Investigating the Association Between Emotional Intelligence and Mental Health Scores of Seafarers

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Abstract-
Because mariners have special difficulties on the job, discussions on their mental health are becoming more popular. In order to get a better understanding of the psychological elements impacting the overall well-being of seafarers, this study investigates the correlation between emotional intelligence (EI) and mental health scores. Various nautical industries were represented among the 200 sailors who filled out emotional intelligence and mental health assessments. Higher levels of emotional intelligence are linked to improved mental health outcomes among seafarers, according to the results, which show a substantial positive association between EI scores and mental health scores. These findings highlight the significance of developing emotional intelligence abilities to support the mental health and resilience of sailors. Discussed are the consequences for maritime sector intervention and support programs, drawing attention to the necessity for focused approaches to improve seafarers' emotional intelligence and mental health. Additionally, the study's shortcomings and potential future research objectives are taken into account.

Keywords: Emotional intelligence, mental health, seafarers, maritime industry.

I. INTRODUCTION

The maritime industry plays a vital role in global trade, with seafarers serving as the backbone of this interconnected network of commerce. However, the nature of their profession exposes them to a multitude of stressors and challenges that can significantly impact their mental well-being. As such, understanding the psychological factors that influence the mental health of seafarers has garnered increasing attention in both academic and industry circles. Among these factors, emotional intelligence (EI) stands out as a critical determinant of how individuals perceive, understand, and manage their emotions, as well as navigate social interactions. This introductory investigation aims to explore the association between emotional intelligence and mental health among seafarers, shedding light on the potential implications for their overall well-being and the development of targeted interventions within the maritime industry.

Seafaring is inherently challenging, characterized by prolonged periods of isolation, demanding work schedules, unpredictable weather conditions, and the inherent risks associated with maritime activities. These factors not only pose physical hazards but also exert a significant toll on the mental health of seafarers. Studies have shown elevated levels of psychological distress, depression, anxiety, and other mental health issues among this population, highlighting the need for comprehensive support mechanisms tailored to their unique circumstances.

Emotional intelligence refers to the ability to recognize, understand, and regulate one's own emotions, as well as empathize with the emotions of others. It encompasses several key components, including self-awareness, self-regulation, social awareness, and relationship management. Individuals with high emotional intelligence demonstrate greater resilience in coping with stress, more effective interpersonal skills, and enhanced overall psychological well-being. Given the demanding and often isolated nature of their work, the cultivation of emotional intelligence may be particularly relevant for seafarers in managing the rigors of their profession.

Despite the growing recognition of the importance of emotional intelligence in various occupational settings, relatively little is known about its role in the mental health of seafarers. By investigating the association between emotional intelligence and mental health scores among seafarers, this study seeks to fill

this gap in the literature and provide insights into potential avenues for intervention and support. Understanding how emotional intelligence influences the mental well-being of seafarers can inform the development of targeted training programs, organizational policies, and mental health interventions aimed at promoting resilience and enhancing coping strategies within the maritime industry.

Objectives of the Study

The primary objective of this investigation is to examine the relationship between emotional intelligence and mental health scores among seafarers. Specifically, the study aims to:

1. Assess the levels of emotional intelligence and mental health among seafarers.
2. Explore the association between emotional intelligence and mental health scores, controlling for relevant demographic and occupational factors.

II. REVIEW OF RELATED STUDIES

Luisa Maria Roberta Tedesco (2018) Seafarers' perceptions of shipboard sources of psychological distress are explored in this study. A cross-sectional study of Italian shipping company employees working around the world was done to find out what stresses them out. The study used an Italian version of the Karasek questionnaire to examine how workers' demographic and professional variables affect their sense of work tiredness. An overwhelming majority (80.1%) of the seafarers who were asked to take part in the survey did so, resulting in a mean score of 32.8 for perceived job pressure and a mean score of 65.5 for perceived decision latitude. It was possible to identify the features of the seafarers that were associated with their sense of job strain using the multivariate logistic regression models. Stress management programs for marine personnel are clearly needed, as evidenced by these findings.

