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How can the seafarers do it? Qualitative research in psychosocial risks of South Italy's seafarers

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ABSTRACT

Background: Psychosocial risk factors play an important role in the lives of seafarers on board. Not only physical but also mental health influences the performance of seafarers. This study aims to investigate the psychosocial aspects of life on board among southern Italian seafarers.

Materials and methods: Semi-structured interviews were conducted between January and April 2021 with a sample of 20 seafarers using the snowball method. Griffith and Gonzales' (2000) guidelines for conducting face-to-face interviews were used. Interview topics were analysed using paper and pencil.

Results: The majority (90%) of seafarers were married or living in a romantic relationship. The seafarers worked more than 10 hours per day without a day of rest during their time on board. The main stressor for participants was the lack of family (16/20), followed by conflicts between work and rest (12/20), pressure from crew members (9/20) and feeling lonely (8/20). Seafarers were generally involved in traumatic events such as fatal accidents (5/20), injuries at work (4/20) and pirate attacks (4/20). The most important personal resources are the opportunity to travel (12/20), followed by passion for this type of work (9/20). The most common suggestion for a better quality of life on board concerns improving the quality of training (6/20).

Conclusions: The results of this study are alarming for the working and living conditions of seafarers. Shipping companies should implement social policies to prevent an increase in psychosocial risks on board. Future studies could include the administration of a questionnaire to examine psychosocial stressors, seafarers' protective factors, and well-being and discomfort outcomes at work.

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Key words: maritime human factor, psychosocial risks onboard, quality of life onboard, seafarers

INTRODUCTION

The ever-changing labour market, globalisation and technological advances are changing the quality of life on board a ship every day, highlighting a growing need for training on stress management for seafarers [1]. A recent study looking at fatal accidents at sea from 1972 to 2019 shows that accidents often start when alertness is low, between 7 pm and 7 am [2]. Most studies in the literature focus on workplace safety and the physical health of professionals [3], neglecting all the psychological factors that affect crew members' lives on the ship.

In Italy, the profession of seafarer is not considered a physically demanding profession, but there are general risks that affect the health of the worker and are recognised as a cause of physical and psychological disorders [4–8]. These diseases are examined by a doctor every 2 years, but there is a lack of interest in assessing the psychosocial risks.

The analysis of psychosocial risks in seafarers is increasing in the international literature [9, 10], but there is no treatise on psychosocial factors at work on Italian seafarers. Seafarers need to work in a safe environment and should comply with safety regulations [11], but international research reports psychosocial risks related to excessive bureaucracy on board, lack of professionalism, leadership management [12], mental health disorder [1], piracy and harassment on board [13], lack of rest [14], automation of machinery, long working hours, workplace fatigue [15] and multiculturalism [3, 16].

The aim of this study is to investigate the psychosocial risks in a sample of southern Italian seafarers through qualitative research.

The occupational activities of seafarers are comprehensively regulated by conventions and codes, some of which focus on the regulation of seafarers' training, leisure and working time, as well as provisions on watchkeeping on board ships, such as the Standards of Training, Certification and Watchkeeping for Seafarers (STCW) [17] or Maritime Labour Convention (MLC) [11].

Health, well-being and safety at work are some of the objectives set by organizations concerned with the protection of seafarers, such as the International Labour Organization (ILO) and the World Health Organization (WHO) [18]. On board, seafarers live in the same confined space in which they work. This factor affects the quality of recreation, leisure, interpersonal relationships and psychophysical health, which in turn affects performance [12].

Psychosocial stress for merchant fleet officers is caused by high levels of responsibility, bureaucracy, lack of crew qualifications, conflicts between safety and profitability, and ship management in port areas [3, 19]. In addition, work-related stress is typical for seafarers because there is no separation between work and rest time, which means constant accessibility, fatigue and insomnia due to night work and changeable weather [9, 14, 19]. Catecholamine levels of seafarers, especially pilots, are significantly elevated after duty [20].

The automation of technology on ships has led to a change in the perception of officers, who were once seen as operators and now monitor equipment and machinery [21] and develop other specific technical and management skills. The length of the voyage and the time spent in port affect crew safety [22]. In addition, seafarers are subject to overload from work that has nothing to do with watchkeeping or cargo handling, which affects fatigue levels, such as excessive bureaucracy [9, 23]. There is a positive correlation between the increase in working hours due to the reduction of crew members and the lack of social relations due to worker fatigue. The constant rotation of crew prevents the development of friendly bonds within the ship, which affects mental health and increases perceived stress levels and the possibility of suicide on board [7]. In addition to fatigue, loneliness, lack of home, multinationalism, sleep disturbance and limited leisure activities are also perceived as possible psychosocial stresses for seafarers [9, 24].

