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Reflections of eco-anxiety in the maritime sector stakeholders

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Abstract

There are many sociological or political factors that affect people's psychological state, thus their peace, behavior and performance in their daily life. One of these factors that may change according to the level of sensitivity and awareness of the people to environmental issues is eco-anxiety. Eco-anxiety, which has been increasing recently and affecting especially the people who are sensitive to the problems caused by ecological changes, can cause different reactions by people. It can affect their physical and mental health and manifests itself in forms such as insomnia, depression or loss of appetite. This study investigates the effects of marine pollution perceptions of people working in the maritime sector and tries to find if these perceptions cause eco-anxiety among them. In this study, a survey that consists of 13 questions was given to the maritime sector stakeholders to see if they have any reactions to marine pollution and, if they have, to determine what reactions they are. The results show that maritime stakeholders feel eco-anxiety in various forms such as uneasiness, poor performance or despair and the most common feelings they have towards marine pollution are sadness and hopelessness followed by helplessness and panic. Further study on the issue may be about the ways in which the eco-anxiety affect the performance of the employees.

Keywords: Eco-Anxiety, Marine, Pollution, Environment, Reactions

1. Introduction

The World is getting more polluted as it gets older. The causes of the pollution may be natural such as volcanic ash, forest fires [1] or various gases such as radon or arsenic emitted as a result of the natural causes [2]. However, it may also be caused by people who fail to appreciate the value of the blessings that the world offers to them and who forget that it is the most valuable entity that should be left to future generations. Among the human-origin pollutants are activities related to industry, energy production and use, transport, domestic activities, waste disposal, agriculture and recreation [2], [3]. Of the problems caused by pollution, climate change, which is also known as global warming, is one of the most important ones [4], [5], [6]. The harm caused by the pollution and climate change, as its natural result, has been studied extensively from various points of view such as its effects on animals, soil, plant life, atmosphere. Problems caused by the environmental pollution have both short and long term effects on health as well [7]. To prevent these and to control the pollution affecting different systems and organs, both industry and people themselves should take actions. Otherwise all members of the society will face serious problems that range from minor upper respiratory irritation to chronic respiratory and heart disease, lung cancer, acute respiratory infections in children and chronic bronchitis in adults, aggravating pre-existing heart and lung disease, or asthmatic attacks [8], [9]. It can cause an increased risk of heart attack, wheezing, coughing, and breathing problems, and irritation

of the eyes, nose, and throat as well. Air pollution can also cause worsening of existing heart problems, asthma, and other lung complications.

2. Literature review

Ever since the report "A Commission on climate change" was published by the Lancet [10], studies about the effects of pollution accelerated. Although most of them have been on the physical problems , it is clear that pollution has an effect on the psychological state of people as well. Because some people who are aware of the problems that the pollution and climate change can cause are too much worried about them and they feel anxiety, depression and grief due to this. Although this feeling which is described as the chronic fear of environmental doom is called ecoanxiety by APA (American Psychological Association) in 2017, [11], some other names which refer to the same feeling are also used by the people concerned. Among these names are solastalgia, which was first used by Albrect in 2000 [12] to describe the unique mental anguish caused by living with the experience of negative environmental change [13], ecological grief used by environmentalist Aldo Leopold as early as 1940 [14]. Besides these, the terms like climate grief, environmental despair, eco-guilt or ecological distress have also been used to describe the same problem [15]. Literature review shows that the number of studies about the link between mental health and environmental pollution or climate change has increased after 2000. These studies mainly deal with how people are affected psychologically by pollution and problems arising from pollution, and what kind of negative mood they enter due to these problems.

Moser [16] is one of the first researchers who mentioned that climate change can cause negative feelings such as fear, anger, feelings of powerlessness, or exhaustion. Coyle and Van Susteren [17] found fear of extreme weather conditions can cause strong negative feelings.

Albrect [12] coined the term " Psychoterratic " to define the emotions people feel in the face of pollution and climate change.

Willox et al.[18] conducted interviews with the community members and found that changes in weather, wildlife and vegetation patterns attributed to climate change have negative impacts on their well-being and mental health.

