Beyond Human Error:

Seafarers' Perceptions About Their Interpersonal Conflicts in a Multicultural Workplace

A Typology of Seafarers' Conflicts Contributing to Maritime Accidents

by

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Dedication

I dedicate this dissertation to those who have been my constant sources of strength and inspiration throughout this transformative journey.

To God, whose grace and boundless faith have kept me spiritually strong, guiding me every step of this pursuit.

To my parents, I owe an immeasurable debt of gratitude. To my father, whose presence and steadfast guidance have been a constant source of support. To my mother, a beacon of resilience and determination. From both, I inherited my indomitable spirit of learning and personal improvement.

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With love and appreciation,

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Abstract

Marine incidences and casualties result in occurrences like loss of lives, personal injuries, collisions, allisions, hull and machinery damages, and environmental damages. Therefore, this study's purpose was to examine seafarers' perceptions of their interpersonal conflicts on board the vessels in a multicultural workplace and to examine whether they perceive that those interpersonal conflicts may contribute to the human errors that lead to marine casualties and incidences. A two-method approach (quantitative and qualitative) was used. The theoretical framework guiding this study consisted of four theories, which were culture and interpersonal relationship conflict, social identity theory, organizational interpersonal and task conflicts theory and systems theory. The quantitative and qualitative questions that underpinned this study were used to examine the relationship between the perceptions of seafarers and the study variables: interpersonal conflicts, multinational culture, number of days of the duration of the voyage, number of national cultures onboard the vessel and the common types of conflicts and their causes among seafarers. The inferential statistics and thematic analysis of the collected data revealed that cultural differences and the number of nationalities influenced interpersonal conflicts and causalities. The results also revealed different types of conflicts that are experienced onboard the vessels. Conflicts were mainly categorized based on their main causes (e.g., conflicts related to alcohol and substance abuse).

Chapter 1: Introduction to the Study

This research evaluates seafarers' perceptions of interpersonal conflicts within a multicultural workplace, specifically on board a ship. Furthermore, it delves into the seafarers' perspective regarding any potential links between their interpersonal conflicts and maritime casualties or incidents, moving beyond the attribution of human error. The study employs a combination of descriptive and inferential non-experimental quantitative methodologies alongside a qualitative approach using non-interactive thematic analysis.

Background

The global shipping industry facilitates up to 90% of the world's trade (Coraddu et al., 2020), presenting itself as both a multicultural workplace and a hazardous undertaking. Within this context, incidents and casualties transpire, yielding consequences such as loss of life, bodily harm, ecological degradation, and material and economic setbacks. Given this sector's far-reaching societal and economic importance, these maritime mishaps have implications for individuals and the broader community (Coraddu et al., 2020).

Numerous stakeholders share concerns regarding maritime accidents, as their impact can resonate not only with individuals and corporations but can also transcend the realms of personal and corporate spheres. In specific instances, apprehensions about maritime accidents extend to encompass communities, states, cargo proprietors, ship financiers, insurance firms, and other entities. The repercussions may manifest directly or indirectly. This escalating issue has prompted interventions by authorities and governments. These entities implemented regulations and legislation, inspections and audits, training and certification, search and rescue, pollution control, navigation aids, safety and security drills, accident investigation, international collaboration, coast guard and navy, public awareness and education, and crisis management

plans with the objective to deescalate the occurrence of maritime casualties and incidents. All of these interventions, led by organizations or institutions such as The International Maritime Organization (IMO), the Coast Guard Service of each country, the International Labour Organization (ILO), through both national laws and international conventions like The International Convention for the Safety of Life at Sea (SOLAS), among others. Nevertheless, despite implementing safety systems and increasingly stringent regulations, the likelihood of catastrophic accidents could increase with the augmentation of vessel sizes and operational intricacy (UNCTAD, 2018). Despite a positive trajectory in global maritime accident rates over the past decade (IMO, 2020a), the ramifications of loss of life, environmental harm, and property damage persist in their gravity.

A critical element that all these organizations and institutions have identified as a key factor in the occurrence of maritime accidents and incidents is human error. Different authors agreed that human errors cause approximately 80% of maritime accidents (Fan et al., 2020; Galieriková, 2019). In fact, human error was found to be at fault in nearly 15,000 marine liability insurance claims filed between 2011 and 2016, amounting to over $1.6 billion of damage (UNCTAD, 2018). Lu et al. (2012) designated multiculturalism as a pivotal factor impacting work safety, recognizing it as a vulnerability within ship operations. Similarly, the European Maritime Safety Agency (EMSA; 2022) stated:

> From analysis conducted in safety investigations, it was determined that, from 2014 to 2021, 59.6% of accident events was due to human action and 68.3% of the contributing factors were related to human behaviour. Analysing both human action events and human behaviour contributing factors jointly, human element relates to 81.1% of the investigated marine casualties and incidents. These trends are common for all ship types.

Within this context, it is essential to recognize that "human error is not the root cause of failure. It is the effect, or symptom, of deeper trouble" (Grech et al., 2019, p. 18). Interpersonal conflicts that arise in the workplace can negatively impact individual, team, and organizational efficacy (Jha & Jha, 2010). Examining conflicts among seafarers on board is undertaken to assess their perspective on whether these interpersonal conflicts might contribute to maritime casualties and incidents. This assessment is conducted within the scope of causes encompassed by the human error concept.

Distinct definitions are imperative to establish in advance, particularly concerning the shipping industry and the realm of conflict analysis and resolution (Please see Appendix A). In contrast to human factors or ergonomics (IMO, 2020b), the term "*human element*" in accident occurrences has a broader understanding. According to the International Maritime Organization (IMO) definition (2015), the human element is frequently overlooked during incident investigations because human involvement is often more significant than the proximate cause (Pomeroy & Earthy, 2017, p. 49).

The proposed solution advocates for reducing human involvement to mitigate accidents; however, it overlooks the potential societal repercussions that such an approach might generate. These repercussions include unemployment, and economic impacts not only on a global scale but also on local economies heavily dependent on maritime trade. There is the risk of social disruption as displaced workers face changes in job dynamics, negatively affecting communities reliant on maritime employment. Additionally, significant technological challenges arise, requiring substantial investments in technology, infrastructure, and maintenance, which may not always be readily available. Safety concerns regarding technology reliability and cybersecurity also emerge, along with potential environmental impacts. Legal and regulatory frameworks

would need to be updated to adapt to these new technologies. These considerations underscore the complexity of transitioning to reduced human involvement in maritime operation.

In conclusion, the discussion of autonomous ships, especially maritime autonomous surface ships, emphasizes the potential for increased safety and cost efficiency through reduced human intervention in certain operations (UNCTAD, 2019). Nevertheless, it is important to consider that prioritizing conflict resolution to preserve the well-being of the shipping workforce and the overall environment over full automation may help to protect the shipping workforce and foster a more harmonious environment.

Justification

This study investigated into the perceptions of seafarers concerning their interpersonal conflicts while serving on vessels within a multicultural workplace. It aimed to ascertain whether these interpersonal conflicts are perceived to be linked with human errors contributing to maritime casualties and incidents. Additionally, this research examined the stressors identified by seafarers, which could potentially contribute to such interpersonal conflicts. Moreover, the study explored participant variables, encompassing aspects such as age, sex, marital status, nationality, race, religion, and rank, as well as non-personal variables like vessel type and flag. These variables were subject to analysis in the context of interpersonal conflict perceptions and their potential association with marine casualties and incidents. The study also considered how participants perceive culture as a factor influencing interpersonal conflicts, human errors, and, ultimately, maritime casualties and incidents. Similarly, this research aims to make a valuable contribution to seafarers' education by enhancing their skills development, strategy formulation, facilitation techniques, and mediation and negotiation methods. These efforts are directed at effectively resolving interpersonal conflicts that arise onboard.

IMO (2020c) believes that it is necessary "to address human element issues to improve performance … to significantly enhance maritime safety, security and the quality of the marine environment…" Pomeroy and Earthy (2017) recognized that IMO places the *human element* view in accident occurrences with a broader understanding than *human factors or ergonomics*. However, it is vital to broaden the consideration of the *human element*, which is seen in isolation as a possible cause of maritime accidents, just as it is also necessary to expand the object of human factors, which also sees in isolation the individual and his interaction with the machine, tool task, etc. It is necessary to propose a much broader vision of the problem to include, among other things, the possible interpersonal conflicts onboard as underlying causes of human error for better analysis and understanding of some maritime casualties and incidents, but most importantly, for its prevention.

Significance of the Study

This research will utilize both a descriptive and inferential non-experiential quantitative methodology and a non-interactive thematic analysis qualitative approach. The implications stemming from this research bear relevance and significance across four principal domains: policy, practice, theory, and future research.

Notably, this study can potentially guide private and public policy initiatives, offering insights that can inform crucial decisions about introducing suggested training programs. These programs aim to equip seafarers with the tools to comprehensively analyze conflicts occurring onboard, thereby fostering the development of their proficiencies in areas such as skill enhancement, strategic formulation, facilitation techniques, negotiation, and mediation. This collective effort is intended to enable effective conflict resolution among seafarers.

The significance of this research extends beyond its immediate field of conflict analysis and resolution, potentially resonating with diverse professionals, whether associated with this field or not. The varying interpretations and significance that professionals may draw from our findings can initiate constructive dialogues on the subject (Rink et al., 1996). Moreover, the practical implications of this research will encompass the effectiveness of the recommended strategies, which themselves could warrant further exploration. This dissertation proposes workplace conflict management strategies and advocates for policy implementation. Improved handling of interpersonal conflicts by individual employees, teams, and organizations collectively can enhance operational efficiency (De Dreu et al., 2001).

Theoretically, this research introduces novel avenues for exploration within the realm of conflicts, analysis, and resolution in the context of marine casualties and incidents. The broader maritime industry stands to gain from the advancement of knowledge facilitated by this study. This research contributes new insights and knowledge in the field of conflicts, analysis, and resolution in the context of maritime casualties and accidents, which will benefit researchers, practitioners, and stakeholders in the maritime industry. Investigating maritime casualties and incidents will provide a deeper and more comprehensive understanding of the causes, dynamics, and resolution of conflicts in maritime situations. The maritime industry will benefit from enhanced tools and strategies to address conflicts, reduce incidents, and enhance safety. The main goal is to understand conflicts and its resolution in the maritime context, to reduce or contribute with the reduction of maritime casualties and incidents, which are often linked to human errors. The maritime industry will increase safety, efficiency, and reduce risks, which will have a positive impact on the well-being of the seafarers and the marine environment. By

unveiling conflicts among seafarers as an underlying contributor to human errors that result in maritime casualties and incidents, this research contributes positively to the maritime sector.

Moreover, this study will also prompt further research endeavors, in line with the notion that "most good research tends to ask more questions than it answers" (Rink et al., 1996, p. 499). This research sparks fresh investigations that can delve deeper, broaden results, conclusions, or recommendations, and introduce new ideas or proposals for transforming the issue under scrutiny.

Research Questions and Hypotheses

Given that this study employs a descriptive and inferential non-experimental quantitative approach in combination with a non-interactive thematic analysis qualitative approach, the subsequent research questions, hypotheses for the quantitative approach, and research questions for the qualitative approach are outlined below. These components collectively guided the execution of this research.

Quantitative Approach - Research Questions and Hypotheses

RQ1. Is national culture onboard a vessel a predictor of the occurrence of interpersonal conflicts, controlling for demographic variables?

H_10: National culture is not a predictor of interpersonal conflicts onboard a vessel, controlling for demographic variables.

H_11: National culture is a predictor of interpersonal conflicts onboard a vessel, controlling for demographic variables.

RQ2. Is there any correlation between the number of days of the duration of the voyage and the number of interpersonal conflicts?

$H_2 0$: There is no correlation between the number of days of duration of the voyage and the number of interpersonal conflicts.

$H_2 1$: There is a correlation between the number of days of the voyage and the number of interpersonal conflicts.

RQ3. Is there a prediction between the interpersonal conflicts among crewmembers onboard and the occurrence of marine casualties and incidents?

$H_3 0$: There is no prediction between the interpersonal conflicts among crewmembers onboard and the occurrence of marine casualties and incidents.

$H_3 1$: There is a prediction between the interpersonal conflicts among crewmembers onboard and the occurrence of marine casualties and incidents.

Qualitative Approach - Research Questions

RQ1. What are the perceptions of seafarers regarding the relationship between national culture onboard a vessel and the occurrence of interpersonal conflicts?

RQ2. What are the perceptions of seafarers regarding the relationship between the number of days of the duration of the voyage and the number of interpersonal conflicts?

RQ3. What are the perceptions of seafarers regarding the relationship between the interpersonal conflicts among crewmembers onboard and the occurrence of marine casualties and incidents?

RQ4. What are the most common types of conflicts and their causes among seafarers?

Chapter 2: Literature Review and Theoretical Framework

Literature Review

The literature review concentrated on comprehensively examining pertinent information regarding the definition and classification of workplace conflicts, particularly interpersonal conflicts, along with their resolution methods. Moreover, the review encompassed an exploration of culture as a potential wellspring of conflicts in the workplace, with a specific focus on the context of shipboard operations. Similarly, an extensive exploration of the definitions surrounding marine casualties and incidents, coupled with the concept of human error, was undertaken. Furthermore, the literature review encompassed an investigation into the various methodologies available for predicting human error and assessing the likelihood of its manifestation.

Typology of Conflicts at Work

Broadly speaking, interpersonal conflicts at work is the outward expression of incompatibility, disagreement, or differences that emerge when two or more individuals interact (Rahim, 2001). Antonovsky (1993) introduced a model founded upon six Cs: Complexity, Conflict, Coherence, Chaos, Civility, and Coercion. The influence of numerous job-related and personal factors on occupational stress, especially in isolated work conditions, has been established (Brasher et al., 2010). It is widely recognized that working aboard a ship significantly diverges from shore-based employment due to the distinct mental, psychological, and physical stressors seafarers encounter (Oldenburg et al., 2009). Seafarers often highlight challenges such as extended periods away from their families, prolonged working hours, exposure to hot environments, and working alongside underqualified subordinates, all deemed stress-inducing severe factors (Slišković, 2017).

Furthermore, a comparison of officers and non-officers reveals noteworthy distinctions. While officers spend considerably shorter durations on board (4.8 vs. 8.3 months), their working hours are substantially higher (63.5% vs. 21.1%). Consequently, officers experience more significant stress (52.4% vs. 36.6%; Oldenburg et al., 2009). Ships are known as "stressful, institutionalized, and hierarchical settings" (Sampson et al., 2020, p. 288). Additionally, the multicultural nature of shipboard work further complicates matters, as seafarers from diverse cultural backgrounds coexist. Karjalainen (2020) accentuated the absence of a tool to measure the intricacies of cultural values in group interactions, a void that hampers comprehension of this dynamic. Sampson et al. (2020) characterized shipboard work as the most dangerous occupation, where seafarers confront added pressures like the fear of criminalization and piracy. They also underscore the sensation of isolation experienced at sea compared to when ashore, with seafarers likening their lives onboard to a sacrifice made for the sake of their families. Amongst these stressors, interpersonal conflicts are more likely to occur aboard ships, given the combination of long working hours, the hierarchical nature of shipboard settings, the diverse cultural backgrounds of seafarers, and isolation. These stressors can contribute to heightened tensions and disagreements among crew members.

Garcia et al. (2018) identified common conflict triggers through an analysis involving Filipino seafarers from various positions. Employing the Thomas Kilmann Conflict Mode Instrument (TKI) to evaluate conflict management styles, they revealed factors including deficient management (spanning from the ship's principal to onboard officers); subpar working conditions; inequitable labor practices by staffing agencies; derogatory remarks from superiors, peers, or subordinates; ineffective job performance; professional competition or jealousy; crew or officer inadequacies; cultural disparities (language, religion, customs, beliefs); dearth of

leisure time; job-related stress; among others. Notably, this study solely encompassed various groups of Filipino sailors.

In conclusion, the maritime industry presents a unique backdrop for interpersonal conflicts at work. The diverse cultural backgrounds of seafarers, coupled with the confined and often stressful working conditions, create an environment ripe for various types of conflicts. Whether it is communication breakdowns, role conflicts, or differences related to tasks, interests, resources, or power, these conflicts can impact both individual well-being and overall safety. Understanding and addressing these conflicts is paramount, not only for the mental and emotional health of seafarers but also for the industry's efficiency and the preservation of marine environments. Conflict resolution and prevention strategies must be a priority for the maritime sector, aiming to create a more harmonious and cooperative workplace, ultimately leading to a safer and more sustainable industry.

Interpersonal Conflicts at Work and their Resolution

Resolving interpersonal conflicts at work involves delving into the intricacies of relationship dynamics, the underlying psychological processes, conflict mechanisms, and effective conflict management strategies. Kordoutis (2004) underscored that interpersonal conflicts emerge due to individuals' unmet needs while dispelling the misconception that parties cannot acquire conflict management skills. However, Romanov et al. (1996) found mental health issues, such as depression, psychoses, and alcoholism also contribute to interpersonal conflicts within the workplace.

In a maritime context, Sampson et al. (2020) observed that seafarers often draw solace and sustenance from their religious convictions but choose to keep these beliefs private onboard to avert potential interpersonal conflicts. Du Plexis (2011, p. 2) elucidated that conflicts

significantly impact organizations, reaching a point where they trigger emotional distress and disengagement from work. These insights highlight the multifaceted nature of workplace conflicts and their various contributing factors. In the context of maritime industry, this scenario resonates with Cowan's assertion (1995) that such discord detrimentally influences decision-making and work relationships, ultimately diminishing individual effectiveness, productivity, and creative output. Given that the maritime industry operates in a complex and high-stress environment, it becomes imperative to prioritize conflict resolution and management strategies that foster a more supportive and harmonious work environment, ultimately benefiting both seafarers and the industry. As Hocker and Wilmot (2014) concluded, the disregard of workplace conflicts sets in motion a detrimental cycle characterized by diminishing productivity. This in turn, perpetuates and propagates the conflict to other individuals, ultimately resulting in diminished morale. As defined by Lee and Yi (2013), social conflict, or conflict among people, manifests as disparities between an individual's viewpoints and the viewpoints of others or among differing perspectives held by various individuals.

Kordoutis (2004) presented two approaches for addressing interpersonal conflicts. The first approach involves personal skill development encompassing active listening, empathy, and assertion; avoiding dispositional attributions; offering constructive feedback; and engaging in problem-solving. The second avenue centers on third-party intervention, encompassing methods such as adjudication, arbitration, fact-finding, conciliation, and mediation.

Furthermore, culture serves as a framework of social norms and regulations governing interpersonal interactions (Cingoz-Ulu & Lalonde, 2007). Additionally, culture influences individuals' values, self-construal, and relational orientations. It shapes perceptions of

appropriate communication modes, face-preservation considerations, and conflict management strategies (Cingoz-Ulu & Lalonde, 2007).

The resolution of conflicts hinges on the distinct personal approaches adopted by the conflicting parties, ultimately shaping whether the outcome is constructive or destructive. This approach is instrumental in determining whether the conflict leads to positive or negative results. Thomas and Kilmann introduced an assessment tool that gauges five interpersonal conflict-handling modes: competing, collaborating, compromising, avoiding, and accommodating (Kilmann & Thomas, 1977; Shell, 2001; Thomas & Kilmann, 1974).

Interpersonal conflicts transcend individual boundaries and also affect the overarching organization. Interpersonal conflicts at work can have various consequences, including the inhibition of cognitive functioning (Roseman et al., 1994 as cited in Yue & Thelen, 2023), as well as the distraction of the team members from their tasks (Wilson et al., 1986 as cited in Yue & Thelen, 2023). These conflicts can ultimately reduce safety and increase the risk of maritime casualties and incidents. A hostile work environment entails the harsh and frequently aggressive mistreatment of individuals, posing risks to the well-being and safety of employees (Rasool et al., 2020 as cited in Rasool et al., 2021). Consequently, addressing these workplace-related interpersonal conflicts through methods such as conciliation, mediation, and arbitration, among other conflict resolution approaches that are apt and suitable for specific circumstances can quell some of these occurrences. Furthermore, according to Canary (2003), effectively handling conflicts involves recognizing potential events that impact the development and escalation of interpersonal disputes. This insight offers guidance on how individuals can better manage situations that might lead to interpersonal conflicts, giving them greater control over such circumstances.

Ongoing interpersonal conflict has an effect on the crew. "[I]nterpersonal conflict amongst the crew" is an example/cause of *low morale*, which is defined as "a problem with the individual or group motivation as shown by reduced wiliness, confidence or discipline to perform assigned tasks" (IMO, 1999, p. 31). Newer resolutions continue to promote that any investigation of human and organizational factors shall include working relationships: "conflicts and/or clashes with other crewmembers or supervisors" (IMO, 2013, p. 15). While the new resolution did not provide a definition of terms, it underscores the importance of maintaining good working relationships and decreasing workplace conflicts.

The unique nature of work aboard vessels underscores the necessity for devising conflict resolution strategies specific to seafarers. One viable option is the introduction of an organizational ombudsperson, though alternative approaches exist. Designating an individual responsible for offering conflict resolution and problem-solving services could effectively address interpersonal conflicts among seafarers and safeguard onboard safety and the organization's overall well-being, "by providing a menu of services aimed at managing workplace conflict in ways that are more constructive, effective, cost efficient, and compatible with the stated values and mission of the [maritime shipping industry]" (Katz, et al., 2018). The misconception that all conflict resolution must occur in person has been dispelled in light of the COVID-19 pandemic. Technology furnishes invaluable resources to facilitate productive dialogues for conflict resolution, even when physical presence is impossible. These digital tools enable non-in-person meetings aided by a third party.

Third-party intervention is typically sought when unresolved interpersonal conflicts hold the potential to escalate, yielding adverse outcomes for the parties involved, the organization, and society at large. Such conflicts often persist due to parties becoming "locked in" to the

dispute. Third-party involvement as a facilitator, mediator, or arbitrator emerges as the most effective route to address the impasse (Fisher, 1972, 1983, 1997). This author has long underscored the significance of third-party consultation. Fisher and Keashly (1991) also recognized the potential synergy between mediation, consultation, and other conflict resolution methods, suggesting their applicability at different escalation stages based on context. The authors identified four stages in the scalation model: (1) Discussion, (2) Polarization, (3) Segregation, and (4) Destruction (Fisher and Heashly, 1991). The authors also propose a beneficial combination or collaboration between different conflict resolution techniques or approaches.

In this context, there may be advantages to using mediation, consultation, and other methods in a coordinated or integrated manner to address conflicts more effectively. It implies that these various approaches when used together can enhance their overall impact in resolving disputes.

Culture as a Source of Conflict at Work

Cingoz-Ulu and Lalonde (2007) underscored that culture fundamentally shapes the conceptualization of relationships and influences individuals' choices regarding conflict management within those relationships. Their analysis further suggests that culture can influence perceptions of effective communication styles, coping with recurring issues, and conflict resolution techniques. Hofstede's work (1980, 2001) on cultural values and dimensions (Power distance, individualism vs. collectivism, masculinity vs. femininity, uncertainty avoidance, and long-term orientation vs. short-term orientation) and categorizations by Bond and Smith (1996), Kagitcibasi and Berry (1989), Triandis (1995), and Cingoz-Ulu and Lalonde (2007) all contribute to understanding the interplay between culture and interpersonal relationships, which

holds relevance for this study.

The above cited authors explain that the interplay between culture and interpersonal relationships encompasses the profound influence of cultural values, norms, and dimensions on how individuals interact and form connections. Cultural factors dictate communication styles, power dynamics, the balance between individualism and collectivism, gender roles, conflict resolution approaches, and trust levels in relationships. This interplay also shapes how relationships are initiated and maintained, considering the role of family and community involvement or individual choice. Understanding this interplay is vital in a globalized world, impacting cross-cultural communication, international business, and social cohesion, as individuals from diverse cultural backgrounds navigate the complexities of human interactions. To explore this relationship provides insights into fostering successful interpersonal relationships across cultures.

The exploration of culture extends to dimensions presented by Hofstede et al. (2010), emphasizing the broader concept of national cultures, distinct from and only partially influenced by cultural identity (Karjalainen, 2020). Hofstede et al. (2010) developed the following dimensions over national cultures: Power distance, individualism vs. collectivism, masculinity vs femininity, uncertainty avoidance, and long-term orientation vs. short-term orientation, while Karjalainen (2020) referred to cultural identity as "a personal identity with an individual dimension" (p. 250). National culture and human errors hold significance due to the substantial proportion of maritime claims attributed to human errors, accounting for 53% of total claims (Lu et al., 2012). Nonetheless, seafarers seem divided on whether culture is a causal factor behind human errors leading to maritime casualties and incidents. However, Lu et al., (2012) highlighted multinational crews as an essential issue for workplace safety, also highlighting its

potential vulnerabilities in ship operations.

Turistiati et al. (2018) advocated the development of intercultural communication competence as an imperative skill to enhance multinational organizations or institutions operating in intercultural contexts. Turistiati et al. (2018) defined intercultural communication as the "communication that occurs when members of a particular culture give a message to members of another culture" (pp. 130), and intercultural communication competence includes components that individuals require to communicate appropriately and effectively with others: motivation, knowledge, and skills, but also cultural understanding, respect, and language skills. This competence is crucial for efficient communication, idea exchange, conflict resolution, and problem-solving within diverse teams or when conducting business negotiations in multicultural settings, which will enhance organizations and interactions among people from different cultures.

Marine Casualties and Incidents and Human Error

The review encompassed definitions of marine casualties and incidents, human error in the workplace, and available methodologies for predicting human error and assessing its likelihood of occurrence.

An important review of the research evolution and knowledge in marine accidents was presented by Cao et al. in 2023. This comprehensive review paper sheds light on significant developments in the field, offering valuable insights into the current state of knowledge and emerging trends in the study of marine accidents, which has been focused on the technical aspects associated with the marine accidents.

Galieriková (2019) underscored that up to 70% of maritime accidents are attributed to human error, as revealed in studies on maritime accidents. Despite the prominence of human

error, the Lloyd's List Intelligent Casualty Statistics database overlooks its inclusion in accident analysis, despite human error accounting for a significant portion (40% to 90%) of marine accidents (Chen et al., 2019). To create a more comprehensive look at maritime accidents, Akyuz (2016) proposed a hybrid model that integrated the Analytical Network Process (ANP) and Human Factors Analysis and Classification Systems (HFACS), which was first introduced by Wiegmann and Shappel (2003). This model was initially designed for the aviation sector (Akyuz, 2017). However, Awal and Hasegawa (2017) recommended the logic programming technique (LPT) for predicting accident patterns with notable accuracy. Similarly, Chen et al. (2019) created the TOPSIS (Technique for Preference by Similarity to Ideal Solution) model to rank factors influencing total-loss maritime accidents, mitigating human judgment bias. Fan et al. (2020) highlighted that the maritime industry began integrating human and organizational factors after the Herald of Free Enterprise capsizing in 1987.

The continuous advancement of models for the study and prediction of human errors and accidents underscores the gravity of this issue within the maritime community. The Analytical Network Process (ANP) "is a decision-making analysis methodology that addresses decisions in which the decision elements (called nodes), such as criteria and alternatives, are interrelated (dependence and feedback)" (Gonzalez-Urango et al., in progress 2024). The Human Factors Analysis and Classification System (HFACS) provides a robust analysis of human factors to evaluate aviation safety that categorizes human-related factors in accidents into four levels: "the organizational influences, unsafe management, preconditions for unsafe acts, and unsafe acts themselves" (Yiddirim et al., 2019). Logic Programming Technique (LPT) is a computational method using "logical deductions which utilize heuristics to search through given knowledge and attempts to discover 'how' accident may take place" (Awa & Hasegawa., 2017). The TOPSIS

model is "based on negative and positive ideal solutions for the selection of the best alternative" (Tüysüz & Kahraman, 2023). The accuracy of these methods varies depending on the context and problem they are applied to, making each suitable for specific scenarios and domains.

