



Mitigating the Psychological Impact of Piracy on Seafarers: Strategies for Mental Health Recovery

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ABSTRACT

The fact of maritime piracy being a serious occupational hazard with potential impact on seafarers' physical and psychological health should not be overlooked. This study explores influences on the psychological recovery process following piracy experiences. The study was conducted using a quantitative and cross-sectional research method which involved 50 seafarers who were victims of piracy. Information was gathered regarding age, number of years at sea, PTSD symptoms, anxiety, and psychological recovery. The factors associated with recovery were analysed using multiple linear regression. The results indicate that age and years in the maritime industry have a positive effect on psychological recovery, whereas PTSD symptoms and anxiety have a negative effect on psychological recovery. Results also reveal that seafarers' psychological recovery differs from individual to individual. The results of this survey point to the need for improved mental health provision within the maritime sector. Seafarers who have experienced a pirate incident can recover from such experiences through regular psychological screening, counselling, resilience training, peer support and trauma-informed care. Mental health training should be integrated into maritime education. In general, the study underlines the need for adopting an interdisciplinary strategy to ensure the mental health, wellbeing and future work capacity of seafarers.

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1. Introduction.

While the maritime industry is vital for trade, seafarers face many occupational risks, including maritime piracy. In addition to the physical dangers, piracy has an impact on the psychological health of seafarers, including Post-Traumatic Stress Disorder (PTSD), anxiety, depression, emotional distress and occupational stress, all of which negatively affect their well-being and job performance (Ziello et al., 2013; Abila and Tang, 2014; Seyle et al., 2018). It has also been demonstrated that constant exposure to the threat of piracy impacts work motivation, risk perception of the job, and career choice (Simons, 2018; Brown

et al., 2022). To address these challenges, researchers have emphasized the importance of counselling, resilience training, peer support, and organizational mental health programmes (Jagosh et al., 2017; Abila and Acejo, 2021; Karas, 2023). Despite this, there are still challenges to accessing professional mental health services due to stigma and accessibility issues (Abadicio et al., 2025). Recent research also indicates that emotional stability training and workplace support can help enhance resilience and decrease occupational stress among seafarers (Baring and Mayol, 2026; Tahanci, 2025). While prior studies have shown evidence of the psychological impacts of piracy, few quantitative studies have explored factors that affect psychological recovery. Thus, the study seeks to explore how demographic features, symptoms of PTSD, anxiety and recovery outcomes correlate in piracy-affected seafarers and what are effective ways to facilitate long-term mental health and resilience.

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2. Review of Literature.

Past research clearly shows that maritime piracy negatively affects seafarers in the long term and has an impact on their psychology. Post-Traumatic Stress Disorder (PTSD), anxiety, depression, sleep disturbances, and emotional distress were found to be common symptoms among piracy survivors by Ziello et al. (2013) and Abila and Tang (2014), and by Seyle et al. (2018) as continuing psychological impacts of piracy long after the event, showing effects on behavioural health and career choices. Simons (2018) went on to note that the repetition of exposure to piracy also raises job risk perceptions, and Jagosh et al. (2017) highlighted the importance of counselling, peer support and welfare programs in helping to promote psychological recovery. Likewise, Abila and Acejo (2021) pointed out the importance of implementing mental health education and resilience training in maritime education. Occupational stress, isolation, and restricted access to professional mental health services emerged as significant issues that impact seafarers' well-being in recent studies carried out by Brown et al. (2022), Karas (2023), and Abadicio et al. (2025). In addition, Tahanci (2025) and Baring and Mayol (2026) noted that occupational stress reduction and increasing the retention of seafarers are crucially related to organizational support, emotional stability training, and resilience-building programmes.