Obradowich et al. [19] found how the rise in temperature affects the probability of mental health problems. They found that a 5- degree increase in the temperature increases the risk of a mental disorder by 0.5 percent. They also found that stress factors from climate change pose a threat to people's mental health.

Hayes and Poland [20] reviewed the articles written in English between 2000 and 2017 on mental health and climate change using key words and tried to find out the tools and approaches so that mental health implications of climate change could be monitored, measured and evaluated. They found that direct impacts of climate change at the individual level have been studied more. They also emphasized that more empirical research is needed.

Ojala [21], whose work focuses on young people and the ways they react to and communicate about climate change, says the thoughts and approaches of younger generations to climate change are different. It is a worry mixed up with guilt for them. She mentions three coping strategies for the young people: de-emphasizing, which is ignoring the seriousness of the issue, emotion-focused strategies, which is appreciating the seriousness of the issue but trying to put a distance to the problems related to the issue and problem-focused strategies, which is trying to do whatever to be done to find a solution to the problems.

Pihkala [22] made a comprehensive research and collected materials on two different aspects of eco-anxiety, one of them being general information about it and the other is about environmental education. He tried to define eco-anxiety and its practical forms from different points of view and gave recommendations to cope with it. Among these are developing institutional practices and discussing the challenges of eco-anxiety for education, building support structures for students and instructors,

providing continuing education for about ecological emotions and emotional skills, and providing role models for students.

Pihkala [22] defines eco-anxiety as difficult psychological impacts of environmental problems which can be so heavy that they paralyze people and hinder sustainability efforts. He concludes that climate anxiety generated by the threat of the climate crisis and the issues covered by it are the topics that are talked about the most. He analyzes variations of eco-anxiety and climate anxiety and tries to find if it is possible to provide sustainability in the presence of these emotions. He also points out that some people or groups are more vulnerable to eco-anxiety. They are young people, environment activists, women and people who are exposed to environmental problems or disturbing news about ecology-related problems, [23].

Baudon and Jachens [24] made a literature review and selected 34 papers to determine what treatments are suggested for eco-anxiety. They found increasing inner resilience of the people suffering from eco-anxiety, getting them to have social connections and emotional support from different groups and helping them have connections with the nature are the most important of the treatments. They also emphasized the importance of education of the people to help them cope with the problems related to eco-anxiety.

Mkono [25] made a more specific research and studied eco-anxiety from flight shaming point of view. Flight shaming is described as a feeling of guilt because of the environmental effects of flying. She found that it is not easy for flight shaming to be common place but it may, at least, urge airways to take more effective measures against pollution.

Although studies on anxiety resulting from ecological concerns have started to gain momentum in the 2000s, there are not many studies on developing an eco-anxiety scale. Clayton and Karazsia [26] developed a climate change anxiety scale. They found that climate change anxiety is common, especially among younger adults. They also found that it is correlated with emotional but not behavioral responses to climate change [27].

Hoog et al. [28] developed and tested a 13-item scale and differentiated eco-anxiety from mental health outcomes. They proved that eco-anxiety is a psychological quantifiable experience with many different aspects or features. The scale, which they believe to be a useful tool for scholars and clinicians who are interested in measuring anxiety in response to the environmental crisis, has four dimensions: affective symptoms, rumination, behavioural symptoms, and anxiety about one's negative impact on the planet. They showed that the relation between affective and behavioural symptoms of eco-anxiety and negative mental health outcomes was moderate.

Ozdemir [29] found that although maritime students were aware of the fact that marine pollution gave irreparable harm to the seas and something should be done to stop this, they didn't do much to prevent pollution because they didn't know what to do. This finding showed that students needed guidance to fight against pollution.

3. Methodology

As with all other types of pollution, marine pollution has been getting more and more serious day by day. Although there have been some research focusing on eco-anxiety that people feel because of climate change, environmental pollution or air pollution, there is not a specific study focused on eco-anxiety related to maritime pollution. This study aims to reveal the reactions of maritime stakeholders in the face of marine pollution from eco-anxiety point of view. To see their reactions, a survey of 13 questions was and distributed in the maritime sector to be answered mostly by students, instructors, shipyard employees and engineers. It was responded to by 119 people. The survey that we call 'Marine Eco-Anxiety Perceptions Survey' consists of three parts. There are two demographic questions in the first part. The second part that consists of 7 questions asks for the respondents' feelings in the face of the situations causing marine pollution. In this part, respondents are given a list of feelings among which they can choose the closest one to their own reaction or feeling. There are 4 yes/no questions in

the third part, where the respondents are also given the chance to write their own opinion on the subject.

