploitation and financial pressure through non-compliance with contracts or non-payment of wages [1–5]. Inadequacy of available knowledge and difficulty to reach seafarers have hindered the implementation of standards enhancing seafarers' safety and health on board for a long time. A recent milestone to improve the conditions across the globe was the Maritime Labour Convention, 2006 (MLC2006). Adopted by the International Labour Organisation (ILO) in 2006, it entered into force on August 20, 2013 and now regulates more than 90% of the world's shipping fleet [6]. Also called the "Seafarers Bill of Rights", the MLC2006 is the first global set of comprehensive standards for better working and living conditions for seafarers. Across five chapters (Titles), the MLC2006 addresses aspects such as employment contracts, wages,

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hours of work and rest, career opportunities, accommodation, food, medical care and social security [7]. Furthermore, the Convention provides a level playing field and fair competition within the industry as the same standards apply to all ships arriving in ports of ratifying countries, regardless of their flag [6].

The study described in this paper was conducted in Denmark, one of the world's largest shipping nations that transports almost 10% of global trade with a strong influence in the maritime sector [8]. As many countries in the European Union, Denmark often takes a pioneering role, issuing more stringent and protective regulations than those in force on a global level [9, 10]. Prior to the MLC2006, the Danish Merchant Shipping (Master's and Seamen's) Act, regulating living and working conditions, has been in force since 1974 and is regularly updated [11, 12]. While covering an extensive range of aspects, the MLC2006 is still, in some parts, substandard to the Danish law (e.g. regarding pregnancy and maternity leave) [7, 12]. However, an analysis of register-based studies conducted between 1970 and 2010 on the health of Danish seafarers and fishermen found elevated rates of mortality, hospitalisation, specific diseases (e.g. obesity, cancer, tuberculosis) and accidents when comparing seafarers to the total Danish working population [13]. Seafarers working in Denmark therefore can provide unique accounts on the impact of the MLC2006 in a country with historically high employment standards. The insights might help to shed some light on the adequacy of the standards of the MLC2006 and contribute to the harmonisation and improvement of global regulations protecting seafarers' rights.

Knowledge on the impact of the MLC2006 is very limited and current research focuses on either administrative issues or the process of implementation of the MLC2006. Mixed results with both negative and positive aspects regarding the impact of the MLC2006 have been reported. Available studies investigated the impact of the MLC2006 on the protection of seafarers' welfare [14], the employment policies for Filipino seafarers employed overseas [15], the Egyptian law compared to MLC2006 [16], the living and working conditions for seafarers employed at a Thai subsea company [17], food provision on liner ships [18] and the availability of recreational facilities in connection to the standards of MLC2006 [19]. Only the study comparing the Egyptian law to the provisions of the MLC2006 draws a solely positive conclusion regarding the potential impact of the MLC2006 in Egypt [16]. All other studies present an ambivalent or critical view. There is a lack of studies focusing on seafarers' views of the MLC2006.

The goals of this pilot study were 1) to investigate the impact of the MLC2006 on the living and working conditions of seafarers from their perspective, to identify remaining issues and establish suggestions for future actions and 2) to test the suitability of the methods for future use aiming to enhance the existing knowledge and contribute to a larger research effort on the subject. In this article, the results referring to the seafarers' perceived impact of the MLC2006 on their working and living conditions are presented.

MATERIALS AND METHODS

A mixed-method research approach was applied, using an online questionnaire and a focus group interview to collect data on 1) working and living conditions and 2) health and safety of seafarers. The data were evaluated using the Titles 1–4 of the MLC2006 as guiding framework.

QUESTIONNAIRE

The Yale Study of Seafarer Health and Wellbeing was chosen and permission for use was obtained from the Yale Maritime Research Centre [20]. Small adjustments increased the suitability of the tool for the Danish reality and the purpose of the study. The final questionnaire contained 33 items (some with sub-questions) distributed across seven sections: 1) demographic information, 2) the latest tour of duty, 3) the ship, 4) the nature of the work, 5) health and safety, 6) internet access and cell phone use, and 7) personal opinion and expertise. The first three sections provided data on baseline characteristics, section (6) took an additional look at the situation of connectivity and the last section allowed free text entries. Google forms was used to create an online questionnaire. Through contacts at the Danish Maritime Cluster, the link and an invitation letter were posted in two Facebook groups for seafarers. All professional seafarers were eligible to answer the questionnaire. A consent form was obtained by each respondent. The link was kept active for 1 month (February 2018).