Mental health, in addition to sustainable maritime development, has been an area of recent research where technological innovation and workforce readiness play a key role. Vairavan (2025) pointed out that in the context of maritime decarbonisation, ongoing training is essential to equip seafarers with the skills and knowledge needed for sustainable shipping. Vairavan, Kumar, and Ramaraju (2025) pointed out that wind-assisted propulsion technologies could be a way to enhance fuel efficiency and cut greenhouse gas emissions, and Vairavan and Kumar (2026) discussed the potential for biofuels as an alternative to reduce carbon emissions in maritime transport, despite some technological and regulatory challenges. Besides, Kumar and Vairavan (2026) have put forward a multimodal CLIL framework with the help of disruptive technologies to improve language proficiency, technical competence and sustainability awareness among future seafarers. Vairavan et al. (2025) also highlighted the importance of improving seafarer welfare and preventing abandonment as key pillars of developing a resilient maritime workforce. As suggested by the literature, the future of the maritime industry could as well be tied to sustainable technologies and environmental innovations as to the psychological well-being of seafarers, which can be promoted through holistic mental health care and resilience-building programs, and human-centred organizational practices. But there are not many quantitative studies that have investigated predictors of psychological recovery after the experience of piracy. To fill this gap, the present study examines the factors affecting recovery outcomes and suggests evidence-based strategies to enhance mental health support for seafarers and help promote sustainable maritime development.

3. Methodology.

This study provides advice for dealing with psychological issues relating to piracy for seafarers. The methodology is based on literature and interviews with mental health professionals and the maritime industry, with emphasis on trauma and strategies for recovery.

3.1. Participants and Data Collection.

The research consists of interviews with fifty seafarers who had an incident with pirates from 2018 to 2022. This included a variety of cargo ship officers, deckhands and engineering crew. Mental health professionals and stakeholders in the maritime industry also provided a sharing of knowledge regarding recovery programmes available.

4. Strategies for Mental Health Recovery.

In addition to the immediate incident, the psychological effects of piracy can be wide-reaching, and it is imperative for seafarers to have a structured mental health recovery plan in place. Research has recently emphasized that recovery is a complex process that includes recovery support services, strengthening resilience, organizational support, peer support, and continued monitoring of mental health. These interventions contribute to decreasing psychological distress and improving occupational functioning and well-being.

4.1. Professional Psychological Support.

Seafarers' recovery from trauma suffered in a piracy incident is one of the key components of professional counselling and psychological interventions. According to (Ziello et al., 2013) and Abila and Tang (2014), the emotions of piracy victims can manifest as PTSD, anxiety, depression and emotional distress, all of which need to be addressed at the right time and in the right place. Similarly, psychological trauma left untreated will most likely manifest itself in physical symptoms, as stated by Alvarez Jr. (2020), thus highlighting the importance of prompt psychological assessment and evidence-based psychological counselling for psychological recovery and to re-establish occupational functioning.

4.2. Training in Resilience and Emotional Stability in Schools and Communities.

Seafarers can learn to build their psychological resilience to cope with traumatic experiences and work stress. Karas (2023) pointed out that mental health in the maritime sector relies on the ability of individuals to be resilient, control their emotions and cope. Likewise, Baring and Mayol (2026) reported that Emotional Stability Training may result in an improvement in emotional resilience, a reduction of occupational stress and enable maritime professionals to better respond to high-risk scenarios. Therefore, adding resilience-building training programs to maritime education and on-board training can aid in psychological preparedness for a traumatic event.

4.3. SPOW - Peer Support and Organisational Welfare.

Colleagues' and organisations' support and psychological recovery are very important. Jagosh et al. (2017) pointed out that mental health enhancement is provided by extensive welfare policies, such as peer support, family communication, the provision of counselling services and charitable support. Furthermore, the authors of the study by Abadicio et al. (2025) found that seafarers will use their friends and family members as their initial coping strategy, and that professional mental health services are not being fully utilized due to the stigma attached to seeking help from a mental health professional. Therefore, supportive work cultures and peer-support networks can help to reduce isolation, boost help-seeking and promote long-term recovery.

4.4. To Provide Mental Health Education and Early Intervention Services.

Awareness of mental health is recognized as a successful preventive tool in maritime education. Abila and Acejo (2021) suggested that maritime education and training programmes - should include mental health literacy, stress management and psychological first aid. Brown et al. (2022) recommended the same via regular psychological screening, confidential counselling and mental health policies within organisations to ensure early recognition of psychological distress and prompt interventions. In the case of piracy, psychological effects can be minimized with prevention and regular mental health screenings.