The choice of the most accurate method depends on the nature of the problem and the user's expertise. However, this discrepancy between models makes it difficult to identify the key factors of maritime accidents. Coraddu et al. (2020) emphasized that safety is challenged by the complexity of identifying all variables contributing to maritime accidents and the absence of a standardized investigative methodology for prevention purposes. Kulkarni et al. (2020) revealed that 56% of their sample articles neglect human and organizational factors quantitatively or qualitatively, suggesting a gap in recognizing these elements. They argued for the incorporation of risk management processes in decision-making for shipping prevention in waterway areas.

Maritime accidents, due to their inherent unpredictability, necessitate a reactive approach, which may further lead to human errors. Awal and Hasegawa (2017, p. 298) stressed that these accidents manifest within a complex socio-technical context, often with multifaceted causes that extend beyond singular root causes. Akyuz (2016) highlighted how officers might experience panic during hazardous abandon ship events, leading to stress-induced ambiguity, conflicts, or performance lapses. Lee and Chung (2018) emphasized that crew interaction significantly influences system performance and underscored the implications of lost interaction in contributing to maritime accidents with substantial human, economic, and environmental consequences. Because humans react to experiences, human error needs to be incorporated into accident analysis.

The analysis underscores the necessity to expand the perspective of studying human error beyond personal and systemic approaches (Reason, 2000). The human element in accident

occurrences extends beyond the definition of human factors or ergonomics (IMO, 2020a), as delineated by the International Maritime Organization (IMO, 2015). Incident investigations often disregard this broader conceptualization (Pomeroy & Earthy, 2017), leading to a discrepancy in how accidents are classified.

<div align="center">**Theoretical Foundations**</div>

The term *theory* refers to a conceptual framework that identifies a group of actors and circumstances (such as intervention tactics, outcome variables, and factors other than the intervention that influence the outcome) and hypothesizes correlations and causal linkages between them (Cheldin et al., 2008). Several theories, including those relating to the analysis of culture and interpersonal relationships, interpersonal conflicts, organizational, interpersonal conflicts, task conflicts theory, social identity theory, and system theory, can contribute to comprehending and explaining the issue of seafarers' interpersonal conflicts within a multicultural onboard workplace, as illustrated by the ship. I adopted an inductive approach in this research, examining my empirical evidence before turning to theories that could best elucidate and interpret the findings.

The theories underpinning this study have facilitated an understanding of social conflict, as described by Lee and Yi (2013), as disparities between one individual's opinions and the opinions of others or among different individuals. Yet, it is essential to note that interpersonal conflicts can stem from various causes, such as depression, psychoses, alcoholism, or other mental health issues (Romanov et al., 1996), which are not the primary focus of this study.

The interplay of culture and interpersonal relationship theory, social identity theory, organizational interpersonal and task theory, and system theory can offer a comprehensive grasp of interpersonal conflicts and propose effective strategies to address them. This integration of

theories yields a multifaceted perspective on understanding interpersonal conflicts in diverse contexts, particularly cross-cultural settings and within organizations, including distinct cultures aboard a ship. Recognizing how culture and social identities shape interpersonal dynamics enables the application of suitable conflict resolution approaches. Analyzing organizational conflicts through the lens of systems thinking considers the impact of culture and social identities on group interactions and task-related challenges.

Culture and Interpersonal Relationship Theory

The theory developed around the analysis of culture and interpersonal relationships, as studied by Hofstede (1980, 2002) on cultural values and dimensions (Kirkman et al., 2006), has significantly influenced this research. Initially, Hofstede defined culture as "a collective programming of the mind which distinguishes one group from another" (Roy, 2020, p. 196). Hofstede (1980, 2001) categorized specific identifiers of cultures, such as Power Distance, Individualism vs. Collectivism, Masculinity vs. Femininity, Uncertainty Avoidance, Long-Term Orientation vs. Short-Term Orientation, and Indulgence vs. Restraint. Hofstede's cultural dimensions help us understand how cultures vary in their values and behaviors. These dimensions provide a framework to compare and contrast cultures, revealing the extent to which they prioritize hierarchy, individualism or collectivism, assertiveness or nurturance, tolerance of ambiguity, a focus on long-term goals, and indulgence in life's pleasures. By examining these dimensions, we can identify the cultural attributes that influence interpersonal relationships, communication styles, and conflict-resolution methods in diverse cultural contexts. This understanding is vital for fostering effective cross-cultural interactions and resolving conflicts that may arise due to cultural differences.

Bond and Smith's (1996) categorization of Horizontal and Vertical Individualism and Collectivism and Triandis' (1995) Individualism-Collectivism, as further elaborated by Cingoz-Ulu and Lalonde (2007), have also been relevant to this study because provide valuable insights into how cultural values influence social behavior within various societies, and how the dimensions affect intergroup relations, including cooperation among individuals from diverse culture backgrounds. Therefore, these frameworks offer a lens through which to analyze and comprehend the complexities of multicultural interactions and conflicts.

The multicultural environment onboard often serves as a source of workplace conflicts, leading to a divided opinion among seafarers. Some view multiculturalism positively, while others perceive it as a source of conflict due to cultural disparities (Lu et al., 2012), evaluated through the dimensions proposed by Hofstede and other scholars. These dimensions, known as the original Hofstede's indices, have been examined to assess how globalization and socio-political changes have influenced them (Roy, 2020). Seafarers are a multicultural workforce that converge on the ship and impact her operations positively and negatively. "The term *multiculturalism* has been used to describe both a culturally diverse society and a kind of policy that aims at protecting cultural diversity" (Kuznetsova, 2017).

Ignoring workplace disputes unleashes negative forces that weaken morale, spread the conflict to others, and reduce productivity (Hocker & Wilmot, 2014). To address interpersonal conflicts effectively, understanding the dynamics of conflict in interpersonal relationships, the mechanisms behind conflicts, and methods for managing them is essential. Kordoutis (2004) asserted that interpersonal conflicts emerge from individual needs, challenging the notion that parties cannot acquire conflict management skills. Although there is not a metric that gauges the intricacy of cultural values in group interactions (Karjalainen, 2020), multicultural knowledge is

crucial for comprehending the conflict sources. The theories guiding this research enable a conceptualization of social conflict as differences between an individual's viewpoint and the viewpoints of others (Lee & Yi, 2013). However, a range of factors can contribute to interpersonal conflicts.

There is a prevalent assumption that cultural differences inherently lead to conflict, making culture a causal factor (Avruch, 2006). As Hocker and Wilmot (2014) emphasized, interpersonal relationships extend into workplaces, intertwining work, and private life. The increasing awareness of cultural diversity, a hallmark of onboard crew members, underscores the significance of addressing workplace conflicts to prevent reduced productivity, escalating conflicts, and decreased morale (Hocker & Wilmot, 2014). Additionally, Hall (1966) examined personal space variations across cultures, which are pertinent to the context of cross-cultural communication and understanding. All of these factors can contribute to conflict in the workplace.

In 1978, the IMO, a United Nations institution overseeing maritime safety and pollution prevention, has addressed challenges posed by multicultural crews through the International Convention on Standards of Training, Certification, and Watchkeeping for Seafarers (STCW). This convention aims to ensure seafarers receive proper training and qualifications, including language skills, for safe and secure operations. The emergence of a common language, English, is vital for global communication and cooperation (Hofstede et al., 2010).

Nonetheless, within the controlled environment of a vessel, where crew members follow specific rules and responsibilities, understanding the nature of interpersonal conflicts within a multicultural crew remains essential. This research aims to uncover these conflicts and the perceptions of seafarers regarding their role in them while also exploring their potential

correlation with marine casualties and incidents, moving beyond attributing them solely to human error.

Social Identity Theory

Social identity theory provides valuable insights into the dynamics of interpersonal relationships and group interactions, particularly within the context of multicultural workplaces (Haji et al., 2016). This theory posits that humans possess an inherent, evolutionarily based need for interpersonal connections (Haji et al., 2016). These relationships can foster strong bonds within groups while creating divisions between members and those outside the group. Social identity theory explains the phenomenon of favoritism towards in-group members, where individuals belonging to the same group are often perceived as more trustworthy, honest, and cooperative. In contrast, out-group members may face biases (Chung, 2015).

Social identity theory has its roots in comprehending intergroup relations, conflicts, and cooperation, making it particularly relevant for understanding dynamics in multicultural workplaces and diverse environments (Hogg, 2016). Tajfel and Turner (1979) formulated this theory to understand how self-esteem and behavior are influenced by group affiliations, shaping emotional attachment and knowledge of those groups (Haji et al., 2016). Tajfel (1969) initially sought to explain prejudice, discrimination, and conflicts between different social groups.

Within the context of seafarers working on vessels from various cultural backgrounds, social identity theory can illuminate the complexities of interpersonal relationships. Understanding how individuals identify with their groups and how these affiliations influence their perceptions and behaviors can shed light on how conflicts may arise or be resolved within a diverse crew. This theory can provide insights into favoritism, bias, and cooperation dynamics, contributing to a comprehensive understanding of interpersonal conflicts onboard.

Organizational Interpersonal and Task Conflicts Theory

The theory of organizational interpersonal and task conflicts plays a significant role in understanding the dynamics of conflicts within organizations and work settings, including onboard vessels with multicultural crews. This theory recognizes that conflicts can arise from both interpersonal and task-related factors, impacting individual relationships and collaborative efforts.

Interpersonal conflicts within organizations can stem from role ambiguity, miscommunication, differences in personalities, values, needs, and norms. These conflicts often result from individual incompatibilities, leading to tension and misunderstandings (Chung, 2015). On the other hand, task conflicts arise when there are disagreements regarding work processes, goals, strategies, or resource allocation. These conflicts are centered around differing viewpoints on how tasks should be accomplished, or objectives should be met (Chung, 2015).

Kenneth W. Thomas' research on conflict management styles and the development of the Thomas-Kilmann Conflict Mode Instrument (TKI) are also noteworthy within the context of this theory. The TKI provides a framework for understanding how individuals approach conflicts and choose strategies for resolution (Thomas & Kilmann, 1974, 1976). This tool has been widely used to assess individuals' preferred conflict resolution styles, which can have implications for how interpersonal and task conflicts are managed within organizations, including those within the maritime industry.

Applying the theory of organizational interpersonal and task conflicts to studying seafarers' interpersonal conflicts onboard helps shed light on the potential sources and nature of conflicts among crew members. It offers insights into the role of communication breakdowns,

role expectations, personality differences, and task-related disagreements as factors contributing to conflicts within a multicultural work environment.

Systems Theory

Applying systems theory to studying interpersonal conflicts among seafarers in a multicultural workplace provides a holistic and comprehensive framework for understanding this context's complex dynamics and interconnections. Systems theory focuses on the relationships and interdependencies among elements to achieve a coherent and organized whole (Meadows, 2008). In vessels and maritime operations, the ship functions as a system with various interconnected components, including the crew, equipment, tasks, and communication channels. The "social phenomena must be considered as 'systems' —difficult and at present unsettled as the definition of sociocultural entities may be" (Von Bertalanffy, 1969, p. 7).

Meadows (2008) definition of a system as an interconnected set of elements organized to achieve something is particularly relevant to understanding the interactions and dependencies among seafarers, their roles, and the ship's operation. The relationships between crew members, their behaviors, roles, and communication patterns all contribute to the overall functioning of the vessel. When conflicts arise among crew members, these interconnections can be disrupted, potentially leading to adverse outcomes such as reduced performance, safety risks, and even accidents (Lee & Chung, 2018).

Systems theory allows for dissecting the elements and interconnections within a complex setting, such as a ship, to identify where breakdowns occur and understand their underlying causes. This analytical approach helps researchers and practitioners identify which relationships are disrupted and why conflicts arise. By examining the patterns of interactions, it becomes

possible to propose effective conflict resolution methods that restore reliable connections and relationships within the system.

Furthermore, systems theory emphasizes that the whole is more than the sum of its parts. This perspective is crucial for understanding the intricate web of interactions, influences, and consequences within a multicultural workplace on board a ship. Cultural influences, social identities, and organizational dynamics are interconnected and impact each other in various ways. Integrating these factors into the analysis and resolution of interpersonal conflicts enhances the overall effectiveness of conflict management strategies.

In conclusion, integrating cultural, social, organizational, and systems theories provides a comprehensive and multidimensional approach to understanding and addressing interpersonal conflicts in a multicultural maritime workplace. This approach acknowledges the interconnected nature of elements within a system, recognizes the significance of cultural influences and social identities, and offers a framework for resolving conflicts and maintaining the optimal functioning of the system as a whole.

Chapter 3: Research Methodology

This chapter explains the methodology used to research the seafarers' perceptions about their interpersonal conflicts in a multicultural workplace as underlying causes of the occurrence of human errors that may lead to marine casualties and incidents. For this purpose, discussion about the research design and rationale are included, as well as the worldview or paradigm that will guide this research, the methodology, limitations of the study, validity and reliability, pilot study, data collection, data analysis, research questions, and ethical considerations.

Research Design and Rationale

As Creswell (2014) explained, methodology as a research design is the procedure of inquiring. The researcher will detail the research methods, the data collection, analysis, and interpretation process. The importance of the research design is that the researcher will reach acceptable interpretations of social and political life (King et al., 1994). However, depending on what the purpose of the research is to explore, describe, and/or explain, the researcher will be oriented to select or combine the research method to be used (Robson & McCartan, 2016). This means that the choice of research method in a study depends on the specific goals or purposes of the research. The choice of method is guided by the research´s intended outcomes and objectives.

For this research, the problem under study is the seafarers' perceptions of their interpersonal conflicts in a multicultural workplace as underlying causes of human errors that may lead to marine casualties and incidents. This research will assess the active seafarers' perceptions about their interpersonal conflicts in a multicultural workplace, meaning the ship, to explain the seafarers' view about any correlation between their interpersonal conflicts and the marine casualties and incidents that may occur. The study will combine a descriptive and

inferential non-experimental quantitative approach with a non-interactive thematic analysis qualitative approach.

The philosophical process of knowledge, where the researcher aims to know and understand the problem under study, proposes the researcher consider whether the research method should be quantitative, qualitative, or a mixed-one. As Robson and McCartan (2016) explained, traditionally, social research was done between the two main tendencies: quantitative and qualitative. However, the authors also point out that this issue is primarily based on the researcher's worldview. This study will integrate both the quantitative and the qualitative approach.

One factor to consider when choosing the research design is one's worldview. The researcher uses an ontological and epistemological analysis to define the worldview or paradigm as a philosophical procedure. The first dealt with the existence or nonexistence of objects and the relationships between those that do. In contrast, the latter dealt with knowledge considered acceptable and the methods by which it should be gathered and processed. Ontology investigates the nature of reality, with the central question being, "What is reality?" The primary question in epistemology is, "How can I know the reality?" Epistemology analyzes how the researcher might investigate that reality. Ontology and epistemology combined result in a comprehensive understanding of the issue. The research paradigm refers to this procedure as a whole.

The academics have discussed several worldviews. Positivism ontologically posits the presence of a single reality or truth. It epistemologically declares that knowledge derived from this single reality or truth can be measured using reliable designs and instruments. Post-positivism emerges as a modified kind of positivism. Post-positivism holds that an absolute reality and truth cannot be established. From an ontological standpoint, constructivism advocates

the existence of numerous realities and, epistemologically, the assumption that these realities must be understood to reveal their underlying meaning; it also suggests that researchers visit participants at their sites to collect data. Another set of scholars defends the pragmatist worldview as a paradigm of the worldview, arguing that reality is constantly negotiated, contested, or understood; there are single and numerous realities ontologically. From an epistemological standpoint, pragmatism proposes that any knowledge gathered from reality should be investigated using whichever methods are best suited to address the problem. Creswell (2014) also referred to it as the transformational and pragmatic worldview, given that the researcher will bring certain philosophical assumptions to the study (Creswell, 2014; Creswell & Clark, 2018). The research paradigm or worldview determines the methodology best suited to examine the knowledge of interest to the researcher.

A positivist researcher would choose quantitative social research, whereas a constructivist researcher would prefer qualitative social research. While the first group referred to their research as belonging to the natural sciences, the second group maintained that their research focuses on humans in social settings. The first group also contended that their results would be more accurate if based on statistics, whereas the second group insisted that numbers do not explain human behavior or interactions (Robson & McCartan, 2016). A dispute exists between positivism and constructivism–constructionism (Robson & McCartan, 2016). When post-positivists developed as a new group of scholars as positivist critics, qualitative research was also suggested. The post-positivists include anti-positivism beliefs (O'Leary, 2004, pp. 6–8, as cited in Robson & McCartan, 2016).

The transformative worldview paradigm, as a criticism of the positivist for its inflexible structures and laws that force people or issues of power and social justice, emerges as a new

community of critical theorists and participatory researchers whose agenda is based on actions

for reform that could lead to a change in the participants' lives, to let people feel less

marginalized, the transformative researcher seeks to improve society (Creswell, 2014; Creswell

& Clark, 2018). The pragmatic or realistic paradigm worldview arises from actions, behaviors,

circumstances, and consequences rather than antecedent conditions and is generally associated

with mixed methods research (Creswell, 2014; Creswell & Clark, 2018).

The above analysis and evaluation helped the researcher realize the researcher's

philosophical view of the world and the paradigm upon which to orient the study and determine

the research design and specific method. The researcher's worldview serves as the framework to

select if the study will be qualitative, quantitative, or mixed, but then, the researcher shall decide

the type of study (Creswell, 2014; Creswell & Clark, 2018) or what is called by others as

strategies of inquiry (Denzin & Lincoln, 2011, as cited by Creswell, 2014).

Initially, whether the chosen research method should be quantitative, qualitative, or a

combination of the two was determined. As Robson and McCartan (2016) described, social

research is usually conducted using quantitative or qualitative methods. The authors reiterated

that the orientation of this issue depends on the researcher's worldview. The perspective on the

world influences the choice of research design.

As shown in Table 1, the worldviews used in research proposed by Creswell and Clark

(2011, p. 40), then updated by Creswell (2014) as worldviews, and in the last version as

worldviews used in mixed methods research (Creswell & Clark, 2018, p. 36) facilitate the

comprehension of the significant worldviews addressed previously.

Table 1

Four Worldviews

Postpositivism	Constructivism
• Determination • Reductionism • Empirical observation and measurement • Theory verification	• Understanding • Multiple participant meanings • Social and historical construction • Theory generation
Transformative	Pragmatism
• Political and activist • Empowerment, human rights, social justice-oriented • Collaborative • Change, emancipatory oriented	• Consequences of actions • Problem centered • Pluralistic • Real-world practice-oriented

Table 2 presents alternate research designs (paradigms) and methods with the summaries

provided by Creswell (2014) and Khaldi (2017).

Table 2

Alternative Research Design

Research Paradigm	Research Design	Research Study
Quantitative	Experimental	• True experimental • Quasi-experimental • Single subject
	Non Experimental	• Descriptive • Comparative • Correlational • Secondary data • Survey • Ex post facto
Qualitative	Interactive	• Narrative • Phenomenology • Ground theory • Ethnography • Case study • Critical studies
	Non interactive	• Content analysis • Historical analysis •

Research Paradigm	Research Design	Research Study
Mixed Method		• Descriptive • Explanatory • Exploratory • Convergent • Transformative • Embedded • Multiphase

The methods mentioned above were evaluated to determine the methodology to investigate the seafarers' perceptions about their interpersonal conflicts in a multicultural workplace as underlying causes of the occurrence of human errors that may lead to marine casualties and incidents.

Due to the characteristics of the problem under investigation, the researcher considered the pragmatism worldview because it allows the researcher "to choose the methods, techniques, and procedures of research that best meet their needs and purposes" and "opens the door to multiple methods, different worldviews, and different assumptions, as well as various forms of data collection and analysis" (Creswell, 2014, p. 11). "It is pluralistic and oriented toward 'what works' and real-world practice." (Creswell & Clark, 2018, p. 27). Also, as previously established, pragmatism proposes that reality is constantly negotiated, argued, or interpreted; there are both single and numerous realities. From an epistemological standpoint, pragmatism proposes that any knowledge gathered from reality should be investigated using whichever methods are best suited to address the problem.

To accomplish the design, the researcher created a questionnaire that will be explained later in this chapter. Quantitative and qualitative data were collected through a series of closed and open-ended questions provided in the questionnaire. The first is for descriptive and inferential statistical analysis for the non-experimental quantitative approach of the study, and

the second allows the participant to offer free-form responses for the non-interactive thematic analysis qualitative approach, "a generic approach not necessarily linked to a particular (or any) theoretical perspective" (Robson & McCartan, 2016). Through this qualitative thematic analysis, the researcher was able to gain a deeper understanding of the quantitative data provided by the respondent at the time of questionnaire completion.

Understanding the phenomenon from the perspective of those who have experienced or are experiencing it can allow the researcher to comprehend the identical phenomenon observed by multiple people (Giorgi, 2009, as cited by Creswell & Clark, 2018; Moustakas, 1994, as cited by Creswell & Clark, 2018; Wimpenn & Gass, 2000). As mentioned above, combining a quantitative and qualitative method serves the researcher's primary objective of gaining a deeper understanding of the subject under investigation. The researcher gained a deeper understanding of the perceptions of seafarers regarding their interpersonal conflicts in a multicultural workplace as leading causes of human errors that might result in marine casualties and incidents.

Quantitative and Qualitative Methodology

This study has been developed by combining a descriptive and inferential non-experimental quantitative approach with a non-interactive thematic analysis qualitative approach. Schoonenboom and Johnson (2017) stated that said strategy allows the researcher to include both quantitative and qualitative research methods to have a broader and deeper understanding of the topic under study and to strengthen the research study's conclusions. This research has been guided by keeping the above two approaches as the overarching strategy or perspective to serve as the overall framework and perspective for the study.

The researcher selected the survey research as the research method. This method involves collecting data from a group of respondents through a survey (questionnaire) developed by the

researcher (see Appendix B: SeafarersResearch – Questionnaire). Through this survey research method, specifically through the questionnaire, the researcher designed a set of close-ended and open-ended questions to collect quantitative and qualitative data based on the research objectives.

Quantitative Methodology

The survey's primary purpose as a research design was to collect quantitative and qualitative data from the study sample. The quantitative data collected through the questionnaire enables the researcher to describe the population and make inferences about it. An objectivity paradigm is a foundation for a quantitative research approach, which also uses numerical data and statistical analysis and helps reduce biases. Quantitative data analysis will employ computational techniques to manipulate statistical data that has previously been collected via surveys and questionnaires constitutes. It allows the researcher to make descriptive and inferential statistical analyses of it (for more details on this topic, please see the discussion in Chapter 4). The quantitative survey design for this study is not experimental, as the researcher has not intervened to control any of the variables under investigation or the participants who may influence the results (Creswell, 2014). Additionally, this study is non-experimental because independent variables are not manipulated.

The Survey

The researcher designed an online survey (questionnaire) included in Appendix B: SeafarersResearch - Questionnaire. The questionnaire included closed-ended and open-ended questions. The first group of questions is to collect quantitative data, and the second is to collect qualitative data, whose purpose will be described later in this chapter. As can be seen from

Appendix B: SeafarersResearch – Questionnaire, the survey was divided into two sections: Introduction and Questionnaire.

Introduction. The introduction of the online survey served three purposes: 1) to introduce the researcher, the university, and the topic under study; 2) to make it clear that participation was voluntary; and 3) to clarify to respondents that responses would be anonymous, and any information gathered would be treated confidentially. In this part, the participant was also informed about the procedure followed to protect the participant's privacy, as well as how the collected data would be handled and securely stored by the researcher. They were also informed that the data collected would be accessible to the researcher, the Institutional Review Board and other representatives of this institution, and any funding agencies, which does not apply to this research. The participants were also informed that once the data collection was completed, the researcher would retain all data for future investigations and destroy it when deemed no longer relevant. The participant was then required to click the "I AGREE" button if they accepted the survey's terms and wished to continue to respond to the questionnaire; otherwise, they could just close the web page.

Figure 1

Questionnaire - I Agreed

Note: From SeafarersResearch – Questionnaire. Retrieved from https://seafarersresearch.com

The Questionnaire. Once the participants pressed the button to express their agreement, the online survey automatically took them to the questionnaire. Then the participants provided the date when the questionnaire was completed. The questionnaire was divided into three parts.

Part I – General Information. This section aimed to select the participants of interest for the research and gather general information associated with the participants' experience. The first question determined if the participant was a current seafarer. If the answer was negative, a second question was asked automatically to verify if the participant had previously worked as a seafarer onboard a vessel. If the participant responded negatively to Questions 1 and 2, they were automatically directed to the page shown in Figure 2 – Questionnaire – Thanking Page below to thank them for participating and invite them to "Submit" the responses.

An affirmative response to Question 1 or having responded negatively to it, then being answered affirmative Question 2, the participant would be directed automatically to the following questions of this section, after pressing the bottom next. Questions 3 and 4 referred to the participants' experience as a seafarer. Question 5 asked if participants perceived that the interpersonal conflicts among the seafarers aboard may have any relationship with the human errors reported as the causes of marine casualties and accidents. Further comments will be made later in this chapter regarding the open-ended qualitative question in this questionnaire section, linked with Question 5.

Questions 6 and 7 in this section served to gather associated information to the participant's experience but related to the participant's rank onboard, vessel department, type of vessel, flag, length (mts), and gross tonnage, time aboard on participant's most recent voyage, and time onboard working altogether in the vessel at the time of responding the questionnaire, and finally the number of crewmembers onboard including the participant.

Part II – Demographic Information. The demographical composition of the sample was described through questions 8 to 14, both inclusive. The participants were asked about their country of birth, nationality, age, sex, marital status, race/ethnicity, and religion.

Part III – Interpersonal Conflicts. This part was initiated by providing the participant with the following definition of interpersonal conflict: *Interpersonal conflict is defined as an expressed strong disagreement with high emotion between two or more people and interferes with their need to work together to accomplish tasks and goals. The conflict interaction is usually verbal and, on occasion, might be physical. Said definition was provided* to facilitate the participants' understanding of what interpersonal conflicts were referred to for the purpose of the study.

Then, Questions 15 to 28 asked the participants a series of questions to gather their perceptions/opinions about interpersonal conflicts, multiculturality, human errors, marine casualties and incidents, and frequency and intensity of interpersonal conflicts onboard a vessel.

Questions 15, 16, and 17 addressed what main interpersonal conflicts the participants observed on board and what their perceptions and opinions are about the positive, negative, or not-at-all impact of those interpersonal conflicts on the daily operation of the vessel, and if they perceive that those interpersonal conflicts can cause marine casualties and incidents.

Question 18 served to provide the participant with the following definition of culture: "The customary beliefs, social forms, and material traits of a racial, religious, or social group" that includes but is not limited to language, religion, cuisine, or social habits. It then gathered the participants' opinions over the following five statements using a 5-point Likert scale, ranging from strongly agreed to strongly disagree:

- Interpersonal conflicts are influenced by cultural differences.

- As the number of crew members from different cultures increases, the chances of interpersonal conflicts on board are greater.

- Interpersonal conflicts caused by cultural differences are difficult to resolve.

- Some interpersonal conflicts on board due to cultural differences cause marine casualties or incidents.

- Interpersonal conflicts on board are not influenced by cultural differences.

Questions 19 and 20 asked the participants to provide the nationalities and number of seafarers on the ship for which they were working when responding to the questionnaire (Question 19 – current seafarers) or for which they worked last time (Question 20 – former seafarers). Question 21 asked participants to provide their opinion about multiculturality's positive, negative, or not-at-all impact on board over the vessel's daily operation. Questions 22 and 23 asked participants about their perceptions of interpersonal conflicts among the seafarers and multiculturality on board the vessel as sources of human errors while performing the work. Question 24 asked participants about their perception of multiculturality as a source of interpersonal conflicts. Question 25 asked participants who responded YES to Question 24 if the interpersonal, multicultural conflicts onboard can contribute to the occurrence of marine casualties and incidents. Questions 26 and 27 determined participants' perceptions of whether fewer or more days on board can influence the frequency and intensity of interpersonal conflicts among seafarers.

Further comments will be made later in this chapter regarding the open-ended qualitative questions that were made in this section of the questionnaire, linked with questions 15, 16, 17, 21, 22, 23, 24, 25, 26, 27, and 28.

