



Research Article

The Impact of COVID-19 Pandemic on Maritime Students' Perceptions of Their Profession

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Abstract

There is no doubt that the COVID-19 pandemic has formed a global impact in many sectors. It is a notable fact that the maritime industry, which is a respectable part of the global supply chain, is also affected by the COVID-19 pandemic. Along with these, it is thought that there are radical changes in the education sector with the COVID-19 pandemic. That These changes exist, when combined with the changes of COVID-19 in the sector, is created a considerable impact on maritime students' perceptions of their profession. In this study, it is aimed to investigate the effect of COVID-19 on students' occupational perceptions. On this paper, the impact of the COVID-19 pandemic on maritime students' perceptions of their profession is investigated using the Five Point Likert Type Survey method. Recent developments resulting from COVID-19 have led to a renewed interest in maritime students' perceptions of their profession. Accordingly, the study provides a better understanding of maritime students' opinions in order to help maritime regulatory bodies construct future policies that best match seafarer needs.

Keywords
COVID-19,
Maritime Education,
Supply Chain,
Maritime
Transportation,
Coronavirus

1. Introduction

The pandemic of the coronavirus (COVID-19) has an impact on many aspects of the entire world, including public health, education, supply chain, and global trade, etc. Its spread has caused national economies and companies to examine the consequences, as governments attempt to stifle movement in order to prevent the virus from spreading. Furthermore, several comprehensive national lockdowns continue to cause supply chain disruptions by delaying or even completely halting the transfer of raw materials and finished goods (Praharsi et al., 2021). The maritime industry, as a backbone of international trade and the global economy, has been severely impacted by the spread of the COVID-19 pandemic, among others (Babica et al., 2019)

The maritime industry plays a key role in maintaining global supply chains and transporting more than 80% of global trade at particularly challenging periods (the COVID-19 pandemic) (Puteri Zarina et al., 2021) . 98,140 commercial ships with a capacity of 2.06 billion dwt move about 12 billion tonnes of cargo (IMO, 2021a). However, the COVID-19 epidemic continues to impose immense physical and mental pressure on the world's two million commercial seafarers. A large percentage of seafarers spend extended amounts of time at sea during their contracts, with tours of duty spanning several months (Yazır et al., 2020)(Millefiori et al., 2021). A roughly equal proportion of seafarers have been unable to board ships and work for a living. Furthermore, because seafarers are unable to visit to land (shore leave), repatriate and replace crews, or get medical treatment, they face a humanitarian disaster that jeopardizes the safety and future of shipping (IMO, 2021b). On the other hand, seafarers who are physically and mentally exhausted are expected to continue working on ships. At the same time, they are vital to the safe, efficient, and sustainable marine transport and contribute significantly to the conservation of the fragile maritime environment.

The safety of ships is highly reliant on the well-being of seafarers, who are on the front lines of decision-making and risk-taking to guarantee that ships are managed properly and safely (Radic et al., 2020). In this perspective, seafarers have been considered as a core of maritime transportation future (IMO, 2021a). Besides, according to the most recent BIMCO/ISF study from 2015, there will be a shortage of officers by 2025 (BIMCO, 2016). Therefore, the focus of this research is on seafarers' perceptions of the COVID-19 epidemic, which offers

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significant difficulties in terms of the human aspect of shipping, such as the safety and security of life on board ships, as well as seafarers' well-being. The assessment of seafarers' perception of the COVID-19 pandemic is of paramount importance in the development of the global supply chain and maritime transportation future. Its key advantages are that it emphasizes deduction and assists the decision-maker in identifying present difficulties, allowing for apparently more reasonable and even-handed decisions.

The articles should clearly state the problem, motivation, aim and significance of the study in the introduction part. The article structure is expected to have a flow as introduction, methodology, theory/calculations, application results, discussion and results, references and appendix.

2. Evaluation of COVID-19 Pandemic Impacts on Maritime Education and Maritime Students' Perception of Profession

For evaluation of COVID-19 pandemic impacts on maritime education and maritime students' perception, maritime training will be evaluated primarily with quality indicators, then the impact of the COVID-19 pandemic on maritime training will be evaluated. Evaluation of COVID-19 pandemic impacts on maritime education and maritime students' perception will be achieved by combining these assessments and new items.

