



A Study on Working and Living Conditions of Turkish Seafarers

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Abstract

In order to increase the number of well-qualified and well experienced seafarers on ships and their employment periods, as well as providing the desired safety at work, improving/promoting the working conditions on ships, is of utmost significance. The purpose of this study is to reveal to what extent working conditions for Turkish seafarers who work on commercial ships comply with the terms of MLC (Maritime Labour Convention). For this aim, a questionnaire, an instrument of quantitative research method, was issued and conducted through 296 seafarers working on the ships owned by Turkish shipowners. The results of the comparative analysis reveal that the working condition on Turkish-owned ships is moderately compliant with the terms of MLC.

Keywords: Seafarer, Maritime Labour Convention, Working and Living Conditions, Human Resource Management.

1. Introduction

The number of researches carried out by labour unions and the relevant experts on determining the international working standards and protecting the rights of employees seems to be rather low in the 20th century. However, since the 1980s with the rise of the global workforce, there has been a need for determining the international working standards [1]. International companies have taken measures aiming to reduce the costs of the workforce, which have damaged the rights and the working conditions of workers. In order to eliminate such damages, the struggles of certain non-governmental organizations have brought about certain standards for working conditions, aiming to protect the rights of workers/employees [2]. Increasing the effectiveness and practicability of the international workforce and integrating it into the obstacles brought about by globalization is one of the most critical responsibilities of ILO (International Labour Organization). There has been a need for standardization in the transport and trading industries, the most widened and broadest ones within global sectors. Thus ILO has adopted the Maritime Labour Convention (MLC), having gathered the relevant standards together [3]. Seafaring has always been a profession with special legal protection in history. Due to the difficulty of the working environment and the power imbalance between ship-owners and seafarers, the necessity of protecting seafarers' rights and benefits were accepted as a reality [4]. Being on board of foreign flag ships and working in international conditions can cause exploitation of seafarers' rights by decisions for the benefit of ship-owners [5].

The harshness of the living and working conditions on board ship affects the mental and physical health of the seafarers and thus result in accidents and mishaps [6]. Seafarers are considered the most isolated

groups due to their working environment. Because they work in the sea for months without contacting other than their colleagues, and they live on ships with working environments [7]. In addition to this, it is known that stress levels of employees that are bound to live and work in closed quarters for long periods of time tend to be higher than those who work in regular workplaces. In the maritime industry, living and working in the same closed space, lack of socializing possibilities, limited communication with family and friends, and feeling of entrapment have negative effects on productivity and health of employees [8]. The pursuit of competitive advantage in the maritime labour workforce results in shipowners trying to cut the costs, starting from the seafarers, which in turn, makes the working conditions worse. This fact pushes experienced and qualified seafarers out of the profession, and thus the uncertainty in the maritime labour workforce continues [9]. The increased use of technology on-board ships and the competitive environment in the marine industry are the reasons behind the employment of the lesser amount of personnel on ships, and these personnel are chosen among the cheaper workforce of developing countries. This situation births another problem, which is the abuse of seafarers, with little to no regard for their rights [10]. By taking these facts into consideration, it is required to make seafaring a profession that is reputable and preferable, by improving the working and living conditions and preventing the abuse of the workforce. This study aims to reveal whether the working and living conditions of seafarers working on Turkish flagged ships meet the conditions specified in MLC. The significance of this study is that it provides results that can be used to improve the status of the maritime profession and decrease the rate of qualified personnel leaving the profession,

through the evaluation of the deficiencies in the working and living conditions of seafarers and also help identify factors that can cause accidents, in relation with this topic. Moreover, by full compliance to MLC, Turkish commercial fleet, would face no reputation loss in foreign ports' Port State Controls, thus gaining a commercial advantage.

