

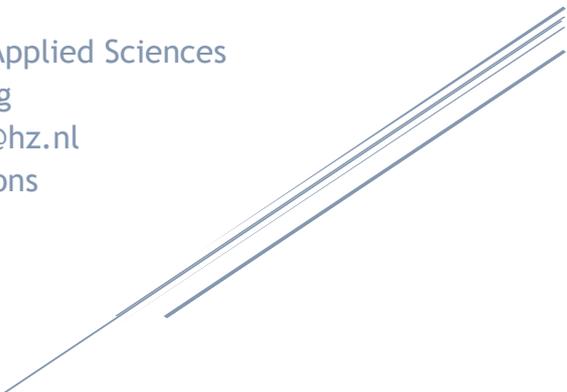
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# Symptoms of depressions amongst seafarers

Thesis

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## Summary

Over the years, one disease that is increasingly common in society is the disease “depression”. This disease is often described by people as “it’s in your head and it doesn’t exist”. Previous studies have shown that more than 25 % of seafarers are dealing with symptoms of depression. These symptoms have side effects and not only affects the seafarer but the entire crew on board walk slower or faster, have less interest in their job, excessive drinking. In some cases it can even be so bad that people commit suicide. The possible causes are the workload that is constantly increasing, this because the shipping company wants to win more and more money by putting less and less crew on board, which means that seafarers not only have to work under a higher workload but also have to work longer days.

The purpose of this research is to find out can seafarers depressions be reduced on board? For this, 4 sub-questions have been prepared: what are the most common symptoms of depression, what are the possible causes of this, what is the impact on aboard a ship and how can symptoms be recognize among colleagues. To examine this, it was decided to send a questionnaire survey to all seafarers from the shipping company where the researcher did his internship. To be able to draw a conclusion based on this questionnaire survey and previous studies to prevent further depressions on board.

Based on the results that are received from 146 seafarers working in the company VSM. The main causes are the workload in port and separation from family/friends. As a result it is recommended when they are loading / discharging in port to hire external companies if major maintenance is required in the engine room or more lay days in port. Also for loneliness / separation from family can be solved by installing a Wi-Fi connection on board so that the seafarers are able to have connection during sea and in port.

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## 1. Introduction

### 1.1. Research Background

Depression is a mental condition that is endemic to seafarers. According to the Sailors Society (University, 2018). More than a quarter of all seafarer's exhibit symptoms of depression. This has been corroborated by (Jaques, 2018) who observed that 26% of all seafarers feel depressed on most days, whilst at sea. Depression amongst seafarers has been associated with negative outcomes like suicide. Depression among seafarers impact the functioning of sea vessels, impair morale and lower productivity (Iversen, 2012).

Several causes have been identified for seafarer depression. Like as loneliness, long separation from their families, work stress, short leaves, poor diet and ship turnaround times and issues related to culture and job security are the main causes of depression (Iversen, 2012). In 2016, Smith observed that training of seafarers is focused only on functional skills and does not equip them to deal with complexities of life at sea. In addition, there are few redressal mechanisms for seafarers suffering from depression. In 2017, a study has found that 45% of all seafarers who suffered from depression do not ask for any help, 33% ask family and / or friends and just 21% sought the help of fellow colleagues for help despite spending many days at sea together (University, 2018).

These findings suggest that depression among seafarers is a negative phenomenon and there is an urgent need to identify causes of depression, their symptoms and to put in place appropriate preventive / palliative mechanisms.

### 1.2. Research Objectives

The researcher was not able to find literature on the most common symptoms of depression among seafarers. Nor is it known which factors are responsible for different forms of depression. In this scenario, it is difficult to apply remedial measures that can effectively tackle the problem of seafarer depression. It is these gaps in the literature on seafarer depression that this research will attempt to bridge. The objective of this research may be stated as follows:

*Objective:* The objective of this research is to analyze seafarer depression in the Vaage Shipping Management, examine which factors are significantly related to symptoms of depression and to propose measures to reduce these symptoms.

### 1.3. Research Questions

The main research question is: *How can symptoms of seafarer depression be reduced?*

The research sub-questions are as follows:

- *What are the most common symptoms of seafarer depression?*
- *What are the causes of seafarer depression symptoms?*
- *What is the impact of seafarer depression on life aboard the ship?*
- *How can symptoms of seafarer depression be recognized?*

The above research questions were answered through primary and secondary data. The secondary data was used to formulate the theoretical framework comprising (i) symptoms of depression, (ii) key causes of depression, (iii) remedial measures for depression. The primary data was collected through a survey conducted amongst 120 seafarers of the Vaage group and analyzed to ascertain what are the key symptoms of depression, their causes and impact.

## 2. Theoretical Framework

In this chapter we'll discuss further information the researcher found about depression, what is a depression, symptoms of depression, what are the causes of depression and consequence of depression. On the end of this chapter there is a table that the researcher has made from possible symptoms of depression -> causes of depression -> consequence of depression.

### 2.1. Symptoms of Depression

According to (Mayo Clinic Staff, 2018) depression or major depressive disorder is defined as a mood disorder. The symptoms of depression are given in figure 2.1.