To facilitate the analysis and reduce complexity of this small-scale study, some variables have been transformed into categorical variables. Descriptive statistics were calculated in the form of percentages. The data transformation and analysis were done using the statistical software Stata, version 14.2 for Windows 10. The free text entries were categorised into common topics.

FOCUS GROUP

Participants in the focus group were recruited through an education facility of the Danish Maritime Authority. Four officers volunteered to participate in the group discussion that lasted approximately 50 min and was held in English in April 2018. All participants were Danish master mariners, i.e. officers or captains, but had various backgrounds and experience with diverse types of vessels. Apart from attending the educational facility at the same time for training, they were not previously acquainted. English was the second language for all four.

The interview guide was developed in collaboration with maritime experts focusing on the MLC2006 and taking the

results of the questionnaires into account. It contained five sections: 1) introduction by moderator and participants, 2) general work and work atmosphere, 3) safety on board, 4) opinion on the MLC2006, and 5) a group exercise where the participants were asked to order six frequent issues from the questionnaire from least to most problematic [21]. The discussion was recorded using an iPad and an iOS application and transcribed the following day. Participants were informed of this and assured that they will remain anonymous. Common themes were identified using thematic content analysis [21] and categorised into the three sections that constitute the research goal of this study: 1) impact of the MLC2006, 2) remaining issues, and 3) suggestions for future actions.

RESULTS

QUANTITATIVE RESULTS

The main characteristics of the participants are presented in Table 1.

In general, almost one third of the participants (27.3%) stated that the MLC2006 did not improve their conditions at all, while (43.6%) responded that it improved their conditions somewhat. Seafarers with more work experience reacted more negative to the MLC2006. Almost half of those with more than 10 years of experience (47,6%) selected not at all. In relation to rank, 38.5% of officers stated that the MLC2006 did not improve their conditions at all, while around 70% of non-officers stated somewhat. When it comes to the flag of the ship, more than half (54.1%) of those working on ships flying the Danish flag felt that the MLC2006 improved their conditions somewhat or to a great extent (Table 1).

Additional issues of concern were their performance and work place culture. Almost 80% stated that it is sometimes necessary to work at a rapid pace, and 67.2% stated to either sometimes or often/always perform tasks for which they need more training. Nine (16.4%) seafarers stated that they have sometimes been exposed to threats or violence at work during the last 2 years. Regarding workplace culture almost 51% stated that their workplace was either rather or very much competitive. Also, 67.3% think their workplace is rather or very much rigid and rule-based. However, 63.6% of the participants were either rather or very much satisfied with their job.

QUALITATIVE RESULTS

Qualitative data were collected through the last section of the questionnaire and the focus group.

In the questionnaire, respondents had the chance to list their concerns, opinion and other comments in free text. The answers were aggregated and categorised. The four most frequently reported issues were safety problems (n = 25), negative emotions such as stress and pressure (n = 14), the food on board (n = 14), and social difficulties among the crew (n = 12). These were used as background material to initiate discussion in the focus groups.

Safety issues that worried the seafarers were especially the differences in training standards for crew from other nationalities, a risky work environment on the ship with exposures to e.g. noise, heat and weather and the safety management overall (training, equipment, drills). Negative emotions reported were stress, lack of motivation, boredom and a feeling of not being good enough. Sexual harassment was mentioned by 3 of the 8 female respondents. Respondents also complained about bad and unhealthy food and a lack of training for the galley staff. Complaints about crew issue included language difficulties, cultural differences, distrust and different attitudes towards safety.

In the focus group, the discussion was about three categories: 1) impact of the MLC2006, 2) remaining issues, and 3) suggestions for future actions. The general opinion was that the MLC2006 did not have a significant impact for Danish seafarers and Danish vessels. Most of the standards introduced by the MLC2006 existed in Denmark before. The interviewees even mentioned that, in some points, the MLC2006 is inferior to what they were already doing. They all agreed that the MLC2006 mostly increased administrative tasks and the amount of paperwork and checklists. However, they also acknowledged an increase of safety awareness and a potential improvement for other flags, especially regarding employment contracts. Other remaining issues regarding the MLC2006 in particular are low manning standards, the lack of required proficiency of the working language and the lack of reliable internet connection for the crew.