MLC was issued by means of integrating all the issues in various conventions in favour of bettering (improving) the working conditions on board of ships, publishing and protecting the rights of workers as well as social welfare and freedom into a legalized frame of the maritime industry. MLC is a convention covering all such matters as recruiting and hiring (employing), the minimum age to be a considered in employment, business-employment contracts, wages, periods for working and resting, quitting, conditions for returning home, social life, victualling, social security and health-care for seafarers, and the liabilities (responsibilities) of shipowners for all these criteria [11].

2. Maritime Labour Convention

The purpose of the Maritime Labour Convention is to increase and sustain the working conditions and welfare of seafarers. The convention has adopted certain regulations aiming to raise the psychological welfare of seafarers in such matters as prompting the social facilities on ships and providing proper access to certain communication instruments like phone, internet, library, movies etc. Besides, the convention includes certain regulations favouring the improvements of the conditions such as accommodation, medical care, recreational facilities and social security. The regulations adopted also covers providing decent quality working and living conditions, eliminating exploitations, benefiting from proper medical support and enjoying the freedom

of getting organized for various aims on ships. Shipping companies, therefore, are to be inspected on all points mentioned above, and they are to be documented accordingly [12]. Maritime Labour Convention (MLC) was formed by updating 68 previously produced conventions about protecting seafarers' rights. Section A in the convention contains rules and standards, while section B includes guides and recommendations for the application of those standards [13]. The previously produced 68 conventions, of which determine the maritime working standards, were needed to be updated in order to keep up with the changes in the maritime field. With growth and globalization, the maritime sector has become an organized structure that interconnects all stakeholders. Working with seafarers from different nationalities, and increasing stress and workload have negative consequences on seafarers' safety and health. Therefore, a renewed convention was needed [14].

The rights and liabilities of seafarers have predominantly taken place in the most international debates. On the other hand, shipping companies have insisted on trying to gain the highest possible profits in the severely increasing competition in the shipping/maritime industry by means of decreasing the cost of the workforce as to minimize the overall costs. In compliance with such attitude and aim, they have chosen to hire seafarers from countries (nations) that have no regulations favouring the rights of workers and have relatively low income per capita. This eventually lowered the overall prestige of seafarers and worsened their rights and working conditions [15]. Some of the difficulties on board that the seafarers have to face can be listed as insufficient nutrition, lower-wage from the values written on the contracts, no payments for wages and for overtime, lack of hygiene, lack of access to medical care, physical and mental violence, and

sexual harassment [4]. In order to change and better this unfortunate situation, the companies trading through international waters are to comply with the terms of MLC and provide a certificate of compliance if they want to conduct their business steadily. Otherwise, as it was witnessed, those who act against the MLC terms might suffer from having to stop their activities at least temporarily for certain periods or lose their commercial reputation when encountering problems at the flag state and port state controls [15]. States that are party to the MLC make arrangements to accommodate the provisions of the convention to their national legislation. In this way, states have sanction on companies for the solution of problems related to the seafarers' rights [16]. To detect the problems related to seafarers, Port State Control and Flag State Control officers have to pay more attention to regulations of MLC. It is thought that there is no sufficient monitoring for working conditions regarding MLC regulations during regular inspections, and the detected items were not considered as necessary [17].

All states that aim to get a share from international maritime trade have to follow the regulations and make the preparations in terms of MLC 2006. By detailed inspection and evaluation, the states that are not the party of the convention are going to be forced to be a party [18]. Like other states, Turkey is also interested in being a part of the international maritime workforce. Thus, to be in the market, it has to show efforts via ships, seafarers, and employment offices complying with the MLC regulations. As the maritime profession has become a highly globalized profession in recent years [15], Turkey needs developments and applications, especially on private employment offices, to force them to comply with the MLC regulations.

Turkey comes on top of the list regarding the total number of seafarers

working actively on board, but it cannot show the same success in the number of seafarers working on foreign-flagged ships. Therefore, the reconsideration of ship management and private employment offices in the context of MLC and certification has increasingly become more important. Efforts in this direction can help Turkey to get a more appropriate share in the international maritime workforce. The quantitative data in terms of seafarers in Turkey is given in Table 1.