Anna Carotenuto (2013) For sailors operating on the ocean, excessive levels of stress must be precisely monitored, followed up on, and maybe countered in order to protect themselves from the negative effects. The Maritime Labor Convention 2006, for example, recommends that particular physiological or psychological difficulties caused by the onboard environment be taken into consideration. For this evaluation, it is necessary to identify a common standard that can be used on a big scale. Aim: We wanted to see if the Psychological General Well-Being Index (PGWBI) could be used on ships to gauge stress levels among sailors, and if so, how much stress was being felt by sailors across various job categories (such as officers, mechanics, and chief stewards/catering staff) using the PGWBI. The following are the materials and procedures used: The PGWB questionnaire was administered to 162 male seafarers aboard seven tankers owned by the same shipping business. The questionnaire's variations in scores were examined using analysis of variance (ANOVA). The results showed that engine officers had higher levels of tension and lower levels of satisfaction than the deck or engine crew. Deck and engine officers had higher degrees of self-control than the engine crew, according to the results. Chief stewards/catering staff had lower vitality levels than the workforce on the ship's upper deck. Conclusions: This study shows that officers on the deck or in the engine room had better self-control than the rest of the crew. According to our research, managers are more likely to experience higher levels of stress. To get a comprehensive picture of seafarers' mental health, we think the PGWB questionnaire is a good starting point. A large-scale tool for the evaluation of the well-being and potential stress levels of sailors should therefore be considered.

Hystad, Saus, Satrevik and Eid (2013) the effect of the offshore oil and gas resupply industry's safety climate and psychological work environment on the fatigue levels of 402 seafarers was evaluated. Seafarers who reported high psychological demands and a bad organizational-level safety climate reported much more mental exhaustion, bodily exhaustion, and lack of energy, according to a new study. Additionally, those seafarers who said they had a high degree of job control said they were less mentally exhausted. The level of physical exhaustion experienced by seafarers working the night shift was not influenced by the safety climate at the organizational level.

Oldenburg, Hogan and Jensen (2013) examined the levels of mental and physical exhaustion experienced by the ship's crew, as measured by marine field surveys. It appears that exhaustion is not age-related and is often linked to poor sleep quality; noise and night shifts are also thought to contribute to weariness, according to the findings of the study.

Leif W Rydstedt (2012) It was the goal of this study to examine the impact of age and psychosocial work demands on the mental well-being of a sample of engine room officers in the Swedish merchant fleet (N = 685; age M = 47 years). In line with expectations, work demands were strongly linked to both general

mental health and perceived stress, while age had a more limited impact. The combination of high job demands and old age was found to have a considerable impact on mental health and perceived stress. As a result of shipping's rapid technical and organizational development, these findings suggest that providing tools for older personnel to support their long-term work performance and health and well-being should be a top focus.

Bridger, R. S. (2011) Background: While seafaring is well-known as a physically taxing profession, little is known about the effects of aging on seafarers. The purpose of this study is to look into the job demands and abilities of merchant mariners at sea and to find factors that predict these abilities. Objectives: During the summer deployment of a single vessel, a cross-sectional investigation was conducted. Instantaneous heart rate (HR) was measured in 41 merchant seafarers at 5-s intervals throughout a typical 8-hour shift. Participants filled out the job ability index and the National Aeronautics and Space Administration Task Load Index to rate their daily task demands (NASA-TLX). The measurements of BMI, waist circumference, and other personal characteristics were made. Results: HR data and TLX scores both indicated that work demands were moderate. The average body mass index (BMI) was 27.5 kg/m2 (SD 3.3), and the average age was 47. More than two-thirds of those polled said they had 'good' or 'outstanding' ratings for their job abilities. When it came to predicting job ability, the interaction between BMI and age was the most accurate predictor, whereas the relationship between HR and age was statistically significant. Conclusions: This group of mariners has a high level of work capacity, and the labor is, on average, only moderately taxing. While both age and BMI have a negative impact on work capacity, the strongest predictor of work capacity was the interaction between the two, with higher BMI having a negative impact on work capacity among older workers doing moderately demanding jobs.

Jonas Sąlyga (2011) Researchers wanted to figure out what factors contributed to the high levels of stress and exhaustion experienced by Lithuanian seafarers, as well as what those stressors had to do with health problems they experienced while at sea. Surveys were conducted in 2003 and 2007 at Klaipda Seamen's Hospital's Maritime Medicine Center as part of the necessary health examinations. Seafarers between the ages of 20 and 64 were interviewed in November and December 2003. (first study). 932 20-64-year-old sailors were surveyed in November and December 2007 in a follow-up study. The questionnaire included questions about socio demographic data, issues in the marine industry, and subjective evaluations of health and well-being. Older sailors (35 to 54 years old) had a significantly higher risk of experiencing psycho emotional distress in the first study (P 0.001). Among sailors in the first study, higher eyestrain and long working hours (9-10 hours and 11-12 hours) were found to be linked to psychological distress (P = 0.001). In the second study, higher levels of education and health-harming elements (such as vibration and noise) were found to be significant risk factors for sailors experiencing psychoemotional distress (P0.05). Factors including work-related stress, demographics, and subjective assessments of emotional and mental exhaustion all have a strong correlation. Psychoemotional strain was linked to health complaints at sea (insomnia, depression, back and spinal pain), but sleep issues were linked to weariness. It is possible for seafarers to develop health problems connected to increased fatigue and psycho emotional strain while working on a certain ship in a specific environment.