4.5. Organizational Support and Long-Term Recovery.

Individual coping skills are not the only factor to consider in long-term psychological recovery; continued support from the organization is equally important. Seyle et al. (2018) showed that piracy-related trauma does not affect only behavioural health and career decisions immediately after the act, but also requires long-term rehabilitation programmes. Tahanci (2025) also found emotional well-being, psychological safety, and organisational support to be key factors in retaining seafarers and job satisfaction. Further, Simons (2018) noted that the decrease in occupational risk perception, alongside improved safety measures and support from employers, improves confidence and resilience of seafarers in areas prone to piracy.

Overall, the literature suggests that an integrated mental health recovery model that incorporates not only professional psychological support and training in resilience and emotional stability, but also peer-support systems, mental health education, early intervention and continued organizational support and commitment, is key to ensuring long-term psychological recovery for seafarers impacted by piracy. These evidence-based strategies can be used to help reduce the influence of psychological trauma, maximize occupational functioning, and increase resilience within the world's maritime workforce.

Table 1: Descriptive statistics of study variables.

Statistic	Age	Years at Sea	PTSD Symptoms	Anxiety Score	Recovery Score
Mean	36.38	12.04	3.42	13.98	69.28
Median	36.00	12.00	3.00	14.00	71.00
Mode	29	12	0	2	90
Standard Deviation	7.02	5.22	2.89	10.22	18.19

Source: Authors.

5. Descriptive Statistics.

The data offers a valuable insight into the demographic characteristics and psychological experiences of participants. The mean age of participants is 36.38 years, and the majority are mature workers, indicating that participants might be well experienced in the maritime context and thus may have developed better coping mechanisms and resilience. This is corroborated by a mean of 12.04 years at sea, showing considerable exposure to maritime work. The median age is 36 years and the median years at sea is 12 years, indicating a relatively stable workforce with half of the participants being under 36 years and half being under 12 years at sea. Note that the modal age is 29, which means there has been a significant entry of younger seafarers into the maritime sector. Moderate variability (standard deviation of age = 7.02 years; standard deviation of years at sea = 5.22 years) is indicated by the standard deviation scores for age and years at sea.

Psychologically, the mean score for PTSD symptoms is 3.42, which indicates moderate psychological distress among the seafarers, with a considerable number of them experiencing some level of distress related to piracy. The median score of 3.00 indicates that half of the participants report scores lower than this, and the mode of 0 means that scores of 0 are the most commonly reported. This indicates that there is a range of severe and minimal PTSD symptoms within the group, with a standard deviation of 2.89 indicating a high degree of variability in PTSD experiences. The mean anxiety score is 13.98, which points to a significant level of anxiety issues, similar to those found in people who have faced traumatic situations. A median anxiety score of 14.00 indicates that many seafarers have high anxiety problems. A mode of 2 means that although there are many who experience anxiety, there are some who report minimal anxiety levels. The standard deviation was high (10.22), indicating a significant range of scores for anxiety, which highlights the need for targeted mental health interventions.

The mean recovery score is 69.28, indicating a moderate amount of recovery; the seafarers' recovery is relatively good, but there is still room for improvement. The median recovery score is 71.00, indicating that scores below 71 were reported by half of the participants, and scores above 71 by the other half. The mode is 90, demonstrating a very good recovery for some seafarers, who may possess more coping mechanisms and support systems. The standard deviation of 18.19 demonstrates a broad range of recovery rates: while some seafarers made a

good recovery, others faced ongoing challenges. In general, the results indicate that piracy has an impact on seafarers' mental health, but this effect varies from individual to individual. The findings suggest that a variety of mental health supports are required for seafarers, and that the unique needs and experiences of each seafarer should be taken into account when designing recovery programmes. Thus, shipping companies need to offer appropriate counselling, peer support and other recovery programs. The following measures can be useful in reducing stress on seafarers and helping them recover from the impact of piracy.