Figure 2.1. Symptoms of Depression

From figure 2.1 some of the key symptoms of depression are observed. A depressed individual feels sad, empty or hopeless. These feelings characterize a depressed mood (NIMH information and publications, 2018). There is a lack of interest or pleasure from activities that were once enjoyable. The individual suffers from significant weight loss / gain and appetite loss / gain without any attempt by the person to initiate such changes (Paul, 2009). The individual sleeps too much or too less than normally. The person moves faster and more nervously or slower than usual. The individual keeps complaining of fatigue, tiredness and feeling less energetic. There is loss of concentration and impairment of the ability to think and make decisions. The person suffers from feelings of worthlessness and of guilt. There are also constantly occurring thoughts of death, ideas of suicide with or without plans to commit (Groep, n.d.). Also, when a shift from visible distress to sudden calm, talking about death and saying good bye to people are symptoms of depression leading to suicide (Melinda Smith, 2018)

However, (Kruisdijk, 2018) points out that a person may not exhibit all the above symptoms. Depression occurs if 5 of the above symptoms are present for at least 2 weeks with the most important symptom being either a depressed mood or lack of enjoyment / pleasure.

## 2.2. Causes of Seafarer Depression

Various causes have been indicated for seafarer depression. These are discussed as follows:

*Loneliness* – is one of the key causes of seafarer depression. Lefevere found that most seafarers spend up to 10 months a year away from their homes and families (Iversen, 2012). Long periods away from home, social isolation, fewer numbers of seamen per ship and more automation can result in loneliness that in turn can trigger various psychological problems among seafarers (Crewtoo, n.d.)

*Separation from Wives / Families* – is also another cause of depression and indicated by the fact that seafarers spend unusually long time on skype / computers / mobiles etc. whenever they land ashore to communicate with their families (Iversen, 2012).

*Stress* – Symptoms of stress among seafarers include sleeplessness, lack of concentration, anxiety, substance abuse, excessive anger / frustration, conflict and physiological illnesses such as cardiac problems, headaches, indigestion and back problems (Raunek, 2007). Here are a few casual factors of stress among seafarers work-related and comprise of excessive demands of the job, lack of control seafarers have over their jobs, lack of support from superiors / colleagues, poor interpersonal relationships, seafarers participation in change management (Robotis, 2018). Severe stress can lead to the inability to make decisions, prioritize activities and obsess with unproductive activities. Another outcome of stress is 'burnout' where the seafarer becomes emotionally, psychologically and physiologically exhausted whilst at work onboard ship (Manos, 2017).

*Fatigue* – Seafarers spend long hours at work and hence suffer from lack of sleep. This results in fatigue which is linked to mental health problems, chronic disease and suicide. Fatigue also results in accidents at sea (Its seafarers, n.d.).

*Lack of Shore Leave* – Research by Von Dreele found that seafarers get very little time-off to go on shore. Several reasons have been given for this including work hours, need for faster ship turnaround times, lack of visa, restrictions on account of TWIC (Transportation Workers Identification Certificate) that restrict seafarers to walk through shipping terminals for shore leave, coast guard security regulations and difficulties in accessing dockyard gates from the berthing area (Dreele, 2008).

*Short Ship – Turnaround Times* – Most container ships have very short turnaround times of less than 3 days. Some ships discharge their goods within 24 hours after which they can leave. Such short ship – turnaround times along with high onboard ship workloads mean that most seafarers do not get a chance to go ashore on leave.

*Job Security* – Studies has found that most seafarers suffer from job insecurities. Most seafarer are employed on 9 / 10-month contracts. At the end of these contracts, there is no guarantee given that they will be renewed. This ends their ability to repatriate wages to their families back home. This problem gets exacerbated during economic recession such as the great recession of 2008 where the shipping industry was severely impacted. Most ships were unable to get charters leading to high unemployment rates among seafarers whose contracts were not renewed (Iversen, 2012)

*Cultural Problems* – Seafarers aboard ships come from different nationalities and this can cause cultural problems and a failure among some of the seafarers who fail to assimilate with their colleagues (Dreele, 2008). This clash of cultures is particularly exacerbated when seafarers come from nations that have historically been at odds with each other. Studies has shown that revealed high levels of racism and abuse among seafarers' onboard ships today (ICS - Shipping, 2016).

*Abuse* – According to ICS-shipping often seafarers are treated with disrespect by their superiors or colleagues. This includes harassment and bullying onboard ships. Seafarers live in poor working conditions and paid low wages. This leads to exploitation and abuse of seafarers and exposure of respectable shipping companies to unfair competitor (Iversen, 2012).

*Piracy* – Hijacking of ships has emerged as one of the biggest challenges for the maritime industry (Smith, 2016). This problem is exacerbated as maritime piracy becomes more sophisticated. In 2011, at least 450 seafarers were taken hostage and 15 murdered. On an average, seafarers can be held hostage by pirates for more than 210 days and subject to increasing violent, abuse and threats (Iversen, 2012). (Simons, 2013) found increasing instances of depression among seafarers who have been held hostage and subsequently released post payment of ransom. This is because being on a hijacked ship and taken hostage can cause severe mental trauma among seafarers. Efforts to mitigate piracy concerns by placing armed guards aboard ship have not been successful due to problems related to legal regulations governing the operations of such guards (International, 2018).