4. Findings

As Figure 1a shows, 57 % of the survey respondents are men and 43 % are women. The majority of the respondents are between the ages of 15-25. The age distribution of them can be seen in Figure 1b.
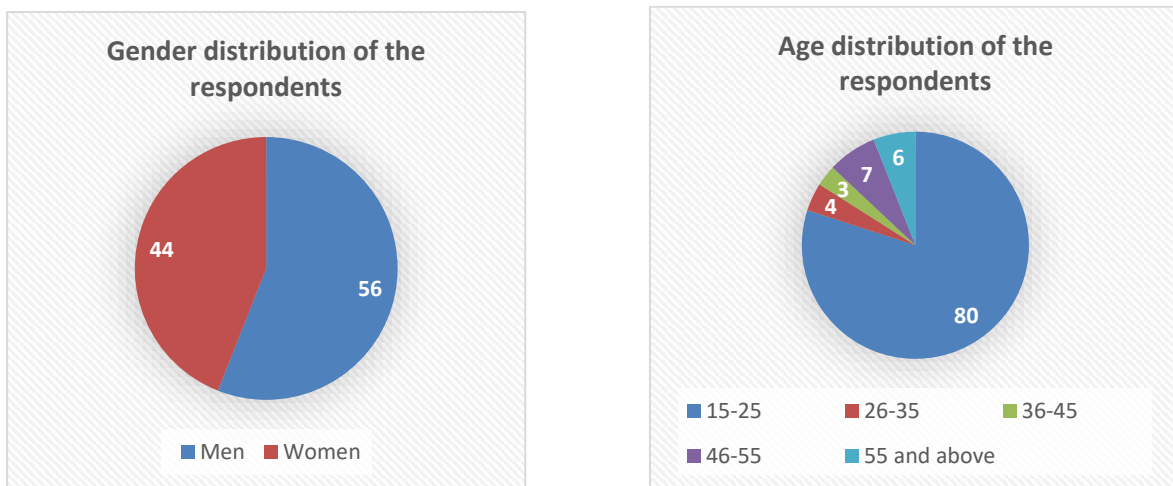

Figure 1. Gender (a) and age (b) distributions of the respondents

One of the Yes/No questions is asked for if the respondent does anything to prevent marine pollution, and if not, whether he feels himself/herself responsible and guilty for not doing anything against marine pollution. Figure 2 shows the distribution of the responses to this question.
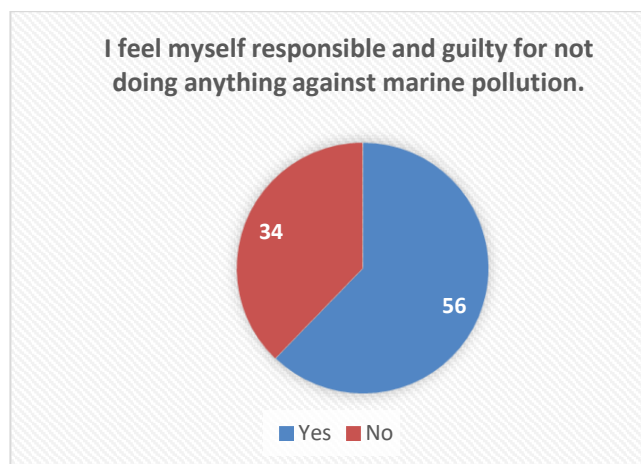

Figure 2. Percentage of those feeling responsible and guilty for marine pollution

In the second part of this question, the respondents were asked if they do something to prevent marine pollution. Some of the respondents said they do whatever they can to prevent it, while some others said that they don't do anything to increase it. Among the individuals who wrote their opinion for this question are those who say that they try to clean the environment let alone polluting it, or they try to be role models for the people around them by not polluting and trying to prevent pollution.

