

## NAVIGATING CHALLENGES: MENTAL HEALTH AS A MEDIATOR IN THE PERFORMANCE OF INDONESIAN SEAFARERS

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### Abstract

The mental health and overall quality of seafarers are critical to the safety and efficiency of maritime operations. This study investigates the factors influencing the quality of Indonesian seafarers, with a particular focus on mental health as a mediating variable. Using Structural Equation Modeling (SEM) with Partial Least Squares (PLS), we analyzed data from 280 respondents, including masters and crew members working on Indonesian-flagged ships. The study examines the impact of working conditions, recruitment and placement, training and development, and safety culture on seafarer quality, both directly and indirectly through mental health. Our findings indicate that mental health significantly mediates the relationship between these factors and the quality of seafarers. Training and development emerged as the most influential factor, followed by safety culture, recruitment and placement, and working conditions. The results emphasize the importance of enhancing mental health support to improve working conditions, recruitment processes, training initiatives, and safety culture, thereby increasing productivity and the overall quality of seafarers. This research addresses an empirical gap by providing practical strategies to improve Indonesian seafarers' quality and job stability in the global maritime industry. Future research should expand the geographic scope and explore additional factors affecting seafarer quality and mental health.

**Keywords:** Indonesian seafarer; mental health; safety culture; recruitment; maritime industry

**JEL Classification:** O15, R41, I12

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## INTRODUCTION

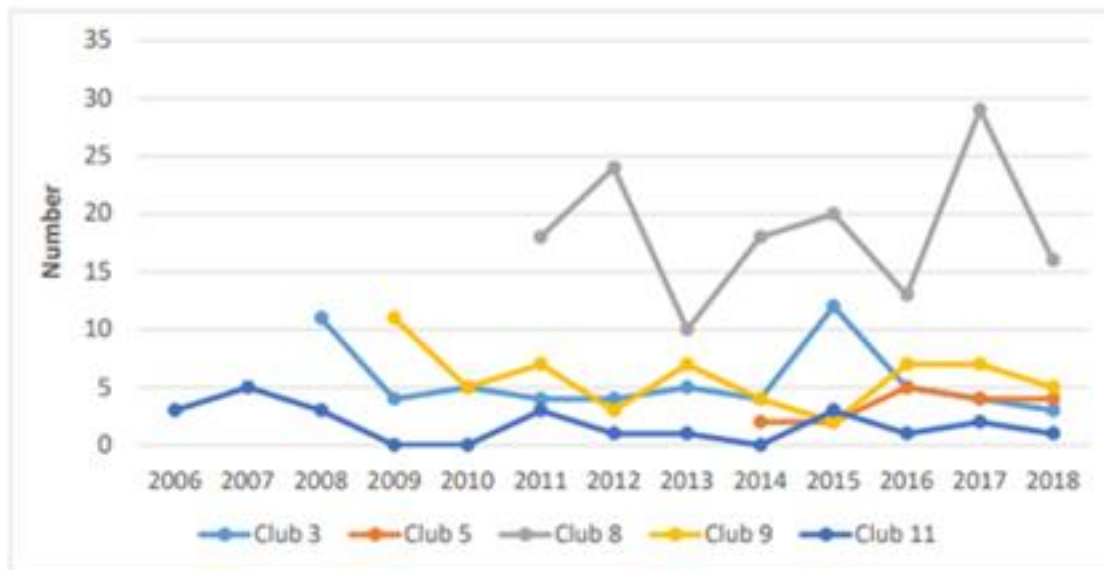
Marine transportation plays a vital role in Indonesia, the largest archipelago in the world. It has a long coastline and thousands of islands (kkp.go.id, 2023). Marine transportation facilities and shipping safety must be developed to support the national and international economy. Along with the increasing fleet of ships and companies engaged in shipping, the government has issued PP number 31/2021 concerning the implementation of the shipping sector, regarding the role of crew or seafarers as the main driver in operating the ship (setkab.go.id, 2023). A seafarer or crew member is anyone with the qualifications of expertise and skills as a crew member to perform duties on board a ship according to their position listed in the certificate book (Attard, 2020; Death et al., 2013; Elleman, 2017).

Seafarers or crew members must have qualifications of expertise or skills by laws and regulations (Christodoulou, A; Frenandez ,J, 2021; Kim, 2020). Seafarers face high risks such as accidents and isolation (Chandrasegaran et al., 2020). Although hardworking and adaptive, Indonesian seafarers are prone to homesickness and need skills upgrading (Riyanto et al., 2023). The issue of seafarer quality is a hot discussion in maritime forums due to the high demand for crew (Prabowo et al., 2021; Retno et al., 2020) Strict qualifications and legal protection are needed to reduce risks and improve seafarers' competence (C.Yillaoridies, 2019; International Maritime Organization, 2009). Seafarers must remain professional in finalizing their maritime employment agreements with employers, yet many fail due to work reasons, individual or family issues, late or unpaid salaries, and uncomfortable working environments (G.Nurcholis, 2020; Massami & Manyasi, 2021; Praetorius et al., 2018; Saravanan, 2019; St-Hilaire & Gilbert, 2019; Yuen et al., 2018). According to the standards of national and international shipping companies, the need for qualified seafarers results in lost