MATERIALS AND METHODS
PARTICIPANT

The sample included in this study consisted of 20 seafarers with the following characteristics: all male, age 42.89 (16.11), registered in the "seaman's book" for more than 1 year. The daily working time reported by the sam-

Table 1. Sample description and hours worked per day

Crew status	Number
Chief officers	16
Deck department	6
Engine department	10
Deck rating	1
Captains	2
Cook	1

Crew status	Mean hours worked per day
Cook chief	11.5
Chief engineer	13.2
Third engine engineer	9.75
Cadet engineer	8.5
Master	11
Third deck officer	10
Second deck officer	11
First deck officer	9
Cadet deck officer	8.5
Sailor	12

ple, including overtime, is 10.2 hours and all respondents reported working all days of the week during their time on board (Table 1).

A city in southern Italy was chosen because of the large number of people working in the shipping industry there (2500 seafarers out of a population of less than 17000 people). Snowball sampling was used for two main reasons: privacy and convenience of the respondents. In Italy it is not possible to see the seafarers' book [25] and the snowball system allows to establish a relationship of trust between interviewer and respondent.

PROCEDURE

From January to April 2021, 20 semi-structured face-to-face interviews were conducted. Initial contact was made with a phone call to enquire about the seaman's availability and to arrange a time for the interview. A suitable setting was created for the interview to ensure the privacy and safety of the interviewee. Rules were followed during the interview to prevent the spread of the COVID-19 virus. It was explained how the data would be used and written consent was requested to record the audio of the interview.

Each interview consisted of two main topics: 1) oceanographic and navigational data; 2) analysis of the job's themes extrapolated through the psychosocial risk analysis scoring grid [26].

Table 2. Description of the topic's groups

Group number	Subjects
1	Crew status; Age; Company flag; Travel routes; Nationality of the crew; Gender of the crew; Department of the seafarer; Hour of watchkeeping; Typology of ship; Sentimental situation; Overwork hours; Presence of alcohol and drugs on board
2	Checklist of the activities of the seafarer during his routine
3	Affirmations related to the quality of rest and relaxation on board
4	Psycho-social risk factors associated with an experience of work stress
5	Traumatic events
6	Effects of the traumatic events to the job performance
7	Work resources
8	Suggestions that seafarers expressed to improving the quality of life on board
9	Checklist of psychosocial risks that there is in the Carter's paper [24]

DATA ANALYSIS

The research was conducted following the grounded theory methodology [27]. This is an approach that provides an inductive approach to the culture being interviewed. The researcher was expected to discover the theory during the interviews, ignoring previous experiences and knowledge on the same topics. The transcription was done with Microsoft Word.

RESULTS

After transcribing the interviews, the arguments that emerged were grouped together (Table 2). Each interview citation listed in the results included the seafarers' age and status on board.

CREW ACTIVITIES

The activities carried out by seamen can be categorised according to both the status of the crew and the department to which they belong (engine or deck).

The deck officer carries out the maintenance work of the deck department on the basis of the activities assigned to him by the planned maintenance system and communicated by an officer or the boatswain. The deck officer, together with the master, takes care of navigation, the management of inspections on board and the management of the crew. In addition, interviews have revealed that records of crew members' rest periods (which are checked at port state control) are deliberately falsified. Since the 1980s, shipowners have reduced their staff due to the increasing automation of ships. This situation makes it impossible to distribute a correct workload among crew members. Deck officer trainees carry out the safety drills on board, observe and help with all the work carried out by the deck officers. The captain takes care of the management of the leadership on board. During navigation, a situational style of leadership is usually used, but during manoeuvres or emergencies it becomes authoritarian. The activities of the cook relate to the preparation of canteens for the seafarers. The activities of the machinery engineers relate to the maintenance of the machinery department and the determination of activities for the ship's operation. The maintenance of the machinery is not in the job description of the machinery engineers but is entrusted to the machinists. However, due to the shortage of personnel, it is necessary for the engineer to assist the machinery officer.

Engineer trainees assist the engineer officers, carry out inspections and take part in exercises.

Chief engine officers look after the management of the ship's operations, plan the activities of the engine crew, report consumption to the company and help the staff when the ship is in dry dock.