Figure 2

Questionnaire - Thanking

Population

Given that this study aims to investigate the seafarers' perceptions of interpersonal conflicts in a multicultural workplace as root causes of human errors that can result in marine casualties and incidents, the researcher must determine the appropriate sample size. Because of this, it is essential to know the population from which the sample will be gathered.

Even though this research is focused on active seafarers working for international cargo transportation, during the development of the questionnaire, the researcher considered the possibility of collecting data from any seafarer, regardless of whether they were active or retired, as well as the type of ship for which they were working or had worked, as none of these situations fundamentally limited the researcher's interest in obtaining the opinion of the largest number of seafarers concerning the purpose of this study. It is important to remember that this study aims to determine whether active seafarers perceive a connection between their

interpersonal conflicts on board in a multicultural workplace and the occurrence of marine

casualties and incidents attributed to human error. The researcher wants to know if, in the

opinion of the active seafarers, some of these human errors have a connection, origin, or can be

attributed to the interpersonal conflicts that may arise on board.

Additionally, this research has been a long-run thought that started long before the data

collection, which will be commented on later in this chapter. At the time of the approval received

from the Institutional Review Board (IRB) of Nova Southeastern University, Halmos College of

Arts and Science, on October 22, 2021 (See Appendix C), the world was confronting the

COVID-19 pandemic. A chronological summary of the Covid-19 pandemic, including relevant

events impacting the maritime industry (CNN health, June 20, 2022) is detailed in Appendix B.

With this scenario, the statistical information for the seafarers' population size was obtained

from the "Manpower Report – The global supply and demand for seafarers in 2015" published

by the Baltic & International Maritime Council (BIMCO) and the International Chamber of

Shipping (ICS; 2020). This report states, "The worldwide population of seafarers serving on

internationally trading merchant ships is estimated at 1,647,500 seafarers, of which 774,000 are

officers, and 873,500 are ratings." The statistics mentioned above were corroborated via

statistical information obtained from the United Nations Conference on Trade and Development

(UNTACD STAT; Tank & Bhattacharya, 2021). Even though the reliability and accuracy of the

data have been questioned, these combined methods seem to provide the most accurate account

of seafarers (Tang & Bhattacharya, 2021). In Table 3, the researcher has stratified the seafarers

supply by country and rank (officer and rating; BIMCO & ICS, 2015).

Table 3

Seafarers Supply by Country - Quinquennial 2015

COUNTRY	Total	%	Officers	%	Ratings	%
China	243,635	14.79%	101,600	13.13%	142,035	16.26%
Philippines	215,500	13.08%	72,500	9.37%	143,000	16.37%
Indonesia	143,702	8.72%	51,237	6.62%	92,465	10.59%
Russian Federation	97,061	5.89%	47,972	6.20%	49,089	5.62%
India	86,084	5.23%	69,908	9.03%	16,176	1.85%
Subtotal (1)	**785,982**	**47.71%**	**343,217**	**44.35%**	**442,765**	**50.69%**
Ukraine	69,000	4.19%	39,000	5.04%	30,000	3.43%
Turkey	38,985	2.37%	18,568	2.40%	20,417	2.34%
Malaysia	35,000	2.12%	6,313	0.82%	28,687	3.28%
Italy	34,486	2.09%	12,988	1.68%	21,498	2.46%
Norway	33,701	2.05%	14,768	1.91%	18,933	2.17%
Subtotal (2) (including 1)	**997,155**	**60.53%**	**434,854**	**56.19%**	**562,300**	**64.37%**
Bulgaria	33,269	2.02%	10,890	1.41%	22,379	2.56%
United States of America	33,218	2.02%	18,330	2.37%	14,888	1.70%
Viet Nam	32,445	1.97%	19,630	2.54%	12,815	1.47%
Poland	32,189	1.95%	25,586	3.31%	6,603	0.76%
Brazil	28,746	1.74%	10,526	1.36%	18,220	2.09%
Korea, Republic of	28,168	1.71%	14,126	1.83%	14,042	1.61%
Croatia	27,246	1.65%	17,183	2.22%	10,063	1.15%
Myanmar	26,041	1.58%	11,230	1.45%	14,811	1.70%
Japan	25,458	1.55%	19,119	2.47%	6,339	0.73%
Panama	25,141	1.53%	14,022	1.81%	11,119	1.27%
Subtotal (3) (including 1 & 2)	**1,289,076**	**78.24%**	**595,496**	**76.94%**	**693,579**	**79.40%**
Other	**358,419**	**21.76%**	**178,453**	**23.06%**	**179,966**	**20.60%**
World	**1,647,495**	**100.00%**	**773,949**	**100.00%**	**873,545**	**100.00%**

Note: Compiled from BIMCO & ICS (2015). Manpower report.

Figure 3 shows the first ten countries supplying seafarers to the international shipping cargo market, representing 61% of the total seafarers' supply.

Figure 3

First Ten Countries Supplying Seafarers - 2015
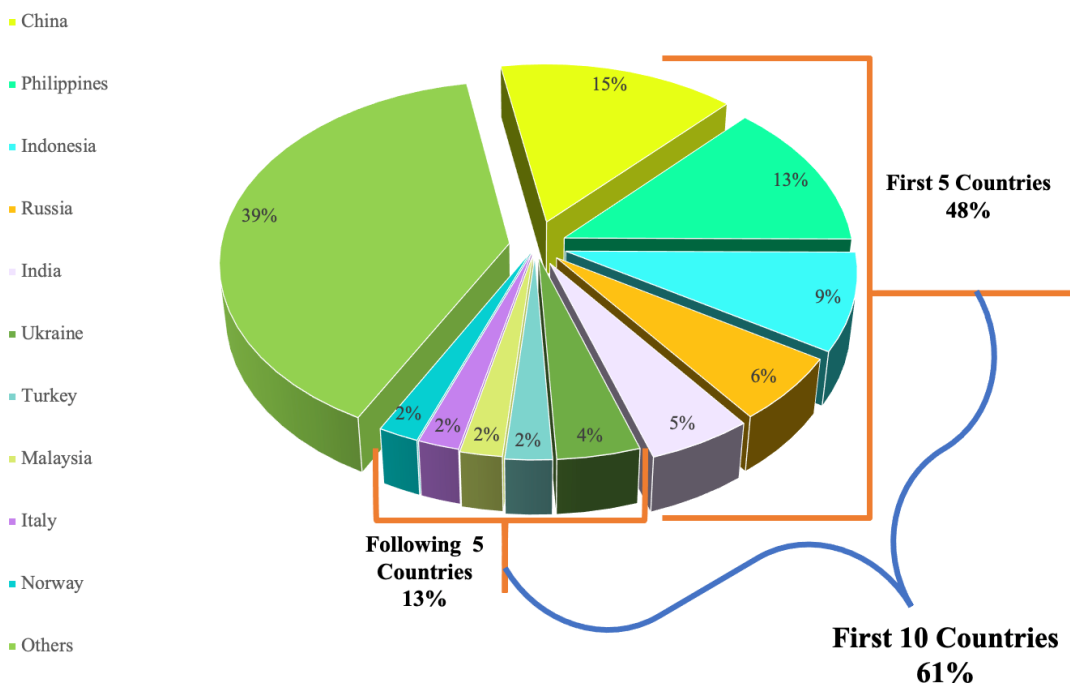
As shown in Figure 3 above, China, the Philippines, Indonesia, the Russian Federation, and India are the five leading countries and represent 48% of the total population of seafarers provided to the market. Ukraine, Turkey, Malaysia, Italy, and Norway, the following five, provide 13% of the population of seafarers to the market, while the rest of the world provides 39%.

Figure 4 shows how the population of seafarers in those countries was distributed between officers and ratings.

Figure 4

First Ten Countries Supplying Seafarers - 2015 by Rank: Officers and Ratings
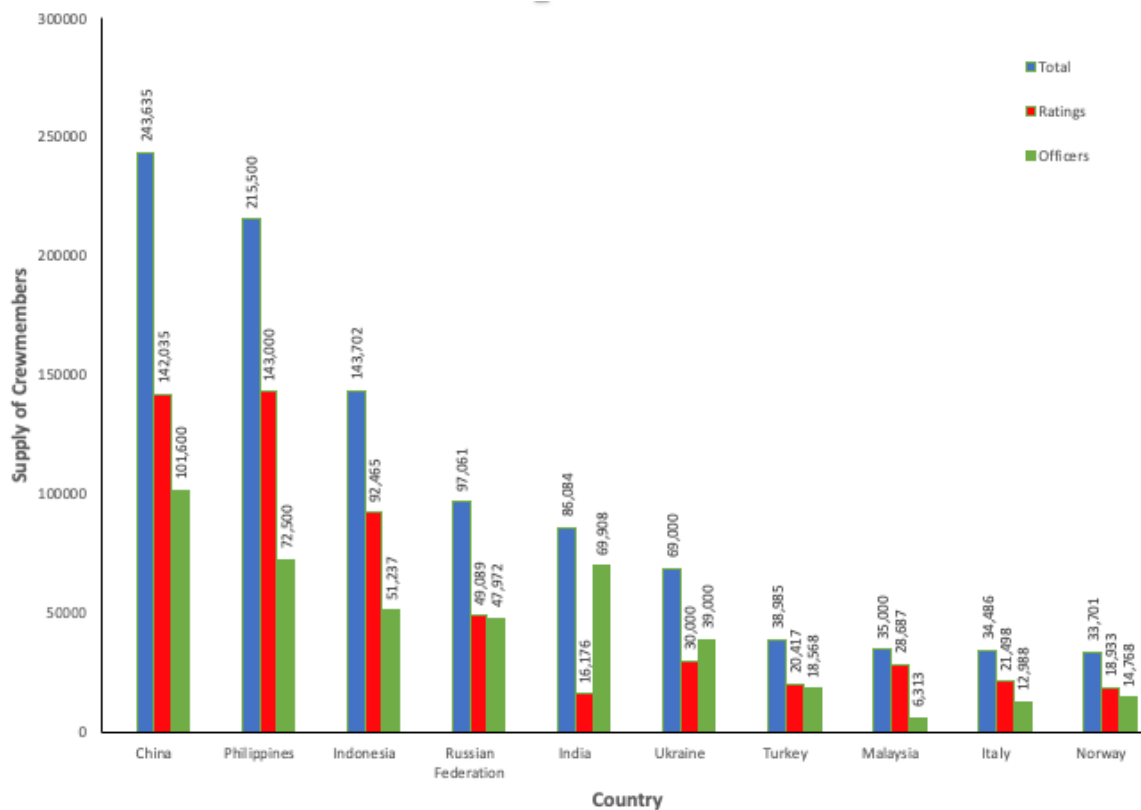
The Seafarer Manpower Report, mentioned above, "was withdrawn in June 2021 and replaced by the Seafarers Workforce Report 2021" (Srinivasan, 2021). This new report was launched on July 28, 2021, but it was impossible to get a copy at the time of concluding this study. However, as per an analysis report published by BIMCO and retrieved from their web page (Srinivasan, 2021) as well as from the data commented about this report by the ICS (2020), the researcher calculated that said report estimated 1.89 million seafarers operated over 74,000 vessels in the global merchant fleet in 2021. The population of seafarers grew by 14.55% compared to the population of seafarers in 2015, which means the total of seafarers increased from 1,647,495 in 2015 to 1,887,205 in 2021. The source also indicates that the population of

officers has increased by 10.8%. This means that the number of officers increased from 773,949

officers in 2015 to 857,535 officers in 2021. This means that in 2021, there were an estimated

1,029,596 ratings, which represented a growth of 17.86% from 2015 (see Table 4).

Table 4

Seafarers Supply by Rank - Quinquennial 2015 - 2021

Rank	2005	2010	2015	2021
Officers	466,000	624,000	774,000	857,500
Ratings	721,000	747,000	873,500	1,030,000
Total	1,187,000	1,371,000	1,647,500	1,887,500

Figure 5 below shows the seafarers' supply by rank for the quinquennial 2015 – 2021

(BIMCO/ICS, 2021; Srinivasan, 2021).

Figure 5

Seafarers supply by rank - quinquennial 2015 - 2021
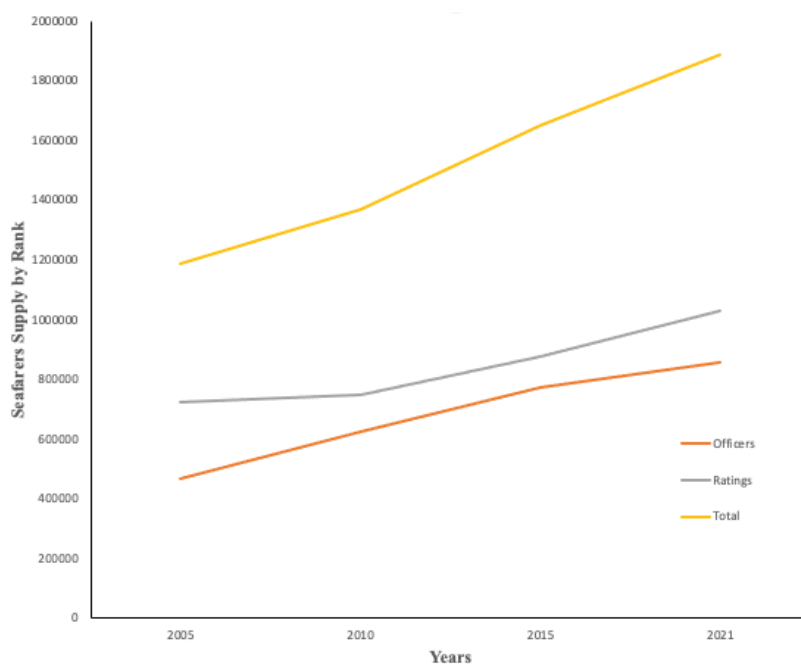
As already mentioned, it has not been possible to review the last report issued by BIMCO/ICS (2021) to check if any reduction was estimated or adjusted to the worldwide seafarers' population due to the COVID-19 pandemic. Also, for 2022 it will be necessary to adjust the global population of seafarers considering the impact of the Russian and Ukrainian war beginning on February 24, 2022. Together, they add 14.6% of the total of seafarers (i.e., 269,775 seafarers; 198,123 or 10.5% Russian and 76,441 or 4.1% Ukrainian; Hellenic Shipping News Worldwide, 2022), a summary of which is shown in Table 5.

Table 5

Russian and Ukrainian Seafarers Supply 2021

RANK	Russian	Ukrainian	Total
Officers	71,652	47,058	118,710
Ratings	126,471	29,383	155,854
Total	198,123	76,441	274,564

Working with the data obtained from the Hellenic Shipping News Worldwide (2022), Figure 6 shows the Russian and Ukrainian seafarers' supply by rank for 2021 and compares it with the rest of the world.

Figure 6

Russian and Ukrainian Seafarers Supply and Rest of the World - 2021

Rank	Russian	Ukrainian	Rest of the World	Total
Officers	71,652	47,058	738,790	857,500
Ratings	126,471	29,383	874,146	1,030,000
Total	198,123	76,441	1,612,936	1,887,500
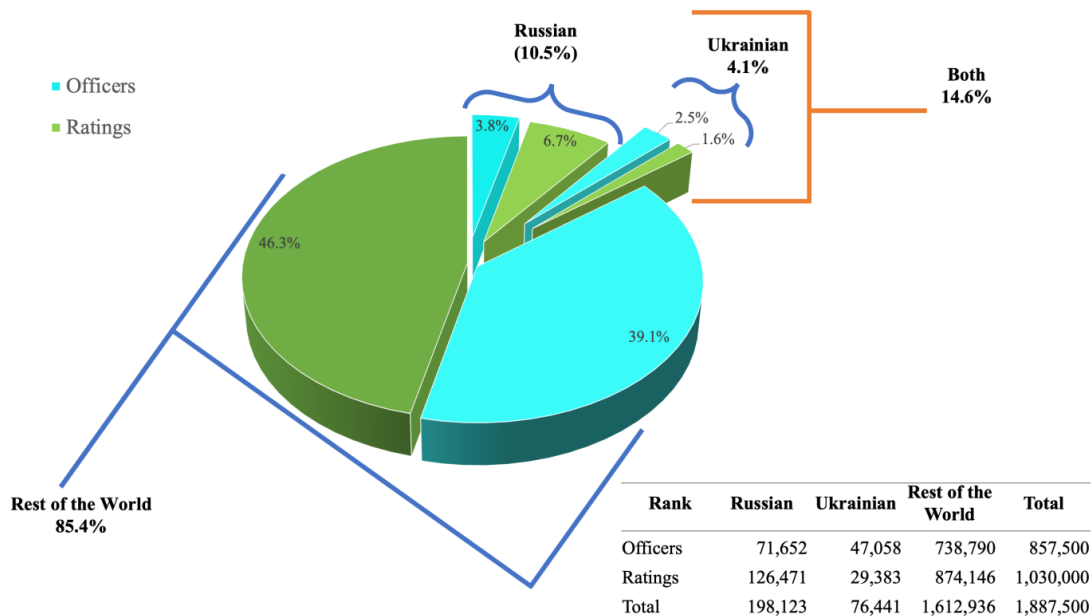
Note: Data obtained from Hellenic Shipping News Worldwide (2022)

Sample and Sample Procedure

As a set of individuals selected from the population, the sample intends to represent the population in a research study and is defined as a section of the population (Gravetter & Wallnau, 2013). Even though the sampling procedure will involve sampling of convenience, the researcher's intention always was to have a sample representing the population. The probability of random sampling was based on purposive sampling. For said reason, the survey (questionnaire) used for the collection of data includes independent variables such as country of birth, nationality, sex, rank, and type of vessel, among others, which served to verify if the population's clusters were replicated in the sample, through homogeneous sampling sub-groups that are more homogeneous with the population (Etikan & Bala, 2017).

Additionally, the population for this research has, among others, a particular characteristic: mobility (Tang & Bhattacharya, 2021). The statistics report the total of seafarers supplied by country in any specific year, but it is unknown where those seafarers are at the time of sampling because working in international shipping in a multicultural workplace means the seafarers can be anywhere in the world, whether they are on board a ship loading or unloading, at anchor waiting to load or set sail, sailing between service ports, in dry dock for vessel repairs, in any international airport returning home or traveling to be embarked to a vessel, or at home waiting to be re-embarked or because they are already retired.

Given the size of the population, a bigger sample size is recommended. However, a significantly greater sample size has unfavorable logistical effects. According to Cochran's (1977) explanation of the usual definition of representative sample size, 10% of the population would be needed. Collecting data from such a significant sample size would take a long time. Additionally, the researcher would need more sophisticated computational tools not currently available to analyze such a large sample set. Faul et al. (2007, 2009) stated that the G*power strategy is an alternative method for choosing an acceptable sample size. The G*power technique can be applied in cases where the population size is either unknown or exceedingly high, making effective sampling impractical. It also does not require estimation.

To establish the minimal sample size required for the inquiry, an a priori power analysis was carried out using G*Power. The significance threshold, effect size, test power, and statistical methodology were all taken into consideration during the power analysis. The risk of rejecting a null hypothesis while assuming its truth is the significance level, often known as Type I error (Haas, 2012). Because it effectively produces adequate statistical evidence for a test, most quantitative studies employ a 95% confidence level (Creswell & Poth, 2017). The estimated

measurement of the relationship between the variables under study is referred to as "effect size"

(Cohen, 1988). Cohen (1988) divided the effect size into small, medium, and massive groups.

According to Berger et al. (2013), a medium effect size is preferred since it strikes a balance

between being extremely strict (small) and too forgiving (large). The likelihood that a null

hypothesis will be appropriately rejected is known as the test's power (Sullivan & Feinn, 2012).

It is typical for quantitative research to have 80% power (Sullivan, & Feinn, 2012). Multiple

regression, Pearson correlations, and binomial logistic regression will be utilized in this study. At

least 55 individuals are needed for multiple regression to detect a medium sample size at the 5%

significance level with 80% power (see Figure 7), and 84 participants are required for Pearson

correlations (see Figure 8).

Figure 7

G*Power Sample Size Calculation for Multiple Regression
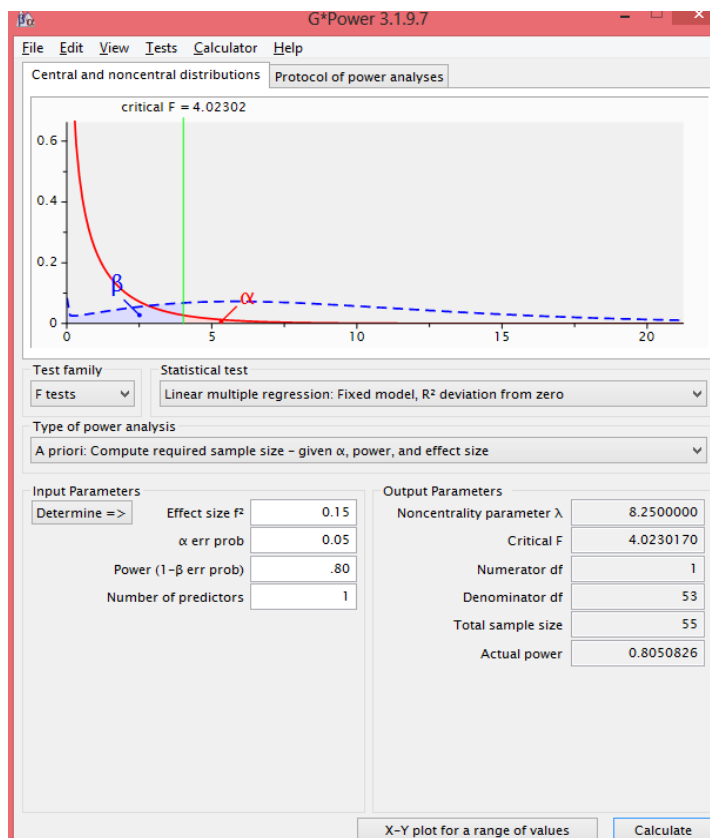
Figure 8

G*Power Sample Size Calculation for Pearson Correlations
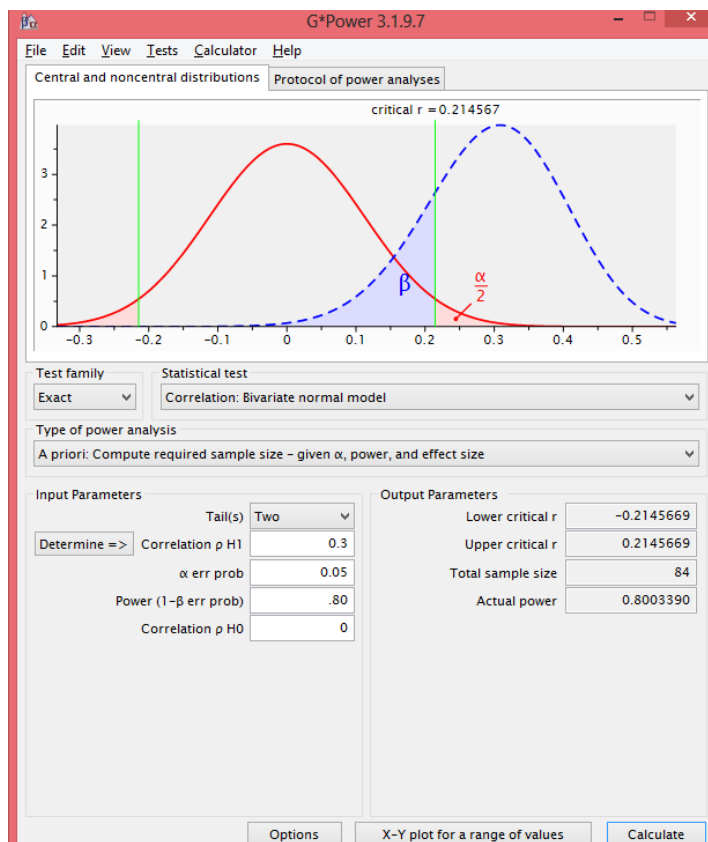
Knowing the predicted odds ratio (effect size), the proportion of observations in each group of the dependent variable and the distribution of each independent variable before calculating the minimal sample size for logistic regression is necessary (Faul et al., 2009). Using an estimate to choose the right sample size if these are unknown is recommended. Based on Chinn's (2000) classification of effect sizes into small (OR = 1.44), medium (OR = 2.47), and big (OR = 4.25), the minimal sample size was calculated using G*Power using a medium effect size of OR = 2.47. Binary logistic regression requires a minimum sample size of at least 72 participants to detect a middle effect size of OR = 2.47, at the 5% significance level, with 80% power (Figure 9).

Figure 9

G*Power Sample Size Calculation for Binary Logistic Regression
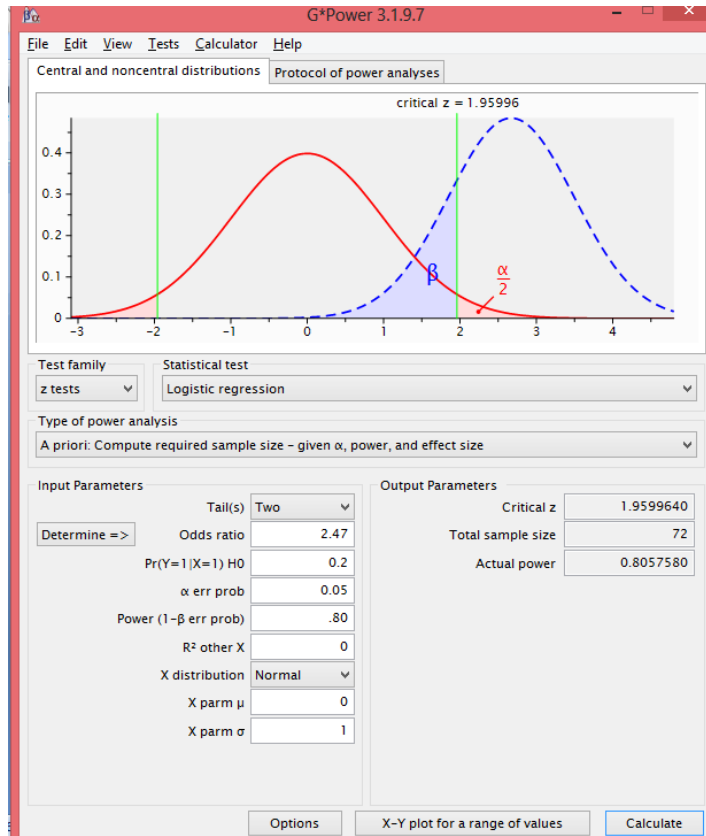
Pearson correlations require the largest sample size (84). Thus, a sample size of at least 84 participants would satisfy all three minimum sample size requirements. To account for missing data that may arise due to attrition, a sample of at least 100 participants will be sought. In this way, at least 80% statistical power will be achieved.

Hypotheses

The following hypotheses will be tested for statistical significance.

H_10: National culture is not a predictor of interpersonal conflicts onboard a vessel, controlling for demographic variables.

H_11: National culture is a predictor of interpersonal conflicts onboard a vessel, controlling for demographic variables.

H_20: There is no correlation between the number of days of duration of the voyage and the number of interpersonal conflicts.

H_21: There is a correlation between the number of days of the voyage and the number of interpersonal conflicts.

H_30: There is no a prediction between the interpersonal conflicts among crewmembers onboard and the occurrence of marine casualties and incidents.

H_31: There is a prediction between the interpersonal conflicts between or among crewmembers onboard and the occurrence of marine casualties and incidents.

Qualitative Methodology

Qualitative methods involve collecting data from participants in their natural settings centered around open-ended questions taken in the natural environment. The online survey (questionnaire) designed by the researcher (Appendix B: SeafarersResearch – Questionnaire), as described above in this chapter when referring to the Quantitative Methodology, also included open-ended questions to collect qualitative data from the study sample, allowing the researcher to understand better the quantitative data collected from the participants.