*Lack of Training* – Training provided to seafarers does not equip them to deal with the problems, challenges and strains of living on sea. This view is corroborated by Smith (2016) who points out that training of seafarers has always been one-dimensional and focused on their occupation. Training is given on navigational and engineering skills but not on realities and difficulties of life at sea and how to deal with these challenges. Such one-dimensional training ignores the reality of the seafarer as a multi-dimensional human being (Smith, 2016).

Coco (2013) pointed out that that sea is not just a medium for the conveyance of ships but has its own social space. This is because of the complex social relationships occurring between seafarers who come from different backgrounds, religions, ethnic origins and social standings. In addition, this social space is characterized by the constrained and

misconfigured relationships that connect the seafarers with their families, friends and local communities across the world. Furthermore, life at sea is governed by emotions, ideas, requirements, value systems, feelings and behavior that are very different from those of life on land. However, seafarer training rarely acknowledges the unique social aspects of life at sea and the seafarer as a human being. This results in a disconnect between seafarer expectations and reality of life at sea and an inability of the seafarer to cope / adjust (Cocco, 2013).

### 2.3. Consequences of Seafarer Depression

This section examines consequences or the results of seafarer depression. One of the biggest consequences of depression among seafarers is suicide. Research has showed that seafarers have among the highest suicide rates in the general population. Furthermore, the numerous cases of disappearances at sea as well as high incidence of seafarers drowning at sea have been attributed to suicide (S E Roberts, 2005) (Saina, 2017).

Another consequence of seafarer mental ill-health is higher rates of human error resulting in higher numbers of maritime casualty situations / incidents (MI News Network, 2016). This assumes significance given the finding by Rothblum (2013) that up to 96% of maritime casualty incidents occur due to human errors. Also seafarers can have comorbid disorder due to depression and starts drinking or using drugs. Such incidents can also increase the costs of operating the ship and negatively impacts the bottom-lines of the shipping business (Rothblum, 2013).

There are various economic consequences of seafarer depression as well. Stopping the operations of a ship whilst at sea or diverting a ship due to mental illness among seafarers / missing seafarers can be very expensive. Research by Smith (2016) at least 7% of all seafarer respondents in their sample needed to be evacuated from their ships due to mental illnesses every year (Smith, 2016). In 2013, Henny, Hartington and Scott observed that on an average at least 1 in 5 ships are forced to re-route due to medical reasons of their crew every year. This results in very high costs to ship owners and negative impact on the bottom-lines of the business. Henny (2013) also pointed out that the cost of diversion and re-routing can be even more if the ship is carrying high value cargo with a short shelf life. This can result in even higher losses to the ship owner (Chris Henny, 2013).

## 2.4. Developing the Theoretical Framework

Based on the findings in sections 2.1 – 2.3, the theoretical framework in figure 2.2 was developed.