opportunities for Indonesian seafarers to work on foreign vessels. Strict requirements from oil companies for offshore vessels or tankers exacerbate this situation. It was found that Indonesian seafarers often change companies or vessel types for reasons such as vessel type, salary, shipping route, or length of time offshore. As a result, the marketability and quality of Indonesian seafarers decreases, limiting their opportunities in the global market. A gap in this research is the need for an in-depth analysis of the specific factors that prevent Indonesian seafarers from meeting international standards and practical strategies to improve their quality and job stability in the global maritime industry. Recent research shows that mental health issues in the workplace, including seafarers, are a global concern (An et al., 2020; Baygi et al., 2022; Hakiki et al., 2024; Hennekam et al., 2021; Nittari et al., 2022; Vlachos et al., 2022). According to the ILO (2023), this issue has a significant impact. P&I Club data shows mental health claims range from 0.9% to 3.6%, averaging 2%, a small share of overall sick repatriation cases (Sampson, Ellis and International, 2019, see Figure 1).

## LITERATURE REVIEW

The leading theory underlying this research is human resource management (HRM), which was presented by Armstrong and emphasizes that HR planning should be integrated with organizational strategy. Armstrong's HRM theory sets out several key objectives, such as supporting the organization in achieving its goals, contributing to a high-performance culture, ensuring employees are talented and engaged as needed, creating positive relationships between management and employees, and encouraging effective human management. This research emphasizes the importance of mental health in improving seafarers' quality of life. A safe and healthy work environment can increase productivity, where seafarers' mental and physical health is a top priority. Therefore, compa-



**Figure 1.** Number of Mental Health Cases by P&I Club  
 Source: Sampson, H., Ellis, N. (2019)

nies must reduce adverse psychosocial factors and stress and ensure seafarers receive regular and full salaries, including basic salary components, overtime, and leave reimbursement. Improving mental health effectiveness strengthens the influence of working conditions, recruitment, training, and safety culture on seafarer quality. This strategy aligns with HR management objectives to achieve organizational goals, develop a high-performance culture, and ensure competent and engaged employees.

This research explores the quality of Indonesian seafarers, with a focus on mental health as the primary mediating variable. Seafarer quality includes expertise, skills, and appropriate certifications. Good working conditions are essential for seafarers' well-being (Sedarmayanti & Rahadian, 2018), and adaptation to shipboard conditions is also necessary (Rahayu et al., 2017). Seafarers' fundamental rights are regulated in the MLC convention, covering working conditions, lodging, food, health, and welfare (Anugerah, 2020). Seafarer training and development are essential to improve the quality of human resources and seafarer welfare (Anugerah, 2020; Ricardianto et al., 2021).

A safety culture on board is essential for shipping safety, and an occupational safety and health management system is required to create a safe and productive workplace. Effective recruitment and placement processes ensure crew performance (Simamora et al., 2015). Challenges in shaping the competencies of reliable seafarers include the development of character education (G.Nurcholis, 2020; Liang et al., 2015). Organizational culture in seafaring is also essential for safety and performance on board. Seafarers' mental health, including stress, mental fatigue, and emotional instability, is a significant concern (Pradeti et al., 2022; Xue, Li; Zhou, Yusheng; Yuen, 2022). Factors affecting seafarers' health include the work environment, personal characteristics, management style, and health crises. Regulatory, educational, and telehealth initiatives can improve seafarers' health conditions. This research confirms that good mental health, supported by optimal working conditions, adequate training, and a strong safety culture, is critical to improving the quality of seafarers and the performance of Indonesia's maritime industry.

Explores the influence of working conditions, recruitment and placement,

training and development, and safety culture on the mental health of Indonesian seafarers. Seafarer quality includes relevant expertise, skills, and certifications, as well as good working conditions that are critical to the well-being of seafarers' individuals and families. The fundamental rights of seafarers are set out in the MLC convention, covering aspects such as working conditions, lodging, food, health, and welfare. Training and development is a key focus, with the importance of appropriate curricula and adequate educational facilities. An onboard safety culture is essential to ensure safe shipping. Effective recruitment and deployment processes are critical to crew performance. Organizational culture in shipping also plays a vital role in improving safety, security, and performance on board. Seafarers' mental health, including stress, mental fatigue, and emotional instability, is a significant concern to factors such as work environment, personal characteristics, management style, and health crises. This research confirms that good mental health, supported by optimal working conditions, adequate training, and a strong safety culture, is critical to improving the quality of seafarers and the performance of Indonesia's maritime industry.

Determinant factors that are thought to explain variations in their influence on seafarer quality include working conditions, protection and welfare, training and development, safety culture, and mental health. Good working conditions allow seafarers to carry out activities optimally, healthily, safely and comfortably. Protection and welfare provide guarantees for security, peace, and physical, mental and social well-being in the workplace. Training and development as a systematic process of improving seafarers' potential, productivity, discipline and work ethic at a certain level of skill and expertise. Safety culture involves individual compliance and participation in workplace safety maintenance activities. Good mental health enables seafarers to cope with the stresses

of life, realize their abilities, learn and perform well, and contribute to their communities. (Baygi et al., 2022; Ek et al., 2014; G.Nurcholis, 2020; Kitada, 2021; Policy et al., 2018; Praetorius et al., 2018; Sampson et al., 2019; Saravanan, 2019; Sedarmayanti & Rahadian, 2018; Xue, Li; Zhou, Yusheng; Yuen, 2022). Despite the critical importance of mental health in seafarers' quality, there is a lack of research that positions mental health as a mediating variable between key HRM factors and seafarer quality. This study addresses this gap by investigating the influence of working conditions, recruitment and placement, training and development, and safety culture on the mental health and overall quality of Indonesian seafarers (Hastuti & Timming, 2021; Lucas et al., 2021; Michaelis et al., 2019)