PSYCHO-SOCIAL RISK FACTORS ASSOCIATED WITH WORK STRESS

On the psychosocial risk aspects causing stress on board, the interview results show that lack of family attention is the most common theme (16/20), respondents said phrases like: "not being able to see my children grow up", "fear of not being there for the family", "being away from home", "thoughts of home", "missing all the events of private life".

The concept of work-recovery conflict (12/20) included all statements highlighting the difficulty of resting on board, such as: "being on call 24 hours a day", "never sleeping" (25, third deck officer), "not having time to rest", "no time for leisure", "no way to take time off from work", "…you do not go home in the evening" (24, third deck officer), "…you cannot tell day from night…" (25, engine cadet), "the rules for rest time were not respected", "sleep interruption", "no rest time", "…you live in a world where you can never switch off…" (55, chief engineer) and "sleeping badly".

Pressure from crew members (9/20) included endorsements related to: "pressure from crew members", "competition", "working fast", "no mistakes possible" or "working under pressure".

Feelings of loneliness and isolation are common on board (8/20). Seafarers said about them "...you live in bubbles..." (54, captain), "it's a floating prison" (25, third deck officer), "four months a hermit on a ship" (65, cook), "I felt worse than a prisoner" (61, chief engineer), "I did not feel welcome the first week" (21, engine cadet).

Bad weather and working hours were mentioned 8 times in the interviews as a cause of stress. All the seafarers interviewed stated that they worked every day of the week, without a day of rest, and some seafarers stated that they were "on shift 12 hours a day" (61, sailor). The constant criticism and reprimands of the crew (7/20) included statements such as, "...always guns at the ready..." (55, chief machinist), "...toxic crew" (27, third deck officer), "...constantly criticising each other..." (24, deck cadet), "...if you made mistakes, you are condemned..." (61, chief engineer), "there is only criticism" (44, engine director). Other aspects perceived as a cause of stress were lack of professionalism, a negative work environment, the typology of the work contract and the mob of the organization (5/20). The negative work environment included statements such as "...third Reich environment" (24, third engineer), "...it only takes one crew member to ruin the environment" (61, chief engineer). Issues like monotony, bureaucracy, scrutiny/port state control, prejudice/envy, high pressure/vibration/noise are mentioned 4 times. Low quality of food, unsatisfactory retribution, time on board, activities of other colleagues, dealing with cultural diversity on board, internet prices/misrepresentation, length of routes, time at home, lack of union protection are also issues that are perceived as causing stress (3/20).

The last aspect mentions, authoritarian hierarchy, time change, lack of protection from pirate attacks, accidents, living with crew members, new safety norms, mobbing, lack of social recognition, high temperature, design of the hub, artificial light exposure, and stun effect (Fig. 1).

TRAUMATIC EVENTS

Now the number of seafarers who had traumatic experiences on board or witnessed them is reported.

Two of the interviewees experienced war scenarios during their time on board, namely the war between Iraq and Iran in the 1980s, the second Gulf War in 2003 and the bombings in Libya in 2011. One interviewee reported hiding the bodies of people who were likely victims of human trafficking in the Mediterranean by moving them further away from the reach of the rig. The bodies were tied together with rope and put into black bags normally used for garbage. Three interviewees reported that the migrant rescue was a particularly stressful event because of the difficulty of managing multicultural crowds on a cargo ship. The term 'atypical behaviour' was used to describe all those atypical manifestations that can be claimed as psychopathologies of adulthood, quoting the interviews: "...the electrician looked like a crazy person" (25, third deck officer); "...I saw people playing with his head [....] we had to lock him in the cabin" (53, captain); "at the first embarkation the captain was paranoid" (53, captain); "...there was a bit of a strange situation, they see him every now and then, he goes away, he goes out, so you know, you keep an eye on him, you never know, it could be that he jumps in [...] or if it's people who might have alcohol in the cabin, it could happen that they get drunk and go..." (30, third engineer). Accidents on board are common (4/20) and had the following consequences: Second degree burns to the foot, stab wounds, amputation of the ring finger and coccyx fractures. Three out of 20 crew members were victims of abuse of authority by military personnel during inspections on board and victims of bullying by other crew members. There were also reports of crew members being kidnapped and ships being seized, i.e. 1 respondent was kidnapped by pirates for 33 days, another reported that the ship he was on was seized off Nigeria for a week and a final seafarer reported that he was on board the ship for 7 months during the COVID-19 pandemic with a broken boiler without touching land. Five different people reported assisting in fatal accidents and being victims of pirate attacks. Two seafarers faced fire on board during their careers, while another survived a hull explosion on his first route.