When the respondents were asked if the people were aware of the harmful effects of marine pollution, 80% of them said only a small part of the people in society are aware of the dangers posed by it. The distribution of the responses to this question is given in Figure 3.
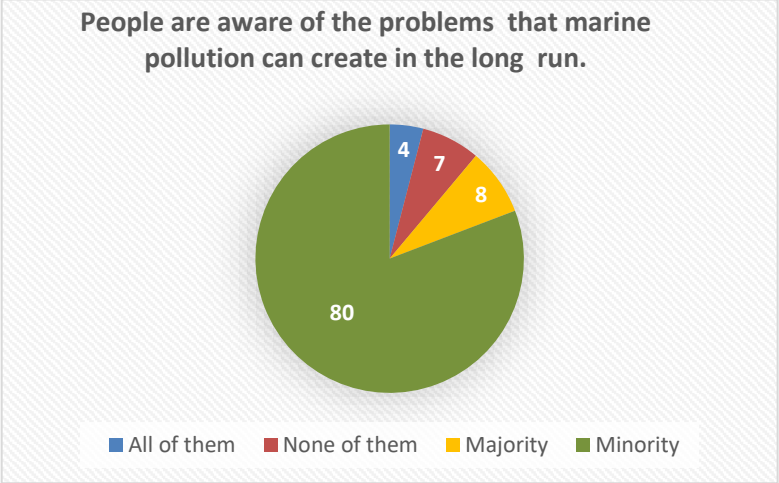

Figure 3. Percentage of the people with marine pollution awareness, in stakeholders' opinion

As the figure 3 shows, 8% of the stakeholders think the people in society has marine pollution awareness. 7% of them think that the people don't have any idea what the marine pollution is and what harms it can cause while 80% of them think only minority of the people in society are aware of the problems that marine pollution can cause. It is clear that their decision depends on the their personal experiences and perceptions. They are usually in contact with the people in the maritime sector. Their responses signal that they don't think even the people in the maritime sector the huge harm they pollution may cause on marine life.

Next question in the survey is "The increase in marine pollution, and environmental pollution in general, drives me to pessimism and can negatively affect my daily work". This question is the one that is directly related to eco-anxiety. It is worth-mentioning that only a quarter of the respondents gave a negative answer to this question while almost half of the them said they were sometimes affected by it and the remaining quarter said they were affected by it. The distribution of the replies can be seen in Figure 4.
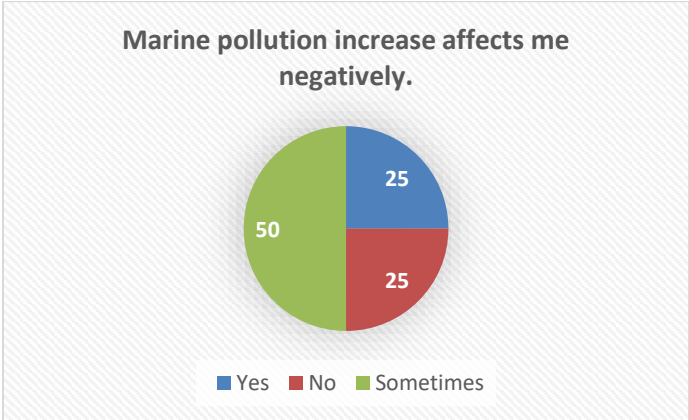

Figure 4. Percentage of people affected by marine pollution to different degreees.

The next question that is directly related to eco-anxiety is "Natural disasters caused by climate change and environmental, marine and air pollution lead me to pessimism and despair about the future of the World".