Satisfaction is one of the important quality indicators for education. Almost every educational institution measures this quality indicator regularly. There are also studies in the literature measuring the satisfaction of maritime students (Puteri Zarina et al., 2021)(Anita Gudelj, Jelena Liğere, Inga Zaitseva-Pärnast, 2021)(Reyes & Reyes, 2019). However, this indicator may vary even regionally and temporally. In Turkey, it is thought that Maritime students are satisfied for their education like the others country.

H1: Maritime students are generally satisfied with the training they have received in Turkey.

To be Mariner are need to take international profession education. Because it has international maritime qualifications. Also training standards for these qualifications are determined by international authorities. The determined education standards are also applied by the countries. In this way, the training continues in a loop. The awareness of the students, who are the outputs of maritime education institutions, of the trainings they have received and the qualifications they have gained has been used as a quality criterion (Kalnina & Priednieks, 2017). It is expected that seafarers who receive education in accordance with international standards will be aware of their qualifications before they graduate.

H2: Maritime students graduate knowing their proficiencies of maritime profession

COVID-19 has changed many things in our daily life. However Education planning needs to tolerate the changes that come with COVID-19. This planning is important for education has more practical training, such as maritime training. New technological developments have also been seen in the Turkish maritime education industry, which is experiencing difficulties with COVID-19 (Nas, 2021)]. Therefore, it is considered that maritime training planning is done well during the COVID-19 process.

H3: Planning for maritime education was done well enough during the COVID-19 pandemic process

The bad effects of COVID-19 would be seen years later. It is only possible to comment and evaluate on this topic at the moment. There are studies investigating the effects of COVID-19 on Maritime education (Demirel, 2021)(Milić-Beran et al., 2021)(Ochavillo, 2020). Also, it is possible to make a comment that COVID-19 will have bad effects on Maritime education.

H4: COVID-19 pandemic has worse effects on maritime education

With the COVID-19 pandemic, health and supply chain related problems have emerged in maritime transportation, as Imo also reported (World Customs Organization, 2020). Personnel Exchange Problems, Operational Problems, Problems Related To Quarantine Conditions and Workload By Increasing Health Measures are problems brought

by COVID-19 (Article et al., 2022). Students who will enter the industry in a few years are expected to be aware of these problems.

H5: Maritime students are familiar with the problems posed by the COVID-19 pandemic in maritime

The maritime industry, maritime vocational education and personal life experiences have an impact on the maritime profession perceptions of maritime students COVID-19 affected all of them. It is expected that the changes in education with COVID-19, the problems experienced in the maritime industry and the health problems that the students may experience together with them could cause a change in the perception of the profession of maritime students.

H6: The COVID-19 pandemic has had an impact on the maritime students' perceptions of profession

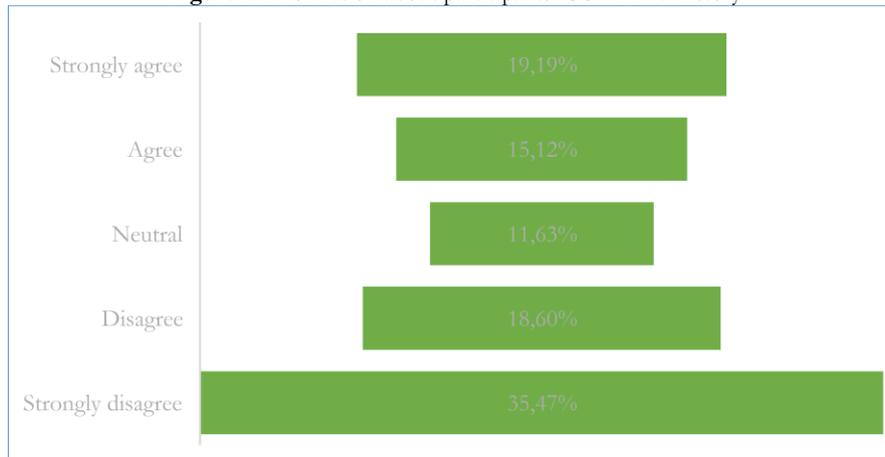
In this study, there is evaluation of the impact of the COVID-19 pandemic on maritime education and maritime students' perception of profession. Therefore there is studied on H1,H2,H3,H4,H6.

3. Method and Material

a. Data Collection

After the hypotheses are defined, scales suitable for the hypotheses are determined: Evaluation of education, Perceptions of profession, COVID-19 and education and COVID-19 and perceptions of maritime profession. "Five point Likert type survey" method is used to research the hypotheses. Shown in Appendix, Five point Likert type survey occur with 47 statements from strongly agree (5) to strongly disagree (1).