Maria Borovnik (2011) Increased global rivalry in the maritime industry has made seafarers' tasks even more challenging. Challenges in ship employment are troublesome, especially in a developing context where the home communities' dependency on seafarers' income and social protection are considerable and the cost of living is low. Qualitative fieldwork has indicated that Kiribatian and Tuvaluan seamen put up with extraordinarily long working hours to maintain their competitiveness. While operating in limited and movable areas, with multilingual crews and frequent security procedures, sleep loss and reduced shore time can have a negative influence on physical and emotional health and become safety issues. It's becoming increasingly important to manage the physical and mental effects of global shipping sector demand on seafarers. As globalization continues, the maritime industry finds itself at a crossroads. International competition is forcing ship operators to reduce the size of their vessels and crews in order to maximize revenues. Seafarers are under increasing pressure due to shorter and more frequent turnarounds, sleep loss, and other challenging working circumstances as a result of these increased pressures. Seafarers' physical and mental health is being harmed as a result of work-related stress, endangering the safety of ships and reducing earnings for shipping companies as well as the social benefits they provide to seafarers and their families around the world. For merchant mariners from underdeveloped countries like Kiribati and Tuvalu,

this study focuses on the health and safety difficulties they face and emphasizes the dangers they face.

III. RESEARCH METHODOLOGY

The study utilized a purposive sampling technique to select participants, specifically targeting 200 seafarers. Research tools employed encompassed some socio-demographic pro-forma alongside the Schutte Self-Report Emotional Intelligence Test (SSEIT) and the Brief Psychiatric Rating Scale. Data analysis will entail utilizing Karl Pearson's coefficient of correlation to ascertain the relationship between levels of emotional intelligence (EI) and mental health (MH) among the seafarers. Additionally, the Chi-square test will examine the association between EI and emotional intelligence, as opposed to mental health score, in conjunction with selected demographic variables. Data collection commenced with participants' self-introductions, followed by an explanation of the study's objectives. Ensuring confidentiality, participants received an information sheet and provided written consent. Subsequently, seafarers were gathered in their respective classes, briefed about the study, and administered questionnaires. Clear instructions were provided, doubts clarified, and approximately 30 minutes allotted for completion. Completed questionnaires were then collected by the investigator for scoring and statistical analysis.

IV. RESULTS

Table 1: Distribution of Level of Emotional Intelligence in Frequency and Percentage of Seafarers.

Level of Emotional Intelligence	Range of Score	Frequency	Percentage
Low Emotional Intelligence	<111	16	8.0
Moderate Emotional Intelligence	112-136	154	77.0
High Emotional Intelligence	137>	30	15.0
Total		200	100.0%

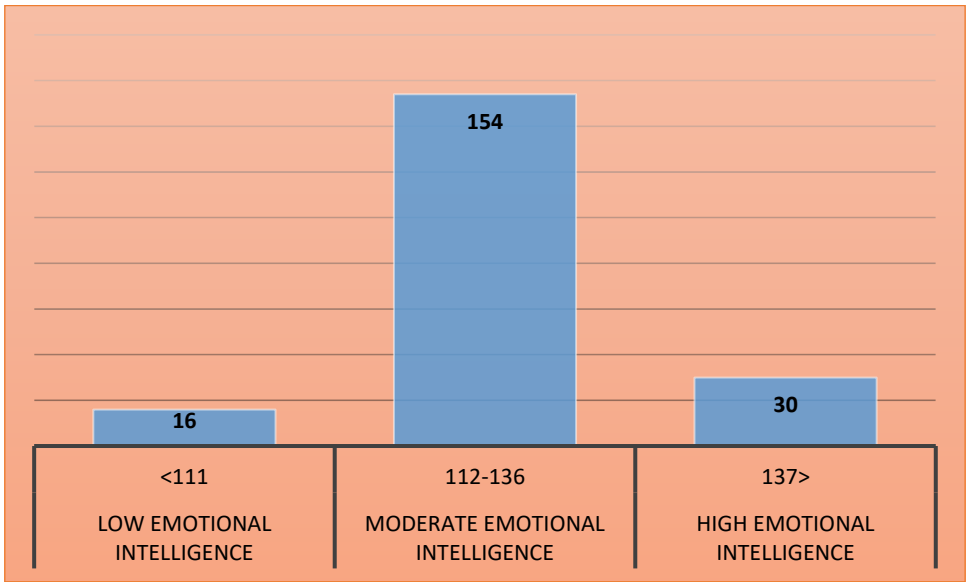

Figure 1: Distribution of Level of Emotional Intelligence of Seafarers

Table 1 illustrates the distribution of emotional intelligence levels among seafarers, showing that 8.0% exhibited low emotional intelligence (scored below 111), 77.0% had moderate emotional intelligence (scores ranging from 112 to 136), and 15.0% demonstrated high emotional intelligence (scores above 137). The total sample size was 200, accounting for 100.0% of the participants.