3. Methodology

The purpose of this study is to reveal the working and living conditions on-board Turkish flagged ships from the seafarers' point of view and investigate if the seafarers' evaluations on the conditions differ depending upon experience, proficiency, ship type, tonnage, and gender. This study was designed as a descriptive study, which is one of the quantitative study designs. Descriptive studies are used to determine the views and characteristics of large groups [21]. Hence, the participants have responded to the questions, which were adopted by the researchers from the Report on Compliance with Maritime Labour Conventions.

The population of the study covered the Turkish seafarers employed on-board commercial ships with Turkish owners. The total number of seafarers working on commercial ships determined to be 101277 in August 2019, 29543 of whom are officers, and 71734 are ratings according to data from the Turkish Republic Ministry of Transport and Infrastructure. Those with crew certificates and employed at recreational boats and fishing boats are included in this number. While deciding the sample size, N (population value): 101277, t (theoretical dispersion): 1.96, p (likelihood of happening): 0.2, q (unlikelihood of happening): 0.8, d (accepted error ratio): 0.05 and n (sample size) 245 was

Table 1. Number of Seafarers in Turkey

OFFICERS			
Deck Officers		Engineer Officers	
Oceangoing Master	3852	Oceangoing Chief Engineer	2106
Oceangoing Chief Officer	2092	Oceangoing 2nd Engineer	1128
Oceangoing Watchkeeping Officer	3480	Oceangoing Watchkeeping Engineer	1991
Total Oceangoing Deck Officers	9424	Total Oceangoing Engineer Officers	5225
Master	816	Chief Engineer	980
Chief Officer	1097	2nd Engineer	728
Watchkeeping Officer	2804	Watchkeeping Engineer	2397
Limited Master	2717	Limited Chief Engineer	866
Limited Officer	1871	Limited Watchkeeping Engineer	618
Total Deck Officers	18729	Total Engineer Officers	10814
TOTAL OFFICERS: 29543			
RATINGS			
Deck Ratings		Engine Ratings	
Seaman	32294	Wiper	412
Able Seaman	19286	Oiler	11234
Bosun	4961	Motorman	2497
		Donkeyman	1050
Total Deck Ratings	56541	Total Engine Rating	15193
TOTAL RATING: 71734			
GALLEY			
Cook	5100	Steward-Cabin Boy	5744
TOTAL GALLEY: 10844			
ELECTRICAL			
Electrical Officer	645	Electrician	1496
TOTAL ELECTRICAL PERSONNEL: 2141			
FISHERS			
Fisherman	9147	Open Sea Fishing Boat Master	531
Fishing Boat Master	1075		
TOTAL FISHERS: 10753			
HEALTH CARE PERSONNEL			
Doctor	8	Nurse	6
Health Officer	9		
TOTAL HEALTH CARE PERSONNEL: 23			
YACHT MASTER			
Yacht Master (149 GT)	934	Yacht Master (2999GT)	10
Yacht Master (499 GT)	6377	Yacht Master (Unlimited)	783
TOTAL YACHT MASTER: 8104			

Source: [20]

determined. Thus, through a simple random sampling method, 296 participants were reached. The ages of the participants range from 22 to 62 (Table 2). Data collection took a long time as it is difficult to reach seafarers as their working periods differ and not on a regular schedule as it was the case for a traditional white-collar employee. Because it would be difficult for seafarers to respond to the questions objectively when the data are collected by masters, data collection has been carried out when the seafarers are not on active duty on a ship. The difficulty of accessing the internet and telephone at sea has also contributed to lengthening the period of data collection.