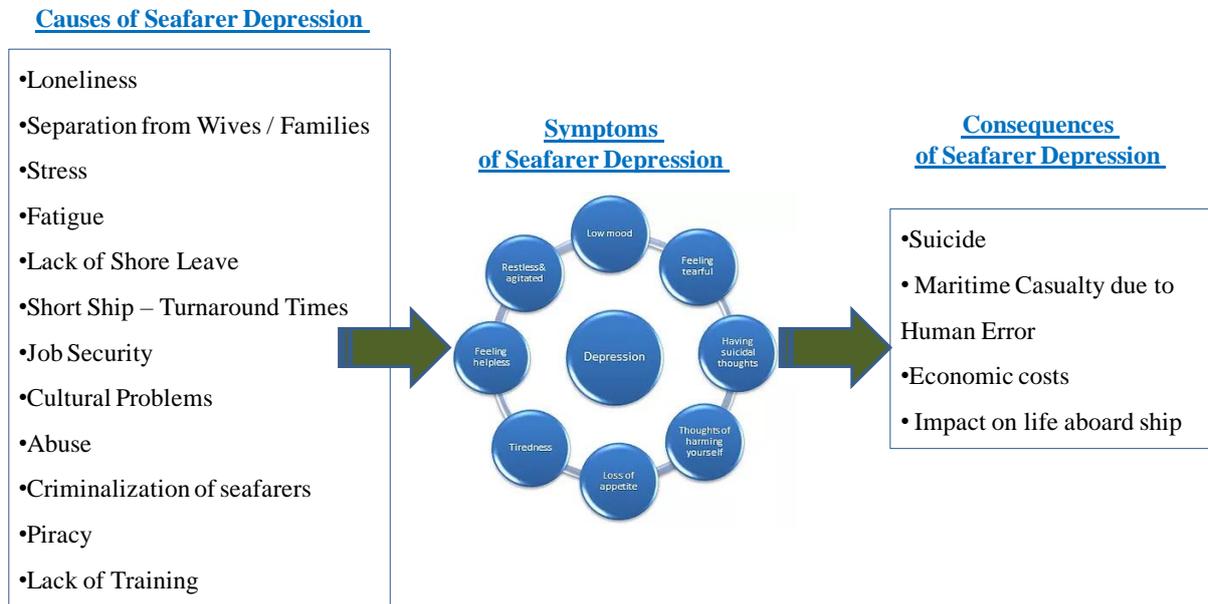


Figure 2.2. Theoretical Framework

From figure 2.2 it is observed that several causes of seafarer depression have been identified. These include loneliness, separation from family, stress, fatigue, lack of shore leave, short-ship turnaround times, concerns on job security, cultural problems, abuse, bullying & harassment, criminalization, piracy and lack of training. In addition, several symptoms of depression have also been identified. These include depressed mood, feelings of tiredness, helplessness & fear, suicidal thoughts, agitation, changes in appetite, weight, restlessness etc. However, it is not known what symptoms of depression most commonly occur among seafarers. In addition, while there is enough literature on causes of seafarer depression, it is not known which causes are significantly related to particular symptoms. This research attempts to bridge the current gap in the literature on seafarer depression by identifying the most important triggers of depression among seafarers and examining how these causes are linked to seafarer depression. Furthermore, the consequences of seafarer depression have also been discussed in the literature. These include suicide, higher incidence of negative seafaring incidents due to depression induced human error and high costs / losses to the shipping companies. However, it is not known how seafarer depression impacts life aboard ships. This research will attempt to examine this hitherto unknown impact of seafarer depression as well.

### 3. Methodology

This chapter explains the methodology that was used in this research.

#### 3.1. Research method

This research adopted a quantitative methodology. Quantitative methods are based on experiments, validate hypotheses and investigate whether statistically significant relationships exist between variables (Klouwen, 2013). Qualitative research is mainly exploratory in nature and seeks an understanding of reasons, opinions and motivations of respondents. (Mortelmans, 2013). The purpose of this research is to investigate relationships between seafarer depression and symptoms of depressions. Which forms of seafarer depression occur the most among seafarers needs to be identified. The key symptoms through which seafarer depression can be identified need to be investigated. For these purposes, the researcher felt that a quantitative rather than a qualitative methodology would be more suitable.

#### 3.2. Data used

Both secondary and primary data were used in this research. Sources of secondary data included books, journals and periodicals on seafarer depression, symptoms, causes etc. The analysis of the secondary data led to the formulation of the theoretical framework in figure 2.2. The primary data was collected through a survey that was administered to seafarers aboard ships belonging to the Vaage Shipping Management. Both primary and secondary data were used to answer the 4 research sub-questions and the main research question.

#### 3.2. Sampling

Sampling is the process of selecting appropriate respondents for the research (Klouwen, 2013). In this research the purposive sampling method was used as this method helps select only those respondents would be most relevant for this research. Please note that this research focuses on seafarer depression. Hence, only seafarers from the Vaage Shipping Management who have completed more than 3 years of service in the group, aboard ships, were considered for this research.

To select an appropriate sampling size, the researcher calculated the minimum acceptable sample to use for a quantitative research. According to (corpos, n.d.) the researcher needs a minimum of 122 answers and must send 220 survey questionnaires. For this calculation the researcher has used a minimum of 5% margin of error and 90% of confidence error. The researcher contacted the human resources manager of the Vaage Shipping Group asking permission to conduct the research. After obtaining permission, the researcher asked the

human resources manager to put him in touch with seafarers who have completed more than 3 years aboard ship.

### 3.3. Data collection instrument

An online survey was the primary data collection instrument. The survey was chosen as the primary data collection instrument as it is most suitable for collecting information from a large group of respondents (Klouwen, 2013). Moreover, due to constraints of time and money, the researcher was unable to travel and administer the survey in person to each seafarer. Hence, it was emailed to the seafarers. The survey comprised of close ended questions that could be answered along a 4-point Likert Scale. The survey collected information on symptoms of depression and causes of depression. The questions were derived from the theoretical framework. The survey is given in “Appendix 1 - Survey”. The responses to the survey are given in appendix 2.

### 3.4. Data analysis method

The data collected from the survey was analyzed using Survey legends software. The statistical tests used were descriptive statistics and multiple regression. Descriptive statistics indicated which were the most frequently occurring symptoms of depression and the main sources of depression among seafarers. The multiple regression analysis would indicate which causes of depression are statistically significantly related to symptoms. The results of the multiple regression were presented in tabular and graphical format and analyzed using findings from the literature review.