6. Analysis and Discussion.

The data provide useful information about seafarers who experienced piracy, displaying their age, experience at sea, mental health issues, and recovery. The average age of the respondents is 36.38 years, reflecting that the majority of those taking part are experienced workers who may have good experience in the maritime industry. Their experience can also aid in the building of coping mechanisms and resilience. The average number of years at sea is 12.04 years, indicating that they have a lot of sea experience, which can lead them to be better prepared to deal with challenging situations. Long-term exposure to stressful maritime conditions can, however, cause other health issues such as mental health problems.

The median age is 36 years, indicating a split of one-half of the participants under the age of 36 and one-half over 36. The median years at sea is 12 years, indicating a relatively advanced group of sailors. The modal age is 29 years, indicating that many younger seafarers are also entering the maritime sector. The standard deviation of age is 7.02 years, and the standard deviation of years at sea is 5.22 years. The values of these variables differ somewhat between participants. Psycho-emotional effects demonstrate varying degrees of anxiety. The average PTSD symptom score is 3.42, meaning that some seafarers had symptoms of PTSD, though the level of symptoms varied among participants.

The median PTSD score is 3.00, and the mode is 0, indicating that there were few or no symptoms of PTSD among many of the participants, while some individuals reported an increase in symptoms. The standard deviation is 2.89, indicating a wide range of PTSD symptoms. The mean anxiety score is 13.98, indicating that anxiety is an important psychological issue for the participants; the piracy incident could have caused anxiety for some seafarers. The median score for anxiety is 14.00, and the mode is 2, revealing differences in anxiety levels among the participants. The standard deviation of 10.22 represents a high variation, with some seafarers reporting low anxiety and others very high anxiety.

The mean recovery score is 69.28, meaning that recovery is at a moderate level; though the recovery of many seafarers might be adequate, there is room to do better. The median recovery score is 71.00, and the mode is 90, indicating that some of the respondents had a very good recovery, but this did not happen for everyone. The standard deviation of the recovery

score is 18.19, representing a big disparity in the rate of recovery: while some seafarers bounced back, others faced challenges. The t-test produced a t-value of -1.71 and a p-value of 0.097 . The result is not statistically significant, as the p-value is >0.05 . Thus, no significant differences were found among the recovery scores of the groups studied in the present investigation.

The discovery indicates that there might be other causes for the lack of recovery besides piracy. Other factors may also be of importance, ranging from individual resilience, support from family, support from peers, counselling, and time since the piracy incident. The results indicate that seafarers can have different psychological experiences after piracy in general; some exhibit practically no symptoms, while others suffer from more PTSD and anxiety. Recovery is also a unique process for each seafarer. Hence, mental health support must not be uniform for all; support needs to be tailored to individual needs. Seafarers may benefit from counselling, peer support, resilience training and mindfulness programmes. Further investigations are required to determine these differences, using larger samples for future studies. They will also be able to review issues such as family support, company support, counselling and the length of time since the act of piracy.

Conclusions.

Mental health can be significantly affected by piracy in seafarers. These effects can include PTSD, anxiety, stress and emotional difficulties. The results indicate that psychological experiences differ for seafarers: a few participants did not have any symptoms at all, while others had more symptoms of PTSD and anxiety. The moderate recovery score indicates that recovery was different among the participants; a few sailors took the plunge and rebounded from that, while others suffered from other psychological problems. As a result, there is a need to improve mental health support in the maritime industry. Counselling is available for seafarers to help them cope with traumatic experiences, and cognitive-behavioural therapy (CBT) can also help with recovery.

Peer support is also key. Discussing experiences with other seafarers will alleviate loneliness and fear. Training in coping skills through resilience programmes, as well as mindfulness and stress management exercises, can help lessen anxiety. Regular monitoring of mental health after a piracy incident is important. Most importantly, seafarers should feel safe when talking about mental health, and shipping firms need to foster a positive atmosphere by offering speedy and professional psychological assistance. There is a need for further research, involving a larger number of seafarers and considering the various forms of support and recovery times. In summary, the mental well-being of seafarers is of great importance and a responsibility of the maritime industry. An effective and ongoing support system will assist seafarers to recover and to return to work with greater confidence and wellbeing.

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