As a data collection tool, a questionnaire used in this study. The questionnaire comprises two parts. The first part aims to collect profile data about the participant e.g., age, gender, experience, ship type, and tonnage he/she is employed at. The backbone of the second part is the "Report on Compliance with Maritime Labour Conventions (2006) issued and adopted by ILO. This report made up of 179 items, consists of the four factors which are listed as follows, f1: contract, wages and working hours, f2: accommodation and provisions, f3: health care and safety, and f4: complaint procedures. 36 items out of this report, directly related to the working

Table 2. Sample Characteristics

Variable	Sub-Variable	f	%
Gender	Female	19	6,4
	Male	277	93,6
	Total	296	100
Experience	Up to 1 year	140	47,3
	1-5 years	38	12,8
	6-10 years	55	18,6
	11-15 years	24	8,1
	16-20 years	39	13,2
	Total	296	100
Proficiency	Master-Chief Engineer	37	12,5
	Officers	150	50,7
	Ratings	109	36,8
	Total	296	100
Type of Ship	Tanker Ship	97	32,8
	Dry Bulk Ship	122	41,2
	Ro-Ro Ship	22	7,4
	Container Ship	48	16,2
	Others	7	2,4
	Total	296	100
Gross Tonnage of Ships	0-3000	66	22,3
	3000-10000	82	27,7
	10000 and above	148	50,0
	Total	296	100

conditions for seafarers on ships, were chosen and included in the second part of the questionnaire (See Appendix 1). The participants were asked to respond to the 36 items through 5-point Agreement Likert scale (1-Strongly Disagree, 5- Strongly Agree).

In terms of the validity of the data collection instrument, the view/evaluation of the academics from the maritime industry was utilized. As the items were adapted from a form previously issued, the validity from the point of the structure and scale was not questioned. After having received the expert (academic) views, a pilot scheme was conducted, and then the validity has been checked. The actual conduction of the questionnaire was carried out in September 2018 through August 2019.

SPSS 15 program was used for the data analysis. Descriptive statistical analysis was used for the evaluation of the working and living conditions, and the mean, standard deviation values were subject to the analysis. For the evaluations of the working and living conditions depending upon experience, proficiency, ship type, tonnage, the normality test (Kolmogorov-Smirnov) was used to determine the proper analysis method. In this test, the p value higher than 0.05 would mean normal distribution [22]. The test revealed that the data do not have a normal distribution. Therefore, in order to determine whether there exist meaningful differences among the averages, Kruskal-Wallis and Mann-Whitney U test, a nonparametric test, was used. While the Kruskal-Wallis test provides comparisons for 3 or more groups, the Mann-Whitney U test is used to measure/calculate the difference between two independent groups. The non-parametric Mann-Whitney U test was used due to the significant difference between the male and female participants for the evaluation of the working and living conditions depending upon gender.

4. Results

The reliability coefficient (Cronbach Alpha - α) values from the reliability analyses for the pilot study and the actual study is given in Table 3. According to Kalaycı (2010) [23], a value 0-0.4 means “the scale is not reliable,” 0.4-0.6 means “low reliability,” 0.6-0.8 means “reliable,” and 0.8-1 means “high reliability.” Therefore, the reliability coefficient regarding the data collection instrument of this study indicates that the scale used has high reliability.

Table 3. Reliability Coefficients

	Pilot Study (α)	Actual Study (α)
Whole scale	0,947	0,891
F1	0,819	0,770
F2	0,907	0,816
F3	0,936	0,849
F4	0,640	0,851

The mean and standard deviation values regarding the analysis for the evaluation of the working and living conditions are indicated in Table 4 and Table 5.

Table 4 reveals that seafarers are moderately satisfied with the working conditions available on ships (mean: 3.26). In terms of the factors, satisfaction level for “accommodation and provisions” is highest (mean:3.61), and the satisfaction level for “wages” is the lowest (mean:2.58).

