

# **An aspect of safety and security aboard Passenger Vessels. The impact of alcohol consumption on passenger vessels in the Baltic Sea region**

## **Thesis**

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Degree Thesis

Thesis for a bachelor (UAS) – degree

Maritime Management, Captain

Turku 2024

## **DEGREE THESIS**

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Specialization: Captain

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Title: An aspect of safety and security aboard Passenger Vessels. The impact of alcohol consumption on passenger vessels in the Baltic Sea region

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Date: 20.05.2024

Number of pages: 55

Appendices: 2

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### **Abstract**

This research examines the impact of alcohol consumption onboard of passenger vessels and its associated health risks, and what safety and security measures can be implemented to prevent fatalities and casualties. This research study contains theoretical insights, including efforts by International Maritime Organization (IMO) to tackle the issue, and practical investigations through quantitative surveys with passengers and qualitative interviews with industry professionals. The research is divided into different sections. The first part focuses on introduction of the topic and revealing research questions regarding the topic. Middle part covers previous studies, and broader definition of ferry and RO-RO, additionally exploring the role of alcohol consumption affecting safety and security measures onboard that may occur during the voyage and defining safety and security onboard. The last section focuses on answering my research question and proposing solutions to address the issues.

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Language: English

Key Words: Safety and security, cruise ship, alcohol consumption, passenger vessel

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# 1 Introduction

Alcoholic beverages are consumed globally, legally available, and socially accepted. Approximately 2.3 billion people worldwide admit regular alcohol consumption, and the average global consumption was estimated 5.8 Liters per person aged 15 years and above in 2019 (Organization W. H., 2018). Excessive alcohol consumption has been linked to numerous health, social and financial issues (Martyna Wysokińska, 2022). Research by Soundararajan et al. (2017) highlighted that young adults consume twice as much alcohol as adults on monthly basis. Similarly, while there is a rising trend in alcohol consumption among the elderly, young adults are far more likely to engage in heavy binge drinking than individuals from other age groups. (Soundararajan, et al., 2017). Alcohol consumption levels vary based on country, cultural practices, and age groups (Chaiyasong, et al., 2018, pp. 53-62). Early initiation of alcohol consumption has been associated with an increased risk of alcohol abuse along with alcohol-related injuries in life (Manik Ahuja, 2021, pp. 1331-1338).

Passengers consuming alcoholic beverages onboard cruise ships is common, with cruise companies offering various beverage packages. Giant international cruise companies such as MSC Cruises and Royal Caribbean considers their fleet as “*floating resorts*” offering a unique and an ideal setting for relaxation, whilst providing various beverage packages, ranging from tea and coffee to strong alcoholic drinks (MSCCruises, n.d.). Individuals from diverse economic backgrounds frequently take advantages of this opportunity to “*escape*” reality and the intensive daily grind (Caribbean, n.d.; MSC, n.d.). To prevent excessive drinking onboard, cruise companies implement their own alcohol policies. For instance, Finnish domestic cruise company such as Tallink Silja outlines rules in their *Passenger Security Regulations*, allowing alcohol consumption only in designated areas and prohibiting bringing alcohol onboard (Silja, Passenger Security Regulations, 2018).

This thesis focuses on ferry cruises in the Baltic Sea region, capable of transporting over two thousand passengers per journey, with an average of around seven journeys per day.

Observing risky behaviours among passengers under influence of alcohol motivated an investigation into safety and security measures, as well as actions taken by the International Maritime Organization (IMO) and shipping companies to prevent such incidents, specifically related to alcohol consumption and associated health risks.

While working on Silja Serenade (Tallink Silja), I observed occasions of rule-breaking and inappropriate behaviour related to alcohol consumption. Examples of events where these behaviours were highly observed is during cruise events, such as *Abiristeily* (a cruise for high school seniors), *Lazy Days opiskelijaristeilyt* (university students cruise) by Viking Line, *Laivalla on Bileet (LOB)* – there is a party on boat, for university students and Pirates of the Baltic Sea (POBS) organized by the Erasmus Student Network. These cultural cruise events are prevalent in Finland. To gain further insights, I held an interview with Sea Captain and Traffic Director Pasi Roos from Finferries, covering safety and security aspects, meanwhile survey concerning alcohol consumption and its associated health risk were administrated to Novia University of Applied Sciences students via questionnaire.

## 1.1 Background of the study

As a maritime professional with years of experience in various vessel types and collaborating with numerous individuals from diverse backgrounds, my focus has been particularly drawn to passenger ships and Roll-On/Roll-Off (Ro-Ro) ferries. These vessels, especially Ro-Ro passenger (ROPAX) ferries have been a specialized area of study. Chapter 3 provides a definition of Ro-Ro ferries for context. This study differentiates cruise ships and passenger ships due to the distinct purposes they serve. Cruise ships are exclusively designed to carry passengers for leisure and tourism purposes. Meanwhile, passenger ships involve a broader category, ranging from crossing ferries to RoPaxes, which are specifically designed for transporting passengers and sometimes vehicles across shorter distances, often within a regional or coastal context.

In addition, alcohol consumption presents various impacts on both physical and mental health, contributing to a range of conditions, such as cardiovascular diseases (CVDs), dementia, and alcohol-use disorder (AUD) that pose potential risk on safety onboard. (Hendriks, 2020). Furthermore, excessive alcohol consumption introduces various hazards

influenced by factors such as gender, cultural events, individual traits, family history, and situational aspects. (Michael A. Sayette, 1999, pp. 250-255).

This research extends to analyse maritime accidents in the Baltic Sea region, aiming to identify their root causes and enhance safety measures for future voyages. The goal is to promote safer navigation practices not only in the Baltic Sea region but also worldwide.

## 1.2 Aim of study and research questions

This study investigates the impact of passenger's alcohol consumption and its associated health risks on safety and security onboard ships, with aim to address the following questions:

*“What role does alcohol consumption play in contributing to casualties onboard?”*

*“What safety and security measures can be implemented to prevent such incidents?”*

In the context of enclosed environment resembling a *“floating resort”* mentioned by MSC Cruises earlier, with over two thousand passengers, prioritizing safety and security measures is significant and cannot be overstated. IMO's comprehensive regulations, supports seafarers for being better prepared and equipped to manage emergencies and to ensure the well-being of all personnel onboard. Continuously improving its regulations, IMO regulations are crucial for enhancing safety standards and ensuring enjoyable voyages for everyone onboard. The frequent reference to the IMO in this research underscores its pivotal role as the primary data source, as it serves as the specialized agency of the United Nations (UN), responsible for maritime safety, security, and pollution prevention. (International Maritime Organization (IMO), n.d.).

## 1.3 Delimitation

The aim of this thesis is to understand alcohol consumption among passengers onboard ferries and Ro-Ro vessels, focusing on safety, security, and health risks associated with alcohol consumption. To narrow down the focus, this thesis emphasizes following area:

1. Ferries and Ro-Ro operations: This study centres on vessels primarily operating in the Baltic Sea region, in this study ferries refers as domestic crossing ferries (*lautta*) and cable ferries (*lossi*). Ro-Ro ferries refer to passenger vessels and cargo ferries embarking on international voyages in the Baltic Sea region.
2. Safety and Security Measures: Analysing existing safety and security protocols and practices onboard, to ensure the well-being of passengers and crew.
3. The importance of safety and security: Exploring the importance of maintaining safety and security standards in maritime transportation.
4. Accidents in the Baltic Sea region: Focusing on past incidents and accidents involving ferries and Ro-Ro vessels in the Baltic Sea region. This includes examining accidents caused by alcohol consumption to identify contributing factors.
5. Alcohol consumption and health: Investigating broader health effects of alcohol consumption and addressing potential health risks associated with alcohol in general and onboard.
6. Alcoholic beverages consumption onboard: Analysing patterns, trends and factors influencing alcohol consumption behaviours among passengers.
7. Alcohol consumption and physical health: Evaluating the direct impact of excessive alcohol consumption on physical health onboard.
8. Alcohol consumption on mental and social health onboard: Investigating relationships between alcohol intake onboard and its effects on mental health and social interactions among passengers and crew members.