The qualitative data collected by the researcher will be analyzed and interpreted by the researcher using the thematic analysis method, which systematically analyzes and interprets the thematic of texts extracted from the questionnaire open-ended questions responded to by the participants, identifying themes, patterns, or meanings in the data (for more details on this topic, please see the discussion in Chapter 4). Additionally, this study is a non-interactive qualitative approach because the researcher has maintained no direct contact with the participants; their responses have been given using the online questionnaire developed by the researcher.

The open-ended qualitative questions were linked to the following quantitative questions.

Question 5: If the participant responded affirmatively to this question, they were asked to describe "Why" and "How" they perceived that the interpersonal conflicts among the seafarers aboard may have any relationship with the human errors that are reported as the causes of marine casualties and accidents. If their answer to Question 5 was negative, the participant was asked to provide further comments about "Why not."

The main qualitative questions were made under Part III – Interpersonal Conflicts of the survey.

Questions 15: The participants were requested to list in order of importance the main interpersonal conflicts they observed aboard and what they believe are the "Causes" of said interpersonal conflicts.

Question 16: Participants were asked if they perceived that the interpersonal conflicts, they listed in Question 15 impacted positively, negatively, or not at all the daily operation of the vessel. The participants were asked to provide further comments on the "Why" of their answer.

Question 17: Participants were asked if they perceived that those interpersonal conflicts can cause marine casualties and incidents. If their answer was "Yes," they were asked to respond "Why," but if their response was "No," they were asked to respond, "Why not."

Questions 21: Participants were asked if they perceived that multiculturality onboard impacts the daily operation of their vessel (given three possible answers: positive, negative, and not at all). The participants were asked to provide further comments on the "Why" of their response.

Question 22: If participants answered "Yes," they perceived that the multiculturality on board the vessel is a source of human errors while performing the work, they were asked to respond "Why." If their answers were "No," they were asked to respond, "Why not."

Question 23: Participants were asked if they perceived that the interpersonal conflicts among the seafarers on board the vessel were a source of human errors while performing their work. If their answers were "Yes," they were asked to respond "Why," but if their answers were "No," they were asked to respond, "Why not."

Question 24: Participants were asked if they perceived that the multiculturality on board the vessels is a source of interpersonal conflicts among the seafarers on board. If their answers were "Yes," they were asked to respond "Why," but if their answers were "No," they were asked to respond, "Why not."

Question 25: This question was asked if question 24 was responded affirmatively. The participants were asked if they perceive that those interpersonal conflicts can contribute to marine casualties or incidents? If their answers were "Yes," they were asked to respond "Why," but if their answers were "No," they were asked to respond, "Why not."

Questions 26 and 27: The participants were asked Questions 26 and 27 to determine their perceptions if fewer or more days on board can influence the frequency and intensity of interpersonal conflicts among seafarers. Then, they were asked "Why" for each response.

Question 28: This question invited the participant to share any particular experience where an interpersonal conflict between two or more seafarers on board could have contributed to a marine casualty or incident.

Interviews (Conversations)

The researcher initially proposed to conduct semi-structured interviews or conversations with participants to be chosen or selected purposively or conveniently. The participants could provide additional insights through interactive qualitative information for qualitative thematic

analysis. Doing so would allow the researcher to better understand the quantitative and qualitative data collected through the survey.

However, apart from the conversations and interviews held during the pilot study phase to be discussed later in this chapter, once the online survey (questionnaire) was launched, it was not possible to have any interview or conversation with an active seafarer despite the innumerable invitations sent for that purpose, as well as personal visits made by the researcher to different vessels, conferences, and meetings. The main limitation during the data collection phase was the Covid-19 disease. The crewmembers were instructed not to meet with anyone outside the vessel to guarantee their health on board, even with the researcher's limited access to some vessels. The researcher also sent invitations to have online meetings using the Zoom platform, and no positive responses were received.

Due to said situation, the researcher focused the data collection on the online questionnaire for its corresponding qualitative and quantitative analysis, to be discussed further in Chapter 4.

Limitations of the Study

The limitations of the present research make it of great importance and interest and offer the researcher a series of challenges. Typical limitations found in social science research are not absent in the present research. Those limitations are essentially associated with the sample selection and access because the population is very diverse due to their multiculturality and country of origin. Even though it has been estimated that there is a population of around 1,650,000 seafarers, the initial sample to be gathered should be around 385 seafarers, which seemed a low and manageable number.

Still, it is known how complicated it is to get questionnaires responded to by unknown researchers, primarily when related to critical issues like interpersonal conflicts at the workplace that may be associated with human errors that cause marine casualties and incidents.

Also, even though several studies related to marine casualties and incidents were reviewed, which were discussed in the literature review in Chapter 2, what we have seen directly referring to the topic of interest for the present research is very little or almost nothing, which shows the gap in the literature (Cao et al., 2023).

Limitations to data access, as well as time constraints, were confronted. A particular restriction was encountered during the data collection due to the COVID-19 pandemic. The researcher tried to visit different vessels at port to talk with the seafarers, not only to invite them to respond to the questionnaire but also to hold some interviews with them. However, the Covid-19 pandemic makes it almost impossible to access the crew members. The researcher could only board four vessels that, for confidential reasons, are not identified in this research. During said visits, the researcher was only able to talk to a few seafarers, who offered to pass the questionnaires to the rest of the crewmembers but were unwilling to have formal interviews.

Another limitation, also associated with the mobility of active seafarers worldwide, is the lack of internet onboard for the seafarers' personal use. This limitation makes the data collection very slow and time-consuming, sometimes very frustrating for the researcher who should wait long periods for few responses, despite the innumerable invitations sent, as will be discussed later in this Chapter.

Validity and Reliability

Validity and reliability are essential qualities that inspire confidence in the research process, assuring that the chosen data collection instrument performs effectively and minimizes measurement errors (Field, 2018).

Validity

Validity is defined as "whether an instrument measures what it sets out to measure" (Field, 2018). There are two categories of validity: internal validity and external validity. External validity is the extent to which the study results can apply to the entire population. External validity issues arise in convenience sampling studies (Etikan & Bala, 2017). Studies that use purposive sampling could have problems extrapolating their results to larger populations of interest (Etikan & Bala, 2017). This study is exclusive to the seafarer community and cannot be applied to other populations.

The validity of the conclusions within the research investigation is referred to as internal validity.

Reliability

Reliability defines "whether an instrument can be interpreted consistently across different situations" (Field, 2018). For quantitative researchers, testing hypotheses might pose risks to the reliability of interpretation. In quantitative research, null hypotheses may either be rejected or not rejected (Martin & Bridgmon, 2012). Because Type I errors require rejecting a true null hypothesis, they threaten definitive results for quantitative researchers (Ibrahim et al., 2013).

The tool's accuracy used to measure a study's constructs is referred to as reliability (Heale & Twycross, 2015). Reliability determines how well a scale's items measure the same underlying dimension (George & Mallery, 2016).

The suggested non-experimental quantitative research questionnaire was tested in a pilot study as a modest feasibility study to be commented later, focusing on the questionnaire that would be used to gather the quantitative and qualitative data, and responded by a group of participants purposely selected by the researcher. This approach was taken by the researcher because, regarding reliability, it was challenging to use traditional methods like test-retest reliability or internal consistency due to the particular characteristics of the targeted population for the lack of repeatability.

Reviewing the research methodology as a whole, the access to the potential participants, and the timing to finish the research inquiry, among other pertinent issues helped assure the validity and reliability of the questionnaire.

Pilot Study

Upon receiving the IRB approval (See Appendix C), a pilot study was conducted to test the survey (questionnaire) developed by the researcher (See Appendix B: SeafarersResearch - Questionnaire). For this purpose, Zoom meetings and conversations were held with active and retired seafarers and professionals with expertise in the matters related to the study. The group was purposely selected by the researcher basically due to their expertise and direct connection with the matter under study. The group was comprised of three men and two women, and essentially were asked to respond the questionnaire and provide their feed-back regarding the instrument´s clarity, relevance, and appropriateness. These conversations had an average duration of 2.5 hours. The procedures followed allowed them to respond to the questionnaire and provide the requested feedback, comments, or recommendations discussed for questionnaire improvements.

After reviewing the conversations, the conclusion was that the questionnaire considered a series of questions that made sense to respond to the research questions and did not suggest further questions to be included or deleted. Some participants expressed concern about the technical terms in the questionnaire but agreed that it could be confusing if precise concepts were not used. Others were concerned about language limitations but understood that English is the professional language used onboard. For research like this, having questionnaires in different languages can facilitate recruiting a more significant number of participants and accumulating more direct responses. However, the participants in the pilot study agreed that the translation process would be costly and time-consuming, without any guarantee that the translations would offer fidelity to what the crewmembers would respond in their own languages or dialects.

The main concern from the pilot study was the potential availability of the participants, considering that the population under study was referred essentially to as active seafarers. This concern was related to mobility as a particular characteristic of the population under study for this research (Tang & Bhattacharya, 2021), which would be a challenge. Despite some preliminary statistics about their country of origin, it is unknown where those seafarers are at the time of the sampling process. Working in the international shipping transportation of cargo means the seafarers can be anywhere in the world, whether they are on board a ship loading or unloading, at anchor waiting to load or set sail, sailing between service ports, in dry dock for vessel repairs, in any international airport returning home or traveling to be embarked to a vessel, or at home waiting to be re-embarked or because they are already retired. Additionally, it was known the internet access restrictions onboard the ship.

Despite the main concern explained above, the most important was that the interviewees also agreed that the purpose of this research was fascinating and novel. Contacting potential

participants and obtaining as much data as possible was well worth the effort. Data that was both quantitative and qualitative was able to be collected. This data will serve to provide new ideas to the maritime sector regarding the potential interpersonal conflicts onboard and their possible connection with the human errors that have been described as the causes for some of the marine casualties and incidents. The interviewees also agreed that this importance in nature would help to ensure the validity of the questionnaire. The pilot study phase took one and a half months approximately.

<div align="center">**Quantitative and Qualitative Data Collection**</div>

Data Collection Methods

As discussed in Chapter 3 above, the researcher selected survey research as the specific procedures, techniques, and tools employed to conduct the research within the chosen research approach: A hybrid approach combining qualitative and quantitative methodology based on survey research. The following will inform how the data collection was carried out.

Once the pilot study was concluded, as described above in this Chapter, the online questionnaire was launched to allow the participants to respond to the survey. The development of said online survey started in June 2021, covering the following phases: Identification of the software to be used; design of the survey structure incorporating the battery of questions developed by the researcher; verification of the pre-test's functionality; adjustment of the survey; customization of the survey's appearance to align it with the researcher expected aesthetic; set up of the survey with logic and branching; incorporation of logic or branching to customize the survey flow based on respondents answers (which helped to make the survey more engaging, efficient, and personal); test the survey functionality to ensure that it was working correctly using different devices and browsers; verification of response submission, validation, and error

handling; and finally distribution of the survey, which will be explained in detail below, and was the most challenged part of this research.

The online questionnaire was finally launched at the end of October 2021, immediately after the pilot study confirmed that the questionnaire could be launched as initially designed. As discussed in Chapter 3 above, the researcher worldview guiding this research agrees with the scholars proposing the pragmatism paradigm or worldview when saying that reality is constantly negotiated, contested, or understood; there are single and numerous realities ontologically, and any knowledge gathered from reality should be investigated using whichever methods are best suited to address the problem. This position essentially motivated the researcher to base the data collection on the survey (questionnaire) designed by the researcher and even more on the study's limitations already discussed in Chapter 3 above.

The message inviting the potential participants provided the web link to access the survey (questionnaire). It was distributed using the snowball sampling method, because the research focused on the use of referrals through the social media platforms (Facebook, Twitter, Instagram, and LinkedIn) as a networking tool to reach the potential participants, provide them with the web link to the online survey to respond to the questionnaire, and share the web link with other potential participants. Also, the questionnaire was distributed by contacting international organizations, shipowners, professional associations, personal contacts of the researcher, and universities, among others, all related to the shipping business that in some way could help to distribute the survey (questionnaire) among their contacts, but especially among seafarers. Despite the known limitations to using the snowball sampling procedure, because it has been mainly used for small populations of difficult access, the researcher believes that it was

instrumental; even though the population is big enough, it is definitely of highly complex access for the reasons already discussed in this study.

On December 6, 2021, a letter was sent via email to the International Group of P&I Clubs (IGP&I; See Appendix E), inviting them to play an instrumental role in contacting seafarers through their membership and inviting them to participate in our online study. A copy of this letter was also sent to each of the thirteen P&I Clubs members of the International Group. The letter's content included a presentation of the researcher, an invitation to participate in this doctoral study, the purpose of the study, and the instructions to access the questionnaire, providing the corresponding online web link. It also included aspects such as the confidentiality of the data to be collected, among others.

The International Group of P&I Clubs is integrated by 13 P&I Clubs that are international mutual associations, which collectively offer marine liability insurance (protection and indemnity) for around 90% of the ocean-going tonnage worldwide. The following is the list of the members of the International Group of P&I Clubs, which were also invited directly to distribute the questionnaire among their members:

1. American Steamship Owners Mutual Protection and Indemnity Association, Inc

2. The Britannia Steam Ship Insurance Association Limited

3. Gard P&I (Bermuda) Ltd.

4. The Japan Ship Owners' Mutual Protection & Indemnity Association

5. The London Steam-Ship Owners' Mutual Insurance Association Limited

6. The North of England Protecting & Indemnity Association Limited

7. The Shipowners' Mutual Protection & Indemnity Association (Luxembourg)

8. Assuranceforeningen Skuld

9. The Standard Club Ltd

10. The Steamship Mutual Underwriting Association (Bermuda) Limited

11. Sveriges Ångfartygs Assurans Förening / The Swedish Club

12. United Kingdom Mutual Steam Ship Assurance Association Ltd

13. The West of England Ship Owners Mutual Insurance Association (Luxembourg)

It is essential to highlight that on February 20, 2023, "the North of England Protecting & Indemnity Association Limited (North, now renamed NorthStandard) and The Standard Club formally merged to form a new single legal group called NorthStandard" (NorthStandard, 2023a). The NorthStandard "insure approximately 350 million gross tonnages worldwide across all sectors – 20% of the IG's total – more than any other P&I club" (NorthStandard, 2023b).

On the same date, December 6, 2021, similar letters were sent via email to the following organizations that seafarers contact for help (Bhattacharjee, 2021; See Appendix F):

1. International Transport Workers' Federation (ITF), founded in 1896 with offices across the world.

2. International Labor Organization (ILO), established in 1919 in the UN.

3. The Seamen's Church Institute (SCI), founded in 1834 and based in North America.

4. International Seafarers Welfare And Assistance Network (ISWAN), a charity organization known as SeafarerHelp.

5. Sailors Helpline, founded in 2002 as an NGO and based in Chennai, India.

6. Apostleship of The Sea (AoS), provides support and advice to seafarers at almost every major port in Great Britain and globally, irrespective of their nationality.

7. International Christian Maritime Association (ICMA), founded in 1969 and works with 28 NGOs representing various churches and other communities, enabling a massive representation worldwide.

8. The Seafarers' Charity, provides funding to seafarers and their families.

Additionally, the researcher sent similar letters to the following organizations that are related to the shipping industry (See Appendix G):

1. Women's International Shipping and Trading Association (WISTA)

2. Sailors' Union of the Pacific

3. Sugar Workers Union

4. Amo District 2A, TTWISEU

5. Union of International Seamen

6. Industrial, Professional, Technical Workers International Union

7. Seafarers International Union of North America – Atlantic, Gulf, Lakes & Inland Waters

8. United Industrial, Service, Transportation, Professional and Government Workers of North America

9. Marine Firemen's Union

10. Seafarers International Union of Canada

11. Associated Philippine Seafarers Union

12. Seafarers International Union

Several additional invitations were sent during December 2021, as well as in January, February, and March 2022, to all the relevant contacts of the researcher's database, as well as to any other organizations, such as Maritime Lawyers Associations, Shipping Companies,

Universities, among others, who were related to the maritime business, and could be motivated

to circulate the invitation and especially the online access link to the questionnaire among

seafarers.

Regarding the invitations sent via social media, it is essential to highlight that using

LinkedIn was instrumental. From October 2021 to December 2022, the researcher sent 3,297

messages (connections). Table 6 provides this information in detail and has been added a column

showing the number of responses also received by month during the same period.

Table 6

LinkedIn - Messages Sent (Connections) by Month and Accumulated from October 2021 to

December 2022

Month	Messages Sent	Total Accumulative	Responses Received	Total Accumulative
O-21	5	5	0	0
N-21	3	8	0	0
D-21	7	15	1	1
J-22	9	24	11	12
F-22	8	32	5	17
M-22	0	32	0	17
A-22	355	387	16	33
M-22	612	999	33	66
J-22	451	1,450	18	84
J-22	221	1,671	10	94
A-22	389	2,060	16	110
S-22	430	2,490	7	117
O-22	644	3,134	19	136
N-22	131	3,265	6	142
D-22	32	3,297	0	142
TOTAL	**3,297**		**142**	

Figure 10 shows the trend of the LinkedIn connections made by the researcher monthly to get the questionnaire responses.

Figure 10

Messages Sent (Connections) by Month and Accumulated from October 2021 to December 2022
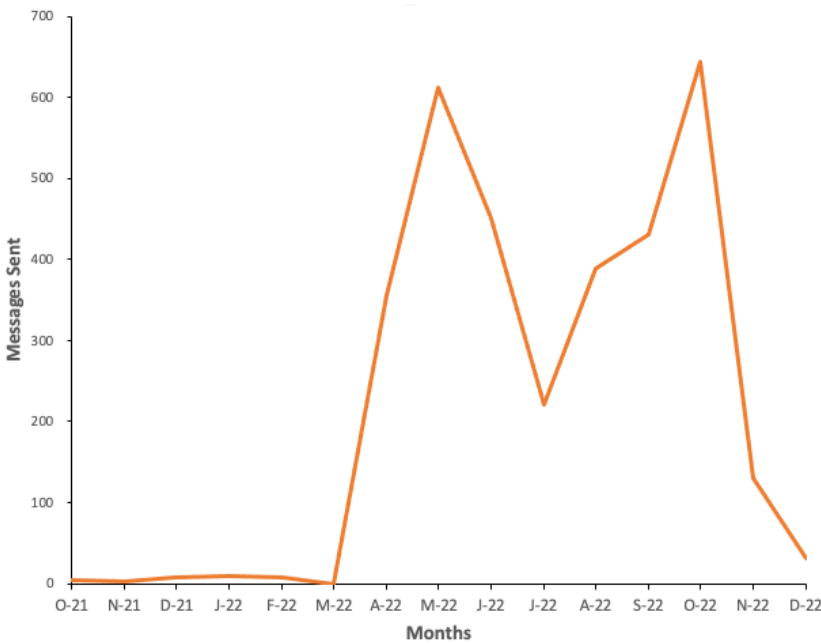
Figure 11 shows graphically the responses received by the researcher monthly from active seafarers.

Figure 11

Responses Received by Month and Accumulated from October 2021 to December 2022
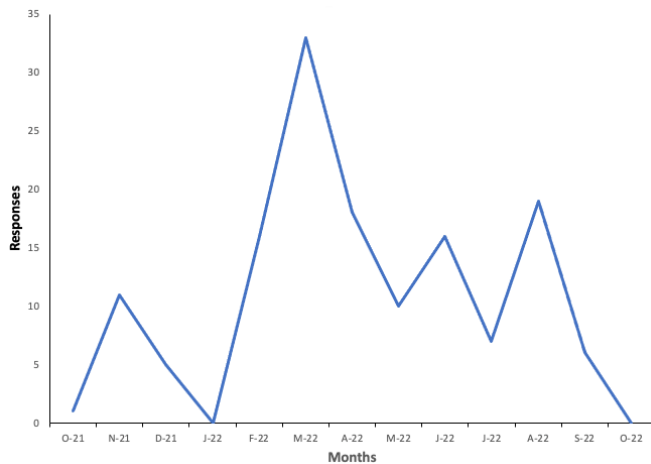
Figure 12 shows graphically the LinkedIn connections and the responses received by the researcher monthly from October 2021 until December 2022.

Figure 12

Messages Sent (LinkedIn Connections) and the Responses Received by the Researcher Monthly from October 2021 to December 2022
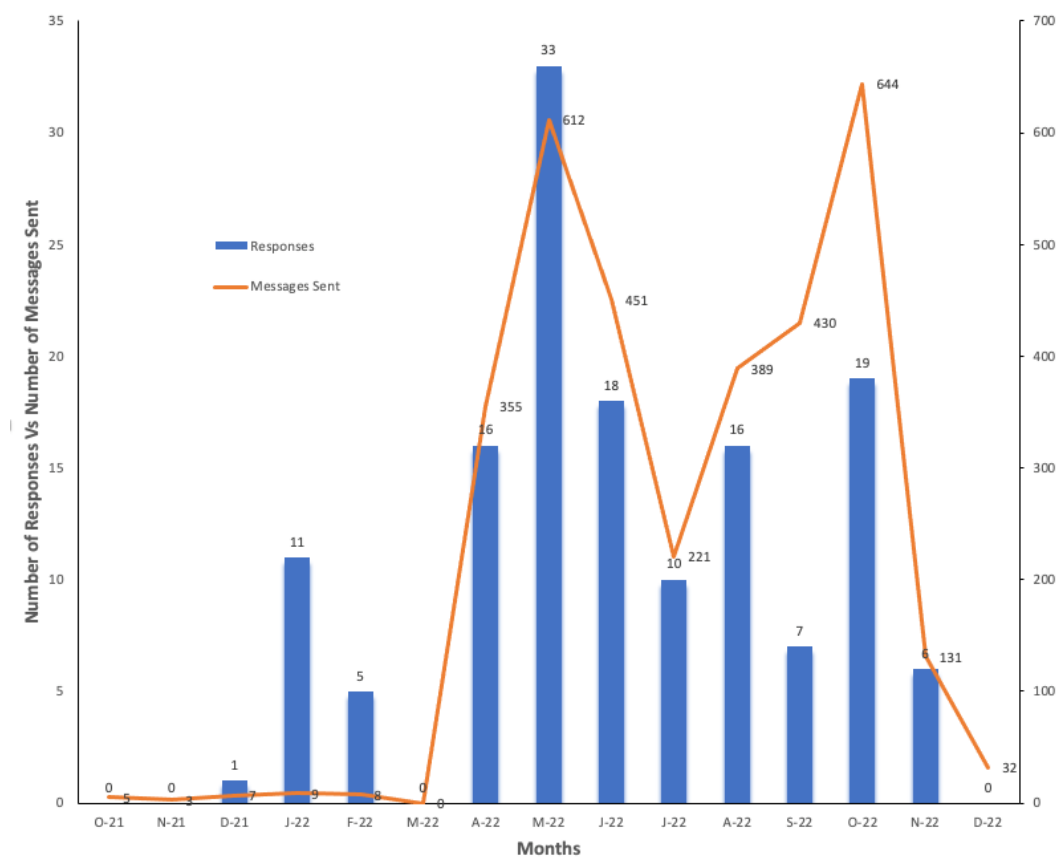
It is interesting to see how the number of responses behaves as the number of invitations sent. Of course, the researcher does not rule out that some answers to the questionnaire have also been received by the letters sent to international organizations and shipping companies, among others. The purpose of this research is not to investigate the impact of social media on the

number of responses received to an online questionnaire. The above graph will help other researchers evaluate this tool for data collection.

To facilitate access to the online questionnaire, the researcher obtained the following QR code on December 14, 2021 (see Figure 13). A QR code is a two-dimensional barcode that can be scanned using a smartphone, tablet, or any other device with a QR code reader. Once the QR code was distributed, any person could share it or use it to facilitate access to the questionnaire because the QR code serves as a bridge between the physical and digital words, the web link www.seafarersresearch.com, and the participant, allowing them to access to the questionnaire quickly:

Figure 13

QR Code Obtained by the Researcher to Facilitate Access to the Online Questionnaire

Additional messages were also sent via Facebook and Instagram to the 2021 top shipping lines, with the following statement: This research is being conducted to study the seafarers' perceptions about their interpersonal conflicts in a multicultural workplace and marine casualties and incidents for a better understanding of their life aboard:

1. AP Moller-Maersk

2. COSCO Shipping Lines

3. Mediterranean Shipping Company (MSC)

4. CMA CGM Group

5. Evergreen Line

6. Hapag-Lloyd

7. Ocean Network Express (ONE)

8. Teekay Corporation

Figure 14 includes the flyer designed by the researcher in April 2022 to be distributed among seafarers.

Figure 14

Flyer Designed by the Researcher in April 2022

On April 20, 2022, the above flyer was sent by certified mail to the following organizations, asking them to help the researcher distribute it during their visits to the ships while supporting seafarers (see Appendix H):

1. Seafarers International House – New York, NY

2. Seafarers International Union of North America – Camp Springs, MD

3. The Mission to Seafarers – Riviera Beach, FL

4. The Mission to Seafarers – Houston, TX

5. The Mission to Seafarers – Oakland, CA

6. International Seafarers Ministry – Miami, FL

7. International Seafarers Ministry – North Charleston, SC

8. International Seafarers Ministry – Pascagoula, MS

A total of 500 flyers were printed and an estimated 400 were sent to the above organizations.

Figure 15 shows a photo taken by the researcher at the US Postal Office with the boxes sending the flyers almost ready to be mailed.

Figure 15

Photo Taken at the US Postal Office with the Boxes Sending the Flyers

The researcher continued with the invitation to participate in the online survey, and was

able to contact the Female Seafarers Association of Nigeria who offered to circulate our request

through their network (see Appendix I). In his effort to collect data and carry out some

interviews (conversations), already discussed in Chapter 3 above, the researcher also tried to

board some vessels. To do so, the researcher was helped by some seafarers' organizations.

However, Covid-19 brought with it a series of consequences that led to the isolation of seafarers

to protect their health and maintain cargo transportation worldwide. The seafarers found

themselves as silent heroes in preserving the chain of distribution, especially of food, around the

world despite the impact of Covid-19.

Figures 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, and 27 include some photos taken by

the researcher during the visits made to the vessels by the researcher, which, despite the

limitations already commented on, the researcher was able to distribute the flyer, the QR code,

and the weblink to access the questionnaire:

Figure 16

Researcher and Volunteers Going to the Bridge of the First Vessel Visited - December 15, 2021

Figure 17

Researcher and Volunteers in the Bridge with One Member of the Crew - December 15, 2021

Figure 18

Crewmember in the Bridge - December 15, 2021

Figure 19

Researcher on the Deck on the Way to Disembark the Vessel - December 15, 2021

Figure 20

Thanking Words before Disembarkation - December 15, 2021

Figure 21

View of the Visited Vessel once the Researcher was Ashore - December 15, 2021
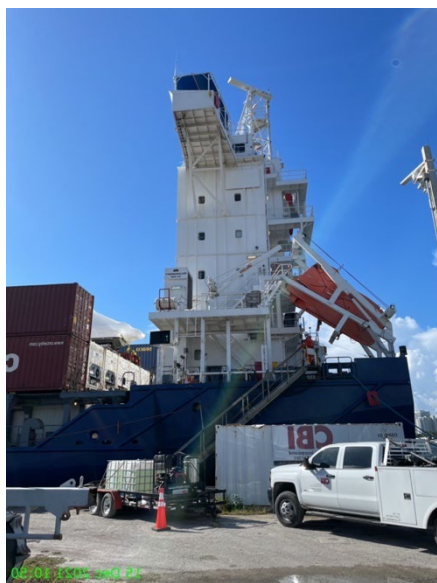
Figure 22

View of the Next Vessel Visited on December 15, 2021

Figure 23

Researcher and Some Members of the Crew - December 15, 2021

Figure 24

View of the Vessel Once Disembarked - December 15, 2021

Figure 25

View of the Next Vessel to be Visited on December 15, 2021

Figure 26

Researcher, Volunteers, and One Member of the Crew - December 15, 2021

Figure 27

Researcher Once Disembarked - December 15, 2021

On April 20, 2022, the researcher tried to contact seafarers in one of the bars frequented by them, which is close to Port Everglades, Florida, USA. However, no active seafarers were seen that day, and the barman commented that due to the Covid-19 pandemic, they are not coming to the bar as they used to be. Figure 28 shows a photo of the researcher with the flyer.

