

Stress and coping strategies in seafarers

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Abstract. The research presented in the article aims to investigate the main mechanisms of seafarers' stress and coping with stress.

The research was conducted in several directions. The first one was aimed at testing the hypothesis: seafarers' stress is manifested both in the form of deterioration of physical condition and mental symptoms also seafarers' stress levels vary according to the coping mechanisms they use. On the other hand, it is interesting which stress coping mechanisms are mostly used by sailors.

The study used the stress level questionnaire by L. Lemur, R. Tessier and Fillion, A stress coping strategies questionnaire (The Coping Inventory for Stressful Situations (CISS-21), and author-written questions were used to collect demographic data. 30 sailors participated in the research. A Statistical Package for the Social Sciences (SPSS) was used for data processing.

Keywords: Sailors, stress, coping strategies.

1. Introduction

Stress can be defined as a state of apprehension or mental strain resulting from challenging circumstances. It is a natural human reaction, designed to prompt us to tackle life's challenges and threats. Stress is a universal experience, but how we navigate and respond to it, significantly impacts our overall well-being.

The impact of stress extends to both the mind and the body. A moderate amount of stress can be beneficial, enhancing our ability to perform daily tasks. However, excessive stress can lead to both, physical and mental health issues. Developing effective coping mechanisms for stress is crucial to feeling less overwhelmed and maintaining our mental and physical health.

Individuals exhibit diverse responses to stressful situations, coping styles and stress symptoms vary from person to person. It is normal to experience stress in demanding scenarios such as job interviews, exams, excessive workloads, job insecurity, or conflicts in relationships. For many, stress diminishes as situations improve or as they acquire emotional coping skills. Stress is prevalent during major events like economic crises, disease outbreaks, natural disasters, war, and community violence.

While most people effectively manage stress and continue functioning, seeking support from a trusted healthcare professional or someone in the community is essential if coping becomes challenging.[1]

The maritime workforce constitutes one of the largest professional groups globally. As per data from the European Maritime Safety Agency (2020), the European Union alone employs around 280,000 individuals at sea.[2]

Seafaring is a profession that, due to many factors, is associated with physical and psychosocial stress. From a mental and physical point of view, seafarers' stress can be caused by several subjective and objective factors. Working at sea is associated with a heavy physical and mental burden; working on ships is one of the most dangerous jobs in the world. This is manifested not only directly in the work process but also after returning home. Prolonged isolation is an important factor.[2]

The article presents studies that have identified challenges faced by seafarers that create subjective and objective stressors.

2. Research paper

Along with the identification stressors of seafarers, it is also essential to grasp how seafarers navigate these challenges, as it significantly influences their mental health and overall job effectiveness. Seafarers, confronting prolonged periods of isolation, rigorous working environments, and the unpredictable elements of the sea, find themselves especially susceptible to various stressors that can affect their emotional and mental welfare.[3]

The authors of the study conducted in 2023, identify 5 groups of stressors affecting the mental and physical health of seafarers, namely: 1. Objective indicators – an acute change in body mass index, and decrease in self-esteem, 2. Perception of own mental health. 3. Behavioral manifestation - smoking, eating habits. 4. Psychological well-being — an aspect of manifested mood, and generally perceived stress at work and home; 5. Physiological consequences of stress, as well as based on behavioral indicators such as trouble falling asleep and waking up, etc.[2].

Another study, aimed to research the various stressors faced by sailors and associated coping strategies of employers, the research was conducted with the involvement of five single-handed sailors who entered into the 2006/2007 Velux 5 Oceans round-the-world race. “During the interview, Skippers revealed organizational (e.g., environmental conditions, isolation, sleep deprivation), competitive (e.g., lack of progress, yacht-related problems), and personal (e.g.,

family-related issues) stressors. Strategies used to deal with these demands included problem- (e.g., prioritized sequential thinking), appraisal- (e.g., rationalizing situations), emotion- (e.g., using available communications), and approach-focused coping (e.g., "what if" scenario planning)." [4]

The results of another study, conducted in Italy in 2012, confirm the connection of the seafaring profession with mental and physical stressors. The most important factors were separation from family, loneliness on board, fatigue, multi-nationality, limited recreational activity, and sleep deprivation. Considering these factors, Seafaring is still associated with relevant mental health risks. Information on known stress factors on board should be provided to seafarers to help them in lowering stress perception. Strategies for coping with "inevitable" stress conditions should also be investigated and developed. Strategies to reduce risks of stress should be directed to the different categories of seafarers, and the results of specific interventions should be evaluated. [5]

As for stress coping strategies, according to the APA Dictionary of Psychology, coping strategies are defined as an action, a series of actions, or a thought process used in meeting a stressful or unpleasant situation or in modifying one's reaction to such a situation. Coping strategies typically involve a conscious and direct approach to problems. [6]

Coping strategies can be healthy or unhealthy. Such as problem-oriented action, problem-oriented thinking, avoidance, bad habits (overeating, excessive consumption of alcohol, smoking), running away from the problem, ignoring the problem, etc.