## 2 Previous studies

Previous research has primarily concentrated on alcohol and mental health, safety, and security in general, or alcohol consumption among seafarers. However, there is a notable research gap regarding studies specifically addressing alcohol consumption onboard. This study seeks to address and fill this gap by investigating both aspects from the viewpoint of passengers. Studies have shown a connection between problematic alcohol consumption and various indicators of poor well-being, such as reduced life satisfaction, sleep disturbances, and mental health issues. (Im, et al., 2020, pp. 850–862; Jensen, Haug, Sivertsen, & Skogen, 2021, p. 180; Sæther, Knapstad, Askeland, & Skogen, 2019, p. 216). Factors such as gender, age, health, economic status, lifestyle, religion, and cultural norms also influence patterns of alcohol consumption patterns (Organization W. H., 2018). The World Health Organization (WHO) reports that around 2.3 billion people consume alcoholic beverages regularly, with an average of 5.8 Liters per person aged 15 years and older. Excessive alcohol consumption is identified as the primary contributing factor causing various traffic accidents, drownings, suicides, and other crimes. (Organization W. H., 2018).

Martyna Wysokińska emphasizes in the *International Journal of Environmental Research and Public Health* that excessive alcohol consumption can lead to a range of health, social, and financial problems. (Martyna Wysokińska, 2022, p. 15425). Research by Soundararajan et al. (2017) highlighted that young adults consume twice as much as alcohol as adults each month and are more likely to engage in heavy binge drinking compared to other groups (Soundararajan et al., 2017). Culture and geographical factors also influence alcohol consumption levels (Chaiyasong, et al., 2018, pp. 53-62). Early life alcohol consumption can lead to various issues with alcohol and injuries later in life (Manik Ahuja, 2021, pp. 1331-1338). These studies highlight the importance of further research and interventions to promote healthier alcohol consumption choices, especially onboard passenger ships. Prioritizing safety and security measures onboard passenger ship is crucial to prevent the risks associated with excessive alcohol consumption.

## 3 Ferries and Ro-Ro

According to IMO, a passenger vessel is typically defined as a ship carrying more than twelve passengers on international voyages that must comply with all IMO's relevant regulations, including those outlined in *Safety of Life at Sea (SOLAS)* and *Load Lines Conventions*. (Organization I. M., 2006).

### 3.1 Ferries

A ferry is a type of watercraft designed to transport passengers or vehicles across harbours, lakes, rivers, or to larger waters. Ferries vary in size, ranging from small boats to larger vessels capable of carrying cars, trucks, and other heavy cargoes. Certain ferries are equipped with overnight sleeping accommodations. (Interferry, n.d.). As outlined in Chapter 1.3, this study categorizes ferries as crossing ferries, double-ended ferries, and cable ferries. Few examples of crossing ferries include MS Silver Sky and MS Lily, double-ended ferries include Finferries' new hybrid ferries Altera and Elektra. Cable ferries examples are the hybrid ferry 317 in Parnäs and Föri on the Aura River.

### 3.2 Ro-Ro

IMO defines a Ro-Ro as a passenger ship with ro-ro cargo or special category spaces, according to the November 1995 amendments to Chapter II-1 of the International Convention for the Safety of Life at Sea (SOLAS), 1974. (Organization I. M., Safety of Ro-Ro ferries, n.d.). Originated in the 19<sup>th</sup> century steam train era, modern Ro-Ro vessels were initially designated as transport trains across wide rivers where bridges were impractical. Modern Ro-Ro fleets vary from exclusively designed for freight vehicle transport to dedicated only for transporting cars without passengers. However, ROPAX ferries are the most common, designed for transporting both commercial vehicles and private cars while accommodating a substantial number of passengers. (Organization I. M., IMO and ro-ro safety). Example of ROPAX include Viking Line's Viking Grace and Viking Glory, Tallink Silja's

Silja Serenade and Baltic Princess. Example of Ro-Ro include Finnlines fleet Finnbreeze and Finnsun.

### 3.3 Difference between Ferry and Ro-Ro

Ferries primarily serve to transport passengers or cargo on short trips across rivers harbours, or coastlines, often inland, whereas Ro-Ro vessels are specifically designated for the efficient loading and unloading of wheeled cargo, such as vehicles. (Wärtsilä, Ferries, n.d.). Ferries are designed to accommodate passengers and vehicles, operating on a frequent schedule between two points along the most direct water route. Common types of ferries include cruise ferries, double-ended ferries, fast ferries, and passenger car ferries (paxcar ferries), examples are mentioned on chapter 3.2. (Wärtsilä, Ferries, n.d.).

Ro-Ro vessels focus on cargo transportation and are equipped with ramps on the vessel's sides, bow, or stern for the loading and unloading of wheeled cargo. Additionally, Ro-Ro vessels employ forklifts to directly load cargo onto the deck, a method known as Stowable Ro-Ro (Sto-Ro) (Wärtsilä, Ro-Ro, n.d.).

In conclusion, ferries prioritize passenger and commercial transport, while Ro-Ro vessels prioritize cargo transportation. Each vessel type serves a distinct role in the maritime industry, reflecting their specialized functions in either transporting people or cargo.

## 4 Safety and security

Safety and security are often used interchangeably yet possess distinctive characteristics and purposes. According to Prof. Dr. Selçuk Nas Department of Maritime Education and Training from Dokuz Eylul University, safety refers to being free from hazards caused by natural forces or human errors, whether intentional or unintentional. Security refers to

being protected from hazards intentionally caused by humans. (Nas, 2015, pp. 53-54). Therefore, safety focuses on preventing accidents and minimizing risks, while security aims to prevent deliberate harm.

#### 4.1 Differences between safety and security

As highlighted by Prof. Dr. Selçuk Nas the difference between safety and security is essential, further discussed in the book of *“Maritime Safety, Security and Piracy”* by Wayne Talley. Safety refers to unintentional incidents, while security involves intentional acts including piracy incidents, intentional harm, and often driven by political motivations. (Talley, 2008, p. 368). Despite their differences, both safety and security incidents can result in similar outcomes, such as injuries and property damage. Accidents can be affected by several factors, including human error, vessel characteristics, weather conditions, and economic factors (Talley, 2008, p. 368). On the article *“Safety and Security of Passenger Terminal: the Case Study of Riga International Coach Terminal”* by Vaire Gromula, Irina Yatskiv and Juris Pēpulis describes safety as addressing risks, whereas security addresses uncertainty. (Gromule et al., 2017, pp. 147-154).

##### 4.1.1 Safety and Security on passenger vessels

This section examines deeper and more detail on safety and security, particularly on passenger ships, building upon the definitions provided in Chapter 4. The International Safety Management (ISM) code was introduced in 1998 to focus on the *“human element”* in shipping and sets global standards for safe ship management, operation, and pollution prevention. Furthermore, amendments to the International Convention on Standards of Training, Certification, and Watchkeeping for Seafarers (STCW Convention) in 1995 mandated specific training requirements for crew on passenger ships, including crowd management for emergency situations which came into effect on February 1, 1998. (Organization I. M., Passenger ships, 2006).

Amendments to the SOLAS Convention adopted during the 82nd session of the Maritime Safety Committee (MSC) in November–December 2006 prioritize casualty prevention and highlight improved survivability in future passenger ship designs, allowing passengers to

remain safely onboard during emergencies and enabling ships to reach port without jeopardizing passenger safety (Organization I. M., Passenger ships, 2006).

#### 4.1.2 Safety and security on Ro-Ro

In response to the sinking of the ferry Estonia in December 1994, SOLAS convened a conference in 1995, prompted by a proposal from the Panel of Experts on the safety of Ro-Ro passenger ships. During this conference, a new regulation, 8-2, was adopted. This regulation imposes specific requirements on Ro-Ro passenger ships carrying four hundred passengers or more. Its primary objective is to phase out ships built to a one-compartment standard and ensure their capacity to withstand flooding in two main compartments without capsizing following damage sustained (Organization I. M., Safety of Ro-Ro ferries, n.d.).

#### 4.1.3 Safety risk

The article defines "*safety risks*" originate from unintended failures, errors, or misfortunes. In this context, safety refers to the strategies and measures implemented to protect individuals from risks directly associated with transportation. Safety measures are designed to prevent the likelihood of accidents. This definition is supported by a statement in "*In Search of Innovative Policies in the Transport Sector*" by Ranger L. (Ranger, 2010, p. 23).