DISCUSSION

IMPACT OF THE MLC2006

Consistent with existing literature [14, 16, 18, 19] the results indicate an ambivalent opinion regarding the impact of the MLC2006. As 92.7% of respondents were born in Denmark and 87.3% stated to work on ships flying the Danish flag, the results mainly indicated the situation among seafarers in Denmark. Approximately half of the questionnaire respondents stated that the MLC2006 improved their working and living conditions greatly or somewhat. It is worth mentioning that 3 out of 10 seafarers did not see any difference following the introduction of the MLC2006. The picture was clearer between the four focus group participants who stated that the MLC2006 did not have a positive impact for Danish seafarers but only increased paperwork and administrative tasks. Officers were overrepresented in the present study, which might skew the results.

Table 1. Descriptive statistics for the study population according to the respondents' opinion on the Maritime Labour Convention 2006 (MLC2006); frequency and percentage

Characteristics	Total	Improvement thanks to MLC2006			
		Not at all	Very little	Somewhat	To a great extent
Total	55 (100%)	15 (27.3%)	12 (21.8%)	24 (43.6%)	4 (7.3%)
Gender					
Female	8 (14.5%)	1 (12.5%)	1 (12.5%)	6 (75%)	0 (0%)
Male	47 (85.5%)	14 (29.8%)	11 (23.4%)	18 (38.3%)	4 (8.5%)
Age					
20–40	38 (69.1%)	9 (23.7%)	9 (23.7%)	17 (44.7%)	3 (7.9%)
41–63	17 (30.9%)	6 (35.3%)	3 (17.6%)	7 (41.2%)	1 (5.9%)
Total years as a seafarer					
< 10	34 (61.8%)	5 (14.7%)	9 (26.5%)	17 (50%)	3 (8.8%)
≥ 10	21 (38.2%)	10 (47.6%)	3 (14.3%)	7 (33.3%)	1 (4.8%)
Working hours/day					
< 10	16 (29.1%)	1 (6.3%)	4 (25%)	11 (68.7%)	0 (0%)
≥ 10	39 (70.9%)	14 (35.9%)	8 (20.5%)	13 (33.3%)	4 (10.3%)
Rank					
Officer	39 (70.9%)	15 (38.5%)	9 (23.1%)	13 (33.3%)	2 (5.1%)
Non-officer	16 (29.1%)	0 (0%)	3 (18.8%)	11 (68.7%)	2 (12.5%)
Department					
Deck and/or Bridge	29 (52.7%)	10 (34.5%)	4 (13.8%)	12 (41.4%)	3 (10.3%)
Engineering	25 (45.5%)	5 (20%)	8 (32%)	11 (44%)	1 (4%)
Steward	1 (1.8%)	0 (0%)	0 (0%)	1 (100%)	0 (0%)
Type of ship					
Container ship	21 (38.2%)	3 (14.3%)	5 (23.8%)	12 (57.1%)	1 (4.8%)
Supply ship	9 (16.3%)	4 (44.4%)	1 (11.1%)	4 (44.4%)	0 (0%)
Tanker	9 (16.3%)	3 (33.3%)	3 (33.3%)	2 (22.2%)	1 (11.1%)
Jack-up vessel	3 (5.5%)	1 (33.3%)	1 (33.3%)	1 (33.3%)	0 (0%)
Passenger ship/ferry	3 (5.5%)	2 (66.6%)	0 (0%)	1 (33.3%)	0 (0%)
Tug	3 (5.5%)	0 (0%)	2 (66.6%)	1 (33.3%)	0 (0%)
Other	7 (12.7%)	2 (28.6%)	0 (0%)	3 (42.9%)	2 (28.6%)
Country of birth					
Denmark	51 (92.7%)	13 (25.5%)	12 (23.5%)	22 (43.1%)	4 (7.8%)
Other	4 (7.3%)	2 (50%)	0 (0%)	2 (50%)	0 (0%)
Flag of ship					
Denmark	48 (87.3%)	12 (25%)	10 (20.8%)	22 (45.8%)	4 (8.3%)
Norway	2 (3.6%)	1 (50%)	1 (50%)	0 (0%)	0 (0%)
Other	5 (9.1%)	2 (40%)	1 (20%)	2 (40%)	0 (0%)

Research from 2009 revealed that only a small number of improvements were recorded for the living and working conditions between 1977 and 2007, which could be associated to the lack of comprehensive labour standards prior to the MLC2006. It was found that extensive ratification increased the impact of other major maritime conventions [22]. The MLC2006 currently covers 91% of the world gross tonnage. Reasoning from the mentioned findings, this extensive coverage suggests an improvement through the MLC2006. While this might be true in general, it is reasonable to assume that improvements gained from the MLC2006 in Denmark were, at best, minimal since these

standards were already in place. This is potentially also the case for other countries. It is however likely that seafarers working on ships flying flags from countries with weaker labour regulations than those introduced by the MLC2006, benefitted from the Convention as exemplified by Noufal and Al Sherif [16] in their analysis of Egyptian law.