Combining these four variables in one hypothesis allows the research to thoroughly capture the complexities and dynamics present in seafarers' work environments. It allows the research to assess the collective contribution of the various aspects that determine seafarers' competence and career sustainability and creates a synergistic effect that improves the overall quality of seafarers. For example, good working conditions and a strong safety culture can simultaneously improve seafarers' well-being and productivity. This hypothesis reflects the view that seafarer quality is influenced by a combination of different factors that support each other, and these influences are better analyzed as an integrated whole rather than partially.

H1: It is suspected that working conditions, recruitment and placement, training and development, and safety culture influence the quality of Indonesian seafarers.

The quality of seafarers is a crucial factor in the maritime industry that affects the safety and efficiency of shipping operations. Good working conditions are fundamental to seafarers' well-being and productivity, and a safe, comfortable, and healthy working environment can improve

performance and minimize the risk of accidents and occupational diseases. Effective recruitment and placement processes ensure that only individuals with the appropriate qualifications and skills are hired and that placement is appropriate to improve job satisfaction and performance. Continuous training and development ensure seafarers have up-to-date skills and knowledge, with training programs that include formal education, practical training, and the development of relevant specialized skills. A strong safety culture on board is essential to reduce the risk of accidents and ensure crew safety by implementing strict safety procedures and regular safety training. Mental health is an important aspect that is often overlooked yet significantly impacts seafarers' work performance. Qualified seafarers have high technical skills, can work efficiently in a team, make the right decisions in critical situations, and maintain their and their coworkers' safety.

H2: It is suspected that working conditions, recruitment and placement, training and development, safety culture, and mental health influence the quality of Indonesian seafarers.

Good mental health is an essential aspect of seafarers' work performance. Stress, mental fatigue, and emotional instability can reduce concentration, increase the risk of errors, and lower work quality. Data were analyzed using statistical methods to examine the relationship between these variables and the mediating role of mental health. The results showed that good working conditions, effective recruitment and placement, continuous training and development, and a strong safety culture contribute positively to seafarer quality. Mental health proved to be a significant mediating variable, with good mental health strengthening the relationship between these variables and seafarer quality. Seafarers who work in good working conditions, receive adequate training, and are in a strong safety culture

tend to have better mental health, improving their work performance and quality.

H3: It is suspected that there is an influence of working conditions, recruitment and placement, training and development, and safety culture on the quality of Indonesian seafarers mediated by mental health.

State of the art is introduced mental health as a mediating variable (Z) between working conditions (X1), recruitment and placement (X2), training and development (X3), safety culture (X4) as independent variables, and the quality of seafarers (Y) as the dependent variable. Previous studies have not focused on mental health in this mediating role, and no organization or institution currently addresses mental health issues among seafarers, including mental health education and training in Indonesia's maritime sector. The novelty of this research lies in its model, which positions mental health as a mediator between the mentioned factors and seafarer quality, and in its strategic formulation for establishing the NGO "The Indonesia Seafarers' Welfare and Assistance Network" to promote mental health and provide education and training for Indonesian seafarers.

The conceptual framework can be shown at the end of the literature review (see Figure 2).

## RESEARCH METHODS

The pre-research survey is the process of observing, seeing, and hearing all the phenomena in the field; reviewing literature studies related to the use of relevant theories related to determining grand theory, middle theory, and variable theory; and continuing to review the results of previous research, with the help of PLS-based SEM (structural equation modeling) analysis tools (partial least square) followed by designing a measurement model in the construction of the research design.