#### 4.1.4 Security risk

Security risks stem from intentional or vengeful attempts to disrupt, disable, or destroy. In this context, "*security*" involves preventing unlawful interference with passengers and transport infrastructure. Security measures aim to provide personal protection to customers, stemming from implemented measures and efforts to make customers aware of them. This explanation is based on the "*2014 Safety and Security Research on the Transport Research and Innovations Portal*". (Ranger, 2010, p. 23).

In conclusion, the differences between safety and security are significant. Safety measures focus on accident prevention and the likelihood of being involved in an accident.

Conversely, security measures aim to protect customers from crime, providing a sense of personal safety through implemented measures and awareness activities. Both safety and security aspects contribute to the overall well-being and confidence of customers. (European Union, 2002).

## 4.2 Importance of safety and security

Safety and security are utmost important considerations in various contexts. Studies shows that safety measures are crucial for preventing accidents and minimizing injuries. Security measures prevent criminal activities and maintains a secure environment. Passenger ships face severe risks such as fire hazards due to combustible materials onboard, and terrorist attacks. Passenger ships are vulnerable to terrorist attacks due to their capacity to carry many people, giving terrorists the opportunity to cause significant casualties. An open nature of maritime environments possesses difficulties to implement strict security measures, leaving passenger ships vulnerable to assaults and sabotage by terrorist groups. (Ali, 2023; Kaup, 2015, pp. 68-73).

IMO is actively working to prevent risks on passenger ships and other type of vessels through its SOLAS convention and Maritime Safety regulations. One key aspect is the implementation of The International Ship and Port Facility Security Code (ISPS Code). This code sets out measures to enhance the security of ships and port facilities, aiming to prevent security incidents and respond effectively to security threats, including terrorism. By enforcing these regulations, the IMO seeks to strengthen the safety and security of maritime transportation globally. (IMO, 2024).

### **Safety and security examples**

In addition to the ISPS Code, Viking Line and Tallink Silja represent real-time safety and security measures. Viking Line Group employs comprehensive safety plans for emergencies, with resolute onboard and land organizations. Onboard, a structured crew system ensures each member has specific responsibilities, covering management, fire evacuation, medical care, and more. Regular drills are mandatory. On land, support teams are ready to assist ships during crises, following a crisis plan. (Viking, 2023).

Tallink Silja prioritizes passenger safety on land and sea, investing in resources to enhance safety measures. They follow to international safety regulations and the “ISO 14000” environmental management standard, aiming to prevent accidents and protect people and the environment. (Silja, 2023).

### 4.3 Alcohol related accidents

Real-life cases not associated with passenger vessels or the Baltic Sea region, yet might happen onboard passenger ships, in which alcohol consumption onboard contributed to maritime accidents.

General cargo vessel Karina C: On 21st May 2019, the general cargo vessel Karina C arrived in Seville, Spain to load cement. During loading, the second officer was working on the aft (end of the ship) end of the main deck and was trying to pass between the hatch covers and the stationary crane. Meanwhile, the chief officer, who was operating the crane, did not see the second officer climbing onto the hatch coaming. The chief officer moved the crane aft, trapping and crushing the second officer against the hatch covers. In response, the chief officer reversed the crane, causing the second officer to fall onto the deck. Following the incident, the second officer received first-aid and cardiopulmonary resuscitation from the deck crew and shore paramedics. The emergency service doctor suggested that the second officer died after having a heart attack. As noted by the UK Marine Accident Investigation Branch (MAIB), the accident occurred on the second officer’s birthday and his postmortem toxicology report revealed a significant amount of alcohol in his bloodstream. MAIB emphasized that the second officer’s risk perception was impaired by alcohol consumption. Additionally, it highlighted the lack of enforcement of the company’s drug and alcohol policy. The MAIB recommended enhancing the safety culture, enforcing policies, and exploring improvements to crane warning system. (Marine Accident Investigation Branch, 2019; Alcohol onboard: Safety vs Wellness?, 2021).

On 3<sup>rd</sup> of November 2018 noon time, the second engineer of MV Khosrov Bey fell from the stairway while descending to the engine room to take over from the third engineer. The electrical engineer saw the second officer descend the stairway from the upper deck to the

engine control room platform from the control room window. Upon looking again, electrical engineer saw the second engineer lying on the deck, motionless and rushed to help. The electrical engineer alerted other crew members in the engine control room; the master was informed immediately. Despite of the CPR attempt, second engineer remained unresponsive, the vessel was diverted towards the Istanbul strait, sector Turkeli, for medical aid. Medical boat arrived and confirmed the second engineer's death. The investigation conducted by Transport Malta said, the prominent level of alcohol found in the second engineer's body contributed to impaired judgement or loss consciousness. (Malta, 2019).

In summary, incidents above proves that the Baltic Sea shipping traffic requires stricter safety measures and regulation as the ships becoming more larger and more connections are made in-between the area. Meanwhile, alcohol-related incidents highlight the importance of enforcing policies onboard ships. (Kaup, 2015, pp. 68-73).

## 5 Alcohol consumption and health

As noted in the beginning of this research, alcohol consumption is widespread. *Abstention* (person who quits drinking alcohol completely) are low in high-income countries such as the United States and Western European countries but tend to be higher in countries with significant Muslim populations, reaching up to 90%. Historically, men consume more alcohol than women, especially on young adults. (Slade, et al., 2016, p. 11827). Alcoholic beverages consumption varies significantly among nations, with developed countries often having the highest consumption levels, although they do not always have the highest alcohol-related problems or risky drinking behaviours. Western European countries, for instance, have high consumption levels yet low rates of alcohol-related deaths. In contrast, certain Eastern European and South-East Asian countries have high alcohol consumption and high rates of alcohol-related deaths. (Hendriks, 2020, p. 23).

Alcohol consumption poses significant challenges both on social effects and health issues. Social effects might show aggressive behaviour, injuries, or even accidents. Meanwhile, health issues might show even more severe challenges, such as addiction, liver and kidney diseases, cardiovascular complications, anxiety, and depression that can lead to sleep problems, lower life satisfaction, higher risk of mortality to even suicide. (Hydes, Gilmore, Sheron, & Gilmore, 2019, pp. 223-226; Martyna Wysokińska, 2022, p. 15425; Mondin, et al., 2013, pp. 347-352). A stressful life has been reported to be associated with alcohol craving, binge drinking, and problem drinking. Therefore, addressing various impacts of alcohol consumption requires thorough strategies that cover both social and health aspects to prevent its harmful effects on individuals and society. (Kachadourian, Pilver, & Potenza, 2014, pp. 35-43; Keyes, Hatzenbuehler, & Hasin, 2011, pp. 1-17; Kim, et al., 2014, pp. 2048-2055).

## 5.1 Alcohol consumption onboard

Alcohol consumption onboard ships is a significant issue affecting safety and well-being of the crew and passengers on some occasions. Majority of organizations enforce a complete ban on alcohol consumption onboard for the crew due to health risk and safety concerns. As in *Regulation VIII/1, Code A-VIII/1 and B-VIII/1* of the STCW Convention, as revised in 2010 (Manila amendments), introduced updated provisions regarding fitness for duty and alcohol restrictions. (SEA, 2019). This convention requires administrations establish measures to prevent alcohol and drug abuse by setting limit of no more than 0.05% blood alcohol level (BAC) or 0.25 mg/l alcohol in the breath or quantity of alcohol for masters, officers, and other seafarers while performing designated safety, security, and marine environmental duties. Meanwhile, guidelines in part B of the STCW Code recommends that seafarers should avoid drinking within four hours before starting watch duties. (Organization I. M., 2019).

From the passenger vessels perspective, addressing excessive alcohol consumption by passengers is crucial, especially binge drinking. Overserving alcohol occurs when individuals are served more than they can manage, and yet alcohol service continues, this involves consuming  $\geq 4$  drinks for women and  $\geq 5$  for men per occasion, typically leading to acute

intoxication and rising the individual's BAC to  $\geq 0.08$ g/dL. (Alcohol Abuse and Alcoholism, 2023).