Figure 1. Information about participants' COVID-19 history



Target group of our study is maritime students of high school, associate degree, bachelor degree, advanced degree. We are making investigations for Turkey. In our study, convenience sampling, one of the nonprobability sampling methods, has been used. The survey is implemented to the participants via internet (Karaca, 2021). A questionnaire was applied to 172 participants from different levels. Our sampling group is it. The categorical distribution of the participants' demographic and about their maritime training information is given in Table 1. Considering the capacities of maritime education institutions in Turkey, it is possible to say that our sample group represents target group. Information about their COVID-19 history is also given in Figure 1. The majority of our participants and their family did not have health problems due to COVID-19.

The majority of our participants are male, undergraduate students and their ages is between 18-23. The classes are almost equally spaced according to information.

Table-1. The categorical distribution of the participants' demographic and about their maritime training information

Age (Number of student)	Sex	Student	Class
13-17 (18,60%)	Man (93,02%)	Student of high school (21,51%)	Preparatory (16,86%)
18-23(70,35%)	Woman (6,98%)	Student of associate degree (6,40%)	1st year (22,09%)
24-30(9,30%)		Student of bachelor degree (69,77%)	2st year (18,02%)
30+ (1,74%)		Student of advanced degree (2,32%)	3st year (17,44%)
			4st year and more (25,58%)

i. Analysis

The scales used in this study is determined firstly so the existing scales in the literature are not used. For this reason, reliability and validity analysis of the scales are carried out. For This analysis, IBM SPSS Statistics 20 is used. For Reliability analysis, Cronbach’s coefficient alphas is used. Value of number of items, mean, variance, standard deviation and Cronbach’s Alpha is given for all scales in table 2 for reliability analysis. Results are acceptable.

Table-2. Reliability analysis results for every scale

Scale	Number of items	Mean	Variance	Standard deviation	Cronbach's Alpha
Evaluation of education	6	19,8	32,520	5,703	,827
Perceptions of profession	12	35,99	79,269	8,903	,817
COVID-19 and education	16	44,92	160,859	12,683	,862
COVID-19 and perceptions of maritime profession	13	38,44	101,546	10,077	,851
Total	47	138,43	1152,223	33,944	,948

For Validity Analysis, Factor Analysis is used. Value of number of items, KMO value, Cumulative (%) rotation and number of component. KMO values are acceptable, Cumulative (%) rotation is reasonable given for all scales in table 3. Scales includes various components but number of items and participants are not sufficient.

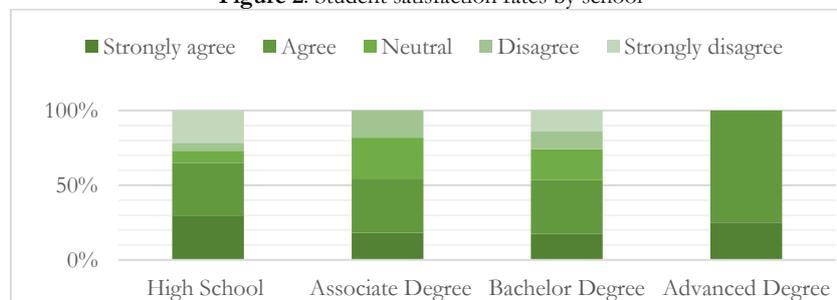
Table-3. Validity analysis results for every scale

Scale	Number of items	KMO value	Cumulative (%) rotation	Number of component
Evaluation of education	6	,836	74,394	2 component
Perceptions of profession	12	,837	66,795	3 component
COVID-19 and education	16	,824	65,739	4 component
COVID-19 and perceptions of maritime profession	13	,828	67,986	3 component
Total	47	,883	69,095	9 component