WORK RESOURCES

Different personal and organizational labour resources are mentioned in the interviews, as you can see in Table 3.

For the last statement of Table 3, it is important to describe that this sample used to need support from the Merchant Marine Fund, which can provide money for time spent recovering at home. This situation, as they expressed, is due to the lack of retribution during the time at home. Statements were made in relation to work resources such as: "I have experienced some negative events [he was abducted in the forests of Guinea Gulf], and I realised that... yes, it is true that I complain, but it is also true that I really miss it... by now I have arrived in the maritime culture" (50, first deck officer); "you eat there on the topside, in the briefing room, you stand there, we cook and spend the whole evening there, maybe stop in port and eat, and these are the little things that make you say: OK, I am in a familiar environment, a calm environment, I'll be back!" (27, third
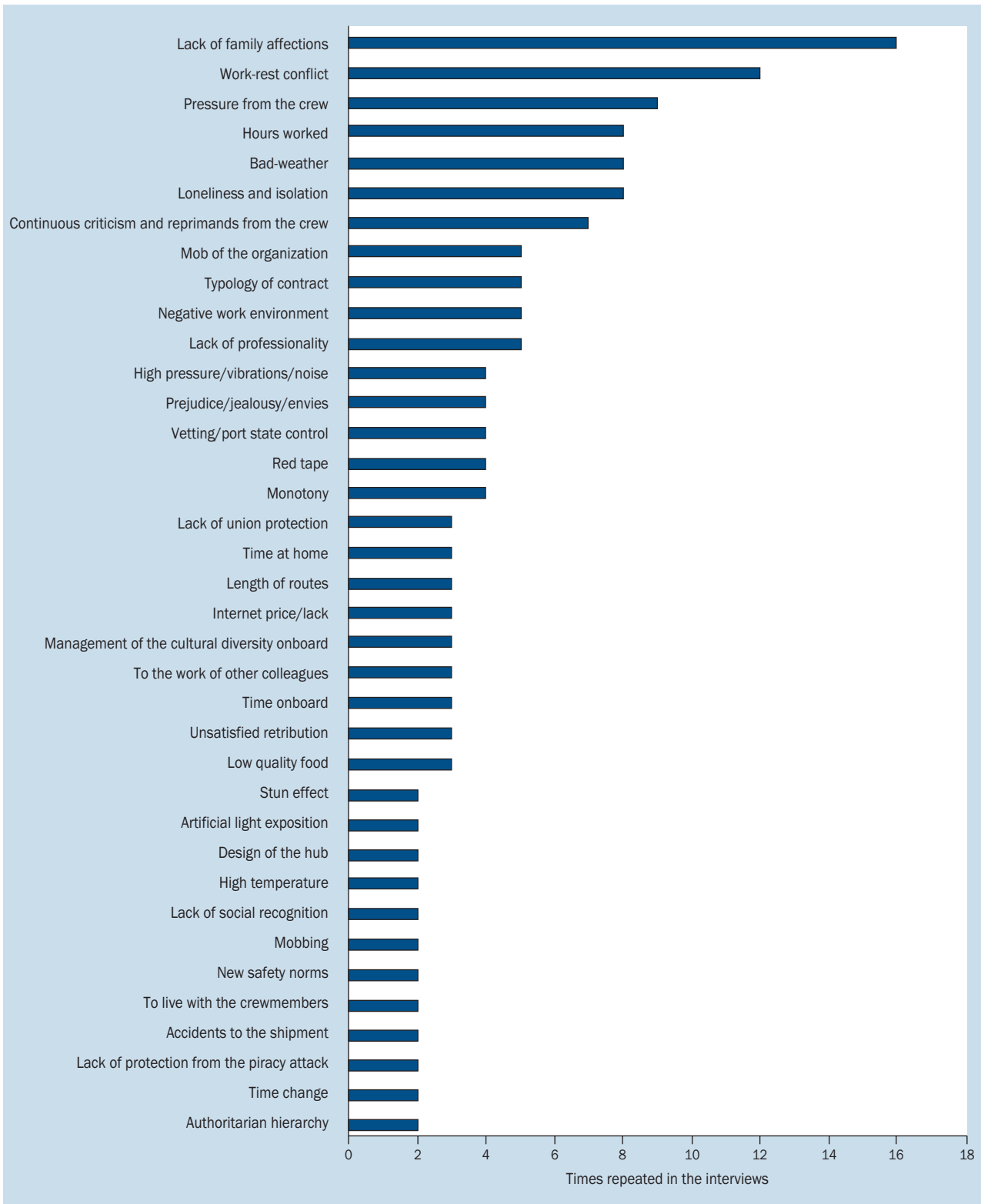
Figure 1. Psychosocial risk factors associated with an experience of work stress

deck officer); "now I can live [referring to the long routes that now leave him more time for himself]" (53, captain); "the change to let off steam after work [hitting a punching bag]" (25, engine cadet).