Table 5 reveals that the items that have the highest and the lowest satisfaction levels are respectively “sufficient reliable fresh drinking water has been provided” (Item 16; mean 4.12) and “The working and resting periods have been recorded regularly and they are true” (Item 10; means: 1.78). The highest and the lowest satisfaction levels for the factors are as follows: Factor 1 “Seafarers receive their wages-payments as specified in the relevant contract” (Item 6; means: 4.02) and “The working and resting periods have

Table 4. The Mean and Standard Deviation Values for Data Collection Instrument and the Factors

		N	Mean	Standard Deviation
Working Conditions Survey of Seafarers		296	3,26	0,51260
Factor 1	Contract, Wages and Working Conditions	296	2,58	0,68170
Factor 2	Accommodation and Provisions	296	3,61	0,61106
Factor 3	Health Care and Safety	296	3,48	0,66409
Factor 4	Complaint Procedures	296	2,69	1,28195

Table 5. The Mean and Standard Deviation Values for the Data Collection Instrument

	Item	N	Mean	Standard Deviation		Item	N	Mean	Standard Deviation
F 1	06	296	4,02	0,9294	F 3	41	296	3,56	1,0875
	13	296	2,98	1,1715		22	296	3,52	1,1930
	07	296	2,96	1,2630		40	296	3,40	1,4968
	12	296	2,81	1,2479		39	296	3,19	1,2334
	09	296	2,42	1,1672		25	296	2,51	1,3404
	11	296	2,23	1,2688		35	296	3,81	0,9157
	14	296	2,18	1,0916		29	296	3,73	1,0354
	08	296	1,82	1,0853		33	296	3,72	0,9936
	10	296	1,78	1,0787		28	296	3,69	0,9978
	F 2	16	296	4,12		0,9701	31	296	3,60
18		296	3,86	0,9616	32	296	3,60	0,9072	
19		296	3,86	0,9156	36	296	3,52	1,1639	
20		296	3,86	0,9303	34	296	3,50	1,0732	
15		296	3,81	1,0231	30	296	3,15	1,2103	
24		296	3,79	1,0979	27	296	3,14	1,1703	
21		296	3,76	1,0615	26	296	2,79	1,1542	
	23	296	3,71	1,2093	F 4	38	296	2,84	1,4530
	17	296	3,63	1,0658		37	296	2,54	1,2902

been recorded regularly and they are true” (Item 10; means: 1.78). Factor 2: “sufficient reliable fresh drinking water has been provided” (Item 16; mean 4.12) and “there are insects and other similar creatures in the galley” (Item 25; mean: 2.51). Factor 3: “there have been educational activities, and instruction regarding safety, health care and accident prevention” (Item 35, means: 3.81) and “Seafarers’ health is well cared, and easy access to good enough medical care including tooth care is available” (Item 26, mean: 2.79). Factor 4: The levels

of satisfaction for the 2 items were found closer to each other and the mean.

The Kolmogorov-Smirnov normality test reveals that the data do not show a normal distribution for the variables; experience, proficiency, ship type, and tonnage (Table 6).

The normality test reveals that for each variable, some groups do not indicate a normal distribution ($p < 0.05$). As the data do not show any normality, in order to see whether there are meaningful differences between the groups, the non-parametric Kruskal-Wallis test was applied (Table 7).

The result of this test reveals that experience and proficiency do not bring about any differences in the evaluation of working conditions ($p=0.929>0.05$; $p=0.300>0.05$)

whereas the type and the tonnage of the ships do bring about certain differences ($p=0.006<0.05$; $p=0.00<0.05$).

Table 6. The Results of the Normality Test on Working Conditions for Seafarers

Kolmogorov- Smirnov Test		Statistics	N	p
Experience	Up to 1 year	0,061	140	0,200
	1-5 years	0,077	38	0,200
	6-10 years	0,176	55	0,000
	11-15 years	0,081	24	0,200
	16-20 years	0,136	39	0,067
Proficiency	Master-Chief Engineer	0,078	37	0,200
	Officers	0,050	150	0,200
	Ratings	0,119	109	0,001
Ship Type	Tanker Ship	0,082	97	0,114
	Dry Bulk Ship	0,099	122	0,005
	Ro-Ro Ship	0,088	22	0,200
	Container Ship	0,155	48	0,006
	Others	0,205	7	0,200
Gross Tonnage	0-3000	0,151	66	0,001
	3000-10000	0,102	82	0,035
	10000 and above	0,059	148	0,200