## 4. Results

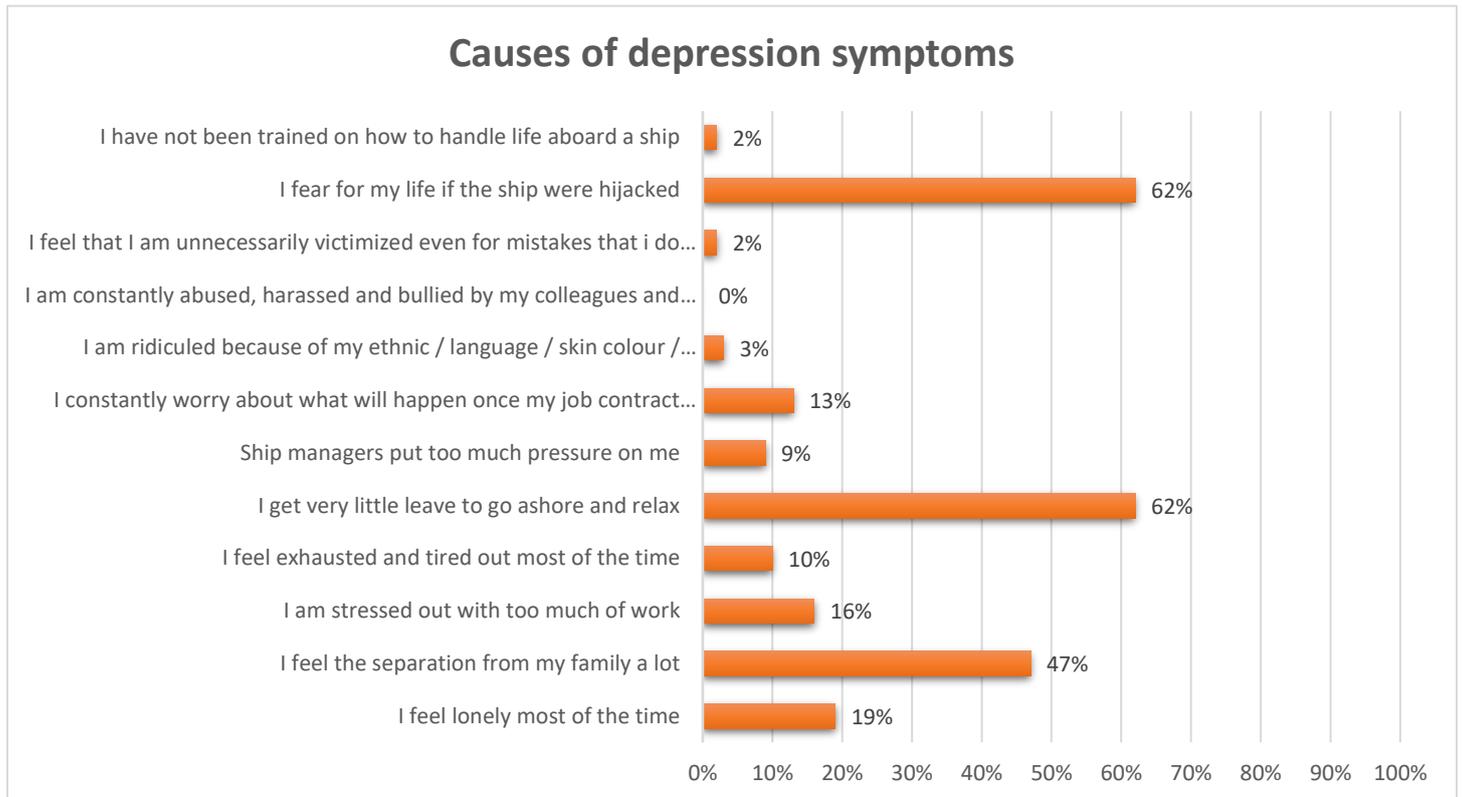
This chapter will explain and compare the results that were received by the seafarers and the data information from chapter Theoretical Framework.

### 4.1. What are the most common symptoms of seafarer depression?

The last several years there have been studies about seafarers that are dealing with depressions on board. This not only affect the persons on board, but it affects all the crew on board. The researcher has made a questionnaire survey for all crew of VSM with a rate 0 to 4. Hereby we can see what the common symptoms of seafarer in this company are. According to the chapter “2.1. Symptoms of Depression” there are 9 common symptoms of depression observed these are low mood, feeling fearful, having suicidal thoughts, thoughts of harming yourself, loss of appetite, tiredness, feeling helpless and restless & agitated.

According to the answers of this survey; 10% of all crew currently on board are feeling tired most of the time, 5% feeling low in mood and 2% are suffering from restlessness & agitation. From previous research by (Jaques, 2018) who observed that 26% of all seafarers feel depressed on most days, while on board of VSM its only 10%. We can clearly see that the mental condition on board of VSM is below average, 1 out of 10 seafarers of VSM showing symptoms of depression. However, (Kruisdijk, 2018) points out that a person may not exhibit all the above symptoms and depression occurs if 5 of the above symptoms are present for at least 2 weeks with the most important symptom being either a depressed mood or lack of enjoyment / pleasure. In this case we don't have to be afraid if there are any seafarers dealing with depression on board in this company.

## 4.2. What are the causes of seafarer depression symptoms?



According to the table above we can see that there are three major causes on board these are “I get very little leave to go ashore and relax”, “I fear for my life if the ship were hijacked” and “I feel the separation from my family a lot”.