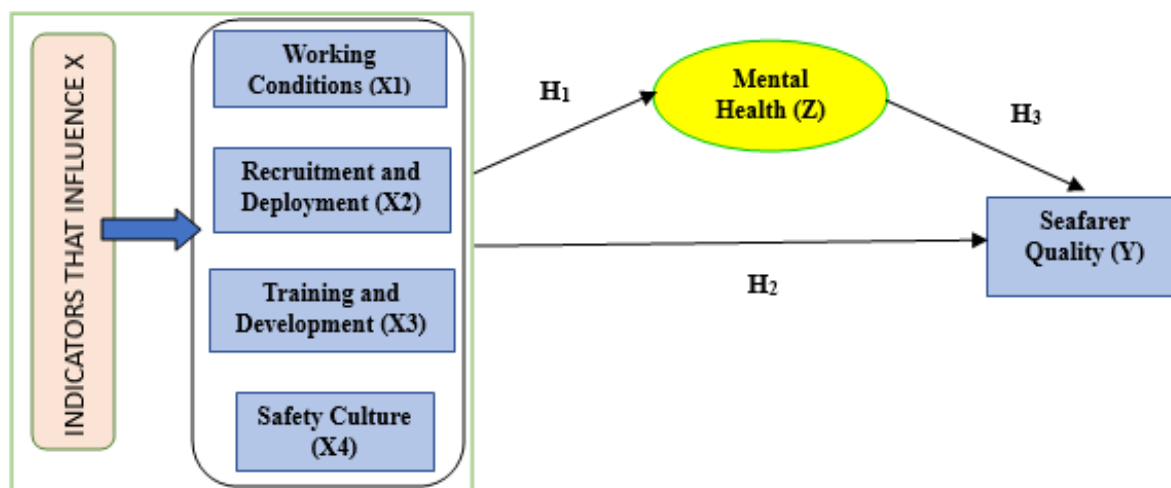


Figure 2. Conceptual Framework

### Data Analysis

At this stage, the questions in the instrument are tested to measure the validity and reliability of each question item based on decision-making using the Pearson product-moment correlation test. Continued by evaluating the measurement model that has been prepared, namely by testing the validity and reliability of each construct/manifest variable using CFA (Confirmatory Factor Analysis) testing, convergent validity, AVE (Average Variance Extracted), discriminant validity, and construct reliability with the help of PLS-SEM analysis tools. Data characteristics such as minimum sample size, non-normal data, and scale of measurement (i.e., the use of different scale types) are among the most often stated reasons for applying PLS-SEM (Hair et al, 2017). The data is analyzed using descriptive statistics to describe the demographic characteristics of the respondents and the distribution of the variables. Use inferential statistics to test the hypotheses and analyze the relationships between the variables.. The study uses the PLS SEM and SPSS software for data analysis.

According to Hair et al, (2017) this research was conducted at companies engaged in shipping and shipbuilding in the DKI Jakarta province, Indonesia, from October 30, 2023, to December 30, 2023. Pre-research results on May 30, 2023, with a sample of 36 Indonesian seafarers from

various types of ships and positions. The results showed that many seafarers aged 20-24 years with high school education experienced mental health problems. However, social relations and communication in the workplace are conducive, and seafarers can adjust on foreign-flagged ships. Shipping management pays close attention to fulfilling seafarers' needs and rights. Seafarers are also aware of the importance of a healthy lifestyle, although seafarers aged 35 years and above face difficulties due to busy work. Indonesian seafarers' work communication patterns are pretty good, and can maintain effective communication. This study found two new indicators in the mental health variable that are relevant to empirical conditions. Therefore, further research is needed on mental health's influence on Indonesian seafarers' quality.

### Population and Sample

The population in this study are all companies listed as active in the national shipping sector, totaling 4,059 companies. At the same time, the number of ship crew companies with SIUPPAK or Business License for Recruitment and Placement of Ship Crew is 239 (Kemenhub, 2023). Data on the number of Indonesian seafarers as of April 2023 amounted to 1,374,217 personnel. Meanwhile, 125,659 seafarers have seafarer certificates ([www.pelaut.dephub.go.id](http://www.pelaut.dephub.go.id)). The sample in this study

was obtained by non-probability sampling with a purposive sampling technique. The 280 respondents in this study were the positions of skippers and crew who worked on Indonesian flagships under 500 GT and above 500 GT sailing in the shipping area of all oceans. The age limit for respondents in this study is in the interval between 25 years and 50 years of age, chosen because it is considered to be a productive age and actively working. In addition, the use of a minimum high school education criterion is considered that respondents have better thinking and reasoning power so that respondents can capture and understand the meaning of the questions in the questionnaire properly and correctly proposed by the researcher (Behrstock & Clifford, 2009; Petersen et al., 2009; Yatham et al., 2013).