REMAINING CONCERNS AND ISSUES

A major issue, raised by the study participants was safety on board. Especially the differences in safety training between nationalities seem to be of great concern. In Title 1, the MLC2006 demands that seafarers are adequately trained to perform their duties (training to be done according to the Standards of Training, Certification and Watchkeeping [STCW]). In the focus group, one respondent argued that the STCW is too weak. Experts from the industry also agreed that training standards still differ between countries Problems with safety training are worsened by language difficulties. Seafaring is an international profession and the working language is English on most vessels. Both the questionnaire and the interview made clear that there are many deficits regarding proficiency of the working language. This might compromise safety especially in situations where quick reactions are needed such as emergencies [1].

The MLC2006 demands a minimum of ten rest hours in any 24 hours period. Nobody reported more than 14 hours of work per day, which indicates compliance with this regulation. Yet, in the qualitative responses, two seafarers emphasized the difficulties to adhere to the required rest hours. Working hours and stress were selected as the most problematic issue in the closing exercise of the focus group and also had high priority for the complaints listed in the free text part of the questionnaire. Rest and fatigue issues were mentioned five times. These findings indicate problems regarding low manning, high workload and the difficulty to adhere to rest hours and confirm the existing literature [3, 4, 14, 23]. Recent results from a global study with seafarers indicated that the high workload was the biggest issue in seafaring [19]. A study with Turkish deck cadets revealed that 32% violated the rest hours mandated by MLC2006 during their training [23]. Working every day means less time to relax, rest and connect with family and friends [24]. Jepsen et al. [25] further criticise current shift work, as it is not possible to get enough rest when the day is separated into unequal portions.

All four focus group participants were satisfied with the food and determined it to be the second least critical issue in the group exercise. In the questionnaire however, food was the second most frequent issue mentioned in the free text section. The seafarers from the focus group work on vessels that undertake shorter voyages and operate close to shore, which might be an explanation for the discrepancies. A nutritious and varied diet is not only important for physical health but also essential for mental wellbeing and socialising on board [26, 27]. The MLC2006 includes the phrase that the members "shall" (Regulation 3.2, 1) serve enough and nutritious food. The Regulation does not define nutritious food and does not specify the quantity of nutrients that should be provided [18]. The kind of food that is provided is therefore largely left to the ratifying countries.

When living and working together in close quarters for prolonged periods, conflicts are a natural occurrence. Social issues among the crew were the third most frequent issue in the questionnaire and emphasized during the group discussion. It is possible that seafarers feel more comfortable with colleagues with the same nationality as they understand jokes and other cultural customs for social interaction. Multinational crews have previously been associated with increased stress [1]. Opposing this, other research found that multinational crews were successful and popular with both seafarers and companies [28, 29]. In the study presented here, the majority of respondents worked on Danish flagged ships and in Danish crews. The importance of specific preferences and attitudes between seafarers of different nationalities has been identified [29] and it is possible that Danish seafarers are a subpopulation that prefer single-nationality crews.

Women are outnumbered in shipping and often experience discrimination. In the questionnaire 3 out of 8 women (37.5%) aged 22–31 years mentioned sexual harassment or harassment as an issue. Two women were officers. Other researchers found numbers between 17% and 50% and stated that sexual harassment mainly affects younger women. They also found, that officers are not affected as much, which slightly contradicts the results found here [30]. However, the numbers are very small and no definite conclusions can be drawn. Across both genders, more than 15% (n = 9) reported having been exposed to threats or violence within the last 2 years. A new amendment to the MLC2006 includes guidelines to avoid harassment and bullying on board and will enter into force in January 2019. It remains to be seen whether it will be effective.

LIMITATIONS OF THE STUDY

The study presented here was conducted as a pilot study, thus the results must be interpreted with caution. Nevertheless, they provide an insight of the seafarers' views and opinions of the MLC2006.

The mixed method approach allowed the collection of informative, more complete and useful data. Cross-references and comparisons between the results were possible and deepened the insight. However, several adjustments could increase the success of a larger study.