Figure 28

Researcher in One Bar Close to Port Everglades, FL, USA, Waiting for Seafarers

Interviews (Conversations)

The researcher initially proposed to conduct semi-structured interviews or conversations with participants to be chosen or selected purposively or conveniently. They could provide additional insights through interactive qualitative information for qualitative thematic analysis, which would help the researcher better understand the quantitative and qualitative data collected through the survey.

However, apart from the conversations and interviews held during the pilot study phase to be discussed later in this chapter, once the online survey (questionnaire) was launched, it was not possible to have any interview or conversation with an active seafarer despite the innumerable invitations sent for that purpose, as well as personal visits made by the researcher to different vessels, conferences, and meetings. The main limitation during the data collection phase was the Covid-19 disease. The crewmembers were instructed not to meet with anyone outside the vessel to guarantee their health onboard, even the limited access that the researcher

had to some vessels. The researcher also sent invitations to have online meetings using the Zoom platform, and no positive responses were received.

Due to the Covid-19 pandemic, ports worldwide decided to stop granting shore leaves, which are the authorizations given by authorities to allow seafarers to disembark while the vessel is at port. The shore leave is a seafarer right as provided by the Maritime Labor Convention, 2006, which provides under Regulation 2.4 – Entitlement to leave (2): "Seafarers shall be granted shore leave to benefit their health and well-being and consistent with the operational requirements of their positions" (ILO, 2006). The cited convention also provides as per the guideline B4.4.6 – Seafarers in a foreign port (5): "Every effort should be made by those responsible in port and on board a ship to facilitate shore leave for seafarers as soon as possible after a ship's arrival in port" (ILO, 2006).

On June 6, 2022, the researcher conversed with Mrs. Maria Dixon (CEO ISM Shipping Solution), who shared a comment about the shore leave for seafarers founded on the assumption that the "whole world is normalized" but "nobody is taking any initiative for re-opening the ****shore leaves***** for seafarers" (see Appendix J). The researcher responded as follows:

> The seafarers themselves are not the problem. They were isolated as many people, and the only way to have Covid onboard is bringing it to the vessel. The vessel became one of the safest places to stay. However, like the rest of the world, once you are vaccinated, why some of them are not allowed to disembark? Could it be that the concern is that they may bring the virus on board even after being vaccinated? It seems to me that the problem is bigger and requires a clear and fair conversation, and they shall be part of that conversation. The truth is that the world is changing, and we need to find a way to protect the seafarers, as well as what they represent as part of the whole system. How valuable

they have been speaking out by different people. How we can mitigate the negative impact of this crisis on them requires ideas and work from people like you. Many thanks for bringing up the point. I would like to invite like you to have a discussion over what could be the possible solutions. (see Appendix K)

Even on June 30, 2023, the problem continues. Recent news published by ET Infra.com – From The Economics Times under the heading "Seafarers Union flays denial of shore leave to crew" highlighted that a "merchant navy officers union has given a two-week ultimatum to the authorities to solve the issue of denial of shore leave to Indian merchant marine seafarers at many of the country's ports" ("Seafarers Union flays", 2023). Capt. Tushar Pradhan of the Maritime Union of Indica (MUI) stated:

> Denial of shore leave affects the seafarers' mindset, health, and wellbeing. *This may affect their performance and morale and may lead to undesirable incidents on board and at sea* [emphasis added]. Acute boredom, mental and physical fatigue, are dangerous states of mind and body, which can lead to impairment of concentration, frustration, *potentially leading to accidents to self, the ship, cargo, and the environment* [emphasis added]. ("Seafarers Union flays", 2023)

Considering that the limitation to access seafarers continued beyond the data collection phase, as evidenced above, the researcher decided to focus on the quantitative and qualitative data collection through the online questionnaire for its corresponding qualitative and quantitative analysis, to be discussed further in Chapter 4.

Quantitative Data Analysis

Research Questions and Hypotheses

The following research questions and hypotheses will be addressed in the study:

- RQ1. Is national culture onboard a vessel a predictor of the occurrence of

  interpersonal conflicts, controlling for demographic variables?

  H_0:   National culture is not a predictor of interpersonal conflicts onboard a vessel,

  controlling for demographic variables.

  H_1:   National culture is a predictor of interpersonal conflicts onboard a vessel,

  controlling for demographic variables.

- RQ2. Is there any correlation between the number of days of the duration of the

  voyage and the number of interpersonal conflicts?

  H_0:   There is no correlation between the number of days of duration of the voyage

  and the number of interpersonal conflicts.

  H_1:   There is a correlation between the number of days of the voyage and the number

  of interpersonal conflicts.

- RQ3. Is there a prediction between the interpersonal conflicts among crewmembers

  onboard and the occurrence of marine casualties and incidents?

  H_0:   There is no a prediction between the interpersonal conflicts among

  crewmembers onboard and the occurrence of marine casualties and incidents.

  H_1:   There is a prediction between the interpersonal conflicts between or among

  crewmembers onboard and the occurrence of marine casualties and incidents.

Data Analysis Methods

Descriptive and inferential statistical analysis will be made to analyze the produced

quantitative data using the statistical software Statistical Package for the Social Sciences (SPSS)

version 28. The dataset will be checked for missing data to clean the data (Field, 2018). The case

will not be included in the analysis if a value is absent (listwise deletion). Listwise deletion

involves excluding cases from analyses when at least one of the given variables in the case has a

missing value. Only cases with an entire set of data are subject to study.

Descriptive statistics of the data for the independent variables will be reported:

multicultural or multinational culture (number of nationalities), number of national cultures

onboard, number of nationalities, and number of days of the duration of the voyage and the

dependent variables occurrence of interpersonal conflicts, and occurrence of marine casualties

and incidents. For categorical data, a summary of frequency and percentages will be obtained;

however, for continuous demographic variables, such as age, a measurement of the central trends

of means, standard deviations, and minimum and maximum values will be done.

Inferential statistics will consist of performing multiple regressions, Pearson's

correlation, and binary logistic regression. Multiple regression will be conducted to address this

first research question:

- RQ1. Is national culture onboard a vessel a predictor of the occurrence of

  interpersonal conflicts, controlling for demographic variables?

Multiple regression is used to forecast a continuous dependent variable based on several

independent factors. Additionally, the researcher can use multiple regression to assess the

model's overall fit (variance explained) and the relative contributions of each predictor to the

overall variance explained. Interpersonal conflict occurrence will be measured at the interval

level of measurement for the dependent (criterion) variable. The predictor variable for the number of interpersonal conflicts will also be measured at the interval level of measurement.

Pearson correlations will be conducted to address the second research questions:

- RQ2. Is there any correlation between the number of days of the duration of the voyage and the number of interpersonal conflicts?

The Pearson correlation measures the strength and direction of a linear relationship between two continuous variables. Pearson correlations will be conducted for RQ2 including the variables the number of days of the duration of the voyage and the number of interpersonal conflicts. The Pearson correlation coefficient measures the degree and direction of a linear link between two continuous variables. It can range from -1 to +1 for a perfect negative linear relationship. A value of 0 (zero) indicates no relationship between the two variables.

Binary logistic regression will be conducted to assess this third research question:

- RQ3. Is there a prediction between the interpersonal conflicts among crewmembers onboard and the occurrence of marine casualties and incidents?

A binary logistic regression attempts to forecast the likelihood that an observation will fall into one of two categories of a dichotomous dependent variable using one or more independent variables that can be either continuous or categorical (Field, 2018). In this case, the likelihood of the occurrence of the dichotomous dependent variable "occurrence of marine casualties and incidents" measured as 0 for no and 1 for yes will be predicted from the variable "number of interpersonal conflicts."

Statistical Assumptions

A few parametric assumptions need to be validated before multiple regression may be performed. According to Field (2018), there are four main assumptions for multiple regression

analysis: linearity, normalcy, homoscedasticity, and multicollinearity. Linearity and homoscedasticity will be evaluated using plots of the standardized residuals and the standardized predicted values. If the plots are straight, the linearity assumption is not violated (Field, 2018). Furthermore, the homoscedasticity condition is upheld if the plots are arranged in a rectangular arrangement (Field, 2018). The Shapiro-Wilk test will be used to evaluate whether the data are regularly distributed (Field, 2018). Statistics for kurtosis and skewness will be computed to evaluate normalcy further. According to Hair et al. (2010) and Bryne (2010), data is regarded as normal if the skewness and kurtosis, along with the corresponding hypotheses, are between -2 and +2 and -7 and +7, respectively. To determine whether multicollinearity between any two variables has been violated, the variable inflation factor (VIF) will then be calculated for each variable (Field, 2018).

Before conducting Pearson correlations, the assumptions of normality, absence of outliers, and linearity will be assessed. Normality will be assessed as described earlier by the calculation of skewness and kurtosis values. Outliers will be assessed through the calculation of standardized values. Standardized values outside -3 to +3 standard deviations will be deemed outliers. Visual inspection of scatter plots will assess linearity.

Some conditions must be satisfied before performing binary logistic regression. These include the absence of multicollinearity, the absence of significant outliers, and linearity between the continuous independent variables and the logit transformation of the dependent variable (Laerd Statistics, 2019). We will use the Box-Tidwell approach to test for linearity (Laerd Statistics, 2019). Variance inflation factors (VIF) will be used to test for multicollinearity, and any VIF more than 9 will be regarded as proof of multicollinearity (Laerd Statistics, 2019). To

check for outliers, standardized residuals will be computed. Any residual of more than 3.0 will be viewed as an anomaly (Laerd Statistics, 2019).

Instrumentation and Operationalization of Constructs

The following are the independent variables of the study:

1. Multicultural or multinational culture will be operationalized as the number of nationalities and measured at the interval level of measurement.

2. The number of days of the duration of the voyage will be measured at the interval level of measurement.

The following are the dependent variables of the study:

3. The occurrence of interpersonal conflicts will be operationalized as the number of interpersonal conflicts reported and will be measured at the interval level of measurement.

4. The occurrence of marine casualties and incidents will be dichotomized as 0 for no or 1 for yes. This is measured at the nominal level of measurement.

Qualitative Data Analysis

Research Questions

The following research questions will be addressed in the study:

- RQ1. What are the perceptions of seafarers regarding the relationship between national culture onboard a vessel and the occurrence of interpersonal conflicts?

- RQ2. What are the perceptions of seafarers regarding the relationship between the number of days of the duration of the voyage and the number of interpersonal conflicts?

- RQ3. What are the perceptions of seafarers regarding the relationship between the interpersonal conflicts among crewmembers onboard and the occurrence of marine casualties and incidents?

- RQ4: What are the most common types of conflicts and their causes among seafarers?

Data Analysis Methods

The qualitative data collected by the researcher will be analyzed and interpreted by the researcher using the thematic analysis method, which systematically analyzes and interprets the content of texts extracted from the questionnaire open-ended questions responded to by the participants, identifying themes, patterns, or meanings in the data (see the discussion in Chapter 4).

The qualitative data analysis uses the thematic analysis method supported by the qualitative data analysis software NVivo version 14.23.0 (13) software (student version). Open and axial coding will be conducted to extract the key themes from the data. Open coding involves breaking the data into text segments and assigning descriptive names to the text segments (Vollstedt & Rezat, 2019). The descriptive names carry meanings consistent with underlying text segments' meanings (Vollstedt & Rezat, 2019). On the contrary, axial coding involves drawing connections and relationships between various open codes (Vollstedt & Rezat, 2019). Then, the data analysis will confirm or refute the qualitative research questions.

A summary of the results is shown in Table 21with the coherent themes obtained from the qualitative analysis that answered research questions 1, 2, and 3. A summary of the results for the research question 4 with the typology of conflicts is shown in Table 22.

Ethical Considerations

All research includes ethical considerations as a necessary component. The National Commission for the Protection of Human Subjects of Biomedical and Behavioral Research, a division of the US Department of Health, Education, and Welfare, authored the Belmont Report (now the US Department of Health and Human Services). The ethical issues that research must consider are described in the Belmont Report. For this investigation, it is crucial to consider the ethical issues raised in the Belmont Report (U.S. Department of Health and Human Services, 1979). The researcher complied with autonomy by guaranteeing that subjects agreed to participate in the study voluntarily and without coercion and clarifying that declining to participate would have no negative consequences.

Additionally, there is little to no risk of harm to the participants because of how the study is designed. By securing IRB approvals for the study, the researcher will safeguard the participants' well-being and thus demonstrate beneficence. The informed consent statement informs participants of the advantages and risks of the study. The informed consent statement thoroughly explains the study's purpose, potential risks, and possible benefits. Additionally, it complies with the Belmont Report's recommendation that researchers give study participants an informed consent form that uses accurate language, clarifies the goal and procedures of the investigation, lists the study's risks and benefits, and ensures that participants may withdraw from the investigation at any time (Baykara et al., 2015).

Chapter 4: Findings, Results, and Analysis

Quantitative Findings

This study aimed to investigate the seafarers' perceptions of their interpersonal conflicts in a multicultural workplace as root causes of human errors that can result in marine casualties and incidents. This study addressed the following research questions and hypotheses:

- RQ1. Is national culture onboard a vessel a predictor of the occurrence of interpersonal conflicts, controlling for demographic variables?

  H0: National culture is not a predictor of interpersonal conflicts onboard a vessel, controlling for demographic variables.

  H1: National culture is a predictor of interpersonal conflicts onboard a vessel, controlling for demographic variables.

- RQ2. Is there any correlation between the number of days of the duration of the voyage and the number of interpersonal conflicts?

  H0: There is no correlation between the number of days of duration of the voyage and the number of interpersonal conflicts.

  H1: There is a correlation between the number of days of the voyage and the number of interpersonal conflicts.

- RQ3. Is there a prediction between the interpersonal conflicts among crewmembers onboard and the occurrence of marine casualties and incidents?

  H0: There is no a prediction between the interpersonal conflicts among crewmembers onboard and the occurrence of marine casualties and incidents.

  H1: There is a prediction between the interpersonal conflicts between or among crewmembers onboard and the occurrence of marine casualties and incidents.

Multiple regression, Pearson correlations, and binomial logistic regression were the were utilized in this study. Multiple regression was conducted to address the first research question. Pearson correlations were conducted to address the third research question, and Binary logistic regression was performed to assess the third research question. The results of descriptive findings will be followed by inferential statistical findings, which include hypothesis testing conducted for multiple regression, Pearson correlations, and binomial logistic regression. This will then be followed by the qualitative findings from the qualitative questions of the questionnaire. This chapter will conclude with a summary of the results.

Descriptive Statistics Findings

Descriptive statistics were performed on each and every variable obtained through the questionnaire developed by the researcher, which is included in the supplementary material section jointly with the instrumental variables of the study by type. Next, we will discuss the results of the most relevant variables to the research.

Demographics of Sample

Invitations to participate were sent to a convenience sample of current and former seafarers working for cargo ships trading internationally. There were a total of 367 responses. However, after excluding responses received from participants who were not seafarers or were not active or who were active but not working for vessels transporting cargo internationally, the number of cases available for analysis was $N = 142$ active seafarers working for vessels serving international transport of cargo.

There were 135 (95.1%) males and 7 (4.9%) females, as illustrated in Table 7 and Figure 29 below.

Table 7

Participants' - Sex

	Frequency	Percent
Male	135	95.1
Female	7	4.9
Total	142	100.0

Figure 29

Convenience Sample - Males and Females
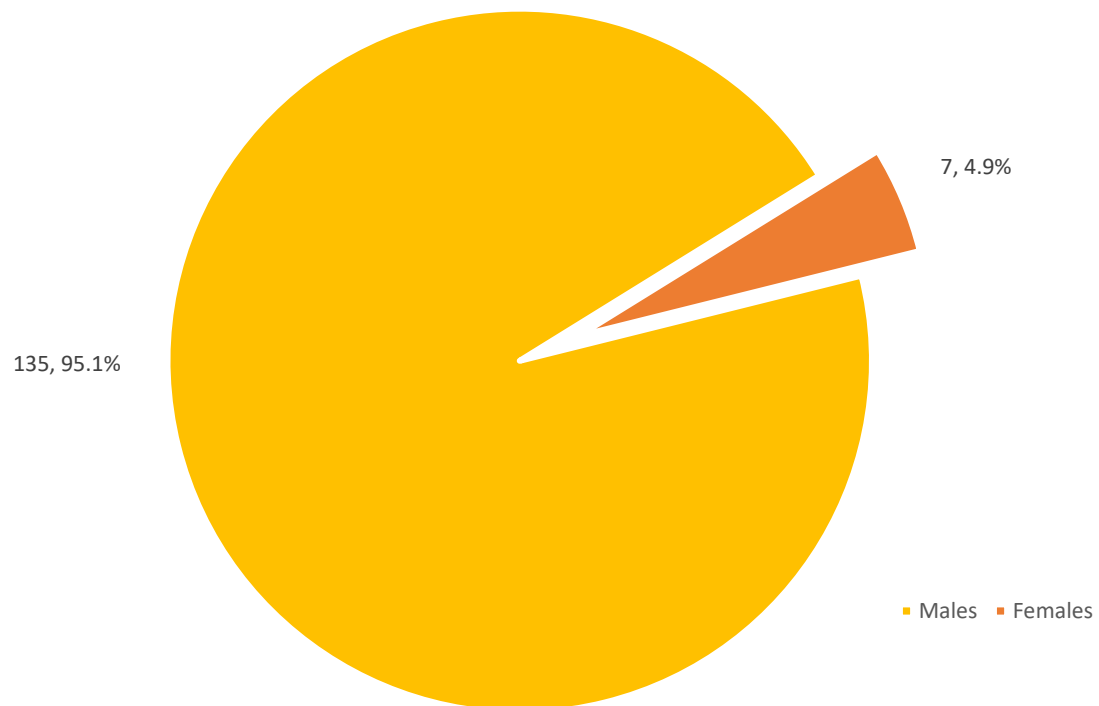
The participants' ages ranged from 21 to 70 years (M = 35.01, SD = 11.115). Two participants did not provide their age. Table 8 summarizes these results, and Figure 30 illustrates the same.

Table 8

Participants - Age

N	Valid	140
	Missing	2
Mean		35.01
Std. Deviation		11.115

Figure 30

Participants' Ages
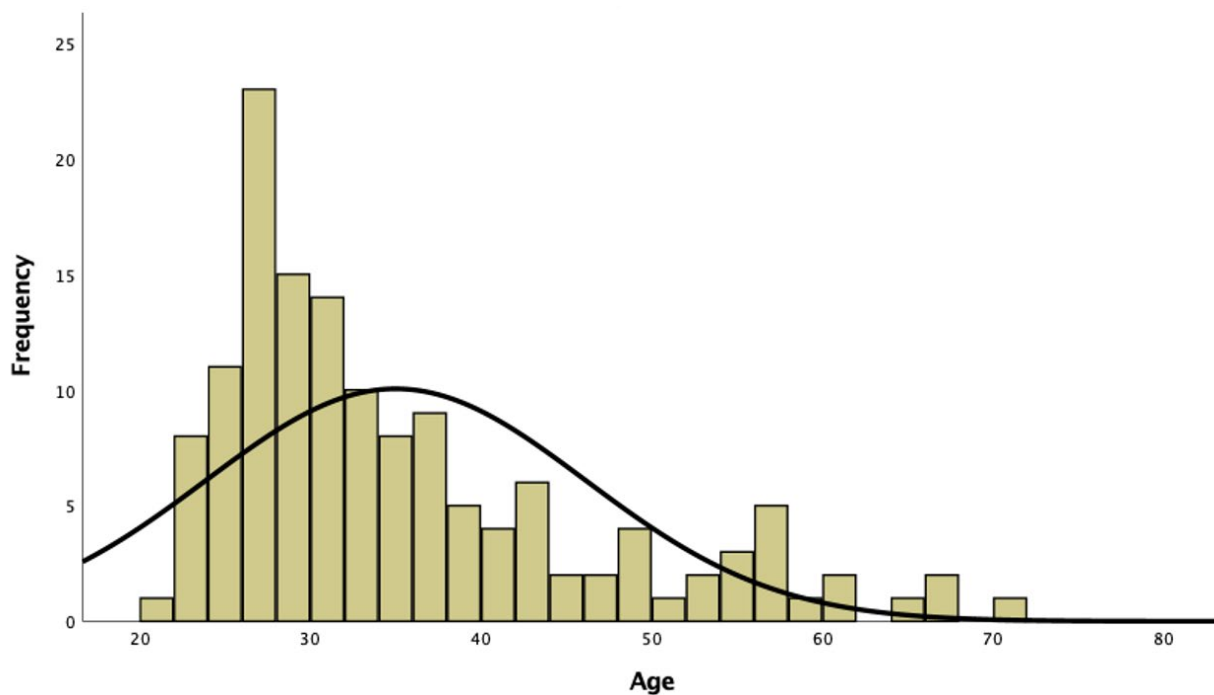
Table 9 summarizes the participants ages, frequency, and valid and cumulative percent.

Table 9

Participants Ages, Frequency, and Valid and Cumulative Percent

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	21	1	.7	.7	.7
	22	3	2.1	2.1	2.9
	23	5	3.5	3.6	6.4
	24	5	3.5	3.6	10.0
	25	6	4.2	4.3	14.3
	26	7	4.9	5.0	19.3
	27	16	11.3	11.4	30.7
	28	7	4.9	5.0	35.7
	29	8	5.6	5.7	41.4
	30	6	4.2	4.3	45.7
	31	8	5.6	5.7	51.4
	32	7	4.9	5.0	56.4
	33	3	2.1	2.1	58.6
	34	7	4.9	5.0	63.6
	35	1	.7	.7	64.3
	36	5	3.5	3.6	67.9
	37	4	2.8	2.9	70.7
	38	2	1.4	1.4	72.1
	39	3	2.1	2.1	74.3
	40	1	.7	.7	75.0
	41	3	2.1	2.1	77.1
	42	3	2.1	2.1	79.3
	43	3	2.1	2.1	81.4
	44	1	.7	.7	82.1
	45	1	.7	.7	82.9
	46	1	.7	.7	83.6
	47	1	.7	.7	84.3
	48	2	1.4	1.4	85.7
	49	2	1.4	1.4	87.1
	50	1	.7	.7	87.9
	52	2	1.4	1.4	89.3
	54	1	.7	.7	90.0
	55	2	1.4	1.4	91.4
	56	2	1.4	1.4	92.9
	57	3	2.1	2.1	95.0
	59	1	.7	.7	95.7
	60	1	.7	.7	96.4
	61	1	.7	.7	97.1
	64	1	.7	.7	97.9
	66	1	.7	.7	98.6
	67	1	.7	.7	99.3
	70	1	.7	.7	100.0
	Total	140	98.6	100.0	
Missing	System	2	1.4		
Total		142	100.0		

Regarding the question "How do you consider yourself (Race/Ethnicity)?" most of the participants responded that they were Asian (45; 31.7%). Other ethnicities are provided in Table 10. Figure 31 illustrates the results of this question.

Table 10

Race/Ethnicity

	Frequency	Percent
White	41	28.9
Hispanic or Latino Origin	18	12.7
Black or African American	11	7.7
East Asian or South Asian	45	31.7
Middle Eastern or North African	5	3.5
Some other race, ethnicity, or origin	17	12.0
No response	5	3.5
Total	142	100.0

Figure 31

Participants' Race/Ethnicity
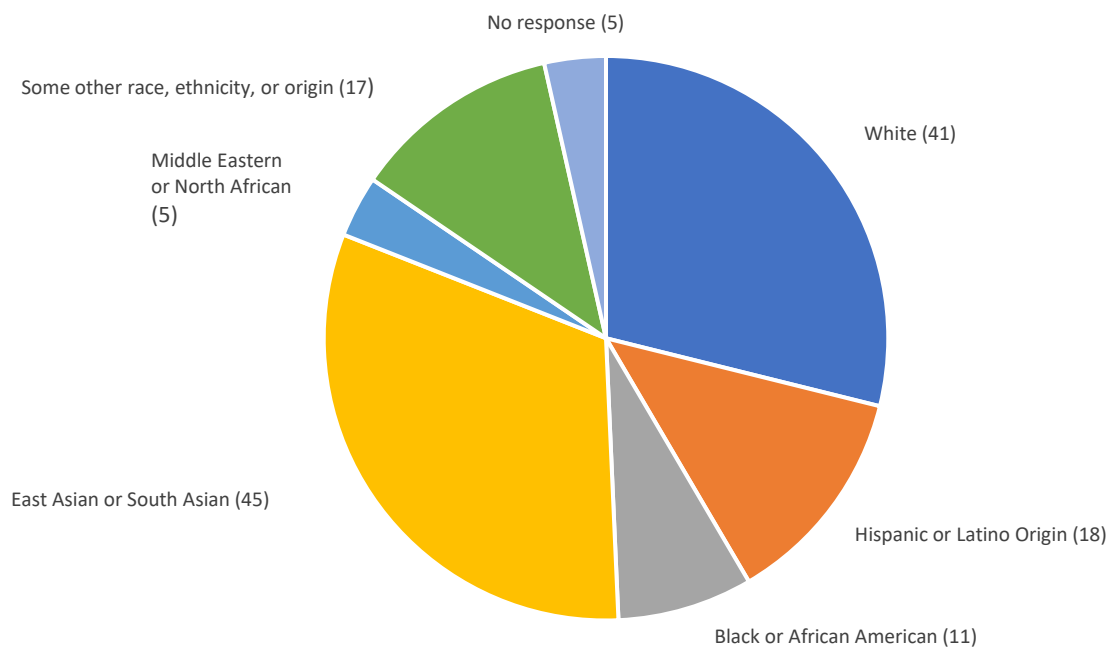
Table 11 provides the participants' nationalities. Most participants were from India.