4. Finding and Results

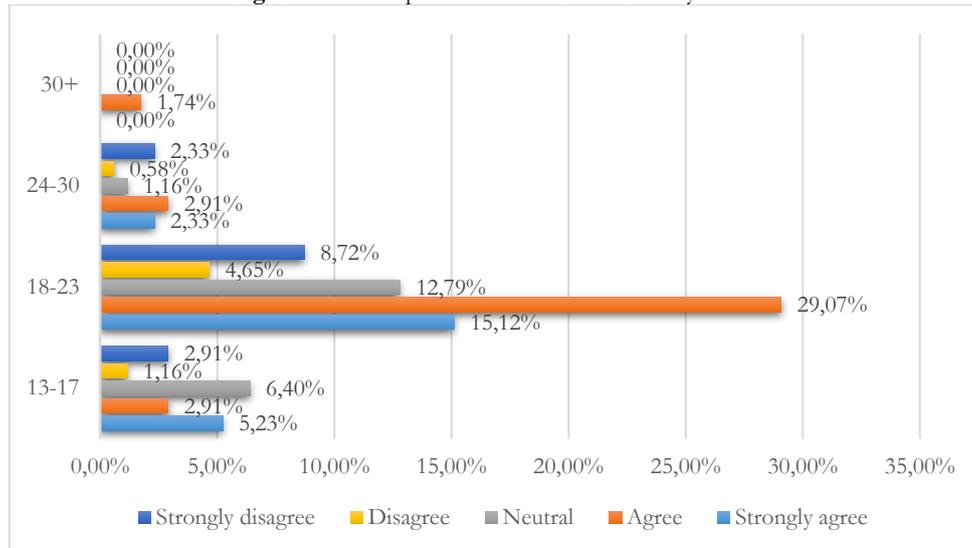
In this section, findings and results regarding the survey outputs is presented.

Figure 2. Student satisfaction rates by school



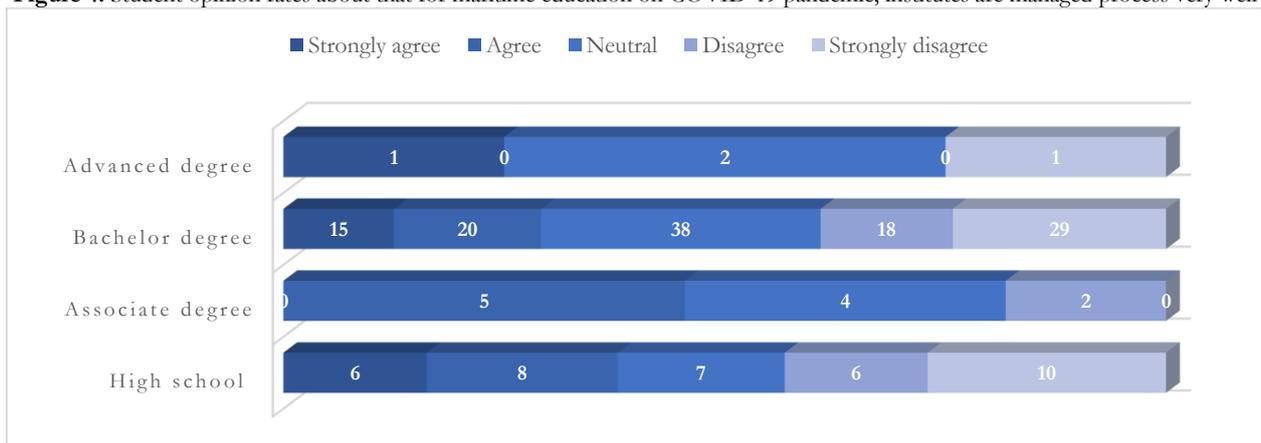
Student satisfaction rates by school is shown in Figure 2. According to this figure that Students are generally satisfied with their education.

Figure 3. Student professional awareness rates by school



Student professional awareness rates by school is shown in Figure 3. According to this figure that Students are generally aware of their professional qualifications. It is noticed that the youngest students are undecided on this question because they are new to maritime training.

Figure 4. Student opinion rates about that for maritime education on COVID-19 pandemic, institutes are managed process very well



Student opinion rates about that for maritime education on COVID-19 pandemic, institutes are managed process very well is shown Figure 4. When the answers of undergraduate and high school students with a higher number of participants are evaluated, it is seen that the rates are evenly distributed. We can say that the opinions of the students on this subject are evenly distributed. In short, it can be said that students are undecided about educational institutions manage very well the COVID-19 Pandemic process.

Student opinion rates about that for COVID-19 has worse effect for maritime education is shown Figure 5. According this figure, It can be said that students are undecided about the fact that maritime education is badly affected by COVID-19.