## 5.2 Drinking pattern

The study Drinking patterns vary by gender, age, and country-level income: Cross-country analysis of the International Alcohol Control Study by Chaiyasong et al. (2018) investigated alcohol consumption trends among various demographic groups, specifically on gender and age (male, female, and age 16 – 65). (Chaiyasong, et al., 2018, pp. 53-62). The drinking pattern includes light drinking, moderate drinking, heavy drinking, binge drinking, hazardous drinking, excessive drinking, and alcohol abuse. Terms binge and heavy drinking are usually defined as consuming four or more standard drinks per occasion for women and five or more for men. These thresholds are also utilized to distinguish between non-problematic (less than four drinks, or <56 grams of alcohol for women, and less than five drinks, or <70 grams of alcohol for men) and problematic drinking (more than four or five drinks). Despite these thresholds, evidence supporting on reliable indicators of problem drinking is limited. (Pearson, Kirouc, & Witkiewitz, 2015, pp. 1720-1726).

The interpretation of term moderate drinking can differ among countries. According to the Dietary Guidelines for American 2015-2020, moderate alcohol consumption is defined as *“one drink (or 14-gram alcohol) per day for women and two drinks (or 28-gram alcohol) per day for men”*. (DHHS, 2018). Responsible drinking focuses on following specific guidelines i.e., while or shortly before driving, during pregnancy, while using medications and when underage. Moderate alcohol consumption often has a positive health effect, while alcohol abuse causes negative health consequences. (Hendriks, 2020).

### **Drinking patterns by gender and age**

Percentages of high-frequency, heavier-typical quantity, and higher-risk drinking were greater among men than in women in all countries. Older age was associated with drinking more often but smaller typical quantities, especially in high-income countries. Middle-income countries overall showed less frequent but heavier typical quantities; however, the lower frequencies meant the percentages of higher risk drinkers were lower overall compared with high-income countries. (Chaiyasong, et al., 2018, pp. 53-62).

College and university students are a unique group with their own set of challenges. Transitioning into student life means more independence and formation of new social connections, often leading to engage in risky behaviours, with alcohol consumption being one of them. (Jensen, Haug, Sivertsen, & Skogen, 2021, p. 180; Borsari, Murphy, & Barnett, 2007, pp. 2062-2086). Studies have shown, students typically consume more alcohol, which can have harmful effects with the age range of 18 – 29 seeing peak prevalence of alcohol consumption, particularly among students. (O'Malley & Johnston, 2002, pp. 23-39; Weitzman, 2004, pp. 269-277; Chan et al., 2007, pp. 967-976; Britton et al., 2015, p. 47). However, WHO found that in general the frequency of alcohol consumption peaks between the ages 25 and 45 (Organization W. H., 2018). Examples of cultural events in Finland among college and university students where alcohol consumption is highly common include *Abiristeily* (a cruise organized for last-year high school students), Viking Line's *Lazy Days opiskelijaristeilyt* (university student cruises), *Laivalla on Bileet* (LOB) – a party on board, and Pirates of the Baltic Sea (POBS) organized by the Erasmus Student Network. These events attract more risk of alcohol-related incidents onboard, and often these incidents are not publicly reported, which cause preventing them a challenge.

In support of the above-stated study, data from the WHO *Global Status Report* in 2018 and study *Adolescent Alcohol Use: Protective and Predictive Parent, Peer, and Self-Related Scenes* by Handren L.M et al. (2016) indicated young adults engage in heavy drinking sessions, defined as consuming 60 grams or more of pure ethanol at least once a month. These heavy drinking sessions are most common among individuals aged 20-24, particularly among young men. (Organization W. H., 2018; Handren et al., 2016, pp. 862-871).

### 5.3 Alcohol consumption and physical health onboard

As discussed in chapter 5, alcohol consumption has dire effects on physical health, both in the short-term and long-term usage. Moreover, excessive alcohol consumption can lead to many serious physical health consequences onboard for all parties involved (ship, the crew, and passengers), including increased likelihood of injury events by impairing judgment and coordination, increasing the risk of slips, falls, and other onboard injuries. Alcohol poisoning, dehydration, or other emergencies require immediate medical aid. Intoxication

can impair decision-making, leading to poor judgment during evacuations or other emergencies, endangering both individuals and others onboard. Additionally, intoxicated individuals may become more aggressive and potentially causing conflicts or disturbances among passengers or crew such as disrupting ship operations which require crew intervention and may affecting ship's functioning. Intoxicated passengers might also engage in destructive behaviour, resulting damage to the ship's property, furnishing, or facilities. This may lead to additional costs and maintenance efforts.

In conclusion, excessive alcohol consumption onboard can increase the chances of accidents, medical emergencies such as alcohol poisoning, and compromises safety during emergencies. Additionally, potential for altercations, disruption of ship operations, and the risk of damaging ship property. It is crucial for ship authorities to enforce strict rules regarding alcohol consumption for everyone's safety. (Alcohol Abuse and Alcoholism, 2023; Preventing Excessive Alcohol Use, 2024).

#### 5.4 Alcohol consumption on mental and social health onboard

Chapter 5 highlights the negative impact of alcohol consumption on mental health, which extends beyond the individual drinker to affect their partners, family, friends, and colleagues. Alcohol-related harm involves wide range of physical, mental, emotional, and environmental consequences. (Stanesby, et al., 2018, pp. 1693-1703). Serious mental health issues and physical health consequences associated with heavy drinking require time to develop. (Sæther, Knapstad, Askeland, & Skogen, 2019, p. 216). The experience of working onboard a ship differs significantly from simply enjoying a cruise. Seafaring involves substantial mental and physical demands, with crew members enduring unique challenges. They are consistently within the workplace environment, even during non-working hours, and often only have their colleagues for company, causing a strong feeling of isolation. Studies show building positive relationships and develop group among teams is crucial, yet research indicates that conflicts between ranks and departments are common. In the latest *Seafarers Happiness Index Report* revealed that many seafarers feel pressured to work on physically demanding task, with inadequate rest, leading to fatigue impaired by "watch system" and crossing different time zones during long voyages.

(Oldenburg, Baur, & Schlaich, 2010a, pp. 249-256; Oldenburg, Hogan, & Jensen, 2012b, pp. 1-15; Oldenburg & Jensen, 2019c, p. 17). Combined with extended periods away from home and families, this dynamic can lead to feelings of loneliness and homesickness among seafarers. (Carter, 2005, pp. 61-65; Slišković, 2017, pp. 99-126).

These challenges can lead to alcohol consumption and drug use as coping mechanisms for loneliness, particularly during extended work periods, resulting in impaired judgment and an increased risk of accidents that compromises the safety and security of everyone onboard.

## 6 Methods

This study used both quantitative and qualitative methods. Data were collected directly from students in Turku and Vaasa, both within the Novia institution. Additionally, an interview was conducted with Sea Captain Pasi Roos, Safety and Traffic Director at Finferries, who granted approval for his insights to be used in this thesis.

The questionnaire was anonymous, using a scale from 1 to 5 for participants to rate their agreement, with one indicating '*Extremely disagree*' and five indicating '*Extremely agree*'. Additionally, most of the questions were simple questions with '*yes*' and '*no*' answers, some questions were open text. The final question allowed participants to provide feedback and opinions regarding safety and security on passenger vessels. Both the questionnaire and interview questions are attached at the end of the thesis.

The purpose of the questionnaire was to scale passenger perceptions on safety and security onboard passenger vessels, particularly as accidents persist in this field. Alcohol consumption emerged as a significant safety concern in previous studies. This research aimed to uncover passengers' personal views, emotions, and suggestions for enhancing safety and security during voyages.

To prepare for the interview, Pasi Roos was emailed the questionnaire in advance, ensuring he could consider his responses due to a busy schedule. I chose Pasi Roos due to his knowledge on safety related aspects as '*Safety and Traffic Director*' and experienced captain, additionally it was convenient for me to ask him to be my interviewee since we both work on the same company. The interview evolved into an open discussion rather than a structured interview. The interview aimed to compare real-world experience and professional perspectives with academic findings, connecting the gap between theory and practice.