Problem-focused coping in seafarers is oriented towards managing or altering the problem causing the stress. This type of coping is particularly relevant in the dynamic and often unpredictable maritime environment. It involves:

Planning. Seafarers employ strategic planning as a means to foresee potential issues and formulate effective strategies for addressing them. This could involve readiness for inclement weather, charting optimal routes, or scheduling maintenance activities to prevent equipment failure.

- Direct Action. This involves taking concrete steps to change the situation.
- Seeking Information. Continuous learning and acquiring information play a pivotal role.

Seafarers may involve technologies or exploring weather trends, gaining knowledge about emerging navigation technologies, or staying updated with international regulations. This maritime knowledge equips them to better handle challenges.

Along with this, some of the healthy stress-coping strategies used by seafarers include:

- seeking social support;
- Emotional regulation (meditation, relaxation)
- Fun, hobby, relaxation.[3]

3. Research method

The study used the stress level questionnaire by L. Lemur, R. Tessier, and Fillion (Lemur, Tessier-Fillion 2003) and A stress coping strategies questionnaire (The Coping Inventory for Stressful Situations (CISS-21), 30 seafarers participated in the study. Descriptive and analytical statistical methods, Statistical Package for the Social Sciences (SPSS), and data processing method ANOVA are used for data processing.

4. Results of research

According to the results, all surveyed seafarers report physical and mental health complaints both during their time at sea and after returning home. The main physical symptoms of stress include insomnia, fatigue, tension, pain, and lack of energy. The psychological symptoms of stress include often being in a bad mood, sudden anger, irritability, and decreased motivation. These symptoms appear while working on the ship and do not stop even after returning home. It can be said that this is a long-term manifestation of stress. Therefore, one of the research hypotheses, seafarers' stress is manifested both in the form of deterioration of physical condition and mental symptoms, was confirmed, because the vast majority of participants mentioned both physical symptoms and psychological symptoms that were related to stress.

As for the stress coping mechanisms used by the interviewed seafarers, it was revealed that the majority of the research participants use a healthy stress coping strategy. Among them, focusing on the problem, looking for ways to solve the problem, seeking social support, helping a friend, and recalling and using past experiences. However, a small number of cases were identified, when participants used such unhealthy coping strategies as alcohol consumption, heavy tobacco

use, nervousness, anxiety, and self-blame. Thus, it is clear that the majority of participants used healthy stress-coping mechanisms.

Based on all of this, it is interesting the relationship between healthy and unhealthy coping mechanisms and the overall stress score. It is logical to assume that a healthy stress coping mechanism is associated with low levels of stress and conversely, an unhealthy stress coping mechanism is associated with high levels of stress. The Analytical statistical method ANOVA was used to confirm above mentioned thesis. However, according to the results, no statistically significant relationship was found between these two variables.

5. Conclusion

As I mentioned before, stress is not an unusual phenomenon in people's social and professional life. And the seafaring profession is such a high-risk activity, that it is logical, that it is considered one of the most stressful professions. The results of research conducted in various countries, as well as our survey, reveal high rates of stress among seafarers and the physical and mental consequences of this severe stress. The dominant physical and mental symptoms caused by stress are insomnia, fatigue, irritability, inattention, irritability, sudden anger, and anxiety. These are the factors that can have a significant impact on the seafarer's job satisfaction, and from the point of view of the mental state, fatigue, inattention, and insomnia - these are the skills that affect and determine the safety and quality of the seafarer's work. Therefore, periodic assessment of seafarers' stress levels and teaching them healthy stress coping strategies is critical for both personal and professional performance.

References

- [1] "Stress," *www.who.int*, Feb. 21, 2023. https://www.who.int/news-room/questions-and-answers/item/stress/?gclid=Cj0KCQiA5fetBhC9ARIsAP1UMgFLeAKhUMcujpnFIXg-aEpX3inUCpFMQI8BFEHer9NbfUM6T0I9dtkaAtclEALw_wcB
- [2] J. SzafranDobrowolska, M. GrubmanNowak, M. Renke, and M. Jeżewska, "The psychosocial burden and stress coping strategies among seafarers," *International maritime health*, vol. 74, pp. 122–128, Jun. 2023, doi: <https://doi.org/10.5603/IMH.2023.0018>.

- [3] Vitalii Lunov, “Coping Behavior, Stress Overcoming, and Attributive Styles as Adaptation Resources in Seafarers,” *Social Science Research Network*, Jan. 2024, doi: <https://doi.org/10.2139/ssrn.4701989>.
- [4] N. Weston, R. Thelwell, S. Bond, and N. Hutchings, “Stress and Coping in SingleHanded RoundtheWorld Ocean Sailing,” *Journal of Applied Sport Psychology*, vol. 21, Oct. 2009, doi: <https://doi.org/10.1080/10413200903232607>.
- [5] A. Carotenuto, I. Molino, A. Fasanaro, and F. Amenta, “Psychological stress in seafarers: a review,” *International maritime health*, vol. 63, pp. 188–94, Jan. 2012.
- [6] APA Dictionary of Psychology, “Coping Strategy,” *Apa.org*, Apr. 19, 2018. <https://dictionary.apa.org/coping-strategy>