## RESULT AND DISCUSSION

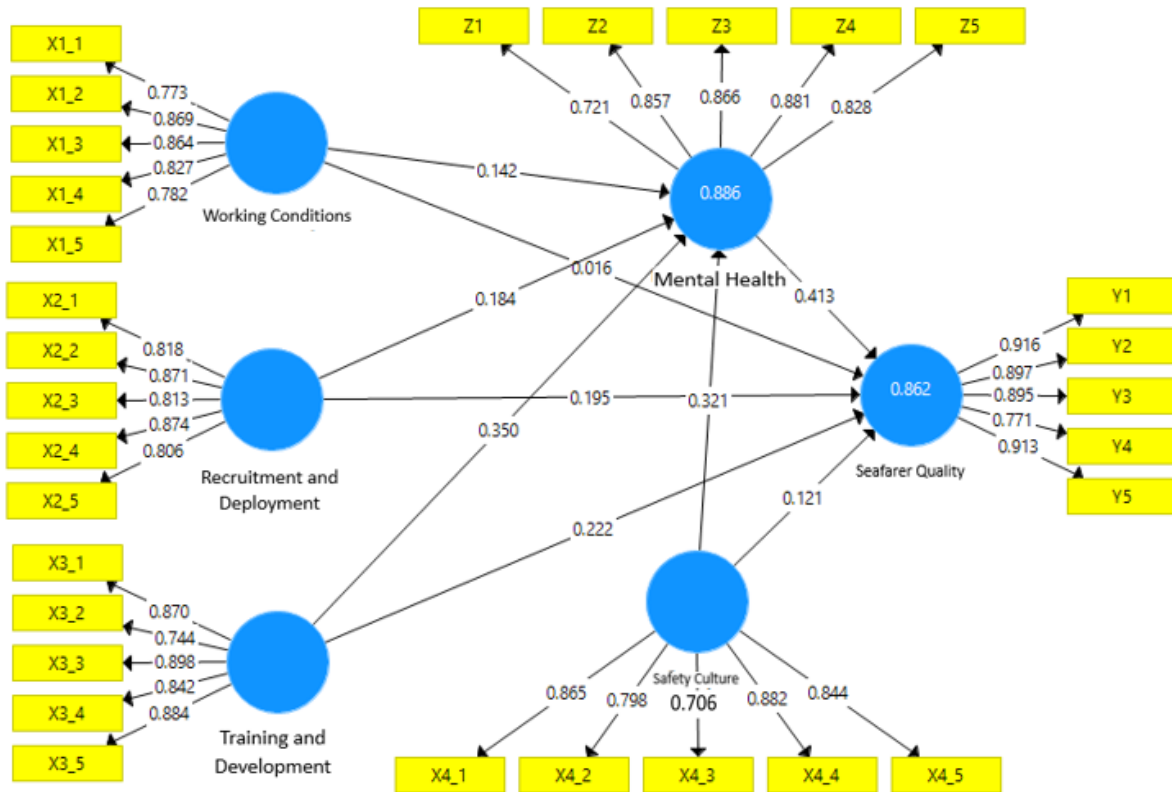
Of the 310 questionnaires distributed in this study, 305 questionnaires were returned, and 5 (five) questionnaires were not returned. However, of the 305 questionnaires obtained, not all of them can be analyzed because several questionnaires are incomplete, so only 280 questionnaires are eligible for analysis. Based on the gender described in Table 4.4 above, of the 280 samples used in this study, 279 male respondents dominated or 99.60 percent of the total sample, while the remaining 1 (one) female respondent or 0.40 percent. Most respondents were between 41 and 60 years old, 121 or 43.2 percent of the 280 respondents. This shows that respondents are senior seafarers who enter the senior officer or rating/crew level, and a small proportion of respondents are between 18 - 20 years of age, namely as many as 6 or 2.1 percent. Most respondents fall into the category of rating/crew on ships and Non-Maritime Academy (DIII/DIV Nautical/Technical), who have a career at sea from the rating level and then continue school for upgrading licenses (ANT-*Ahli Nautical*/ATT-*Ahli Teknik*) and the smallest category of respondents is at the

junior high school education level, namely 12 or 4.3 percent of respondents, this shows that respondents are rating/crew on ships. In terms of working period characteristics, it is known that most of the respondents' working period is >16 years, namely 92 or 32.9 percent of respondents; this shows that respondents are senior seafarers (senior officers) deck or engine who have a career in the shipping industry either working on cargo ships or tankers who are experienced in running and operating ships efficiently. Most types of ships respondents use are tankers, namely 86 or 30.7 percent of respondents; this shows that respondents work on tankers of either chemical, product, or gas (LNG / LPG) types. Most of the positions on the ship are officers, namely 176 or 72.86 percent of respondents. This shows that respondents consist of deck officers, engine officers, and ETOs (electro-technical officers) who work on cargo, bulk, container, tanker, tug boat, and OSV (offshore support vessel) vessels. A small portion of shipboard positions as rating/crew is 104, or 37.14 percent. Rating (crew) respondents work on freighters, bulk carriers, containers, tankers, tug boats, and OSV (offshore support vessels).

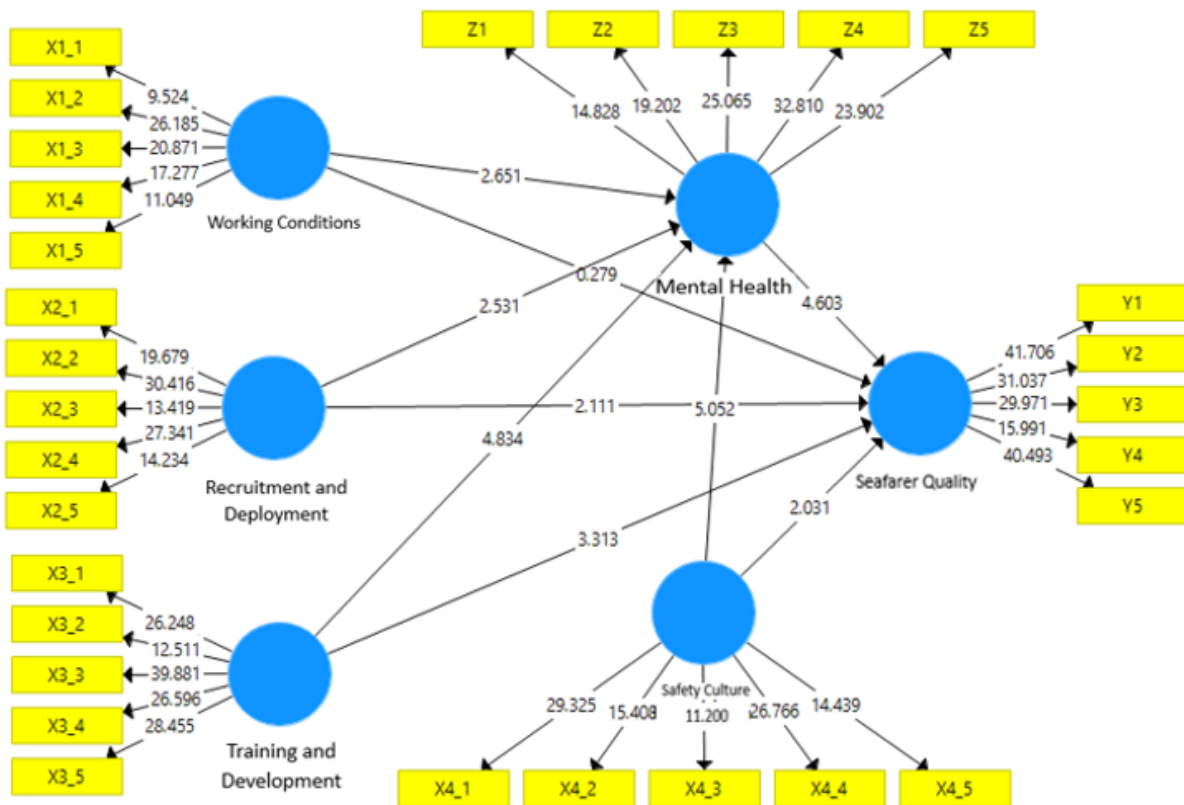
SEM (Structural Equation Modeling) model obtained after testing the  $\lambda$  parameter (loading factor/indicator coefficient) measurement on exogenous and endogenous models using SEM PLS will be explained. This test is intended to determine the strength of the indicators of each latent variable (construct). This analysis measures Coefficient Beta and T Statistics and can be seen in the following Figure 3 and Figure 4.