PSYCHOPHYSICAL EFFECTS OF LIFE ON BOARD

Regarding the psychophysical effects of life on board, the seamen interviewed expressed symptoms such as dissatisfaction, nostalgia, deterioration of eyesight, sleep

Table 3. Work resources

Work resources	Times
Personal resources	
Opportunity travel	12/20
The passion for the type of work	9/20
To know new people	7/20
To learn from the experience at work	4/20
To know how to manage stressful experience	3/20
To coming back home or the communication that soon you will go home	2/20
Self-knowledge	2/20
The pleasure to see the sea	2/20
To speak different languages	1/20
To help the others	1/20
Organizational resources	
High salary	11/20
Positive work environment	5/20
Recognition from the colleagues	5/20
Duration of the rest at home	4/20
The ability on board to keep up with technological innovation	3/20
To have an own space on board	3/20
Constant retribution	3/20
To have responsibility	1/20
The possibility to make a career	1/20
The advantages of easily gaining from the fund for merchant marine during leave	1/20

disorders, headaches, cardiac arrhythmia, burns, broken bones, physical fatigue, mental exhaustion, nervous exhaustion, ulcers, colitis, anxiety, hearing loss, psychophysical well-being after reaching destinations, seasickness, general malaise, leg complaints, nervousness, anxiety and gastritis (Fig. 2). They expressed: "the stress we accumulated on the routes is cumulative" (50, first deck officer); "we had a cabin below sea level" (45, second deck officer); "I cannot take it anymore, I want to go home […] you start talking to yourself […] it's like the captain is another person" (25, third deck officer).

SUGGESTIONS FOR A BETTER QUALITY OF LIFE ON BOARD

The suggestions expressed by seafarers during the interviews to improve the quality of life in the maritime sector are to improve the quality of training (6/20), increase the number of crew members and reduce the cost of internet for better connection with the rest of the world (5/20), shorter time on board (4/20), psychological care ashore or at sea

and more consideration for employees by the company (3/20), use of offshore contracts, more recreational space on the ships, social recognition of the seafaring profession as strenuous work, granting a basic salary during time at home, better work organization (2/20).

DISCUSSION

There are alarming findings in the literature about the working and living conditions of seafarers [9, 24]. The main objective of this study is to investigate the psychosocial risks in a sample of southern Italian seafarers through some semi-structured interviews.

The activities of the sample crew are always controlled by the planned maintenance system and reported by the captain, but the excessive workload due to the lack of crew members could have an impact not only on the falsification of the logbook but also on the safety of the ship.

The findings show that there is no weekly rest day and the daily working hours exceed 8 hours, which could affect the quality of sleep and attention during work and jeopardise the safety of the entire crew and cargo. However, lack of sleep and attention are not the main causes of stress reported by seafarers. The absence of family members and the inability to contact or be with them is the most common cause of stress among crew members. The absence of family members could have an impact on work-life balance, work-family conflict or work-family spill over.

The seafarers in this sample typically assist with or are involved in traumatic events, but not all of them were supported by the company in coping with the experience.

Work resources show that discovering the world and passion for the type of work are the most common personal resources for this sample. Instead, high salary is the most common organisational resource, followed by efforts to create a positive work environment.

The results on the psychophysical impact of life on board show that there are a significant number of common symptoms related to quality of life on board for seafarers.

All the suggestions in the sample can be seen as needs of the seafarers. It is interesting to see that there is a link between the psychosocial stressor they expressed and the most frequently mentioned suggestion. Instead, the first suggestion was to improve the quality of training, followed by a way to overcome the distance to the rest of the world and to reduce the cost of internet on board.