Table 11

Participants' Nationalities

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Bangladesh	2	1.4	1.4	1.4
	Brazil	2	1.4	1.4	2.8
	Bulgaria	1	0.7	0.7	3.5
	Cameroon	1	0.7	0.7	4.3
	Croatia	5	3.5	3.5	7.8
	Cuba	2	1.4	1.4	9.2
	Egypt	1	0.7	0.7	9.9
	Germany	2	1.4	1.4	11.3
	Ghana	1	0.7	0.7	12.1
	India	51	36.2	36.2	48.2
	Indonesia	5	3.5	3.5	51.8
	Ireland	1	0.7	0.7	52.5
	Italy	2	1.4	1.4	53.9
	Malaysia	1	0.7	0.7	54.6
	Montenegro	2	1.4	1.4	56.0
	Nigeria	7	5.0	5.0	61.0
	Pakistan	1	0.7	0.7	61.7
	Panama	2	1.4	1.4	63.1
	Peru	1	0.7	0.7	63.8
	Philippines	7	5.0	5.0	68.8
	Poland	2	1.4	1.4	70.2
	Russia	1	0.7	0.7	70.9
	Singapore	1	0.7	0.7	71.6
	South Africa	1	0.7	0.7	72.3
	Spain	1	0.7	0.7	73.0
	Sri Lanka	1	0.7	0.7	73.8
	Syria	2	1.4	1.4	75.2
	Tunisia	1	0.7	0.7	75.9
	Turkey	3	2.1	2.1	78.0
	Ukraine	8	5.7	5.7	83.7
	United Kingdom (UK)	7	5.0	5.0	88.7
	United States (US)	3	2.1	2.1	90.8
	Venezuela	13	9.2	9.2	100.0
	Total	141	100.0	100.0	
Missing	System	1			
Total		142			

Figure 32

Participants' Nationalities
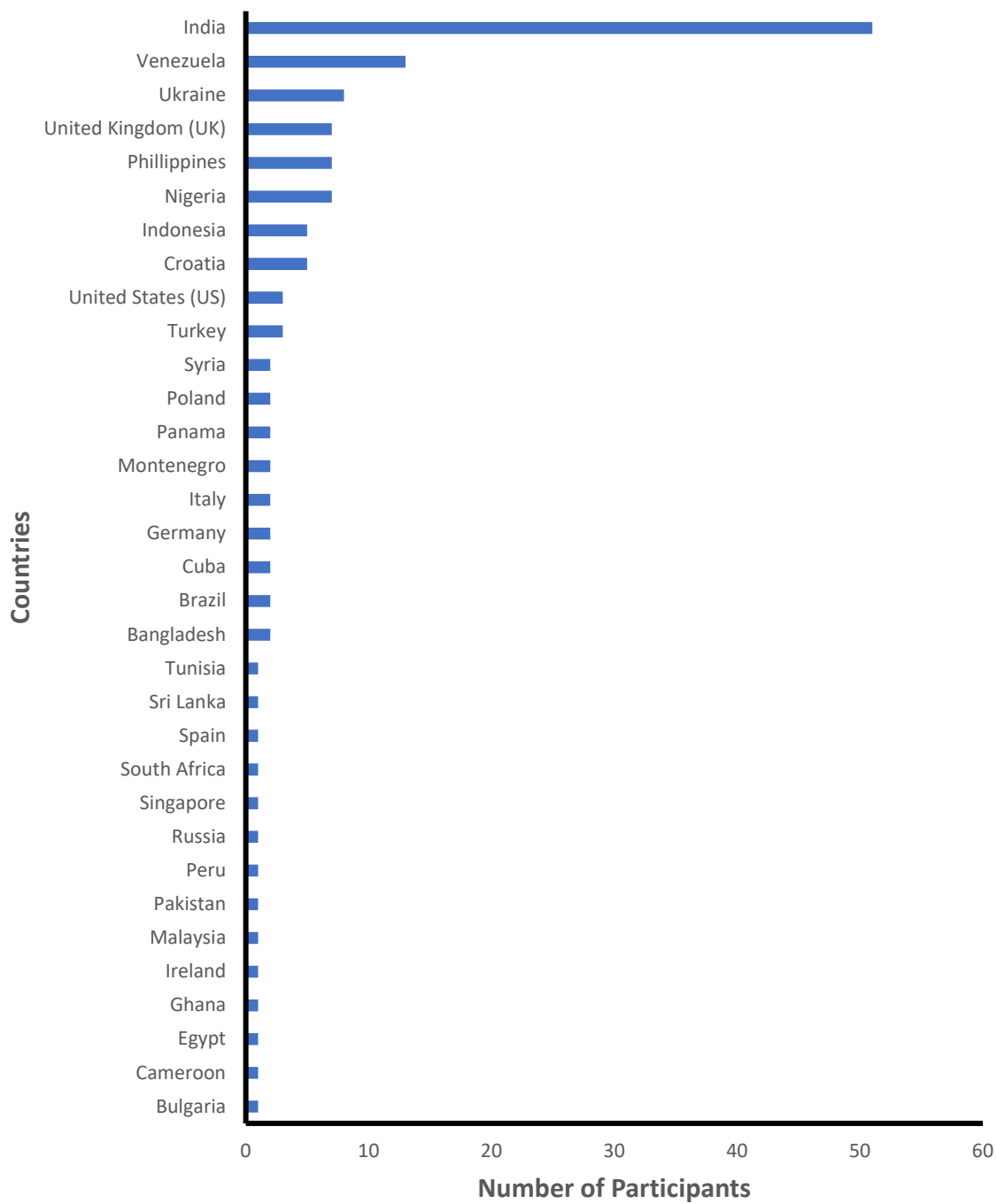
Table 12 provides the participants' marital status. Most participants were married, 73 (51.4%). Other marital status categories are also provided in Table 12. Figure 33 illustrates the participants' marital status.

Table 12

Marital Status

	Frequency	Percent
Single	65	45.8
Married	73	51.4
Divorced	2	1.4
Separated	1	.7
Other	1	.7
Total	142	100.0

Figure 33

Participants' Marital Status
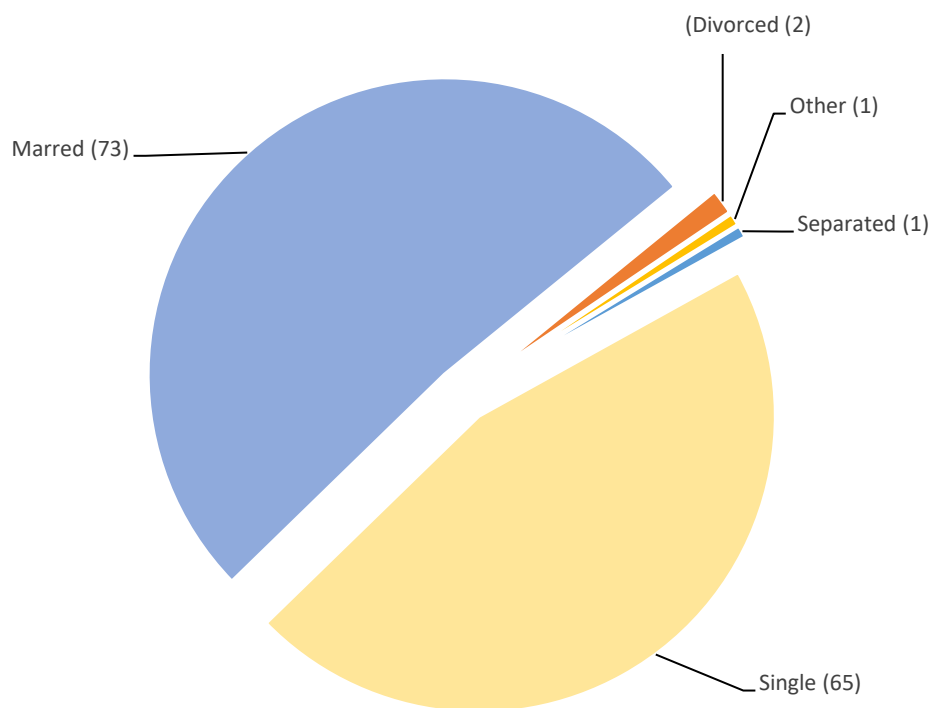
Regarding religious beliefs, 49 reported being Christian (34.5%). Table 13 provides other religious affiliations. Figure 34 illustrates the participants' religious affiliation.

Table 13

Participants' Religion

	Frequency	Percent
Christianity	49	34.5
Islam	19	13.4
Hinduism	36	25.4
Buddhism	3	2.1
No religious affiliation	32	22.5
Other	2	1.4
No response	1	0.7
Total	142	100.0

Figure 34

Participants' Religion
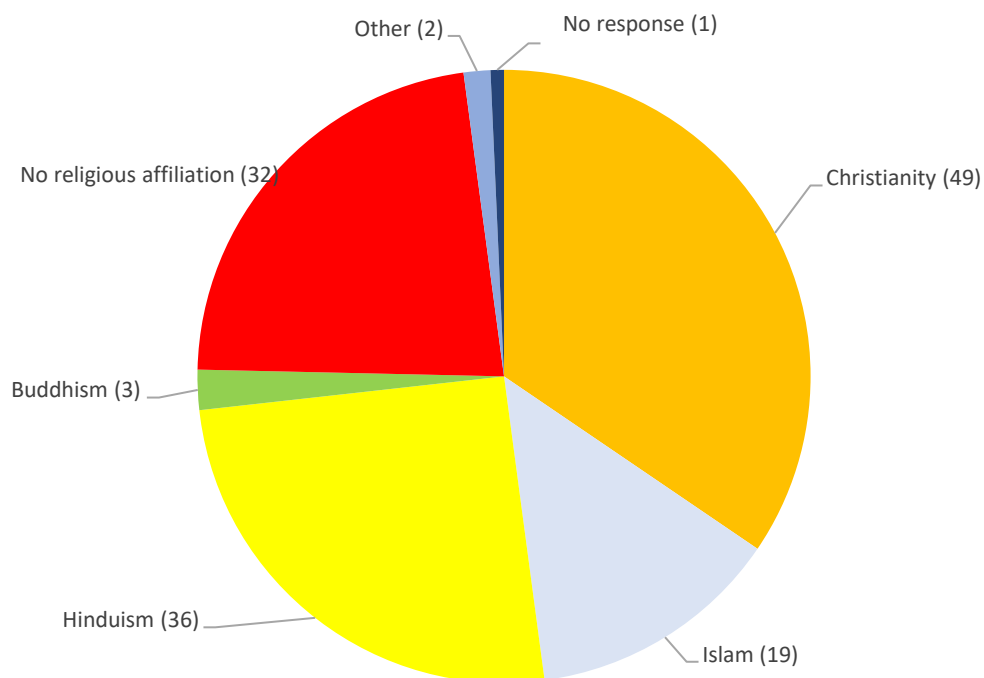
From the 142 participants, 124 (87.3%) were officers and 14 were (9.9%) ratings. Four (4) participants (2.8%) did not report their rank. Most participants worked onboard of oil tankers. Table 14 provides the other type of vessel where the participants reported being active seafarers working for the international transport of cargo. Figure 35 illustrates the other types of vessels where the participants work.

Table 14

Participants by Type of Vessel

		Frequency	Percent
Valid	General cargo	13	9.2
	Container ship	24	16.9
	Ro-Ro	15	10.6
	Bulk carrier	21	14.8
	Oil tanker	34	23.9
	Chemical tanker	18	12.7
	LNG carrier	10	7.0
	LPG carrier	7	4.9
Total		142	100.0

Figure 35

Participants by Type of Vessel Where They Work
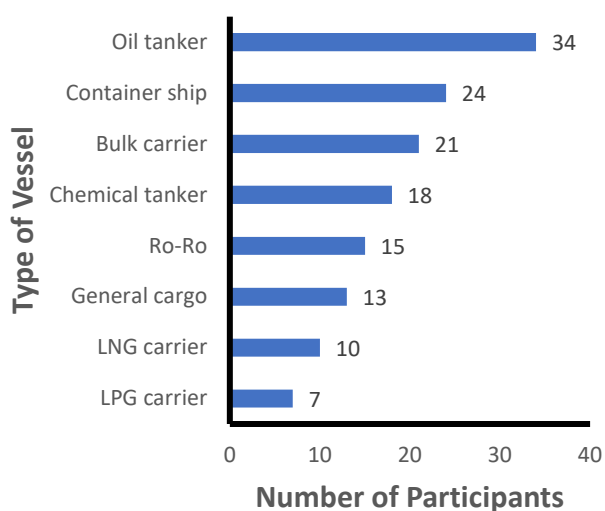
Descriptive Findings of Study Variables

The participants served as seafarers from 0 to 45 years ($M = 12.36$, $SD = 10.71$). The total

number of seafarers that served on board their ship ranged from 6 to 65 ($M = 22.99$, $SD = 6.77$).

The number of nationalities the participants served on board their ship ranged from one to three.

Most reported three nationalities, 86 (60.6%). Table 15 provides this information.

Table 15

Number of Reported Nationalities Aboard Ship

	Frequency	Percent
1.00	14	9.9
2.00	20	14.1
3.00	86	60.6
No response	22	15.5
Total	142	100.0

Regarding the participants' perceptions that the interpersonal conflicts among the

seafarers aboard may have any relationship with the human errors that are reported as the causes

of marine casualties and incidents, 98 (69.0%) stated yes, and 44 (31.0%) stated no (Table 16

and Figure 36). The number of interpersonal conflicts experienced by the participants ranged

from 1 to 5, with a mean of $M = 2.51$ ($SD = 1.39$).

Table 16

Participants' perceptions that the interpersonal conflicts among the seafarers aboard may have

any relationship with the human errors that are reported as the causes of marine casualties and

incidents casualties.

	Frequency	Percent
Yes	98	69.0
No	44	31.0
Total	142	100.0

Figure 36

Participants' perceptions that the interpersonal conflicts among the seafarers aboard may have any relationship with the human errors that are reported as the causes of marine casualties and incidents.

Participants were asked how they felt cultural differences and the number of nationalities influenced interpersonal conflicts and causalities. Their agreement was measured on a 5-point Likert scale ranging from 1 (strongly agree) to 5 (strongly disagree) on 5 questions given in Table 17. All responses ranged from 1 to 5. Regarding the statement "Interpersonal conflicts are influenced by cultural differences," the mean response was $M = 2.57$ ($SD = 1.17$), which indicates agreement with this statement. Likewise, regarding the statement, "As the number of

crew members from different cultures increases, the chances of interpersonal conflicts on board is greater," the mean response was $M = 3.01$ ($SD = 1.18$), indicating a neutral response. The statement "Interpersonal conflicts caused by cultural differences are difficult to resolve" had a mean of $M = 3.04$ ($SD = 1.14$), which is very close to a neutral response. Regarding the statement, "Some interpersonal conflicts on board due to cultural differences cause marine casualties or incidents," the mean response was $M = 2.64$ ($SD = 1.06$), indicating agreement with this statement. Finally, regarding the statement "Interpersonal conflicts on board are not influenced by cultural differences," the mean response was $M = 3.02$ ($SD = 1.03$), indicating disagreement. The mean responses to these five items served as a measure of overall cultural interpersonal conflict and had a mean of $M = 2.85$ ($SD = 0.81$).

Table 17

Effects of Culture on Interpersonal Conflicts and Casualties

	Minimum	Maximum	*M*	*SD*
Interpersonal conflicts are influenced by cultural differences.	1	5	2.57	1.17
As the number of crew members from different cultures increases, the chances of interpersonal conflicts on board is greater.	1	5	3.01	1.18
Interpersonal conflicts caused by cultural differences are difficult to resolve.	1	5	3.04	1.14
Some interpersonal conflicts on board due to cultural differences cause marine casualties or incidents.	1	5	2.64	1.06
Interpersonal conflicts on board are not influenced by cultural differences.	1	5	3.02	1.03
Overall Mean Cultural Interpersonal Conflict	1.00	5.00	2.855	.81

Inferential Statistics Findings

Testing of Parametric Assumptions

Before conducting inferential statistics, the parametric assumptions of multiple regression, Pearson correlations, and binary logistic regression were first assessed. Regarding multiple regression, these assumptions included linearity, homoscedasticity, independence of residuals, no multicollinearity, outliers in the regression residuals, and normality of regression residuals (Field, 2018). There was linearity and homoscedasticity as assessed by a plot of standardized residuals against the predicted values. The plot shows no curvilinear relationship with no apparent pattern, thus suggesting no violation of the linearity assumption (Figure 37).

Figure 37

Scatter Plot of Predicted Standardized Regression Residuals Versus Regression Residuals
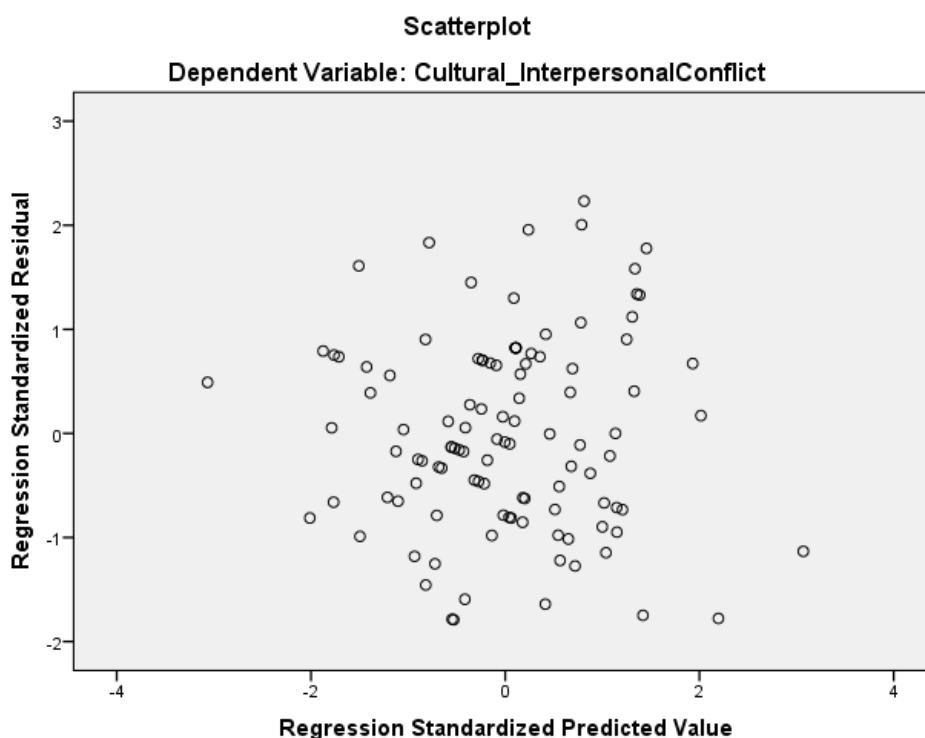
There was the independence of residuals, as assessed by a Durbin-Watson statistic of 2.006. There was no evidence of multicollinearity, as assessed by variance inflation factors (VIFs) less than 10 (Field, 2018). No standardized residuals were greater than ±3 standard deviations, thus no outliers. The assumption of normality was met, as assessed by visual inspection of a histogram of regression residuals (Figure 38).

Figure 38

Histogram of Regression Residuals
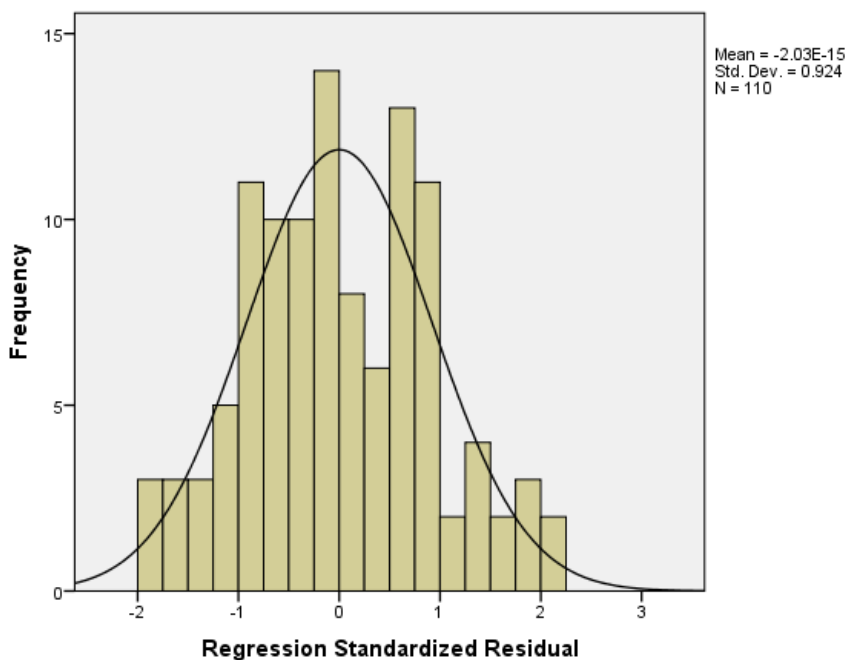
The parametric assumptions for Pearson correlations included normality, absence of outliers, and linearity (Field, 2018). There was a violation of the normality assumption for the three variables of number of conflicts, number of days as a seafarer, and number of nationalities as assessed by visual inspection of histograms. The distributions were markedly skewed (Figures 39, 40, and 41). Therefore, Spearman correlations were conducted, which do not have a normality requirement. The interpretation of Spearman correlations is similar to Pearson correlations.

Figure 39

Histogram of Number of Days on Ship
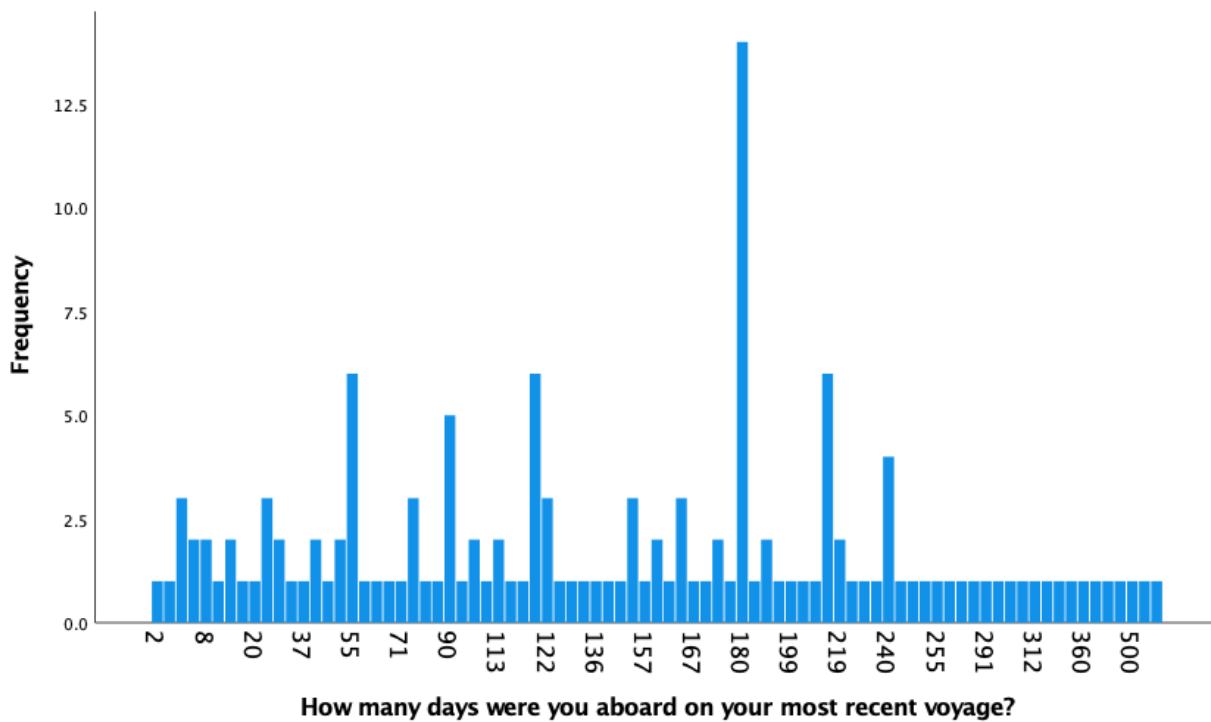
Figure 40

Histogram of Number of Conflicts
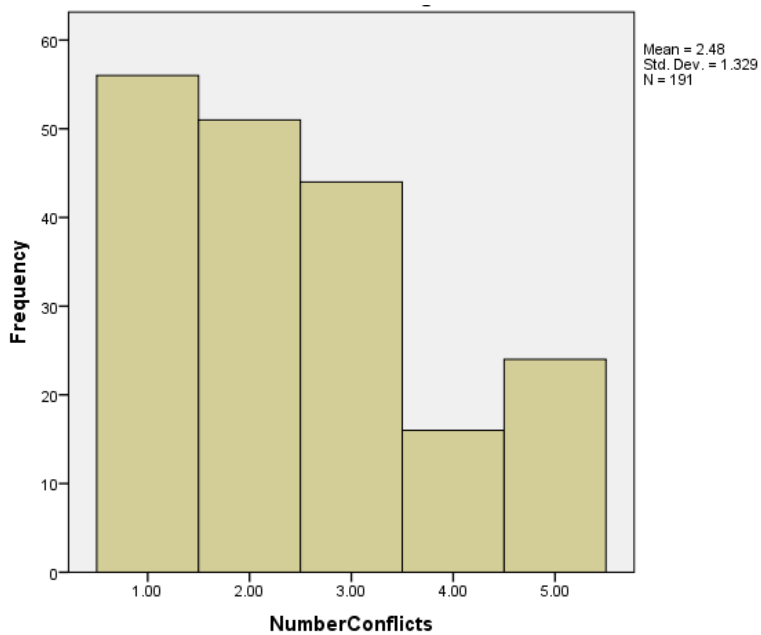
Figure 41

Histogram of Number of Nationalities
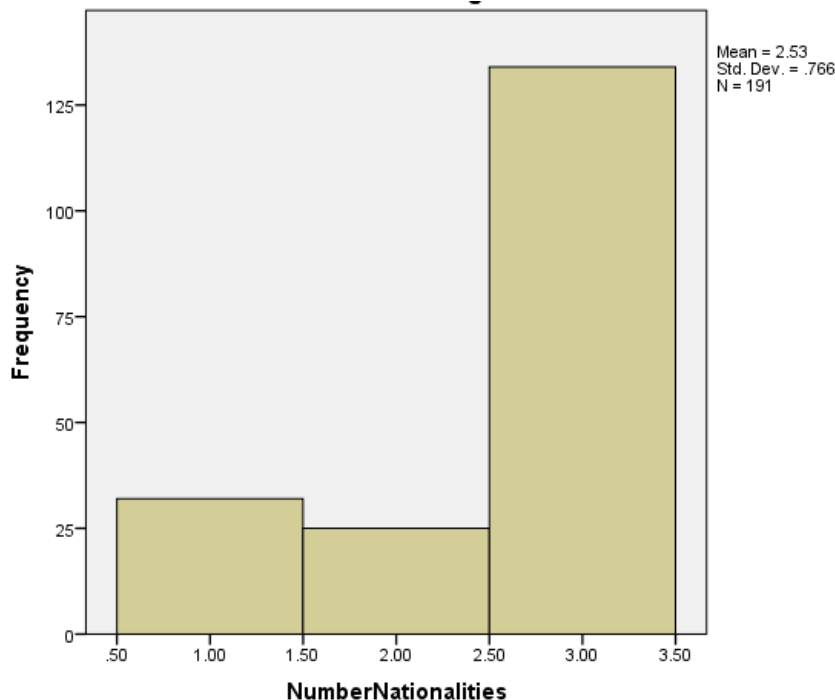
The assumptions of binary logistic regression for one independent variable include a

dichotomous dependent variable, independence of observations, and no regression outliers. The

dependent variable, occurrences of any casualties, is dichotomous (yes or no response). The

independence of observations assumption is an assumption made as part of the study design (i.e.,

the participants' responses are independent). There were no regression outliers as measured by

standardized regression residuals.

Results of Hypotheses Testing

Multiple regression was conducted to assess this first research question and hypotheses:

- RQ1. Is national culture onboard a vessel a predictor of the occurrence of

  interpersonal conflicts, controlling for demographic variables?

H0: National culture is not a predictor of interpersonal conflicts onboard a vessel,

controlling for demographic variables.

H1: National culture is a predictor of interpersonal conflicts onboard a vessel,

controlling for demographic variables.

After controlling for the possible effects of participants' race, gender, days working on the ship, age, marital status, and religious beliefs, the addition of the number of nationalities was a significant predictor of cultural interpersonal conflicts, $F(1, 93) = 4.121$, $p = .045$. For every one-unit increase in the number of nationalities, cultural interpersonal conflicts increased on average by 0.244 ($B = 0.244$, $p = .045$). Table 18 provides the regression coefficients.

Table 18

RQ1 Regression coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	T	p	Collinearity Statistics	
		B	SE	β			Tolerance	VIF
1	(Constant)	2.497	.820		3.044	.003		
	Years Seafarer	.008	.015	.102	.565	.574	.302	3.308
	DaysOnShip	-.000	.000	-.040	-.371	.711	.849	1.178
	Age	-.008	.015	-.101	-.514	.609	.251	3.984
	Sex	.562	.407	.154	1.380	.171	.790	1.266
	Married	.175	.527	.105	.333	.740	.098	10.234
	Single	.088	.560	.053	.158	.875	.087	11.481
	White	.486	.305	.270	1.593	.114	.341	2.937
	Hispanic	.469	.384	.182	1.221	.225	.439	2.280
	Black	.747	.443	.233	1.686	.095	.510	1.959
	Asian	.479	.290	.272	1.652	.102	.360	2.775
	Middle Eastern	.072	.467	.018	.155	.877	.715	1.399
	Christian	-.216	.274	-.122	-.788	.432	.408	2.452
	Other	-.205	.468	-.051	-.438	.662	.711	1.407
	Hinduism	.163	.297	.083	.547	.586	.423	2.362
	Islam	.191	.315	.079	.608	.544	.579	1.727

Model		Unstandardized Coefficients		Standardized Coefficients	T	p	Collinearity Statistics	
		B	SE	β			Tolerance	VIF
	(Constant)	1.728	.891		1.939	.056		
	3. How long have you been a seafarer (years)?	.009	.014	.115	.650	.518	.302	3.313
	How long in days have you been working on this ship altogether?	-.000	.000	-.058	-.548	.585	.843	1.186
	10. What is your age?	-.008	.015	-.103	-.529	.598	.251	3.984
	Sex_recode	.697	.406	.190	1.716	.089	.768	1.301
	Married	.256	.520	.154	.493	.623	.097	10.295
2	Single	.196	.554	.117	.355	.724	.086	11.587
	White	.490	.300	.273	1.636	.105	.341	2.937
	Hispanic	.433	.379	.168	1.144	.256	.438	2.285
	Black	.756	.436	.236	1.736	.086	.510	1.960
	Asian	.458	.285	.261	1.607	.111	.360	2.779
	MiddleEastern	.097	.459	.024	.212	.833	.714	1.400
	Christian	-.168	.271	-.095	-.618	.538	.405	2.471
	Other	-.120	.462	-.030	-.260	.795	.705	1.419
	Hinduism	.253	.296	.129	.855	.395	.414	2.416
	Islam	.232	.310	.096	.746	.457	.577	1.734
	NumberNationalities	.244	.120	.207	2.030	.045	.909	1.100

Notes: Two models are present. The first regression model included only the demographic variables of participants' race, gender, days working on the ship, age, marital status, and religious beliefs, which were controlled for. The second model then included the number of nationalities.