### Outer Model

To evaluate the measurement model (outer model) is used to assess the validity and reliability of the model. Further measurements using convergent validity, discriminant validity and composite reliability tests.



**Figure 3. Coefficient Beta**  
Source: Processing Results with PLS 3.0



**Figure 4. T Statistics**  
Source: Processing Results with PLS 3.0



**Table 1.** Construct Reliability and Validity

Item	Factor Loading	Validity	Cronbach's Alpha	Composite Reliability	Average Variance Extracted (AVE)	Construct Reliability
X <sub>1</sub>	0.773	Valid	0.881	0.913	0.679	Reliable
X <sub>2</sub>	0.818	Valid	0.893	0.921	0.701	Reliable
X <sub>3</sub>	0.870	Valid	0.902	0.928	0.722	Reliable
X <sub>4</sub>	0.865	Valid	0.878	0.912	0.675	Reliable
Z	0.721	Valid	0.888	0.918	0.693	Reliable
Y	0.916	Valid	0.926	0.945	0.773	Reliable

Source: Processing Results with PLS 3.0

**Table 2.** Matrix of Indicator of Influence on Mental Health and Seafarer Quality

Item	Indicator	Mental Health					Quality of Seafarers				
		Z1	Z2	Z3	Z4	Z5	Y1	Y2	Y3	Y4	Y5
Working Conditions	X1 <sub>1</sub> – X1 <sub>5</sub>	0.035	0.193	0.2	0.147	-0.005	0.055	0.042	0.185	-0.108	0.128
Recruitment and Deployment	X12 <sub>1</sub> – X2 <sub>5</sub>	0.192	-0.028	0.233	0.155	0.223	0.329	0.188	0.166	0.214	0.29
Training and Development	X3 <sub>1</sub> – X3 <sub>5</sub>	0.239	0.465	0.444	0.169	0.556	0.192	0.303	0.367	0.539	0.26
Safety Culture	X4 <sub>1</sub> – X4 <sub>5</sub>	0.202	0.211	0.416	0.427	0.053	0.317	0.347	0.15	0.051	0.219

Source: Processing Results with PLS 3.0

Each indicator that is declared valid and passes the test must meet the requirements of Factor Loading higher than 0.5. As for reliability, the AVE value is higher than 0.5, and the Composite Reliability and Cronbach Alpha values are higher than 0.7 (See Table 1).

The value in Table 2 shows that the amount of influence on the Z1 indicator in order from the largest to the slightest influence is the influence of training and development (0.239), safety culture (0.202), recruitment and placement (0.192), and working conditions (0.035). The amount of influence on the Z2 indicator in order from the largest to the slightest influence is the influence of training and development (0.465), safety culture (0.211), working conditions (0.193), recruitment and placement (-0.028). The amount of influence on Z3 indicators in order from the largest to the slightest influence is the influence of safety culture (0.416), recruitment and placement (0.233), working conditions (0.200), and training and development (0.044). The amount of influence on the Z4 indicator in order from the largest to the

slightest influence is the influence of safety culture (0.427), training and development (0.169), recruitment and placement (0.155), and working conditions (0.147). The amount of influence on the Z5 indicator in order from the largest to the slightest influence is the influence of training and development (0.556), recruitment and placement (0.223), safety culture (0.053), and working conditions (-0.005).

**Hypothesis Testing**

Simultaneous testing is carried out on the general equation of the structural path. The results in Table 3 show that the determination index, namely the percentage that also influences seafarer quality, is 88.6%, while other factors influence the remaining 11.4%.