- “I get very little leave to go ashore and relax” this really depends on where the ship is loading and discharging like an example in the south of Europa Spain, France, Italy and Greece the loading & discharging time is way longer then in the north of Europa this in especially for the Netherlands, Belgium, Germany and Estonia. Also, VSM has ships sailing under the Dutch flag and they do not frequently discharge nor loading in the Netherlands there will be a lot of pressure before arrival, all documents have to be in order and when in port there will be any kind of survey like flag state, port state control, Classification survey, insurance inspection etc...Also for the engineers when they are in port mostly of the time there will be major maintenance in the engine room, this requires the necessary time span. In this case they will not only have little or no time to leave ashore but also a lot of stress and maybe even exhausted and tiredness.

- “I fear for my life if the ship were hijacked” this only depends were the ship is sailing following current information the following seas are dangerous for ships to get hijacked: Coast of Somalia, the Gulf of Aden, the Arabian Sea, the Red Sea and the Indian Ocean are critical sea areas that are more dangerous for piracy. Also Seafarers are on the frontline of the piracy problem. All seafarers transiting the Gulf of Aden and Northern Indian Ocean, have to live with the risk of attacks. While in other Sea Regions there is no risk for piracy and the seafarers feel very safe during their voyage.

- “I feel the separation from my family a lot” all the ships of VSM don’t have WIFI on board. When they are sailing and aren’t close to the coast (+20NM) the seafarers are not able to have connection with their family. This means that they don’t hear anything for days or even weeks from their family/friends while they’re sailing from one destination to the other.

Some minor causes are “I feel lonely most of the time”, “I am stressed out with too much of work”, “I feel exhausted and tired out most of the time” and “I constantly worry about what will happen once my job contract expires”.

#### 4.3. What is the impact of seafarer depression on life aboard the ship?

In chapter ‘2.3. Consequences of Seafarer Depression’ we can conclude that the impact of seafarer depression on board is that the seafarer has mental ill-health like lack of concentration, lack of sleep, low energy or fatigue. Seafarers also can deal with comorbid disorder, such as alcohol and drugs abuse or other addictions and in both cases there is a higher rate of human error resulting in higher numbers of maritime casualty situations / incidents. Such incidents can also increase the costs of operating the ship and negatively impact the bottom-lines of the shipping business.

There are various economic impacts of seafarer depressions as well. Stopping the operations of a ship whilst at sea or diverting a ship due to mental illness among seafarers / missing seafarers can be very expensive. In chapter “2.3. Consequences of Seafarer Depression” we can also read that at least 7 % of all seafarer respondents in their sample needed to be evacuated from their ships due to mental illnesses ever year.

#### 4.4. How can symptoms of seafarer depression be recognized?

According to previous research reports when a seafarer is having mental health problems he will most probably not show them because the maritime industry is a 'macho' industry. This means it's not easy to recognize symptoms amongst colleague on board.

For this question the researcher has made a list 'how to recognize depression amongst seafarers' according to the following information from chapter 'Theoretical Framework' and the results that were received from the seafarers.

We can recognize depression amongst seafarers by:

- Complaining about sleeping problems
- Becoming more withdrawn, or not caring to participate in activities that once caused joy.
- Showing more aggressiveness
- Talking about death/suicide
- Become more quiet, retreating from the crew
- Don't care or become Listlessness
- Become more or less sensitive
- Sad or crying spells, weepiness or becoming teary-eyed are easily recognized signs of depression.
- Slowly walking looking tiredness and low energy
- Low mood disorder
- Feelings of worthlessness, guilt or failure. People interpret minor setbacks in their life as personal failures.
- Anxiety
  - Become nervousness, restlessness, or feeling tense
  - Feelings of danger, panic or dread
  - Rapid heart rate
  - Rapid breathing
  - Increased or heavy sweating
  - Trouble focusing or thinking clearly about anything

When a colleague on board is showing several of these symptoms for a few days/weeks it's a big possibility that he/she is suffering with a depression.

## 5. Discussion

Based on previous studies on depression with seafarers, the researcher has conducted a study at the VSM company to see if there are any seafarers showing symptoms of depression. In order to be able to carry out a full research, a total of 220 surveys were sent and 146 completed surveys were received. These answers are included in a database so that the researcher can deduct from this the possible symptoms and causes of depression.

From the answers it has become clear that the seafarer wants more time in certain ports for loading and discharging, as a result of which the stress will be reduced and they may be able to leave the ship for a few hours. Also more safety on board is expected when sailing in areas where there is a danger of piracy.

It can also be deduced from the medical answers that extra attention must be paid to the medical aspects on board. For example, searching for a medical doctor ashore, this can be reimbursed by the shipping company and possibly the officer who is responsible for the medical aspects offer better information / training through the shipping company.

The reader must take into account that this study is based on the VSM shipping company and that they are trying to do as much as possible to make it as pleasant as possible on board. The researcher was also very limited in terms of accessibility.

The current research is a more in-depth study of depressions on board in order to gain a better overview of the symptoms and possible causes, because earlier research – insofar as found by the researcher – did not deal with possible causes and the recognition of depression.