Table 7. The Results of the Kruskal-Wallis Test Regarding the Working Conditions for Seafarers

		N	Rank Average	Sd	X2	p
Experience	Up to 1 year	140	148,94	4	0,871	0,929
	1-5 years	38	146,91			
	6-10 years	55	153,94			
	11-15 years	24	152,81			
	16-20 years	39	138,14			
Proficiency	Master-Chief Engineer	37	160,70	2	2,406	0,300
	Officers	150	152,39			
	Ratings	109	139,00			
Ship Type	Tanker Ship	97	171,50	4	14,465	0,006
	Dry Bulk Ship	122	129,07			
	Ro-Ro Ship	22	134,00			
	Container Ship	48	156,42			
	Others	7	159,79			
Gross Tonnage	0-3000	66	113,03	2	16,819	0,000
	3000-10000	82	147,37			
	10000 and above	148	164,94			

In order to see whether there are meaningful differences between the gender and gross tonnage groups, the Mann-Whitney U test was used (Table 8,9,10).

Table 8 reveals that there are meaningful differences between the working conditions on tankers and those on dry bulkers ($p=0,000 <0,05$). The analysis of means reveals that the differentiation is in favour of tankers. The analyses on the other ship types, however, reveal that there are no meaningful differences between tankers and ro-ro's; tankers and container ships; dry bulkers and the others; ro-ro's and container ships; ro-ro's and the others; and container ships and the other variables ($p>0,05$).

Table 9 reveals that there is a meaningful difference between the gross tonnages of 0-3000 and 3000-10000 grt regarding the working conditions ($p=0,008 <0,05$). The analysis of the means reveals that this difference is in favour of 3000-10000 grt. Likewise, there seems to be a meaningful difference between 0-3000 and 10000 and above grt ($p=0,000 <0,05$), and this difference is in favour of the 10000 grt. Besides, the analysis reveals that there exists a no meaningful difference between 3000-10000 and 10000 above grt ($p>0,05$).

Table 10 reveals that there appears no meaningful difference in the evaluation for the working conditions on ships based on gender ($p>0,05$).

Table 8. The Results of U Test Based on the Ship Types

Ship Types	n	Rank Average	Total Rank	U	p
Tanker	97	127,19	12337,5	4249,5	,000
Dry Bulk	122	96,33	11752,5		
Tanker	97	62,88	6099,5	787,5	,056
Ro-Ro	22	47,30	1040,5		
Tanker	97	75,64	7337,0	2072,0	,282
Container	48	67,67	3248,0		
Tanker	97	52,79	5120,5	311,5	,716
Other Types	7	48,50	339,50		
Dry Bulk	122	72,02	8787,0	1284,0	,747
Ro-Ro	22	75,14	1653,0		
Dry Bulk	122	80,95	9875,5	2372,5	,54
Container	48	97,07	4659,5		
Dry Bulk	122	64,26	7840,0	337,0	,349
Other Types	7	77,86	545,0		
Ro-Ro	22	31,70	697,5	444,5	,291
Container	48	37,24	1787,5		
Ro-Ro	22	14,36	316,0	63,0	,500
Other Types	7	17,00	119,0		
Container	48	27,94	1341,0	165,0	,951
Other Types	7	28,43	199,0		

Table 9. The Results of U Test Based on the Mean Gross Tonnage

Gross Tonnage	n	Rank Average	Total Rank	U	p
0-3000	66	64,17	4235,0	2024,0	,008
3000-10000	82	88,22	6791,0		
0-3000	66	82,36	5436,0	3225,0	,000
10000 above	148	118,71	17569,0		
3000-10000	82	106,05	8696,5	5293,5	,109
10000 above	148	120,73	17868,5		

Table 10. The Results of U-Test in Term of Gender

Gender	n	Rank Average	Total Rank	U	p
Female	19	147,08	2794,5	2604,5	,940
Male	277	148,60	41161,5		