Figure 5. Student opinion rates about that for COVID-19 has worse effect for maritime education

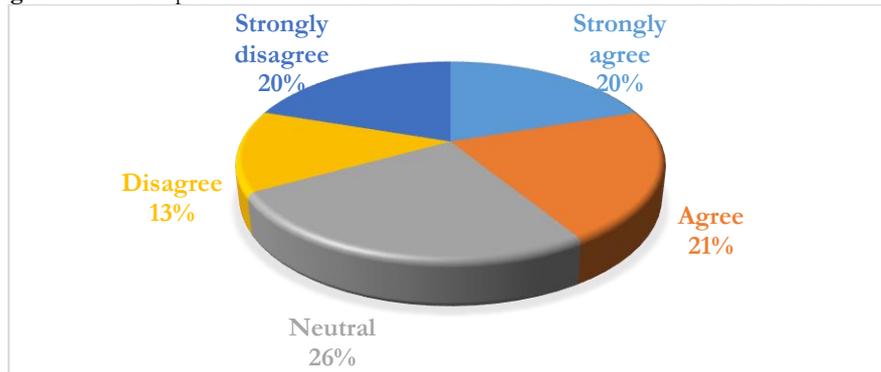
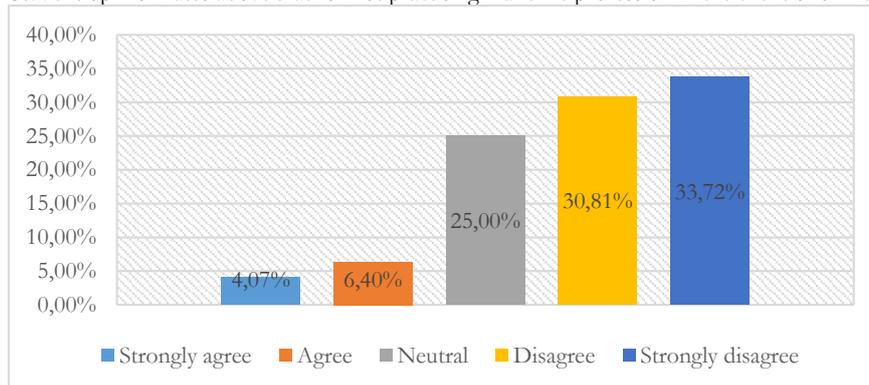


Table-4. Student opinion rates about problems in maritime industry occurred with COVID-19

	Personnel exchange problems	Operational problems	Problems related to quarantine conditions	Workload by increasing health measures
Strongly agree	29,65%	9,88%	13,95%	12,21%
Agree	19,19%	25,00%	23,26%	13,95%
Neutral	25,00%	34,30%	31,40%	26,74%
Disagree	8,72%	15,70%	13,95%	25,00%
Strongly disagree	17,44%	15,12%	17,44%	22,09%

With COVID-19 pandemic, it is occurred problems maritime industry. It is possible to divide these problems into four categories: Personnel exchange problems, operational problems, problems related to quarantine conditions and workload by increasing health measures. Student opinion rates about problems in maritime industry occurred with COVID-19 is given Table 4. Students generally strongly agree that there are personnel exchange problems, but strongly disagree with there is a problem about workload by increasing health measures. About there are operational problems and problems related to quarantine condition, students mostly agree.

Figure 6. Student opinion rates about that for not practising maritime profession in the event of similar pandemic



Student opinion rates about that for not practising maritime profession in the event of similar pandemic is shown Figure 6. This figure showed that the pandemic did not affect the profession perceptions of maritime students. Most of students gave a clear answer to the question that they would not do their job in the event of a similar pandemic but There are also undecided students.

5. Conclusions

The spread of the COVID-19 pandemic, among other things, has had a significant influence on the marine sector, which is a backbone of international trade and the worldwide economy. More importantly, the COVID-19 epidemic continues to put enormous physical and emotional strain on the world's two million commercial mariners. Therefore, there has been increased interest in maritime students' opinions of their profession. The current research is specifically designed to evaluate the maritime students' perceptions to support and assist regulators to design future regulations in a manner that best suits seafarer needs. The study's findings contribute to the maritime literature in various ways. Firstly, the study enhancing our understanding of maritime students' perceptions. The second contribution of this study is to encourage focused regulatory activity by providing a clear understanding of the current situation. Finally, when the findings of this study and the literature are compared, Although the effects of COVID-19 on the maritime profession have been explained in the literature, it has been demonstrated by this study that maritime students are not fully aware of these effects. Despite the fact that the current study only included a small sample of participants, the findings suggest that future crises should be handled more delicately, considering the international challenges that seafarers have to deal with. This issue is extremely relevant in the context of the projected officer shortages. It would be inspiring to see future research that looked at the worldwide perspective.

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