The advice for further research is to conduct similar research to find out if there are different opinions when working for a different shipping company. After this one could figure out which methods work best and apply them in practice.

## 6. Conclusion & recommendation

In this study we searched for an answer to the question “How can symptoms of seafarers depression be reduced” for this study was conducted into the experience of the seafarer and their view on this question.

The first result 4.1. What are the most common symptoms of seafarer depression? The answers showed that the crew on board had almost no symptoms of depression. About 10% say that they are tired most of the time. when this is compared with previous studies, it can be deduced that VSM certainly does its best to ensure a pleasant time on board.

The medical results showed that a large majority of the crew is confident about the medical assistance on board. But when a seafarer wants to ask advice from a doctor on shore they often don't know how to reach them and they find that it is too expensive for them. Also the shipping industry is a macho industry and in this company 34% admits that they will not admit that they are not feeling well. These symptoms of depression occur more quickly when they have very short loading/discharging periods, this considerably increases the workload, this applies to both departments for officers and engineers on board. Also mostly of the time when they are in port there will be some “big” maintenance in the engine room and this requires the necessary time span.

In the second result '4.2. What are the causes of seafarer depression symptoms?' the researcher concludes that there are three important factors for the development of possible causes of depression. Two of them are temporary factors that only occurs for several hours or days while one is a constant factor. This constant factor can be easily resolved especially anno 2019, by bringing a Wi-Fi connection for all crew on board, several seafarers also has said that there friends who are also seafarers have internet on board.

The seafarers have said that piracy is the main but not constant factor for causes of depression. The motivation given here is that when seafarers have to sail in these areas, they do not feel safe enough and more and more ships are being robbed / kidnapped and have serious consequences for both the shipping company and the mental condition of the seafarer.

In the third result '4.3. What is the impact of seafarer depression on life aboard the ship?' When a colleague / seafarer is dealing with a depression the first days/weeks he'll try to hide it from the crew because of the 'macho' industry but it is already infecting the crew on board. All crew has to be informed about the situation and try to assist him where is possible, also the first officer / medical officer has to take care of the situation and provide the following medical urgency and all crew should be aware of the possibility of drinking or drugs abuse.

In the forth and last result '4.4. How can symptoms of seafarer depression be recognized?' like is said in the third result the first days / weeks it's hard to recognize someone dealing with a depression because of the 'macho' industry. The Researcher has made a list how to recognize symptoms of depression along seafarer / colleague. This list should be aware by all seafarers and shipping industry.

To answer the main question '**How can symptoms of seafarers depression be reduced**' the researcher took a look at the causes of the symptoms of depression and hereby it can be reduced by the following options: by getting more lay days in port or by hiring external companies if major maintenance is required in the engine room when in port. Also for loneliness / separation from family can be solved by installing a Wi-Fi connection on board so that the seafarers are able to have connection during sea and in port.

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## Appendix 1 – Survey

3. Which department aboard ship do you currently work in?

- Deck/Bridge
- Engine
- AB/Bosun
- cook

4. Please indicate your agreement / disagreement with the following options. For each option you may give a score according to the following scale:

*4 = Strongly Agree; 3 = Agree; 2 = Disagree; 1 = Strongly Disagree*

Option	Score
I feel lonely most of the time	
I feel the separation from my family a lot	
I am stressed out with too much of work	
I feel exhausted and tired out most of the time	
I get very little leave to go ashore and relax	
Ship managers put too much pressure on me	
I constantly worry about what will happen once my job contract expires	
I am ridiculed because of my ethnic origin / language / skin color / religion	
I am constantly abused, harassed and bullied by my colleagues and managers	
I feel that I am unnecessarily victimized even for mistakes that I do not do	
I fear for my life if the ship were hijacked	
I have not been trained on how to handle life aboard a ship	

5. Please indicate your agreement / disagreement with the following options. For each option you may give a score according to the following scale:

*4 = Strongly Agree; 3 = Agree; 2 = Disagree; 1 = Strongly Disagree*

Option	Score
I frequently feel low in mood	
I feel fearful most of the time	
I keep having suicidal thoughts	
I keep thinking of ways to harm myself	
I suffer from loss of Appetite	
I feel tired most of the time	
I feel helpless most of the time	
I suffer from restlessness & agitation	

6. Which of the following issues prevent you from accessing healthcare onboard ship or even when ashore. For each option you may give a score according to the following scale:

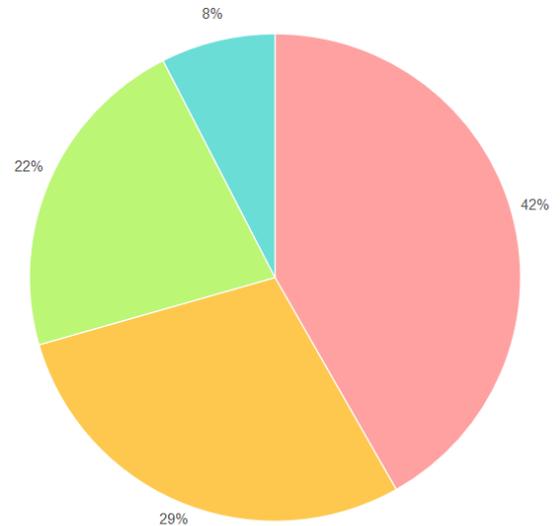
*4 = Strongly Agree; 3 = Agree; 2 = Disagree; 1 = Strongly Disagree*