Spearman correlations were conducted to address this second research question and hypothesis:

- RQ2. Is there any correlation between the number of days of the duration of the voyage and the number of interpersonal conflicts?

   H0: There is no correlation between the number of days of duration of the voyage and the number of interpersonal conflicts.

H1: There is a correlation between the number of days of the voyage and the number of interpersonal conflicts.

Results of Spearman correlations indicated that there was no significant correlation between the number of days of duration of the voyage and the number of interpersonal conflicts. (r_s = .072, p = .481). Thus, this null hypothesis is not rejected (Table 19).

Table 19

RQ2 Spearman Correlation (r_s)

	1	2
Number of Conflicts (1)	1.000	
Days on the ship (2)	.179*	1.000

Note: *Significant at the .05 level (p = .011)

Binary logistic regression was conducted to address this third research question and hypotheses:

- RQ3. Is there a prediction between the interpersonal conflicts among crewmembers onboard and the occurrence of marine casualties and incidents?

  H0: There is no a prediction between the interpersonal conflicts among crewmembers onboard and the occurrence of marine casualties and incidents.

  H1: There is a prediction between the interpersonal conflicts between or among crewmembers onboard and the occurrence of marine casualties and incidents.

The regression model was not significant, $\chi2(1)$ = 0.037, p = 847. The number of conflicts did not result in a significant likelihood of the occurrence of casualties (B = -0.31, p = .847, OR = 0.970). Table 20 provides these results.

Table 20

RQ3 Results of Binary Logistic Regression: Number of Conflicts Predicting the Likelihood of

Occurrence of Casualties

	B	*SE.*	Wald	*df*	*p*	*OR*	95% CI for EXP(B) Lower	Upper
NumberConflicts	-.031	.160	.037	1	.847	.970	.709	1.326
Constant	.945	.461	4.192	1	.041	2.572		

Note: * *OR* = Odds Ratio; SE = Standard Error; *B* = Regression Coefficient. **$B > 0$ indicates

an increased likelihood of the occurrence of casualties and *B*< 0 indicates decreased likelihood.

Likewise, *OR* > 1 indicates an increased likelihood of the occurrence of casualties, and *OR* < 1

indicates decreased likelihood of the occurrence of casualties. If *OR* = 1, this indicates that the

occurrence or non-occurrence of casualties is equally likely.

Qualitative Findings

As discussed under the data analysis method in Chapter 3 above, the qualitative data

collected by the researcher was analyzed and interpreted by the researcher using the thematic

analysis method, which systematically analyzed and interpreted the content of texts extracted

from the questionnaire open-ended questions responded to by the participants, identifying

themes, patterns, or meanings in the data.

For the qualitative data analysis, the researcher used the thematic analysis method

supported by the qualitative data analysis software NVivo version 14.23.0 (13) software (student

version). Open and axial coding was conducted to extract the key themes from the data. Open

coding involved breaking the data into text segments and assigning descriptive names to the text

segments (Vollstedt & Rezat, 2019). The descriptive names carried meanings consistent with the

underlying text segments' meanings (Vollstedt & Rezat, 2019). On the contrary, axial coding

involves drawing connections and relationships between various open codes (Vollstedt & Rezat, 2019). Then, the data analysis confirmed or refuted the qualitative research questions.

 A summary of the results is shown in Table 21with the coherent themes obtained from the qualitative analysis that answered research questions 1, 2, and 3. A summary of the results for the research question 4 with the typology of conflicts is shown in Table 22.

Table 21

Summary of Key Themes & Categories Obtained

Research Question	Theme	Sub-Theme	No. of coding references
RQ1: What are the perceptions of seafarers regarding the relationship between national culture onboard a vessel and the occurrence of interpersonal conflicts?	*Theme 1*: Having different national cultures on board increases chances of interpersonal conflicts occurring.	Different cultures cause conflict	4
		Learning & understanding other cultures prevents conflicts	3
	Theme 2: Having multiple national cultures on board is beneficial as it results in knowledge transfer between national cultures.	Having different cultures is beneficial	9
RQ2: What are the perceptions of seafarers regarding the relationship between the number of days of the duration of the voyage and the number of interpersonal conflicts?	*Theme 3*: Long stay on board may lead to conflicts among crew.	Spending a lot of time on board causes conflicts among crew	3
	Theme 4: Long working hours may lead to conflict among crew.	Long working hours lead to conflicts among crew	4
RQ3: What are the perceptions of seafarers regarding the relationship between the interpersonal conflicts among crewmembers onboard and the occurrence of marine casualties and incidents?	*Theme 5:* Conflicts may alter emotional states, which contributes to errors and accidents.	Conflict affects state of mind	4
		Conflict causes fear and distraction at work	3
		Conflicts affect mental health, which may result in poor job performance.	5
		Conflicts result in a lack of concentration at work.	13
	Theme 6: Conflicts lead to ineffective communication, which contributes to marine casualties and incidents.	Conflicts lead to lack of effective communication among crew	13
		Ineffective communication may lead to accidents & incidents	5

RQ1: What are the perceptions of seafarers regarding the relationship between multinational culture onboard a vessel and the occurrence of interpersonal conflicts?

The first research question was intended to establish whether a relationship exists between the presence of multiple national cultures on board and the occurrence of interpersonal conflicts. Two coherent themes extracted from the qualitative data answered this first research question. A detailed discussion of each of the two themes is conducted in the sub-sections that follow.

Theme 1: Having Different National Cultures on Board Causes Interpersonal Conflicts Among Seafarers.

The first theme was that the existence of different national cultures on board causes interpersonal conflicts among seafarers. Participants expressed concerns that the presence of multiple cultures was associated with interpersonal conflicts. Participants P114, P9, P147, and P149 contributed to this theme. Participant P114 held that multiple cultures on board often result in dominant cultures applying constant pressure on cultural minorities. P114 stated, "some minorities nationalities are under constant pressure from the majority, in special Latin crew are under constant pressure from Balkans countries crew." From P9's perspective, cultural differences may result in conflicts among the crew on board. According to this participant, one particular cultural difference that may fuel interpersonal conflicts is the gap in education levels, which, as the participant claimed, differs from one culture to another: "Gap in education process is different countries that could also fuel conflict among seafarers."

P147 held that the presence of different cultures in an enclosed environment increases the chances of interpersonal conflicts arising. From P147's perspective, people from different cultures are likely to hold different points of view on different matters, which may then result in

interpersonal conflicts: "Because the interpersonal conflicts onboard, basically it's about different culture and points of view, being an enclosed working environment affects sometimes the normal living which affect directly the interpersonal relationship creating in some cases a conflict." Lastly, participant P149 indicated that some nationalities do not know how to interact and live well with people who are not from their culture: "Again a very dynamic some Nationalities live well with others, while others do not, but as I have mentioned earlier it can lead to conflicts."

Participants 67, 131, and 23 stressed the importance of learning and understanding other cultures, which they described as a key strategy to preventing interpersonal conflicts among seafarers. P67 acknowledged that he was the only one who was from a different culture on his vessel. To ensure a peaceful coexistence with other cultures, P67 learned to respect the other cultures on board: "Because I am the only one who is not from here. I have learnt to respect those from other cultures. We will keep other challenge." Participant P131 also emphasized the need to understand the different cultures on board: "It's better to know the different culture." Participant P75 testified that understanding and respecting other cultures prevents tension between cultures: "I have not witnessed any tension between cultures; I personally enjoy working with and understanding other cultures." Lastly, P23 attributed the absence of conflicts on his vessel to the training program his organization had implemented to help them learn and understand other cultures: "We have been trainee for years to understand and respect cultural differences."

Theme 2: Having Multiple National Cultures on Board is Beneficial as it Results in
Knowledge Transfer Between National Cultures.

Some participants held that having multiple cultures on board is not entirely bad and may not always result in interpersonal conflicts. Instead, those participants considered multiculturalism on board a vessel beneficial as it allows knowledge transfer between cultures. P22, for instance, contended that having many nationalities allows one to learn new important information from every nationality on board: "You can take the good points from every Nationality on board and take advantage of it." P2 held that a multicultural environment allows one to learn new languages while on board the vessel: "Because, you can Learn a new languages."

Participant P49 indicated that multiculturalism is beneficial as every new culture added to the team contributes something new. Thus, P49 held that multiculturalism could be exploited to develop a stronger workforce rather than cause divisions among seafarers:

> Although communication becomes a barrier sometimes but every cultural group bring something new to the workforce, it actually depends on the senior members in crew by rank and experience to utilize it to the fullest, and at time, this could add to the team rather than cause negative impact.

P19 also held similar views as P49. According to P19, cultural diversity contributes positively to the team by bringing in new skills and experience. Thus, P19 perceived cultural diversity as having a positive effect on the team rather than a negative one: "We all bring individual skills and experience as well as our world view. I perceive this diversity as a positive effect on the tasks that we undertake within group organization."

Other participants, such as P10, P29, P31, and P45, held similar views, indicating that diversity empowers the team. For instance, P10 held that many different cultures are important since different cultures amount to a combination of different unique skills that are beneficial to the company in the end: "Many different types to do work. Many cultures translate too many different skills, talents, and experience, which is important for the company." P29 held that diversity empowers the workforce to perform better: "Diversity is an empowerment." P31 indicated that diversity allows many new talents to work together, which leads to knowledge transfer and enhanced productivity: "Expertise helps increase productivity and learning." Lastly, P45 held similar views to P31, indicating that multiculturalism allows sharing knowledge and experience on board: "We can share our experience onboard different mentality."

RQ2: What are the perceptions of seafarers regarding the relationship between the number of days of the duration of the voyage and the number of interpersonal conflicts?

The second RQ focused on the relationship between the voyage's number of days or duration and the number of interpersonal conflicts experienced. To answer this research question, the researcher focused on extracting data related to whether and how the amount of time that seafarers stay on board could cause interpersonal conflicts. Two themes that answered this research question were extracted from the data. A detailed discussion of these themes is conducted in the sub-sections that follow.

Theme 3: Long Stay on Board May Lead to Conflicts Among Crew

The third theme, one of the two that answered the third research question, was that an extended stay on board the vessels increased the likelihood of interpersonal conflicts among seafarers. For instance, P107 responded that an extended stay on board could lead to some seafarers going crazy and fighting each other: "Long staying onboard people going crazy

sometime they found fighting each other or doing other things wrong." P17 indicated that some interpersonal conflicts on board result from people spending too much time on board: "GD my opinion... not in all situations interpersonal conflicts between crew are caused by accidents...sometimes could be for have too much time on board."

P143 attributed some conflicts to excessive time on board the vessels. According to this participant, life on the vessel is comparable to prison life, where people differ in terms of thought and ways of acting. Thus, staying for more extended periods on the vessel where life is complex is likely to result in conflicts: "I think that conflicts on board arise from excessive time on board, human beings need to relate and I have always said that ships are like being in prison, living with people who differ in terms of thought, way of acting, and that complexity life on board." P13 indicated that staying on board is mentally draining; mentally drained people are likely to initiate or engage in fights on board: "Overstaying onboard can be mentally draining and increases fatigue especially where there is no source of communication to the outside world. People are likely to start fighting each other when they are exhausted and stressed."

Another participant, P21, contended that an extended stay on board might result in fatigue, which, in turn, may raise emotions among the crew. According to P21, as the number of days on board increases, the possibility of conflicts arising from heightened emotions caused by fatigue also increases: "I believe that fatigue and normal human emotions will always play a part, on each person's personal resilience, as the number of hours and days onboard increase." P134 contended that more extended contracts might increase the chances of interpersonal conflicts: "Longer contracts may increase risk of conflict in case of personal disagreement." Lastly, P23 believed that the lower the number of days, the lower the stress and the subsequent number of

interpersonal conflicts on board: "I believe as per Q26 that ordinarily the less days equates for the average person less stress and less intensity in any interpersonal conflicts."

Theme 4: Long Working Hours May Lead to Conflict Among Crew.

Another closely related theme to the previous one was that long working hours might lead to conflicts among seafarers. Participants generally held that long working hours contribute to the complexity of the environment on board the vessel, which increases the chances of interpersonal conflicts arising. P16 indicated that long working hours and excessive stay on board could lead to conflict: "Sometimes, too much time on board coupled with long working hours is the culprit. For work too much hours at work without rest...for a familiar situation at shore...because in the old days 30 years ago nobody had communication with family."

RQ3: What are the perceptions of seafarers regarding the relationship between the interpersonal conflicts among crewmembers onboard and the occurrence of marine casualties and incidents?

The third research question focused on the correlation between interpersonal conflicts and the occurrence of marine casualties and incidents on board. Two themes answered this research question. Each of the themes is described in detail in the sub-sections that follow.

Theme 5: Conflicts May Alter Emotional States, which contributes to Errors and Accidents.

Participants explained that conflicts cause marine incidents and casualties by altering the state of mind of perpetrators and victims. For instance, P1 stated that conflicts lead to mental health issues that may, in turn, cause the human error: "Off course yes. Interpersonal conflicts lead to a mental status that causes human error. Crew mind are not in the place of work." In another response, P8 indicated that interpersonal conflicts might contribute to human error. P8 further expounded that conflicts may also cause crewmembers to commit suicide, thus directly

resulting in marine casualties and incidents: "Interpersonal conflicts may be one of the factors contributing to human error. Sometimes interpersonal conflicts can lead to crewmembers' suicide." Lastly, P12 held that interpersonal conflicts might lead to mental and physical health issues, thus causing marine accidents, mainly if they occur in the engine room: "It definitely takes a toll on both mental and physical health of a seafarer especially in engine room which may cause a person to be irritable."

Some participants held that conflicts might result in mental health issues. Mental health issues, in turn, may cause the human error, thus resulting in unintended casualties and marine incidents. For instance, P27 stated: "The second condition for an accident to occur is the action of the individual himself, most of the time due to ignorance, conflicts, carelessness, stress, fatigue, etc." P20 also indicated that interpersonal conflicts might result in mental health issues reducing the work efficiency of conflicting individuals: "But onboard if you have stress due to some interpersonal conflict it will remain inside you 24*7 as I have observed. It will not only affects health and mind of seafarer also have negative impact on work efficiency." P38, in his response, indicated that the ability to withstand the complex environment characterized by issues such as frequent conflicts depends on the mental strength of a seafarer: "It depends on mental strength of each seafarer and possibility to withstand." P18 indicated that interpersonal conflicts may put people in unstable states of mind hence making them cause accidents or casualties: "Because of interpersonal conflicts people are not in the right frame of mind while carrying out their duties, which could result in accident/casualty." Lastly, P99 contended that the psychological abuse of a seafarer adversely affects their quality of work: "Because psychological abuse of a seafarer affects the quality of work."

Another portion of the participants contended that conflicts cause crewmembers to lose concentration. However, the participants did not explicitly mention losing concentration on sensitive tasks such as steering the ship could result in marine incidents and casualties. For instance, P85 held that a strained work environment might lead to loss of focus, thus precipitating the occurrence of accidents, incidents, and casualties: "Loss of focus caused by a strained working relationship." P73 also held that seafarers might be unable to conduct their jobs safely if conflicts occur on board, thus increasing the chances of marine incidents and casualties: "Any conflicts onboard will distract the seafarers from conducting their job safely." P62 argued that conflicts might derail crewmembers from conducting their tasks correctly: "Interpersonal conflicts can shift the focus of the involved personnel from carrying out their job responsibilities in the correct manner." Depending on the sensitivity of the tasks, the inability to address them perfectly may translate into systemic errors, which could then cause accidents/incidents.

P40 indicated that conflicts on board could cause warring conflicting individuals to avoid working together and, in worst-case scenarios, to sabotage each other: "People arguing will avoid working together. Maybe in the worst case scenario, one will sabotage the other to make him/ her have problems?" P48, however, indicated that people engaging in conflicts might become overly emotional. When emotions cloud their judgment, work becomes secondary: "Some people get emotional, and that clouds their judgment, then work becomes a secondary thing. Of which that is the primary reason you are onboard?" Lastly, P39 indicated that conflicts cause operators not to concentrate on the job, thus leading to human errors: "Miss Understandings lead to operator's not concentrating on the job thus errors. Some seafarers from different countries when working onboard have issues which can led to human error."

Theme 6: Conflicts Lead to Ineffective Communication, which contributes to Marine Casualties and Incidents.

The sixth and last theme was that conflicts indirectly cause marine casualties and incidents by breaking communication among seafarers. P12 agreed that conflicts result in human errors, incidents, and casualties. When asked to explain how this occurs, P12 explained that conflicts cause communication failure, which causes incidents and casualties: "Because have communications failure." P13 also held that interpersonal conflicts lead to poor teamwork and improper communication: "Poor interpersonal relationships can lead to bad teamwork and improper communication between crew members." When crewmembers are not getting enough information to execute key tasks, they may make errors that would later cause incidents and casualties.

P25 indicated that conflicts break down communication among seafarers. This breakdown in communication is detrimental to the safety and performance of crewmembers as it would result in accidents: "When there's Interpersonal conflict there maybe break in communication and we know that most accidents happens when there's no proper communication." P26 also held similar views, "Because lack of communication often leads to incidents or near miss tackles."

Participants P1, P15, P81, and P11 believed conflicts result in communication breakdown. The participants, unlike the previous ones, did not expound on how communication breakdown causes accidents and incidents. According to P1, conflicts can make crewmembers be reluctant to pass critical information to their fellow crewmembers: "Where conflicts occur personnel can be reluctant to pass information to the other party in the conflict particularly when the other person holds a more senior position." P15 explained that poor relations among seafarers

might lead to poor communication where seafarers are reluctant to speak up on important matters: "I cannot speak from experience however I can say there are cases where poor relations can cause communication resistance. Seafarers are less likely to speak up to point out potential issues to officers they fear." From the perspective of P81, interpersonal conflicts may adversely affect communication among teams. P81 said this in response to a question he was asked on why he believed conflicts could result in incidents and accidents: "Because interpersonal conflicts affect the communication among working teams onboard."

A section of the participants argued there was a clear link between communication breakdown and the occurrence of marine casualties and incidents. P22, for instance, held that conflicts cause communication breakdown, which, in turn, leads to incidents and casualties. According to P22, it would be difficult for conflicting seafarers to communicate with each other effectively in case of danger: "Because you are already at Risk when you at sea, and with conflicts amongst crew onboard wouldn't help, would be very difficult to alert a fellow when there is danger or emergency at a point." P34 attributed human errors that occur in the marine environment to communication barriers and interpersonal conflicts, among other factors: "Miss respect, discrimination, abuse of power and of course communication barriers are sources of interpersonal conflicts that definitely directly related to human error on board." P6 narrated one incident in which interpersonal conflicts had resulted in a delayed response to a fire incident on board: "Poor communication skills had caused delay in a fire incident." P63 explained that conflicts lead to poor communication where crewmembers fail to pass out important information to their colleagues. The inability to pass critical information may, in turn, lead to errors or accidents: "If two crew have interpersonal conflict it hinders the communication between then

and this can result in missing an important information that can lead to error and eventually an incident or accident."

Typology of Conflicts

The fourth research question (RQ4: What are the most common types of conflicts and their causes among seafarers?) was intended to explore the most common types of conflicts among active seafarers, mainly categorized based on the causes reported by 100 participants. Table 22 summarizes the responses received from the participants. Forty-two participants did not respond any comment.

Table 22

Typology of Conflicts

CONFLICTS	REFERENCES	%
Conflicts related to differences in ideologies	10	6.99
Conflicts related to cultural differences - culture, race, religion, & nationality	24	16.78
Conflicts related to seafarers mental health	8	5.59
Conflicts related to superiority complex and Toxic Leadership	16	11.19
Conflicts related to unequal compensation	8	5.59
Conflicts related to poor working conditions	11	7.69
Conflicts related to gender-based discrimination & sexual harassment	7	4.90
Conflicts related to bullying	7	4.90
Conflicts related to egoism & self-importance among some crew members	6	4.20
Conflicts related to Language Barrier and Lack of Effective Communication	29	20.28
Conflicts related to a General Lack of Knowledge & Skills among crew	10	6.99
Conflicts related to Insufficient or Low-Quality Food Onboard	5	3.50
Conflicts related to alcohol and substance abuse	2	1.40
Total	**143**	**100.0**

Conflicts Related to Differences in Ideologies

The first category of conflicts consists of those arising due to ideological differences among seafarers aboard sea vessels. When requested to identify different types of conflicts and their causes, 10 participants mentioned ideology-based conflicts were quite common on vessels. Participant P12, for instance, claimed that conflicts arise due to "Different opinion on how work should be completed." P21 also mentioned differences in ideologies as the main causes of conflict on board: "The main cause is conflicting ideas of the job to be done." Several other participants also mentioned differences in ideology, ideas, and approaches to completing tasks: "Different ideology" (P31), "More often the cause is difference in opinions owing to the job function and inability of the top management on ship to create healthy team environment" (P35), "Disagreement on overtime" (P51), and "Disagreement in professional opinion" (P45). Findings also indicated that conflicts may arise from differences in opinions on subjects not related to work: "Difference in personal opinions about topics unrelated to work" (P58).

Conflicts Related to Cultural Differences

The second category of conflicts consists of those arising due to cultural differences, including culture, race, religion, and nationality, among seafarers aboard marine vessels as reported by participants. While some of the participants had a general perspective on cultural differences, others mentioned specific cultural elements such as race, religion, and nationality. Six participants mentioned cultural differences as the main causes of conflicts among seafarers: "Cultural differences" (P1, P7, P15), "Cultural conflict for me is the first" (P15), "Differences in culture" (P33), and "Crew are of different cultural backgrounds." (P61). One participant was more specific by giving an example of how conflict may arise from cultural differences:

"Disregard of the cognitive capacity of other cultures [I believe he intended to imply that collectively labelling people from certain cultures as having a lower cognitive capacity]" (P21).

Seven participants were more specific on nationality as the key cultural element that may give rise to conflicts: "Different nationalities," (P44, P29, P7), "Nationality" (P55 mentioned this when asked to name some of the causes of conflicts on board marine vessels. I believe he referred to differences in nationalities as one of the major causes), and "Divided as per different nationalities" (P81). While identifying differences in nationalities as one of the causes of conflicts, P77 was more specific on how this occurs: "Crew of differing nationalities having different attitudes to work ethic and different standards of international training." Another participant (P22) was also more specific on how differences in nationalities may give rise to conflict. According to P22, crew members from certain nationalities sometimes feel superior thus causing tensions with other nationalities on board: "Europeans officers exploited too much the crew Russians, Ukraine, Germans, English, Dutch officers feel superiors to the crew and sometimes explode them and cause conflicts." Lastly, P2 mentioned that social conventions and socially-acceptable behavior may vary significantly among crew members on board. This increases the chances of conflicts arising due to crew members being unable to put up with behaviors or social conventions from certain nationalities.

Differences in race, another element of culture, also give rise to conflict on board. Four participants particularly mentioned racism as a major concern among crew members: "Racial discrimination of people on board" (P90), "Lack of respect for skin color and background" (P41), "inter-racial" (P12 probably meant the presence of people from multiple racial backgrounds increases the chances of conflicts arising), "Discrimination and racism" (P19), "Race (P14 probably meant differences in race may give rise to conflicts), "Discrimination due

to difference in race or religion" (P78), and "Hatred due to racism" (P33). One participant went deeper to describe a personal experience where they were discriminated against solely based on their race:

> Racial I have personally experienced racism onboard by East European seafarers, if one conforms to their "place" not much harassment is encountered. Sorry for the naming but only 1 particular incident comes to mind hence took the name of the area. There are redressal systems onboard.

Conflicts Related to Seafarers Mental Health

Another category of conflicts among crew members identified from the qualitative data was related to mental health. In particular, these types of conflicts arise when some seafarers develop mental health issues that hinder them from thinking and making rational decisions. Participants made several statements that pointed towards mental health issues as one of the major causes of conflicts among seafarers: "individual psychotic behaviour" (P43), "loneliness and no support group with crew" (P93), "commercial pressure & stress" (P38), and "stress & fatigue" (P88). One participant mentioned that sometimes, crew members who misses their family may develop mental health issues that may compel them to start conflicts with other crew on board: "Crew misses their family and loved ones. This homesickness and stress may cause them to start fights and other conflicts."

Another participant described an experience where one crewmember was having serious anxiety problems due to substance misuse. The crewmember, on one occasion, even attempted to jump into the sea:

> Anxiety, I have had a period of boarding where a crew member was addicted to smoking and reported having depression. With a few days on board, he had p outbreak and tried to

jump into the Sea, but he didn't finish. So, the Commander thought It best to disembark him. I could tell he was a Very anxious person. Apparently, he was anxious about the addiction.

Another participant articulated that some crew members may develop psychological problems, which may, in turn, drive them to treat others in a wrong way: "A person with psychological problems. A crew member has strangers conducts, and treats all persons in a wrong way, all rest doesn't liked work with this person because they didn't tolerate his personality." The findings thus indicate mental health issues among crew as a significant concern and cause of conflicts.

Conflicts Related to Superiority Complex and Toxic Leadership

Conflicts related to superiority complex among leaders were also identified by participants as common among seafarers. This recurrent theme was observed in 16 participants. One aspect of superiority complex among leaders as identified by participants was aggressive behavior and abuse of power: "masters with aggressive behaviors precipitate conflicts" (P3), "abusive officer" (P3), "Abuse of power" (P6, P36), "Useless arrogant captains" (P15), and "Abusing power or authority to handle crew on board" (P71, P24). One participant (P8) described an experience he had with an arrogant leader:

Offence behavior, 2nd Engineer. I was 3rd officer. Mentioned person tried to conflict me every day. After 1 month my patience lost. I closed all exits in mess room when engineer was alone and told him in calm way, what will happen if his attitude will be the same in the future. Conflict was closed.

Participants also identified seniority/superiority and desire by leaders to defend their rank as another cause of conflict: "The desire to defend one's rank and or record of experience at the

expense of encroaching onto the "territory" of colleagues" (P43), "superiority complex" (P48), "superiority" (the participant probably meant that the tendency of some leaders to project their superiority may result in conflict with their subordinate), and "Senior vs Junio...Experience matters, but so does the diversity and inclusion." P10 gave a specific example of how superiority complex among some leaders may precipitate conflict. According to P10, when some leaders are approached for guidance, they tend to humiliate their subordinates, effectively triggering negative emotions: "When superior(s) say that they are available to guide and help anytime, and when they are actually approached for guidance or help, they turn to humiliating the other person."

P25 and P37 indicate that some leaders tend to micromanage employees, an approach to management that makes the subordinates feel belittled and looked down upon. According to P25, some leaders do not believe in the knowledge and experience of their subordinates hence resort to issuing orders that must be followed strictly: "Leader not believe or respect in crew knowledge/experience/competence so only give orders that must be followed to the latter." P37 also identified micromanagement as a key factor contributing to conflicts among seafarers: "Micromanaging bosses. People in senior positions for so long, lost touch. Can't trust you because you can't be as wonderful as them."