## 7 Results

Safety and security are essential aspects to have onboard passenger vessels to minimize risks that might occur, these aspects possess notable distinction, with safety measures focusing on preventing accidents both from nature and caused by humans. While security measures aim to protect customers from criminal activities and maintain a secure environment. (Ranger, 2010, p. 23; Ali, 2023; Kaup, 2015, pp. 68-73). Both aspects are vital for ensuring overall safety and confidence of customers.

The Baltic Sea shipping traffic requires stricter safety measures and regulations as ships become larger and more interconnected routes are produce in the area, this issue might attract more incidents. Composing the importance of implementing onboard policies, particularly regarding excessive alcohol consumption onboard. (Kaup, 2015, pp. 68-73).

Studies revealed that seafarers experience significant mental and physical challenges. These challenges include feeling of isolation, loneliness, exhaustion, and homesickness, which might lead them into alcoholic consumption and drug usage as coping mechanisms, jeopardizing onboard safety and security. (Oldenburg, Baur, & Schlaich, 2010, pp. 249-256; Oldenburg, Hogan, & Jensen, 2012, pp. 1-15; Oldenburg & Jensen, 2019, p. 17; Carter, 2005, pp. 61-65).

The insights gained from interview with Pasi Roos resulted in the necessity of implementing a comprehensive safety protocols and measures, along with the evaluation of these regulations. The effectiveness of regulations is essential extension key to address these issues.

The questionnaire and interview questions are listed in the *'Appendices'* section.

### 7.1 Quantitative research

For quantitative research, a comprehensive questionnaire was administered to all students within the Novia institution, such as Jakobstad, Vaasa, and Turku. Additionally, the questionnaire was distributed via social media platforms, mostly included friends and

family. The primary focus of the questionnaire was students, as they are the demographic most frequently engaging in cruise ship parties in Finland, as mentioned in introduction and chapter 5. The survey was divided into three main sections: alcohol consumption, onboard safety, and onboard security. The objective was to gain insights into passengers' perceptions of safety and security onboard. The results utilize cross-reference analysis to investigate how respondent's age, gender, profession, and nationality influence survey results on alcohol consumption, safety, and security onboard.

The survey gathered total responses from 144 respondents with diverse range of age groups, gender, profession, and nationalities. Age distribution as shown on figure 1, majority of respondents were aged 18-23 years (37,5%), followed by equal representation (28.8%) from age 24-29 years and 30-35 years brackets. Gender distribution on figure 2 shows male respondents contributed slightly higher percentage (53.5%) compared to females (45.8%), with one non-binary respondent (0.7%). Figure 3 shows distribution of profession with majority of respondents were students (76.4%), followed by employed individuals (20.8%). Furthermore, figure 4 shows nationality of respondents with Finnish respondents formed largest group (104 out of 144), followed by smaller groups from Nigeria, Estonia, Greece, and other countries.

## **Age**

Younger respondents, particularly aged 18-23, represented a massive portion of the sample. This age group along with aged 24-29 and 30-35 are more likely prone to alcohol consumption due to their lifestyle, social influences, and entertainment factors. This evident arose from respondents (28.1%) who admitted exceeding their intended alcohol consumption. Younger demographic might also be more vulnerable to the negative impact of heavy drinking culture onboard, which can affect safety concerns and reports of unsafe behaviours such as fights and harassment.

## **Sex or gender**

Male respondents, who composed most respondents, might have distinct drinking patterns and perceptions of safety compared to female respondents. Higher percentage of males could correlate with greater recognition of heavy drinking culture onboard (83.7%) and the perception that cruise lines encourage such behaviour (30.3% agreed). Meanwhile, female respondents might be more concerned regarding safety, especially on drunken behaviour and inadequate security personnel, as these issues tend to significantly affect females more than males.

## **Profession**

Students being the most respondents (76.4%) indicate that this group might have distinct motivations and behaviours compared to employed individuals. Students, who are more likely engaging in social activities that involve alcohol, might contribute to the occurrence of excessive drinking onboard. This issue is important for cruise lines to take in consideration, as students might have variable expectations and perceptions of safety and security measures onboard.

## **Nationality**

Finnish respondents, covering the largest group, is likely to influence the overall survey results. Cultural norms and attitudes towards alcohol in Finland might contribute to high occurrence of reported alcohol consumption as a motivation for cruising. On the opposite spectrum, respondents from countries with stricter drinking norms, such as Ghana, Iran, Kenya, Nigeria, Sri Lanka, and Vietnam might feel less safe or more uncomfortable with the onboard drinking culture. This cultural diversity highlights the importance of implementing accommodating safety and security measures that address the diverse backgrounds of passengers.

## **Cross-national insights**

The diversity in safety and security perceptions by nationalities indicates that cultural sensitivity is important in managing safety and security onboard. Finnish respondents are being more adapted to the drinking culture, might be less likely to report incidents compared to those from countries with less tolerant towards alcohol. Additionally, cultural

differences in the perception of authority and security can influence whether respondents from different nationalities feel confident in the effectiveness of reporting mechanisms and security measures.