Option	Score
Cultural / Religious Beliefs	
Cannot Access Doctors	
Concerns about lack of confidentiality aboard ship	
I don't know how to find a doctor ashore	
No confidence in any of the doctors / medical officers aboard ship	
I don't know what my health requirements are	
It's too expensive. I cannot afford medical care	
There is no transport in port that I can use to go find a doctor	
I don't want to think that there is anything wrong with me	
I don't want anyone to know that I am sick else I may lose my job	

## Appendix 2 – Survey answers

Which department aboard ship do you currently work on?

Answer	Count
● Bridge	61
● Engine room	42
● AB/ Bosun	32
● Cook	11



Please indicate your agreement / disagreement with the following options. For each option you may give a score according to the following scale:

4 = Strongly Agree; 3 = Agree; 2 = Disagree; 1 = Strongly Disagree

Answer choices	★	★ x 2	★ x 3	★ x 4
I feel lonely most of the time	46 (32%)	67 (47%)	28 (19%)	1 (0%)
I feel the separation from my family a lot	10 (7%)	64 (45%)	65 (45%)	3 (2%)
I am stressed out with too much of work	39 (27%)	78 (54%)	24 (16%)	1 (0%)
I feel exhausted and tired out most of the time	30 (21%)	95 (67%)	14 (9%)	2 (1%)
I get very little leave to go ashore and relax	18 (12%)	34 (24%)	40 (28%)	49 (34%)
Ship managers put too much pressure on me	45 (31%)	82 (58%)	13 (9%)	1 (0%)
I constantly worry about what will happen once my job contract expires	50 (35%)	71 (50%)	16 (11%)	4 (2%)
I am ridiculed because of my ethnic origin / language / skin colour / religion	127 (90%)	9 (6%)	2 (1%)	3 (2%)
I am constantly abused, harassed and bullied by my colleagues and managers	128 (91%)	10 (7%)	1 (0%)	1 (0%)
I feel that I am unnecessarily victimized even for mistakes that I do not do	100 (71%)	36 (25%)	3 (2%)	1 (0%)
I fear for my life if the ship were hijacked	30 (21%)	22 (15%)	79 (56%)	9 (6%)
I have not been trained on how to handle life aboard a ship	115 (82%)	20 (14%)	4 (2%)	1 (0%)

Please indicate your agreement / disagreement with the following options. For each option you may give a score according to the following scale:

4 = Strongly Agree; 3 = Agree; 2 = Disagree; 1 = Strongly Disagree

Answer choices	★	★ x 2	★ x 3	★ x 4
I frequently feel low in mood	48 (35%)	81 (59%)	7 (5%)	1 (0%)
I feel fearful most of the time	104 (75...)	31 (22%)	0 (0%)	2 (1%)
I keep having suicidal thoughts	128 (93...)	8 (5%)	0 (0%)	1 (0%)
I keep thinking of ways to harm myself	126 (91%)	10 (7%)	0 (0%)	1 (0%)
I suffer from loss of Appetite	121 (88%)	15 (10%)	0 (0%)	1 (0%)
I feel tired most of the time	48 (35%)	73 (53%)	13 (9%)	2 (1%)
I feel helpless most of the time	115 (84%)	20 (14%)	0 (0%)	1 (0%)
I suffer from restlessness & agitation	88 (64%)	44 (32%)	3 (2%)	1 (0%)

Which of the following issues prevent you from accessing healthcare onboard ship or even when ashore. For each option you may give a score according to the following scale:

4 = Strongly Agree; 3 = Agree; 2 = Disagree; 1 = Strongly Disagree

Answer choices	★	★ x 2	★ x 3	★ x 4
Cultural / Religious Beliefs	67 (49%)	29 (21%)	34 (25%)	6 (4%)
Cannot Access Doctors	40 (29%)	74 (54%)	21 (15%)	1 (0%)
Concerns about lack of confidentiality aboard ship	57 (41%)	67 (49%)	8 (5%)	4 (2%)
I don't know how to find a doctor ashore	61 (44%)	68 (50%)	0 (0%)	7 (5%)
No confidence in any of the doctors / medical officers aboard ship	44 (32%)	79 (58%)	6 (4%)	7 (5%)
I don't know what my health requirements are	55 (40%)	75 (55%)	5 (3%)	1 (0%)
It's too expensive. I cannot afford medical care	36 (26%)	62 (45%)	30 (22%)	8 (5%)
There is no transport in port that I can use to go find a doctor	49 (36%)	83 (61%)	3 (2%)	1 (0%)
I don't want to think that there is anything wrong with me	45 (33%)	43 (31%)	46 (33%)	2 (1%)
I don't want anyone to know that I am sick else I may lose my job	68 (50%)	63 (46%)	3 (2%)	2 (1%)