Table 2: Mean, Median, Mode, Standard Deviation and Range of Emotional Intelligence of Seafarers.

Area of analysis	Mean	Median	Mode	S. D	Range
Emotional intelligence	124.19	126.00	127	11.119	68

In Table 2, the mean emotional intelligence score among seafarers was 124.19, with a median of 126.00 and a mode of 127. The standard deviation was calculated at 11.119, indicating the dispersion of scores around

the mean. The range of emotional intelligence scores spanned from 56 to 124, with a total range of 68.

Table 3: Distribution of Mental Health Scores in Frequency and Percentage of Seafarers.

S. N	Level of mental health	Range of score	Frequency	Percentage
i.	Mentally Healthy	<31	170	85
ii.	Mildly ill	32-40	24	12
iii.	Moderately ill	41-53	6	3
iv.	Severely ill	53>	-	-
	Total		200	100.0%

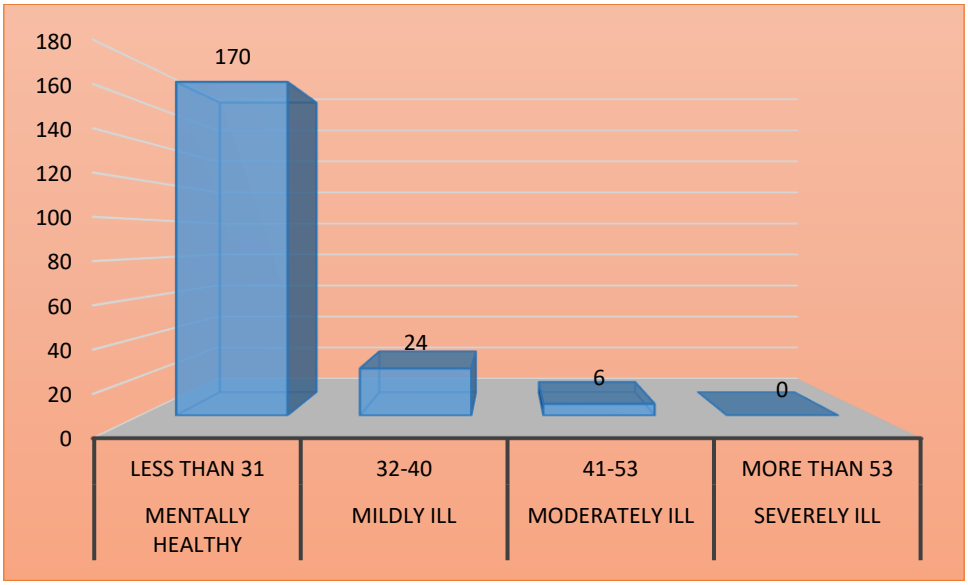

Figure2: Distribution of Level of Mental health of Seafarers

Table 3 presents the distribution of mental health scores among seafarers. It indicates that 85% of the participants were categorized as mentally healthy, scoring below 31. Additionally, 12% fell into the mildly ill category, with scores ranging from 32 to 40, while 3% were classified as moderately ill, scoring between 41 and 53. No participants were identified as severely ill. The total sample size was 200, constituting 100% of the participants.

Table 4: Mean, Median, Mode, Standard Deviation and Range of Mental Health of Seafarers.

Area of analysis	Mean	Median	Mode	S. D	Range
Mental health	27.91	28.00	30	7.01	43

In Table 4, the mean mental health score for seafarers was calculated at 27.91, with a median of 28.00 and a mode of 30. The standard deviation was determined to be 7.01, indicating the spread of scores around the mean. The range of mental health scores ranged from 15 to 58, with a total range of 43.

A significant negative relationship was seen between the level of emotional intelligence and mental health with the Karl Pearson correlation coefficient; $r = -.562$ ($p<0.01$) with $df = 198$, indicating that the higher emotional intelligence, the lower the mental health problem (i.e., more positive mental health).

V. CONCLUSION

In conclusion, this study sheds light on the critical relationship between emotional intelligence (EI) and mental health scores among seafarers, providing valuable insights into the psychological factors influencing their well-being in the maritime industry. The findings highlight a significant positive association between EI and mental health scores, indicating that higher levels of emotional intelligence are linked to better mental health outcomes among seafarers. Importantly, emotional intelligence emerges as a predictor of mental health scores even after accounting for demographic and occupational variables, underscoring its

potential as a target for intervention and support within the maritime industry.

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