### Age distribution

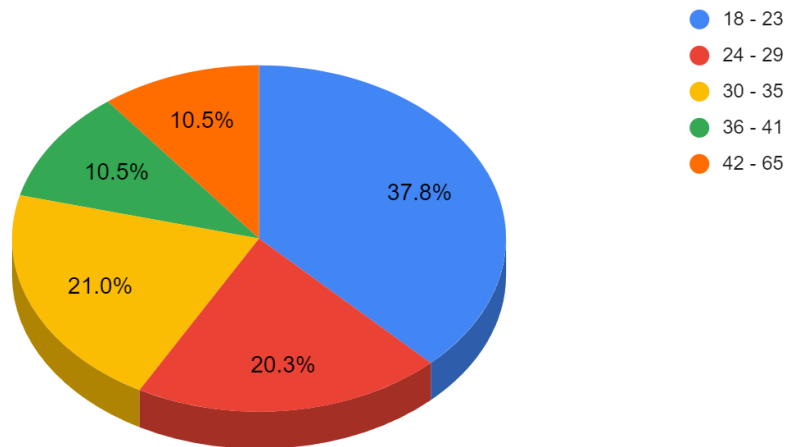


Figure 1. Age distribution

### Gender distribution

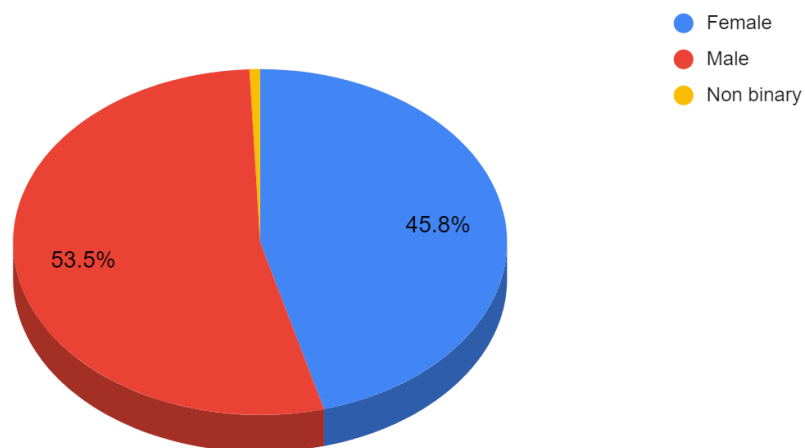


Figure 2. Gender identity or sex distribution

### Profession

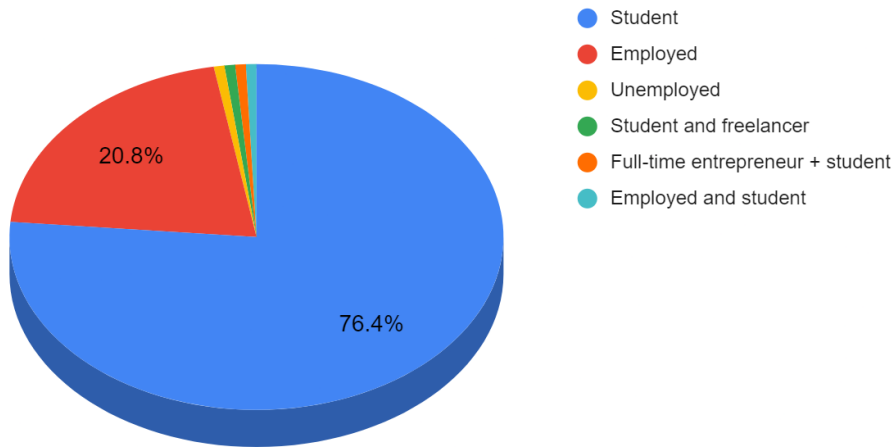


Figure 3. Profession

### Distribution of nationalities

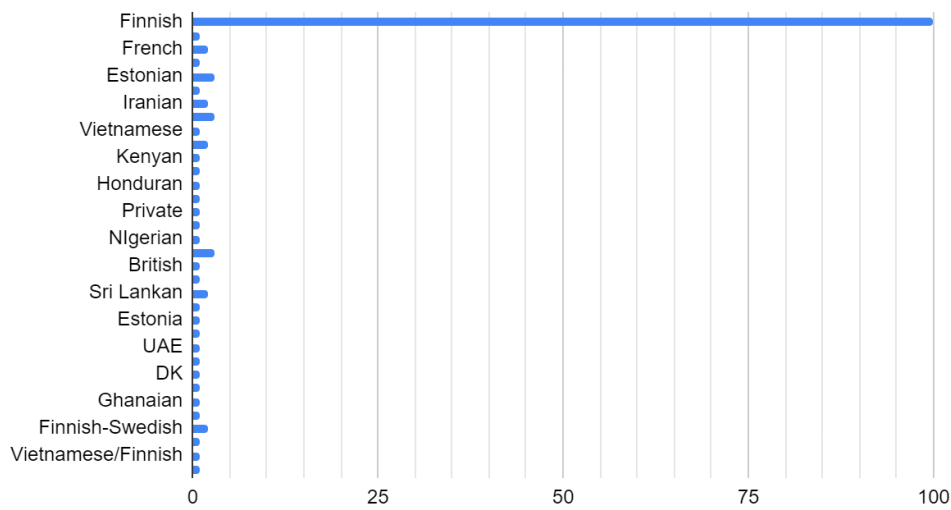


Figure 4. Nationality

### Alcohol consumption

More than half (53.9%) admitted consuming alcohol onboard during cruises, when asked, "Do you consume alcohol onboard?" Figure 5 displays distribution of alcohol consumption on men onboard meanwhile figure 6 displays on females. Additionally, figure 7 displays alcohol consumption onboard for all gender group.

### Distribution of alcohol consumption on men onboard

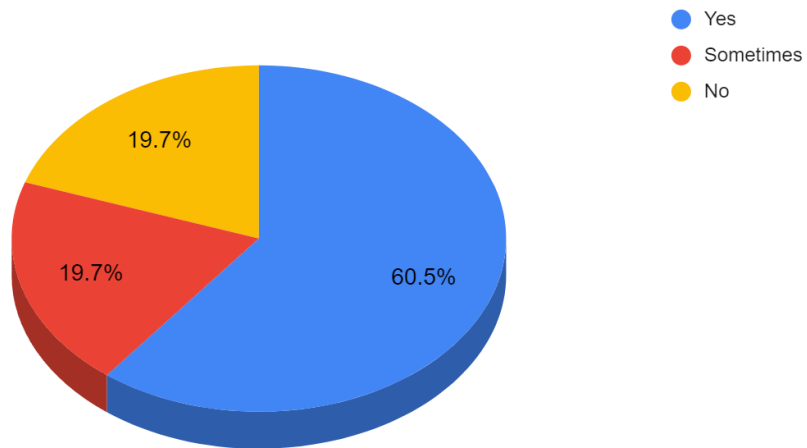


Figure 5. Alcohol consumption on men onboard

### Distribution of alcohol consumption on females onboard

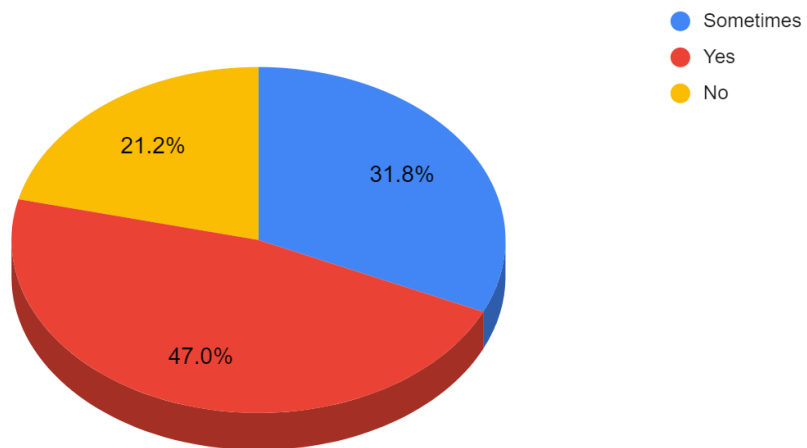


Figure 6. Alcohol consumption on females onboard

## Total alcohol consumption onboard combined or men women and non-binary

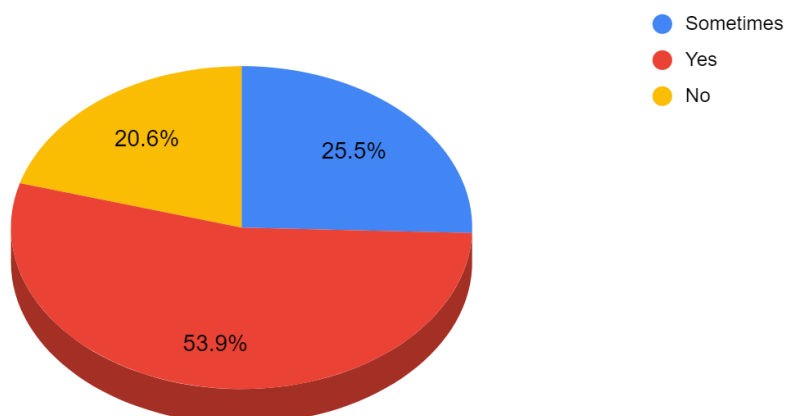


Figure 7. Total alcohol consumption for all gender

Only around quarter of respondents acknowledged that their primary reason for going on cruises is to consume alcoholic beverages. This evident arose from respondents (38,2%) admitted that they have sometimes consume more alcohol than intended on cruises and only small fraction of them have experienced negative consequences from excessive drinking. The reason for excessive drinking varies individually, yet these are few examples that respondents claimed. For instance, free or cheap alcohol available on buffet, peer pressure, atmosphere or fun time, youthful age, alcohol availability in general and boredom.

This issue above leads to next question: Do respondents feel there are culture of heavy drinking onboard? Most of the respondents (83.7%) experienced that there is heavy drinking culture onboard, though these results have divided opinions. A close result of respondent's opinion regarding cruise lines encourages heavy drinking culture, respondents (37%) agreed that there is support from cruise lines on heavy drinking culture, meanwhile respondents (39.4%) held neutral opinions. Adding the rest of respondents (23.2%) disagreed.

More than half of respondents (55.7%) are moderately satisfied on how alcohol consumption onboard is monitored or managed onboard.

## **Safety onboard**

Most of the respondents (98%) feels safe onboard, while only few respondents (2%) felt unsafe, due to intoxicated passengers or fear of accidents such as adverse weather conditions. Safety is important for majority of respondents (40%) or extremely important (37.9%), although there are small percentages of respondents that claimed safety is not important (2.9%) or extremely unimportant (5%).

More than half of respondents (72.3%) are aware of the emergency procedures and evacuation plans onboard, meanwhile significant percentages (27.7%) of respondents are unaware. Majority of respondents (71.9%) would like to receive more information on emergency procedures and evacuation plans, whereas the remaining respondents (28.1%) are satisfied with the information provided by the cruise lines.

A significant percentage of respondents (41.1%) claimed to experience unsafe behaviour onboard, these behaviours are caused intoxicated individuals and incidents such as fights, screaming or yelling, individuals attempting to jump overboard, blackouts, lacking spatial awareness leading to self-injury such as falling, and aggressive behaviour. Additionally, few respondents have experienced children climbing on railings on deck. Meanwhile, the rest of respondents (58.9%) claimed to never see an unsafe behaviour onboard.