LIMITATIONS OF THE STUDY

The sample used in this study is gender limited as the seafarers interviewed were all men. The data cannot be standardised, and the sample is not representative of seafarers in southern Italy. This study focused on a single city in southern Italy. It is not possible to understand
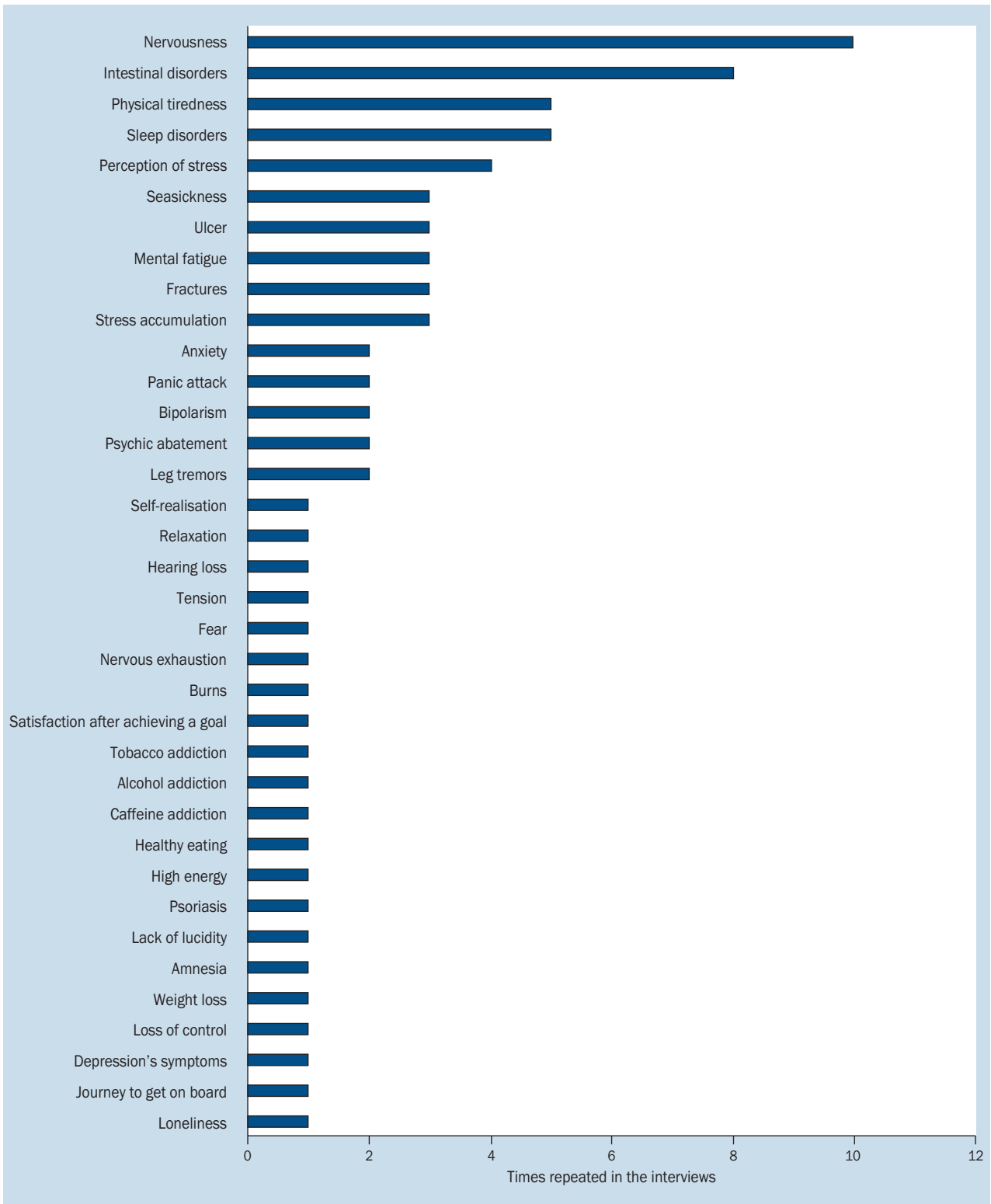
Figure 2. Psychophysical effects of the life on board

whether the company flag or company management is related to the well-being of the seafarers in the sample. The narratives of the sample could be influenced by false memories, as the reported experiences are not always related to the last embarkation.

CONCLUSIONS

The work stressors reported by the sample, particularly the lack of family and the conflict between work and rest, may play an important role in seafarers' quality of life. These findings are only a preliminary investigation to serve

as a basis for a future study analysing the role of psychosocial risks among Italian seafarers. From the interviews, it can be concluded that the sample perceived a low level of well-being at work, which can be attributed to the lack of attention paid by shipowners to the application of MLC [11] and STCW [17].

Conflict of interest: None declared

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