5. Discussion

The results show that the level of satisfaction regarding wages and work hours is under average (mean). The overall application regarding payment reveals that the wages/salaries are paid as per the relevant contracts based on the national wage averages. Besides, the differences brought about by the changes in the currency rates are said to be not reflected in the wages. The complaints also include such points as non-compliance to the MLC-based working hours at sea and at ports, shortages in the required number of personnel, and non-payment for overtime working. According to previous studies, issues such as rest and work hours of seafarers and wage-related issues that are caused by exchange rate changes seem to have increased [24] Besides, showing the extraordinary nature of the work on ships as an excuse, claiming that the work has to go on non-stop, certain shifts are created. Still, no payment is made for such essential/unavoidable overtime. On the other hand, it must be kept in mind that a fair organization and well-planned working and resting hours is of great importance in terms of both the health of the crew as well as the safety of the ship.

The results also reveal that the

personnel working on Turkish flagged ships are quite satisfied with the comfort of the accommodation and the provisions. This satisfaction covers the quality and quantity of the drinking water supplied, the amount, variety, nutritional value, and hygienic conditions of the food provided. Besides, it is almost commonly agreed that the drinking water and the food are regularly inspected, well conserved, and the providers are well-educated. Furthermore, it is stated that while preparing and offering food, religious, and cultural differences are taken into consideration. Moreover, the cabins, showering facilities, and clean restrooms are said to be satisfactory. The only problem regarding these is the existence of insects, which must be prevented.

Another point satisfying the personnel employed on Turkish flagged ships is health care and safety. It is commonly stated that there are certain procedures on board of ships regarding the safety and health of the personnel as well as preventing any likely accidents, and personnel are regularly trained in compliance with these procedures. The working sites are said to be neat and clean; risk analyses are said to be made in due time, and the national and international rules are complied with. Regarding health care, it is said that there

are infirmaries, pharmacy warehouses, and health care equipment available on the ships. However, the moderate satisfaction with regard to the health care to be applied at ports for any health problems encountered while at work indicates that this particular need is met sometimes but not all the time. Besides, the participants seem to be dissatisfied with the attitudes of the employers about tooth care. According to a previous study, it is seen that there is an improvement in satisfaction rates on this subject [24].

The results also reveal that the level of satisfaction with the complaint procedures is under the mean. It is said that the seafarers have no right to come with complaints, and even if they dare to do so, there is no complaint procedure that works fairly, effectively, and rapidly. In other studies, it was found that there was similar dissatisfaction with the complaint procedures [24].

Another point of dissatisfaction seems to be about the working conditions on small tonnage ships. The type of ships fully complying with the terms of MLC is said to be tankers, which is attributed to the regular and serious inspections.

The results of analyses also reveal that there are no meaningful differences in the attitudes of the participants towards the working conditions on the ship based on experience and proficiency. Besides, no significant differences appear to be brought about by gender, which is debatable as the number of female participants is very low.

6. Conclusion

The study reveals that Turkish seafarers employed on Turkish flagged ships are moderately satisfied with the working conditions on board. This implies that there is a need for improvement in the circumstances. Improving the conditions is necessary to increase the level of satisfaction, and is believed to positively

affect the periods of staying at sea working on ships. This study intends to determine the weaknesses and strengths of the relevant struggle, considering the scope of the Maritime Labour Convention.

The rights of seafarers are to be protected by means of issuing employment contracts favouring the seafarers, in terms of overtime payments, working hours, reflecting the gains caused by any changes in the currency rate to the wages, and providing decent rights permitting all to join the relevant unions, which was ignored and overlooked for Turkish seafarers.