Majority of respondents (76.6%) feels that safety measures are taken seriously, meanwhile small percentage of respondents (19.9%) are unsure. Additionally, most respondents (81.4%) experienced that safety measures are adequate.

## **Security onboard**

Security is important for the most respondents, total percentage of respondents (74.3%) claimed that security is extremely important and important. Rest of the respondents are feeling neutral (17.1%) regarding this issue and total percentage of respondents (8.6%) claimed security is not both important and extremely unimportant.

For most respondents (33.3%) (despite of gender and age) claimed that they are not aware of security measures onboard and total percentage of respondents (11.3%) claimed that they are not aware at all. Meanwhile, total percentage of respondents (27.7%) claimed that they are both extremely aware and aware of security measures onboard and another percentage of respondents (27.7%) are somewhere aware.

Low percentage of respondents (14.4%) have experienced security incidents, these incidents include such as being pushed while boarding or disembarking from the ship, fights involving security personnel, theft, and property being thrown. Total respondents (45.3%) claimed that they are not sure if the cruise lines protect them enough from security threats.

Additionally, only total respondents (17.1%) have experienced harassment or uncomfortable due to the actions of another passenger onboard. The common reason is due to intoxicated individuals roaming around the ship disturbing other passengers, yet most of respondents who claimed to experience harassment or uncomfortable actions did not report the incidents. This is concerning since there is possibility that many incidents have occurred yet have gone unreported. The precise number of individuals experiencing this is uncertain.

The most mentioned additional security measures include more security personnel, safety pamphlets, security briefings at the time of registration which mention restricted areas, security check and more surveillance cameras around the ship.

## **Summary**

Utilizing these results, shows the connection between alcohol consumption and safety and security on cruises. Having improved methods to manage these issues are essential,

considering the diverse demographic of passengers. Building safety and security protocols to consider the different requirements of various age groups, genders, professions, and nationalities is the key to keep passengers safe. In this questionnaire nationality did not have any significant impact on the results. However, a difference between students and employed or other profession was discovered. The survey showed that students are more likely to go on a cruise for consuming alcoholic beverages as the main reason, meanwhile employed respondents are less likely to. Students were the main group who felt unsafe (2.7%) or sometimes safe onboard (9%), meanwhile majority of employed respondents claimed feeling safe onboard or sometimes (3.9%). Students experienced slightly more unsafe behaviour, felt harassed or uncomfortable compared to employed respondents. Otherwise, profession did not have a significant impact on the results.

## 7.2 Qualitative research

A non-formal interview with Pasi Roos was conducted via email, making it a written interview due to Pasi Rooses busy schedule. Despite these challenges, this format facilitated an easier and more open discussion for both parties. Roos detailed comprehensive safety and security protocols for passenger vessels, highlighting compliance with both international and local maritime regulations. Key measures from these regulations includes adequate life-saving equipment, emergency drills, crew training, and effective communication systems. He also added a surveillance cameras and security systems are essential to monitor and respond to any suspicious activities.

Roos outlined six essential elements for enhancing safety and security during voyages. These include conducting comprehensive safety drills and emergency exercises, ensuring eagerness for any crisis. Managing emergency scenarios through regular practices by the Emergency Response Team to effectively manage real crises. Regular compliance and audits are conducted to ensure obedience to safety regulations, with ongoing monitoring to keep safety measures present. Initiative-taking measures are taken to address risks such as severe weather and terrorism, with clear communication of safety information to passengers. Life-saving equipment undergoes regular inspection and maintenance, while protocol violations are addressed through direct communication and education, with

disciplinary actions, as necessary. Upholding an overall safety culture throughout the voyage encourage trust between the crew and passengers, contributing to a smoother and safer journey. These insights collectively contribute to improving passenger safety and security, demonstrating a firm commitment to maintaining high safety standards throughout the voyage.

## 8 Discussion and critical review

In this study, my aim is to analyse alcohol consumption onboard passenger ships in the Baltic Sea region and examining its impact on safety and security aspects by integrating quantitative survey data with qualitative insights from Pasi Roos. My intention is to provide a comprehensive analysis from challenges related to this issue and presenting potential solutions.

The reflection on the results reveals several critical aspects, such as the widespread alcohol availability that driven by free or cheap options and peer pressure, particularly during cruise culture events. These practices might lead into various unease safety and security matters, including fights, disruptive behaviour, and potentially leading into accidents and medical emergencies. From my perspective, these results highlight the need for stricter alcohol policies and competent enforcement both prior check-in and onboard ships. Responses from the survey that I conducted, align well with the results, indicating a consistent understanding of the problem among different participants.

To evaluate the validity and reliability of this study, several factors must be considered. The quantitative data from the survey is dependable to an extent, given the diverse demographic representation among the respondents. The categories for alcohol consumption and its effects helps to establish that the survey measures what is intended to measure. However, the validity might be compromised if respondents did not understand the question or if social desirability bias influenced their answers. Additionally,

the results could potentially have more feedback to provide more reliability on the matter. The qualitative data from Pasi Roos provides reliable context and depth to the survey results, insights from Roos plays essential role since it reflect on real-world experiences. Yet, the reliability could vary depending on the sincerity and honesty of the interviewees. The outcomes from the entire interview could potentially been improved or differ if I had managed to include a variety of interviewees resulting into variety of insights, to provide better validity on the results.

Throughout this research, I have interconnected each section to build cohesive narrative, the introduction covers the purpose of the study and the methods used, while the subsequent sections examine into the data collections and analysis. In the conclusion, the initial objectives are revisited, proving that the collected data and analysis fulfilled this research's goals.

### **Comments**

An open comment section was included in the survey to collect feedback from participants. Respondents suggested for improved communication and clearer information regarding safety measures, including the distribution of pamphlets in cabins and public areas, and explicit instructions for handling emergencies.

A specific concern raised regarding common culture of heavy drinking and partying associated with cruise travel, especially in Finland, and the discomfort caused by intoxicated passengers. This underscores the need for passengers to be well-informed regarding safety protocols.

A suggestion for additional security measures included deploying police during onboarding, installing higher fences on decks, delivering regular safety announcements, and ensuring an absolute care for all passengers. Overall, this feedback highlighted the need for improved communication, better safety information distribution and specific security implementations to increase passengers' confidence and safety onboard.

## 8.1 What role does alcohol consumption play in contributing to casualties onboard?

Alcohol consumption is a major factor contributing to onboard casualties, this can occur through impaired judgement, behavioural issues such as disruption of safety protocols, aggression and creating hazardous situations. Addressing excessive drinking through stricter policies, better enforcement, and comprehensive safety measure is crucial to prevent these risks and ensure safety and security for everyone onboard.

Real-world incidents such as the incident on the grounding of MS Mona Lisa, accidents on general cargo vessel Karina C and MV Khosrov Bey demonstrate the direct correlation between alcohol consumption and hazardous circumstances. I have personally experience intoxicated individuals commit dangerous behaviour onboard, such as climbing the safety railing on deck, and disturbing other passengers by shouting to random individuals. Survey data further supports these findings, showing a considerable number of passengers consume alcohol onboard, often leading to observed unsafe behaviour. The study highlights the significant impact of alcohol on onboard casualties.

## 8.2 What safety and security measures can be implemented to prevent incidents?

According to the results I gained from previous studies, survey and insights from professionals, measure that can be implemented to prevent incidents related to alcohol consumption and enhance overall safety and security onboard passenger ships includes, restriction on alcohol sales hours and quantities. This can be implemented by limiting alcoholic beverages quota on the ticket card, monitoring consumption on surveillance cameras and restrict drinking to designated areas. Providing the crew members regular training on handling intoxicated passengers, recognizing alcohol poisoning, and conducting emergency procedures. Medical facilities equipped with adequate staff and supplies for alcohol-related emergencies. Educating passengers on responsible drinking prior and throughout the voyage. On design perspective, implementing higher railings or covered

railings and non-slip flooring will minimize accident risks. Additionally, restricting dangerous areas might aid these efforts.