**Table 3.** R-Square Result

Variables	R <sup>2</sup>	Adj R <sup>2</sup>
Mental Health	0.886	0.861
Seafarer Quality	0.862	0.849

Source: Processing Results with PLS 3.0

**Table 4.** Calculation Results of the Partial Direct Effect

Effect between Variables	Beta	T Statistics	P Values	Conclusion
WC →MH	0.142	2.651	0.008	Supported
RD →MH	0.184	2.531	0.012	Supported
TD →MH	0.350	4.834	0.000	Supported
SC →MH	0.321	5.052	0.000	Supported
MH →SQ	0.413	4.603	0.000	Supported
WC →SQ	0.016	0.279	0.780	<b>Not Supported</b>
RD →SQ	0.195	2.111	0.036	Supported
TD →SQ	0.222	3.313	0.001	Supported
SC →SQ	0.121	2.031	0.043	Supported

Source: Processing Results with PLS 3.0

**Table 5.** Hypothesis Test of Mediating Variables

Effect between Variables	Impact			T Statistics	P Value	Conclusion
	Direct	Indirect	Total Effect			
WC →MH →SQ	0.016	0.059	0.075	2.268	0.024	Supported
RD →MH →SQ	0.195	0.076	0.271	2.057	0.041	Supported
TD →MH →SQ	0.222	0.145	0.368	3.569	0.000	Supported
SC →MH →SQ	0.121	0.046	0.166	3.504	0.001	Supported

Source: Processing Results with PLS 3.0

**Discussion**

There is an influence of working conditions, recruitment and placement, training and development, and safety culture together on mental health. Partially, the most dominant factor influencing mental health is the training and development factor at 0.350, followed by safety culture at 0.321, recruitment and placement at 0.184, and the least influential factor is working conditions at 0.142. The effect of working conditions, recruitment and placement, training and development, and safety culture together on mental health is positive and significant. This means that the better/positive the working conditions, recruitment and placement, training and development, and safety culture, the better/positive the mental health. The existing training and development factors and safety culture should be managed and maintained as well as possible because they have been proven to have a significant impact on high and low or good and impaired mental health. In contrast, the recruitment and placement factors and

working conditions need more attention to positively impact mental health.

Working conditions, recruitment and placement, training and development, and safety culture influence the quality of seafarers. Partially, the most dominant factor influencing seafarer quality is the training and development factor, which is 0.222, followed by recruitment and placement, which is 0.195; safety culture, which is 0.121; and the least influence is working conditions, which is 0.016. working conditions, recruitment and placement, training and development, and safety culture affect seafarer quality positively and significantly. This means that the better/positive the working conditions, recruitment and placement, training and development, and safety culture, the better/positive the seafarer quality. Training and development factors and existing recruitment and placement factors should be managed and maintained as well as possible because they have been proven to significantly impact the high and low or good and impaired quality of seafarers. In contrast, safety culture factors and working

conditions need more attention to have a more positive impact on the quality of seafarers.

Working conditions, recruitment and placement, training and development, and safety culture influence the quality of seafarers mediated by mental health. The total effect of mental health as a mediating variable is 0.335, indicating that mental health as a mediating variable among the impact of working conditions, recruitment and placement, training and development, and safety culture on seafarer quality is natural and very much needed.

The indirect effect of working conditions on seafarer quality through mental health is 0.059, the T-Statistics value is 2.268, and the p-value is 0.024 <0.05. The mediating effect of mental health on working conditions and seafarer quality is positive and significant. This means that the higher/positive mental health, the stronger the influence of working conditions on seafarer quality, meaning that the more respondents feel that a safe and healthy workplace and work environment for the crew can increase work productivity on the ship; seafarers' mental and physical health is a top priority, therefore the company strives to reduce harmful and stressful psychosocial factors; then the stronger for after the employment contract ends, the company bears the cost of returning the crew including travel, food and accommodation costs to the place where the crew is employed; the company pays seafarers' salaries consisting of basic salary components, overtime pay, and leave replacement pay regularly and in full every month; so that in the end the crew must have the competence, skills and technical ability to operate a safe, reliable and efficient ship; in critical operations on board the vessel, seafarers must be able to carry out risk assessments for ship safety, crew safety and environmental safety.

It is known that the magnitude of the indirect effect of recruitment and placement on seafarer quality through mental health is 0.076 with a T-Statistics value of

2.057 and a p-value of 0.041 <0.05. The mediating effect of mental health on recruitment and placement and seafarer quality is positive and significant. This means that the higher/positive Mental Health, the stronger the influence of recruitment and placement on seafarer quality, meaning that the more respondents feel that a safe and healthy workplace and work environment for crew members can increase work productivity on the ship; seafarers' mental and physical health is a top priority. Therefore, the company tries to reduce harmful and stressful psychosocial factors; the stronger it is for the company not to charge fees in the seafarer recruitment process, Seaman Employment Agreement (SEA) refers to national provisions (PP No. 7 Year 2000 concerning Seafarers). 7 Year 2000 on Maritime Affairs) and MLC 2006; so that the crew must have the competence, skills, and technical ability to operate a safe, reliable, and efficient ship; in critical operations on board, seafarers must be able to conduct risk assessments on ship safety, crew safety, and environmental safety.