Another critical point to be considered is the shortage of the number of crew on board ships. Despite the recent advances in technology, which wrongly implies that fewer employees would be needed, the working hours for the Turkish seafarers on Turkish flagged ships are exceeding the adopted standards, which is a matter that needs to be considered and corrected. Furthermore, the health care facilities on ships are regularly inspected and standardized. In case of any need to be met from outside, however, the complaint procedures are said to be followed insufficiently and ineffectively. Such particular health care needs must not be overlooked and must be met regardless of the high cost. Moreover, regardless of the size, type, and region, all ships must be decently inspected and must comply with the terms of MLC. Last but not least, other than within the companies and ships, certain other mechanisms must be established so as to protect and preserve the rights of seafarers employed on ships.

Future qualitative studies involving observations on-board ships and in-depth interviews with crew members, aiming to determine the actual working and living conditions on-board, in terms of all MLC items, would be useful to help to improve the overall conditions, as well as the health and safety of the seafarers.

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Appendix 1. Data Collection Tool Items

Factor	Item Nr.	Item
F1 Contract, wages and working hours	06	Seafarers receive their wages-payments as specified in the relevant contract
	07	The wages are consistent with the national wages
	08	The hours of work recorded in the wage account correspond with the overtime records and/or hours of work and rest
	09	Exchange rates and service charges meet national regulations
	10	The working and resting periods have been recorded regularly and they are true
	11	A table set out the schedule of service at sea and port and these arrangements conform to the applicable minimum hours of rest or maximum hours of work
	12	There is no restriction to shore leave imposed by the shipowner/master without adequate reason
	13	Seafarers' repatriation entitlements to national requirements for repatriation including coverage for costs and choice of destinations
	14	The ship has sufficient seafarers onboard to meet concerns about safety, security and seafarer fatigue considering the particular nature and conditions of the ship's voyages
F2 Accommodation and provisions	15	The food and drinking water served on the ship of appropriate quantity, nutritional value and quantity, in accord with national provisions, to cover the requirements of the ship and takes into account the differing cultural and religious backgrounds of seafarers working and living on board
	16	sufficient reliable fresh drinking water has been provided
	17	Seafarers who are responsible for food preparation trained and the ship's cooks are qualified
	18	Frequent and documented inspections of food and catering facilities including food storage areas are carried out by the master or an officer
	19	The organization and equipment in the catering department permit the provision of adequate, varied and nutritious meals prepared and served in hygienic conditions
	20	Adequate facilities are provided for the cleaning, disinfecting and storage of utensils and equipment
	21	There are a sufficient number of temperature-controlled food storage and handling rooms for the number of persons on board and the duration of the voyage
	22	The food is being correctly stored with respect to stock rotation, segregation and spillages
	23	The variety of the food is provided satisfactory taking into account any religious requirements and cultural practices of the seafarers on board
	24	Drinking water is safe and is the quality regularly monitored
	25	There are insects and other similar creatures in the galley
	39	The cabins for seafarers have adequate space for living
	40	Each cabin contains a bathroom and toilet inside
41	The responsible officer carries out routine hygiene controls on	

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Appendix 1. Data Collection Tool Items (Cont')

Factor	Item Nr.	Item
F3 Health care and safety	26	Seafarers' health is well cared, and easy access to good enough medical care including tooth care is available
	27	The shipowner is responsible for costs with respect to sickness and injury to seafarers during employment or arising from their employment
	28	The medicine chest, medical equipment and medical guide is in compliance with national legislation
	29	The onboard hospital and medical care facilities meet national requirements for the ship
	30	Seafarers are permitted by the shipowner to visit a qualified medical doctor or dentist in port (where practicable) without delay
	31	Seafarers are provided with occupational health and safety protection and accident prevention in accordance with national requirements
	32	The living, working and training environment onboard ship safe and hygienic
	33	There are procedures in place and followed for reporting and recording and investigating unsafe conditions and onboard occupational accidents
	34	A proper risk assessment has been carried out for onboard occupational safety and health management
	35	There have been educational activities and instruction regarding safety, health care and accident prevention
	36	The seafarers are covered by flag State social security protection
F4 Compliant procedures	37	The ship has onboard procedures for the fair, effective and expeditious handling of seafarer complaints
	38	Seafarers have a right to complain directly to the master and appropriate external authorities