On security matters onboard, increasing security presence, regular mobile patrols, improved surveillance with CCTV, and real-time monitoring might aid managing passenger behaviour. Additionally, a concept wristband that has sensor sending signal to the bridge if submerged into certain depth, this concept has same principal as *SART* or Search and Rescue Transponder. A comprehensive inspection on passengers, baggage and vehicles might prevent of smuggling goods. Clear communication channels might keep passengers informed regarding safety protocols and emergency contacts. A controlled access, theft prevention measures, and strict behavioural policies might further provide safer and securer environments, improving overall travel experience.

## 9 Final words

There is insufficient discussion surrounding alcohol consumption issues in general, making it challenging to discuss without resorting to sarcasm or humour, given the majority acknowledge alcohol consumption is a common issue onboard passenger ship. Another obstacle arises from the cruise companies relying on revenue from alcoholic beverages and tobacco, which exceeds from ticket sales. A common business practice with repercussions.

Furthermore, during the writing of this thesis, I was unable to obtain sufficient resources, which is why this research is not reaching its full potential. However, I am pleased to have completed it, as there is always room for improvement.

This thesis would not have been possible without the support of my family and friends. Personally, I would like to express my gratitude to Milla Osmo, my partner during the writing of this thesis, for her remarkable assistance, particularly on mental support. Furthermore, I would like to express my gratitude to my esteemed friend Khushal Naik for his invaluable assistance in providing me with valuable insights on how to construct an

impeccable thesis. I would like to express my gratitude to my supervisor Ritva Lindell for her patience. I appreciate Finferries allowing me to interview Pasi Roos and my colleagues.

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## Appendices

Questionnaire for Pasi Roos, the Safety and Traffic Director at Finferries.

1. What are the key measures and protocols that you implement to ensure the safety and security of passengers on a passenger vessel?
2. Can you describe the process for conducting safety drills and emergency exercises on a passenger vessel?
3. What is your experience in managing emergency situations on board a passenger vessel, and how did you handle the situation?
4. What measures do you take to ensure that the passenger vessel is compliant with all relevant safety and security regulations?
5. How do you manage and address potential safety and security risks, such as extreme weather conditions or terrorism threats, during a voyage?
6. How do you communicate safety and security information to passengers, and what kind of training do you provide to crew members on this topic?

7. What is your experience with conducting safety and security audits on a passenger vessel, and how do you address any identified issues?
  
8. How do you ensure that all safety equipment, such as lifeboats and life rafts are properly maintained and operational at all times?
  
9. How do you handle situations where passengers or crew members violate safety and security protocols on board a passenger vessel?
  
10. How do you ensure that the safety and security of passengers remains a top priority throughout all stages of the voyage, from embarkation to disembarkation?

# Safety and security questionnaire on cruise ship for thesis

Dear all,

I am fourth year student at Novia University of Applied Science, majoring in Bachelor of Maritime Management, Sea Captain inviting you to participate in my research study. "Safety and security of passengers on passenger vessels"

This research aims to gain a deeper understanding of the safety and security of passenger deaths and the aim is clear: to help prevent these terrible events from occurring, whether it is by educating passengers on safety measures or implementing new protocols to enhance onboard security.

Your participation in this research is of utmost importance for my project and has the potential to significantly contribute towards improving safety and security measures on passenger vessels within the maritime industry.

This questionnaire contains three sections:

1. Alcohol and beverage consumption onboard
2. Safety onboard
3. Security onboard

This questionnaire is for everyone who had or will go on a cruise ship. The aim of this questionnaire is to gain data for my thesis. The questionnaire is anonymous, and the information is handled confidentially.

I highly appreciate your effort helping me on this research, and I am confident this research will help the maritime industry to navigate towards a future where every passenger can have a safe and secure voyage while making a positive impact on the industry.

Thank you for your participation, I am looking forward to your responses.

Best regards,

Andhika Komulainen

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\* Indicates required question

1. Age \*

*Mark only one oval.*

18 - 23

24 - 29

30 - 35

36 - 41

42 - 65

2. Gender identity \*

*Mark only one oval.*

Male

Female

Nonbinary

Prefer not to say.

Other

3. Profession \*

*Mark only one oval.*

Student

Employed

Pensioner

Other:

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4. Nationality \*

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5. How often do you go on a cruise?

*Mark only one oval.*

- Never
- Occasionally
- Sometimes
- Often
- Always

6. When going on a cruise, do you typically go with a big or small group of friends?

*Mark only one oval.*

- Large group (more than 10 people)
- Smaller group (between 5 - 10 people)
- Small group (less than 5)
- Alone

7. Do you consume alcohol when onboard a cruise ship?

*Mark only one oval.*

- Yes
- No
- Sometimes

8. Is drinking the main reason you go on a cruise?

*Mark only one oval.*

- Yes
- No
- Sometimes

9. If you answered yes, on a scale 1-5, how much do you drink onboard compared to when you are on land?

*Mark only one oval.*

|       |                       |                       |                       |                       |                       |            |
|-------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|------------|
|       | 1                     | 2                     | 3                     | 4                     | 5                     |            |
| <hr/> |                       |                       |                       |                       |                       |            |
|       | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |            |
| <hr/> |                       |                       |                       |                       |                       |            |
| Less  |                       |                       |                       |                       |                       | A lot more |

10. Have you ever consumed more alcohol than you intended while onboard?

*Mark only one oval.*

- Yes
- No
- Sometimes

11. If yes, what factors do you believe contributed to this? (e.g., peer pressure, availability of alcohol, free drinks, etc.)?

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12. Have you ever experienced negative consequences due to your alcohol consumption onboard on a cruise ship (e.g., missed activities, illness, injury, etc.)?



This section is aiming for your feeling safe before and during the cruise.

16. Do you feel safe onboard?

*Mark only one oval.*

Yes

No

Sometimes

17. If you answered no or sometimes, why are you not feeling safe onboard?

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18. How important is safety to you when choosing a cruise line?

*Mark only one oval.*

1    2    3    4    5

Not important

Extremely important

19. Are you aware of the emergency procedures and evacuation plans onboard a cruise ship?

*Mark only one oval.*

|                       |                       |                       |                       |                       |
|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| 1                     | 2                     | 3                     | 4                     | 5                     |
| <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Not very aware        |                       |                       | Yes, very aware       |                       |

20. Have you ever seen unsafe behaviour onboard?

*Mark only one oval.*

Yes

No

21. If yes, what kind of unsafe behaviour have you witnessed?

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22. Do you feel that the cruise ship crew takes safety seriously?

*Mark only one oval.*

Yes

No

Unsure

23. Are you aware of the emergency procedures and evacuation plans onboard the cruise ship?

*Mark only one oval.*

Yes

No

24. If you answered no to the previous question, would you like to receive more information about the emergency procedures and evacuation plans onboard?

*Mark only one oval.*

Yes

No

25. Do you feel that the security measures onboard the cruise ship are adequate?

*Mark only one oval.*

Yes

No

26. Have you ever experienced a medical emergency onboard?

*Mark only one oval.*

Yes

No

27. If you answered yes to the previous questions, how satisfied were you with the medical care provided onboard?

*Mark only one oval.*

1 2 3 4 5

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Not satisfied                      Extremely satisfied

## Security onboard

In this section, you are given questions regarding security onboard before and during onboard.

28. How important is security to you when choosing a cruise line?

*Mark only one oval.*

1 2 3 4 5

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Not important                      Extremely important

29. Are you aware of the security measures in place onboard a cruise ship to protect passengers from theft, assault, or other crimes?

*Mark only one oval.*

Extremely aware

Aware

Somewhat aware

Not very aware

Not aware at all

30. Have you ever witnessed or experienced a security incident onboard a cruise ship?

*Mark only one oval.*

Yes

No

31. If you answered yes to the previous question, please describe the incident and how it was handled by the cruise line.

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32. Do you feel that cruise lines do enough to protect passengers from security threats?

*Mark only one oval.*

Yes

No

Not sure

33. What additional security measures would you like to see implemented onboard cruise ships to make you feel safer?

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34. Have you ever felt harassed or uncomfortable due to the actions of another passenger onboard a cruise ship?

*Mark only one oval.*

- Yes
- No

35. If you answered yes to the previous question, did you report the incident to the cruise line? If so, how was it handled?

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36. Last, but not least, any comments or feedback you would like to add considering safety and security onboard passenger vessels?