The indirect effect of training and development on seafarer quality through mental health is 0.144, the T-Statistics value is 3.569, and the p-value is 0.000 <0.05. The mediating effect of mental health on training and development and seafarer quality is positive and significant. This means that the higher/positive mental health, the stronger the influence of training and development on seafarer quality, meaning that the more respondents feel that a safe and healthy workplace and work environment for crew members can increase work productivity on board, seafarers' mental and physical health is a top priority, therefore companies strive to reduce harmful psychosocial factors and stress; so the training and development program must be supported by competent human resources, including lecturers, administrators, regulators, and technical implementation units; after participating in the training program organized by the

shipping training agency, seafarers get fast and easy services in receiving certificates of expertise (CoC) or certificates of skills (CoP) that they participate in; so that in the end the crew must have competence, skills and technical abilities in operating a safe, reliable and efficient ship; in critical operations on board the vessel, seafarers must be able to conduct risk assessments for ship safety, crew safety, and environmental safety.

Mental health mediates safety culture's effect on seafarer quality. Based on the results obtained, it is known that the indirect impact of safety culture on seafarer quality through mental health is 0.133, the T-Statistics value is 3.504, and the p-value is  $0.001 < 0.05$ . The mediating effect of mental health on safety culture and seafarer quality is positive and significant. This means that the higher/positive mental health, the stronger the influence of safety culture on seafarer quality, meaning that the more respondents feel that working conditions and a safe and healthy environment for crew members can increase work productivity on board; seafarers' mental and physical health is a top priority, therefore companies strive to reduce harmful and stressful psychosocial factors; Seafarers must be able to work together with colleagues from various cultural, religious, and racial backgrounds and must respect, tolerate, and be professional. In the end, the crew must have the competence, skills, and technical ability to operate a safe, reliable, and efficient ship. In critical operations on board, seafarers must be able to carry out risk assessments for ship safety, crew safety, and environmental safety.

This study suggests various approaches to enhance the mental health of seafarers. These include educating seafarers about mental health to help them comprehend its significance and manage stress and anxiety; improving their work environment to ensure safety and health, thereby alleviating stress; refining recruitment and placement practices to ensure seafarers are

suitably matched with their jobs and work settings, reducing mental health risks; offering training and development programs to help seafarers acquire new skills and boost their mental well-being; and promoting a safety culture to minimize accident risks and support seafarers' mental health (Brooks & Greenberg, 2022; Funmilayo Aribidesi Ajayi & Chioma Ann Udeh, 2024; Tam et al., 2021).

## CONCLUSION AND RECOMMENDATION

Improvements in the effectiveness of mental health will result in an increased influence of working conditions on seafarer quality. A safe and healthy workplace and work environment for the crew can increase work productivity on the ship; seafarers' mental and physical health is a top priority. Therefore the company strives to reduce harmful and stressful psychosocial factors; it further strengthens that after the employment contract ends, the company bears the cost of returning the crew, including travel, food, and accommodation costs to the place where the crew is employed; the company pays seafarers' salaries consisting of basic salary components, overtime pay, and leave replacement pay regularly and in full every month; so that in the end the crew must have the competence, skills and technical ability to operate a safe, reliable and efficient ship; in critical operations, on board the vessel, seafarers must be able to carry out risk assessments for ship safety, crew safety, and environmental safety.

This indicates that positively improving the effectiveness of mental health will result in an increased effect of recruitment and placement on seafarer quality. A safe and healthy workplace and work environment for crew members can increase work productivity on board; seafarers' mental and physical health is a top priority; therefore, the company strives to reduce harmful psychosocial factors and stress; hence, it reinforces that the company does not charge fees in the process of recruiting

seafarers; Seaman Employment Agreement (SEA) refers to national provisions (PP No. 7 Year 2000 on Maritime Affairs) and MLC 2006; so that ultimately the crew must have competence, skills and abilities. 7 Year 2000 on Maritime Affairs) and MLC 2006; so that the crew must have the competence, skills, and technical ability to operate a safe, reliable, and efficient ship; in critical operations on board, seafarers must be able to conduct risk assessments on ship safety, crew safety, and environmental safety.

Indicates that positively improving the effectiveness of mental health will result in increasing the effect of training and development on seafarer quality. that a safe and healthy workplace and work environment for crew members can increase work productivity on board; seafarers' mental and physical health is a top priority, therefore the company strives to reduce harmful psychosocial factors and stress; it is further strengthened that the maritime training and development program must be supported by competent human resources both teaching staff, administrators, regulators, and technical implementation units; After participating in the training program organized by the shipping training agency, seafarers get fast and easy service in receiving the certificate of competency (CoC) or certificate of proficiency (CoP) they have participated in; so that in the end the crew must have the competence, skills and technical ability to operate a safe, reliable and efficient ship; in critical operations on board the vessel, seafarers must be able to conduct risk assessments for ship safety, crew safety and environmental safety.

This shows that improving mental health's effectiveness will increase the influence of safety culture on seafarer quality. A safe and healthy workplace and work environment for crew members can increase work productivity on the ship; seafarers' mental and physical health is a top priority. Therefore, the company strives to reduce harmful psychosocial

factors and stress; it further reinforces that seafarers must comply with ship safety rules/instructions. Seafarers must be able to work together with colleagues from various cultural backgrounds, religions, and races and must be able to respect each other, be tolerant, and be professional so that, in the end, the crew must have the competence, skills, and technical ability to operate a safe, reliable and efficient ship; in critical operations on board the vessel, seafarers must be able to carry out risk assessments for ship safety, crew safety, and environmental safety.

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