The questionnaire was successfully used by researchers from the Yale University. Its length allows the collection of diverse and detailed data, but might also hinder respondents to answer. The instrument should be further adjusted in

a comprehensive way. An additional problem might have been the long invitation letter that should be kept more concise.

Using an online questionnaire is advantageous as the distribution is easy and the data are immediately available in electronic form. By publishing the link on social media, large numbers of potential respondents can be reached without much effort. However, only 55 seafarers answered, which indicates limitations of the approach. No data on the number of people who saw the link is available; therefore, no response rate can be calculated. The survey was open to all seafarers but only 3 responses were from seafarers who had neither Danish nationality nor worked on a Danish flagged ship. For a future study, international contacts for the distribution should be established. Using social media may also cause selection bias. Only those who are registered can answer the survey. The study population contained 8 women, representing 14.5% of all participants. Comparing this to the 1–2% of female seafarers overall, women are overrepresented in the sample of this study [30], confirming that women are more likely to participate in surveys. For a future study, the use of other channels for distribution such as email or newsletters should be taken into consideration. The distribution of paper versions in e.g. training centres is another option. Using different paths increases the likelihood to reach a diverse study population and limits bias.

The setting of a focus group is more casual than the classic interviewer-to-interviewee situation. It resembles a natural conversation among likeminded people. Common issues and annoyances are more easily discussed [21]. This theory could be confirmed as the participants felt comfortable sharing sensitive issues such as the lax usage of checklists or the near breach of the rest hours demanded by the MLC2006. They were eager to share many aspects of their daily working conditions, despite working in different roles and on different ships. Concerns regarding anonymity and confidentiality did not seem to be big issues for the participants. Seafarers put a lot of focus on camaraderie, which makes focus groups a good method to study their views.

SUGGESTIONS FOR FUTURE ACTIONS

Moving forward, there are some suggestions for action that could be drawn from the results of this study. Stricter requirements should be enforced regarding seafarer training, either within MLC2006 or through other Conventions. Low manning is still a problem and it could be considered to increase the current minimum safe manning standards to lighten the overall workload, reduce stress and avoid the violation of rest-hours, at least during periods with increased danger, e.g. in winter or during loading [22]. Ultimately, this would help to increase health and safety as the seafarers will be better rested and focused. The results indicate that a mandatory proficiency of the working language (usually English) for seafarers working internationally could help to improve safety and contribute to comradery and thus social wellbeing. Other researchers have also mentioned the importance for adequate language proficiency for the avoidance of accidents [1]. More detailed food provision standards should be established and included in the MLC2006. The current text does not achieve to provide an adequate level of healthy and nutritious food, something that has also been criticised by others [18]. Food is essential for physical and mental health and wellbeing and should therefore be a priority for all ship-owners and managers [1, 27].

A new and most likely increasing problem, that also was mentioned by several seafarers during the data collection procedure, is connectivity. As a natural part of daily life, most people take the internet for granted. This is not the case for seafarers due to inadequate technological possibilities and lack of prioritisation from ship owners. It should be considered to make internet connection mandatory under the MLC2006, at least where this is possible with the available technology. This has also been proposed by others and found beneficial for satisfaction and health [3, 5, 14, 19]. Reliable and mandatory internet connection could also assist to overcome recruitment problems, as more young people will be attracted to the industry. This pilot study can only present preliminary results and the benefit of these recommendations must be confirmed in a larger study.

CONCLUSIONS

The hypothesis that the MLC2006 had succeeded in improving the living and working conditions of seafarers could not be confirmed. It remains unclear whether the overall impact of the MLC2006 is solely positive. Certainly, several issues remain and the MLC2006 does not cover all necessary aspects of seafarers' living and working conditions. Significant issues that remain for seafarers are the long working hours coupled with low manning, safety on board, social difficulties (especially regarding language) and food. Should the MLC2006 not have the desired outcome of protecting seafarers, further measures must be undertaken to ensure adequate living and working standards for this essential workforce. It is likely that the MLC2006 did not greatly influence the conditions in developed shipping nations such as Denmark, at least not for officers. Therefore, it is important to assess the impact of the MLC2006 in other flag states. Such an assessment might be more useful in the light of its 5-year anniversary. The international nature of shipping demands that all stakeholders and nationalities get a voice. Scientists may use the findings from this pilot research to inform a larger study on this topic in the future.

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ETHICS APPROVAL AND CONSENT TO PARTICIPATE

The study was approved by the Danish Data Protection Agency.

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