Like the responses given to the previous question, the responses to this one reveal the concerns of the stakeholders for marine pollution and the potential harm that it may give. 90% of the respondents declared that they were badly affected by the marine pollution and they were concerned about the harm likely to be given by it. Figure 5 shows the percentage of the negative and positive responses.
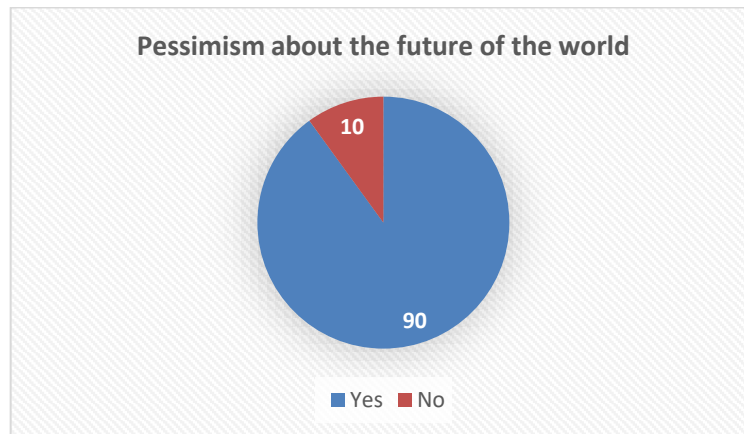

Figure 5. Percentage of the people who have or likely to have eco-anxiety to some degree

The responses to the last two questions signal that maritime stakeholders have awareness about the pollution and they believe that some measures should be taken to reduce marine pollution. It is encouraging to know that there are people with this mentality. They can do something to prevent marine pollution and perhaps can do something to increase the awareness of other people. On the other hand, it is clear that people who are aware of the marine pollution and who also know that there is not much to be done about it are likely to have eco-anxiety in different forms. Table 1 shows the problems caused by marine pollution and the possible reactions of the stakeholders to them.

Table 1. The dominant feeling students have in the face of marine related problems*

PROBLEM	NERVOUSNESS	SADNESS	CURIOSITY	HOPELESSNESS	GUILT	PANIC	RAGE	HELPLESSNESS	INDIFFERENCE
MARINE POLLUTION		XXX		XX			X		
EXTINCTION of MARINE SPECIES		XXX			X			XX	
NOT CONSUMING SEAFOOD		XXX	X					X	X
THE DESTRUCTION of BIODIVERSITY		XXX	X					XX	
WATER SCARCITY		X				XX		XXX	
CONSUMPTION of NATURAL RESOURCES		XX				X		XXX	
MUSILAGE/SEA SNOT	XX	XXX					X		

* Each x represents 20 stakeholders.

There were 7 questions in the survey that asked the reactions of the staholders to the problems. When the responses are analysized, it is seen that the biggest reaction from the stakeholders is sadness. It is followed by helplessness. Then comes hopelessness and panic. There are other choices, too, but they are not felt as much as these ones. The results show that the stakeholders have the feeling of eco-anxiety and this may reflect itself in various forms. Mostly, they are sad; however, what is interesting is that they feel helpless in the face of pollution which signals that they want to react in some way but they don't know whether it will work or not. These three feelings, that is sadness, helplessness and hopelessness, are the signs of depression [30] [31].

5. Conclusions

There are many things around people that make them sad, anxious and feel despair. Pollution is one of them. It is clear that problems related to nature and pollution have adverse effects on people and they cause anxiety. This study found that maritime pollution and problems affect people in negative ways. It is seen the adverse feelings that maritime stakeholders have the most are sadness, helplessness and hopelessness in the face of maritime pollution and problems related to it.

The respondents are all from the maritime sector, a great majority being maritime students. Seeing that most respondents feel pessimistic about the future of the seas regarding pollution signals that they are experiencing anxiety that manifests itself as various emotions.

Being from the maritime sector, they all know what the pollution-related problems in maritime are and how badly oceans, seas and rivers are affected by the pollution; however, they don't think most people are conscious about these problems. They also feel the despair of not being able to do anything to stop and reverse these problems. The most important precaution to be taken by the people concerned is to organize teaching and training activities to raise awareness of people.

The survey proves that marine pollution affects the stakeholders badly, and they are pessimistic about the future of the world. They want to do something to help the nature restore itself but most of them don't know what to do. This means they need guidance to solve out pollution-related problems in maritime and to help the other people realize the serious results of the pollution on the seas.

They need to be guided on the ways to help people understand how badly the seas are affected by pollution. On the other hand, people need to be guided on the ways to protect the sea and to have an awareness of the seriousness of marine pollution.

This study proves that people in maritime suffer from eco-anxiety, the next study may be on how to cope with eco-anxiety in maritime and what to do to make the society more conscious about the problems caused by marine pollution.

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