Conflicts Related to Unequal Compensation

Based on participants' responses to the open-ended survey questions on typology of conflict, it was discovered that a significant portion of the conflicts that occur onboard marine vessels are related to salary inequalities. Inequalities in compensation, particularly for the same roles, is likely to trigger arguments and fights as reported by several participants: "Non-conformity of pay or welfare of staff on board" (P28), "Arguments over difference of payment

for same roles" (P18), "Different pay scales for the same role" (P10), "Unevenness in wage payments" (P29), "low wages & different wage scales" (P50), and "Wage disparity, Different nationalities getting different wage scales."

Conflicts Related to Poor Working Conditions

Conflicts among seafarers are also associated with poor working conditions as reported by various participants. Participants cited tight deadlines and pressure from the management as some of the elements of poor working conditions that may contribute to conflict on board marine vessels: "Lots of pressure" (P45), "harsh working conditions or tight deadlines" (P33), and "too much pressure to meet deadlines from the leaders" (P13). Apart from pressure and deadlines, participants also cited heavy workload as another aspect of poor working conditions that may precipitate conflict. For instance, Participant P32 indicated that in some cases, the managers may reduce manpower while at the same time increasing workload resulting in frustration among the subordinate crew: "Reducing manpower especially in Engine room with Increase in workload." Participant P97 described how junior officers aboard the vessels are sometimes overburdened with work and harassed to the point of getting demoralized: "Forcing someone to work beyond their work hours." According to P12,

Junior officers are burdened with too much workload, so they overwork despite of rest hour compliance. No matter how much they work, one cannot satisfy these senior guys and often bullied by seniors like. You don't have any knowledge. In our times we had done this bla bla bla. Due to this moral of new and young seafarers go so down that they never get boost up while their whole contract.

Poor working conditions are also characterized by long working hours. According to the participants, long working hours may lead to burnout, stress, irritability, and reduced tolerance

for workplace challenges. These conditions, in turn, make conflicts more likely to arise. Two participants mentioned long working hours are key contributors to conflicts among seafarers. P16 stated, "improper rest hours, likely make crew irritable and less tolerant to challenges in the marine environment. They may likely flare up and engage in direct confrontation with the captain. I have witnessed this a couple of times." P21 also made a statement attributing conflicts to long working hours: "Long working hours. Lengthy working hours sometimes cause serious burnout and stress, defiance is likely to rise." P48, however, stated that conflicts may only arise when crew are forced to work beyond their normal work hours.

Lack of adequate safety in the workplace also emerged as a significant aspect of poor working conditions likely to contribute to conflict among seafarers. For instance, one participant indicated how stormy weather leads to fatigue among seafarers: "Man vs nature" and "stormy weather thus causing fatigue." Two other participants generally mentioned that lack of safety may sometimes spark up arguments that may, in turn, lead to conflicts: "Argument regarding safety" (P58, P95).

Conflicts Related To Gender-Based Discrimination and Sexual Harassment

Another category of conflicts on board sea vessels are those arising from gender-based discrimination and sexual harassment as revealed by participants in this study. A portion of the participants indicated that some conflicts aboard the vessel occur when crew are discriminated solely based on their gender. For instance, participant P22 recounted a scenario where a male cadet felt he was being discriminated against by being assigned more and harder worker than a fellow female cadet: "Asymmetrical workload; A male cadet thought that he was getting more and harder workload than a female cadet." This was the only participant who reported males were the victims of gender-based discrimination. The rest of the participants who contributed to

the sub-theme reported gender-based discrimination against females. For instance, Participant 8 held that "Discrimination; Men cannot accept the fact that a woman can be a competent specialist." P12 also mentioned male chauvinism as a key cause of conflict among seafarers: "the male chauvinism." P45 mentioned how female seafarers are harassed by their male colleagues due to the false perception that they [female sea farers] are only interested in marriage rather than work: "Harassment   Men believe that a woman chose to work at sea in order to get married, and aggressively perceive the refusal." While supporting the idea that gender-based discrimination is the cause of conflict, P70 recalled an experience where male crew disobeyed a female first engineer because they probably did not like the fact that they were being led by a female: "Difference of genders. First engineer was female, and oilers, wipers disagreed with some orders, maybe they just didn't tolerate the fact that his boss was female."

The idea of sexual harassment as one of the causes of conflicts among seafarers came from only two participants. Participant P3 held that female crew are sometimes sexually harassed by their male counterparts: "Sexual harassment; some male crew sexually harass female seafarers because they think they are desperate, or something like that. You know, being a female seafarer sometimes attracts some disrespect." P28 simply mentioned sexual harassment as one of the causes of conflict but did not elaborate.

Conflicts Related to Bullying

Participants identified bullying as one of the main factors that may cause conflict among seafarers. Thus, bullying-related conflicts sometimes occur between different crew and groups of crew. Bullying may sometimes occur between seniors and subordinates thus leading to conflicts. P19 stated, "Bossing around. Doesn't matter who to who, if they try to boss other person instead of speaking politely, it may lead to fights." This participant emphasized the need for persons in

leadership positions to address their subordinates politely in order to limit the chances of conflicts arising. The same idea of bullying propagated by those in leadership positions was also shared by other participants including P5 and P54. Responding to a question on the types and causes of conflicts among crew, P5 gave an experience of how he was bullied by the Chief Officer, who tried to delegate more responsibilities to him than he was capable of handling. This led to a conflict when P5 tried to explain to the Chief Officer the responsibilities were too much: "Bullying from Chief Officer Tried to delegate a lot of his duties to me (2nd officer). I explained, that due to general lack of time it will cause misconduct with required procedures. He started shout ion. I started shouting." P54 described how those in authority sometimes propagate bullying especially through bribe extortion and use of regulations against the crew:

> Bullying by Authorities, extorting bribes for any reason, unnecessary power exercise, using regulations against the crew (request for counting every penny and penalization for any small discrepancy, request of counting every socks even without pair, etc.), demanding special treatment, racism especially in Africa and Middle East and South Asia, etc.

Apart from bullying from those in leadership positions, bullying may also occur between crew themselves. This observation came from P15, who described how sometimes crew bully each other:

> Bullying between crew members. Sometimes crew members have a bullying between then and cause interpersonal problems more if the bullying is related to infidelity of the wife at home...this is very dangerous because person think so really the situation about that. And feel very bad. And not work properly.

Several participants simply mentioned bully and bullying-related conflicts without elaborating on how exactly these occur. Statements made indicating bullying as a cause of conflicts among seafarers: "bullying on board" [P48], "There are bullies among seafarers" [P11], "bullying is the problem" [P21], "bullying-related conflicts, if you bully me, I bully back" [P91], "bullying" [P79], and "bullying, actually bullying" [P37].

Conflicts Related to Egoism & Self-Importance Among Some Crew Members

Ego among crew was reported as another cause of conflict. Participants mentioned that egoistic attitudes create tensions between crew due to power struggles and competition for recognition. For instance, participants P17, P24, P40, and P52 contended that ego and feelings of self-importance among some crew members created tensions among crew. P17 stated that "self-importance among some crew causes others to isolate them, or, in worse cases, confront them." P24 also thought along the same lines: "Some crew exhibit ego and self-importance, cannot take responsibility for their mistakes and instead transfer blame to others. This precipitates conflicts among crew." P40 held that "ego among crew compels them to compete for recognition, ultimately leading to tensions between them and their competitors." P52 also thought the same: "competition and power struggle resulting from egoistic tendencies among crew thus causing tension."

Participants also described how ego-related conflicts arising between older crew and younger crew. For instance, P82 indicated that sometimes, older crew refuse to take orders from younger crew: "Age vs Seniority. Old aged crew are sometimes very egoistic and don't want to take orders from officers or ranked seniors who are very younger to them." Flipping the coin, P7 described that conflicts may arise in cases where younger crew are outsmarted by their older counterparts: "Alter ego touch in any case younger crew outsmarted."

Lastly, ego-related conflicts also arise among crew in senior leadership positions. Participant P10 revealed that sometimes, crew in senior leadership positions compete with each other such that no one senior officer wants to take the ideas of the other: "To think I am the best.

Some officers think they are the best. Any idea if you give them, they will not accept. This conflict happens usually between two senior officers." Competition for promotions also arise among crew in leadership positions as they engage in power struggle to outwit each as reported by P12.

Conflicts Related to Language Barrier and Lack of Effective Communication

Some conflicts among seafarers on board also occur as a result of language barriers and a lack of effective communication among crew. Many participants revealed language barriers are common among seafarers. Seafarers often work with different nationalities and cultures, which implies that they most likely speak different languages. Several participants made general statements pointing towards language barrier as a cause of conflicts: "Language barrier" (P90, P22, P37, P98, & P23), "Talking in native language" (P18), "Language" (P44, P50, P61, & P43), "Sharing information in native language leads near miss" (P42), "communication – language" (P15), and "Language understanding" (P66).

Aside from language barriers, participants also generally mentioned a lack of effective communication and misunderstandings among crew as a cause of conflict. Statements made in regard to this sub-theme include the following: "misunderstandings" (P22, P11, & P56), "communication gap" (P2 & P3), "Lack of proper communication" (P9, P16, & P29), "miscommunication" (P4), "poor communication or inability to express oneself" (P4), "Lack of communication between bridge and tugs" (P5), "Lack of communication skills" (P20),

"complete breakdown of communication" (P28)], "orders are misinterpreted by juniors" (P8), and "Disagreement due to poor communication" (P7).

Conflicts Related to a General Lack of Knowledge & Skills Among Crew

Participants identified another unique categorization of conflicts – conflicts related to a general lack of knowledge and skills among crew. Even though the participants did not elaborate much on this idea, they probably referred to conflicts arising when seafarers are assigned roles but do not have the skills to complete those roles. Participants made statements such as "bad training, bad familiarization" (P20), "Lack of knowledge" (P31), "Not completing work" (P38), "Incompetency, No proper training not being proactive ,or showing interest to learn" (P41), "Incompetent crew member, Lack of basic seafarer training, including marine engineering" (P55), "Argument regarding technical problem" (P59), "inadequate trainings, new to the type of equipment, still familiarizing the equipment" (P61), "lack of duties knowledge" (P64), "lack of experience" (P66), "lack of experience in rank" (P80), and "Poor education" (P85).

Conflicts Related to Insufficient or Low-Quality Food Onboard

Conflicts may also arise when crew do have sufficient food. This theme was supported by various participants: "food ration insufficiency" (P33), "Argument regarding food" (P35), "Lazy chefs and poor crew food budget" (P38), "Food. When particular food is prepared onboard not minding the mixed nationality, culture, or religion onboard" (P44), and "Lack of food and poor food" (P48).

Conflicts Related to Alcohol and Substance Abuse

Conflicts may also occur due to alcohol and substance abuse among seafarers as revealed by two participants. Participant P8 recalled an experience where a junior crew started a fight because he was intoxicated: "Good worker, but alcoholic. His patience lost and he started fight."

Participant P49 also identified consumption of alcoholic beverages as a cause of conflict among crew: "Consumption of alcoholic beverages or other substances   Acts of indiscipline that could end in fights or aggression."

A summary of the typology of conflicts is shown below in Figure 42.

Figure 42

Typology of Conflicts
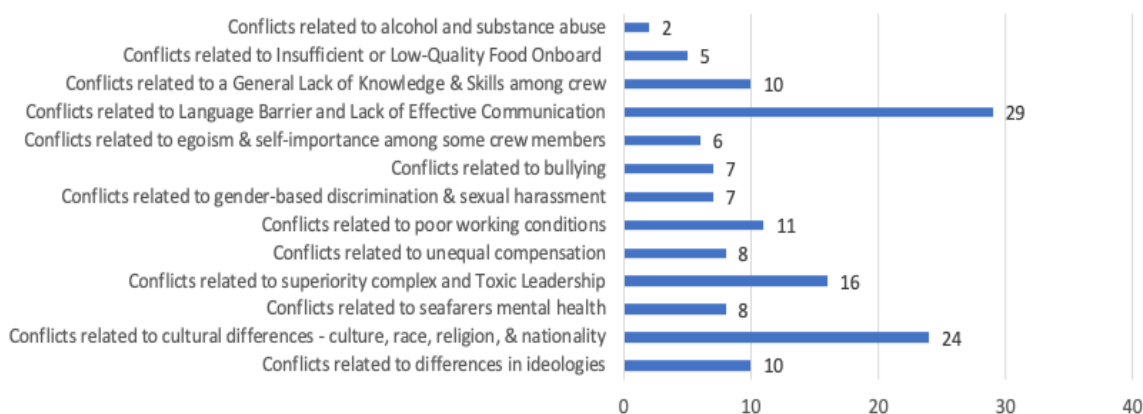
Summary Discussion

This study aimed to investigate the seafarers' perceptions of their interpersonal conflicts in a multicultural workplace as root causes of human errors that can result in marine casualties and incidents. Participants were asked how they felt cultural differences and the number of nationalities influenced interpersonal conflicts and marine accidents and causalities. Overall, the mean responses to 5 Likert items served as a measure of cultural interpersonal conflict and had a mean of $M = 2.85$ ($SD = 0.81$). The scale ranged from 1 (Strongly agree) to 5 (Strongly disagree). Thus, participants agreed that cultural differences and the number of nationalities influenced interpersonal conflicts and causalities. Additionally, this study utilized multiple regression, Spearman correlations, and binary logistic regression to address the following research questions:

RQ1. Is national culture onboard a vessel a predictor of the occurrence of interpersonal conflicts, controlling for demographic variables?

RQ2. Is there any correlation between the number of days of the duration of the voyage and the number of interpersonal conflicts?

RQ3. Is there a prediction between the interpersonal conflicts among crewmembers onboard and the occurrence of marine casualties and incidents?

Regarding RQ1, the quantitative analysis results of multiple regression conducted revealed that the number of nationalities is a significant predictor of cultural interpersonal conflicts. After controlling for the possible effects of participants' race, gender, days working on the ship, age, marital status, and religious beliefs, the addition of the number of nationalities was a significant predictor of cultural interpersonal conflicts, $F(1, 93) = 4.121$, $p = .045$. For every one-unit increase in the number of nationalities, there is a corresponding increase in cultural interpersonal conflicts on average by 0.244 ($B = 0.244$, $p = .045$).

The qualitative analysis extracted two coherent themes of the first research question, which aimed to establish whether any perception of a relationship exists between the presence of multiple national cultures on board and the occurrence of interpersonal conflicts. The first theme was that the existence of different national cultures on board causes interpersonal conflicts among seafarers, but the second theme was consistent with the belief of some participants that having multiple cultures on board is not entirely bad and may not always result in interpersonal conflicts. Instead, those participants considered multiculturality on board a vessel beneficial as it allows knowledge transfer between cultures.

Regarding RQ2, the quantitative analysis results of Spearman correlations for the second research question focused on the relationship between the voyage's number of days or duration

and the number of interpersonal conflicts experienced ($rs = .072, p = .481$). Thus, this null hypothesis is not rejected.

The qualitative analysis extracted two coherent themes of the second research question, which aimed to establish whether any perception of a relationship exists between the number of days of the duration of the voyage and the number of interpersonal conflicts. The third theme, one of the two that answered the second research question, was that an extended stay on board the vessels increased the likelihood of interpersonal conflicts among seafarers. Another closely related theme to the previous one was that long working hours might lead to conflicts among seafarers. Participants generally held that long working hours contribute to the complexity of the environment on board the vessel, which increases the chances of interpersonal conflicts arisen. Notably, 50% of the participants reported perceiving that longer durations onboard increase conflicts frequency when examining descriptive statistics.

However, the descriptive statistics reveal intriguing perceptions among the participants. Sixty-eight percent (68%) perceive that fewer days onboard result in fewer conflicts, while 50% perceive that more days onboard lead to more conflicts. Additionally, 59% perceive that fewer days onboard result in less intensive conflicts, and 44% perceive that more days onboard lead to more intensive conflicts. These findings suggest a significant concern among the participants regarding the potential consequences of time spent onboard.

Lastly, regarding RQ3, the quantitative analysis results of binary logistic regression conducted revealed that the number of conflicts did not result in a significant likelihood of the occurrence of casualties ($B = -0.31, p = .847, OR = 0.970$). In other words, the statistical inferential analysis did not support the hypothesis that there is a prediction between interpersonal conflicts and the occurrence of marine casualties.

However, the descriptive statistics reveal interesting perceptions among the participants. A significant portion (69%) of the participants perceive that interpersonal conflicts among seafarers may be related to human errors reported as the causes of marine casualties and incidents. This suggests that, while the regression analysis did not show a statistical relationship, there is a notable perception among the participants that conflicts could have an impact on marine casualties and incidents.

Additionally, 61% of the participants perceived that interpersonal conflicts negatively impact the vessel's daily operation. This perception aligns with the idea that conflicts can disrupt the smooth functioning of the vessel, although it doesn't establish causation.

Moreover, a substantial majority (73%) of those who acknowledged the negative impact of interpersonal conflicts also believe that these conflicts could potentially lead to marine casualties or incidents. This suggests that there is a significant concern among this group about the potential consequences of conflicts.

In summary, while the inferential statistics did not provide evidence of a significant relationship, the descriptive statistics indicate that there is a noteworthy perception among the participants that interpersonal conflicts could be associated with marine casualties and incidents. These perceptions, although not conclusive proof, highlight the importance of further investigation and consideration of interpersonal conflicts as a potential factor in addressing marine casualties and incidents.

The qualitative analysis for the third research question focused on the correlation between interpersonal conflicts and the occurrence of marine casualties and incidents on board. Two themes that answered this research question were extracted. Participants explained that conflicts cause marine casualties and incidents by altering the state of mind of perpetrators and victims.

The last theme was that conflicts indirectly cause marine casualties and incidents by breaking communication among seafarers.

Chapter 5: Conclusions, Implications and Recommendations

The problem under study was the seafarers' perceptions of their interpersonal conflicts in a multicultural workplace as underlying causes of the occurrence of human errors that may lead to marine casualties and incidents. The research assessed the seafarers' perceptions about their interpersonal conflicts in a multicultural workplace, as was the ship, to explain beyond the human error the seafarers' view about any correlation between their interpersonal conflicts and the marine casualties and incidents that may occur. This study also explored not only the stressors perceived by the seafarers that may contribute to interpersonal conflicts but also participant variables such as age, sex, marital status, nationality, race, religion, and rank, among others, as well as non-personal variables such as type of vessel, flag, among others.

The importance and goal of this research is to contribute to the education of seafarers about developing their skills, strategies, facilitation techniques, mediation, and negotiation, among other available methods to resolve interpersonal conflicts onboard.

Inferential statistics consisted of performing multiple regressions, Pearson's correlation, and binary logistic regression. Multiple regressions were conducted to address the first research question: RQ1. Is national culture onboard a vessel a predictor of the occurrence of interpersonal conflicts, controlling for demographic variables? Pearson correlations were conducted to address the second research question including the variables the number of days of the duration of the voyage and the number of interpersonal conflicts.: RQ2. Is there any correlation between the number of days of the duration of the voyage and the number of interpersonal conflicts? Binary logistic regression was conducted to address the third research question: RQ3. Is there a prediction between the interpersonal conflicts among crewmembers onboard and the occurrence

of marine casualties and incidents? Additionally, descriptive statistics were performed for the analysis of the instrumental variables of the study.

The qualitative data was analyzed and interpreted by the researcher using the thematic analysis method, which systematically analyzed and interpreted the content of texts extracted from the questionnaire open-ended questions responded to by the participants, identifying themes, patterns, or meanings in the data. The qualitative questions included RQ1. What are the perceptions of seafarers regarding the relationship between multinational culture onboard a vessel and the occurrence of interpersonal conflicts? RQ2. What are the perceptions of seafarers regarding the relationship between the number of days of the duration of the voyage and the number of interpersonal conflicts?, RQ3. What are the perceptions of seafarers regarding the relationship between the interpersonal conflicts among crewmembers onboard and the occurrence of marine casualties and incidents?, and RQ4. What are the most common types of conflicts and their causes among seafarers?

This chapter will present the summary of findings, interpretation of findings, implications for theory and research, implications for practice, implications for the field of conflict resolution, implications for the maritime field, recommendations for future research, and recommendations for practices. The chapter will end with the conclusions of the study.

Summary of Findings

The findings demonstrated that differences in ideologies and roles and cultural differences such as language, race, nationality, and religion caused conflicts. Further, the conflict resulted from adverse mental health issues among seafarers, conflicts related to a superiority complex and arrogance among leaders, salary inequalities for the same roles, and poor working conditions. Other types of conflicts reported by participants included conflicts related to gender-

based discrimination and sexual harassment, bullying and intimidation, egocentrism and self-importance among the crew, language barrier, and lack of skills.

The results also revealed that the number of days on board directly impacts the frequency of interpersonal conflict in the vessel. The findings indicate that the fewer days a crew stays on the ship, the less interpersonal conflict occurs among seafarers. As fatigue sets in because of long days on a ship, people's tolerances are lower, and stress levels are higher, so conflicts emerge among the seafarers and crew members. The findings demonstrated that the multiculturality on board the vessels is a source of interpersonal conflicts among the seafarers on board because many seafarers, from different nationalities and cultures, have different beliefs and opinions. It will be easier to discuss and disagree, creating interpersonal conflicts.

The research findings demonstrated that interpersonal conflicts can cause marine casualties or incidents, in the extreme, through inattention to duties, responsibilities, or safety-related tasks. The results indicate interpersonal conflict can cause casualties on board vessels, such as intentional accidents, including bullying, killings, and intentional pushes to the sea among conflicting seafarers and lack of trust due to fear of poisoning. Crew members may also be afraid of being reprimanded if they speak up. If, for example, the instruction was to call the master if a particular situation developed and they chose not to, that could lead to a marine casualty or incident.

Further, study findings indicated that interpersonal conflicts are influenced by cultural differences among the seafarers because as the number of crew members from different cultures increases, the chances of interpersonal conflicts on board are greater. Some interpersonal conflicts on board that are due to cultural differences may cause marine casualties or incidents on a ship.

Interpretation of the Findings

The discussion and interpretation of findings were based on the research questions below.

Research Question 1

RQ1. Is national culture onboard a vessel a predictor of the occurrence of interpersonal conflicts, controlling for demographic variables?

The multiple national culture on board the vessels is a source of interpersonal conflicts among the seafarers because many seafarers, due to the multiculturality, have different beliefs and opinions, and it will be easier to discuss and disagree, creating interpersonal conflicts. The result implies that having different cultures on board is a likely cause of interpersonal conflicts. Consistent with current study findings, previous research indicates that multiculturality onboard is also a source of workplace interpersonal conflicts, even though the opinion among seafarers is divided (Roy, 2020). Conflicts arise from cultural differences, which are reviewed and studied from different dimensions (Lu et al., 2012).

Misunderstanding each other's intentions due to cultural differences can cause interpersonal conflicts. Misunderstandings, particularly with communication, gestures, and body language, can cause interpersonal conflicts since different nationalities have different cultural expectations and levels of acceptance in behaviors. Different cultures do not appreciate each other. The findings are consistent with other studies, which indicate that the most common causes of conflict encountered on the ship are bad management, language, cultural differences, and poor working conditions (Garcia et al., 2018).

Study findings indicated that interpersonal conflicts are influenced by cultural differences among the seafarers. The number of crew members from different national cultures increases the chances of interpersonal conflicts on board. Some interpersonal conflicts on board due to cultural

differences may cause marine casualties or incidents on a ship. On the same note, other studies agreed with current results that interpersonal conflicts are a by-product of an individual's needs and cultural differences, and there is a misperception that parties cannot learn skills to manage conflict (Kordoutis, 2004). The current study findings also concur with previous research, which indicates that culture is an influential factor in how relationships are conceptualized and in how people choose to manage conflict in their relationships, thereby causing interpersonal conflicts (Cingoz-Ulu & Lalonde, 2007, p. 444).

However, other participants indicated that multiple national cultures on board the vessels is not a source of interpersonal conflicts among seafarers because they live in multicultural countries and societies, and people can be taught to observe and respect different cultures. In addition, the participants revealed that as long as there is mutual respect among each other, a multicultural vessel has far more to offer. Similarly, previous research indicates that multiculturality is positive on board. At the same time, the rest believe that is an obvious source of conflict due to the cultural differences among them, which are studied from the different scopes proposed by Hofstede and other scholars (Lu et al., 2012). The results also add to the previous literature by revealing that there are also different standards of training and work ethic worldwide. This has a deeper meaning, which relates to how different nationalities perceive safety, so multiculturality on board the vessels may or may not be a source of interpersonal conflicts.

Research Question 2

RQ2. Is there any correlation between the number of days of the duration of the voyage and the number of interpersonal conflicts?

The results also revealed the number of days on board directly impacts the frequency of interpersonal conflict in the vessel. The findings imply that the fewer days a crew stays on board the vessel, the less interpersonal conflict occurs among seafarers. Being onboard for longer durations may lead to too much complacency, which would cause more accidents. Similarly, different authors agreed that working onboard a ship is different than working ashore because the seafarers are subject to special mental, psychological, and physical stressors not usually seen while the work is ashore due to long working days (Brasher et al., 2010, p. 1).

During short trips, a lack of familiarity with other crew members may lead to less interpersonal conflict as individuals keep to themselves. As the duration of the shift grows, crew becomes a temporary family and separation from their family may lead individuals to lash out. Previous studies also indicate that the most critical stressors reported by seafarers are separation from their family, time pressure, long working days, heat in working places, and insufficient qualification of the subordinate. Also, after comparing officers vs. non-officers, (Karjalainen (2020) found that officers stayed onboard for a considerably shorter time (p. 250). The research findings support other studies by indicating that the number of days on board directly impacts the frequency of interpersonal conflict in the vessel.

Research Question 3

  RQ3. Is there a prediction between the interpersonal conflicts among crewmembers onboard and the occurrence of marine casualties and incidents?

  The research findings demonstrated that interpersonal conflicts can cause marine casualties or incidents because, in the extreme, they relate to inattention to duties, responsibilities, or safety-related tasks, resulting in marine casualties or incidents. The findings imply that an interpersonal conflict contributes to increased casualties and incidents on board vessels.

  However, being the crewmembers onboard the vessel in a controlled space with clear rules about responsibilities and behaviors remains essential and actively interesting to know what those interpersonal conflicts are among a diverse multicultural group, and mainly what the seafarers' perceptions are about their interpersonal conflicts in a multicultural workplace, as is the ship, and explain beyond the human error the seafarers' view about any correlation between their interpersonal conflicts and the marine casualties and incidents that may occur (Avruch, 2006, p. 29.).

  The results indicate that interpersonal conflict can cause casualties on board vessels, such as intentional accidents, including bullying. Similar to current study findings, other studies show there is a connection between interpersonal conflicts and marine casualties and incidents. Participants perceive culture as a source of interpersonal conflicts, human errors, and marine casualties and incidents (Rink et al., 1996).

  Interpersonal conflict may contribute to misunderstanding orders. Some seafarers may not feel comfortable asking for clarification or calling the captain on duty for fear of reprisal. They may choose to risk the safety of all onboard due to a previous conflict. Other researchers

also revealed that the conflicts that may occur onboard among the seafarers may be caused by their interpersonal conflicts and could be one of the causes of the occurrence of marine casualties and incidents (Jha & Jha, 2010). Thus far, the study findings contribute to past literature by demonstrating that interpersonal conflicts can cause marine casualties or incidents due to inattention to duties, responsibilities, or safety-related tasks.

Research Question 4

RQ4: What are the different types of conflicts that occur among the crew on board a vessel?

The findings demonstrated that differences in ideologies and roles and cultural differences such as language, race, nationality, and religion caused conflicts. Further, the conflict resulted from adverse mental health issues among seafarers, conflicts related to a superiority complex and arrogance among leaders, salary inequalities for the same roles, and poor working conditions. The findings have also been reported in Avruch (2006, p. 29.), who indicated that the mere existence of cultural difference (conceived as values, ideologies, beliefs) is sufficient to cause conflict. This view makes culture a cause of conflict (Avruch, 2006, p. 29.).

Other types of conflicts reported by participants included conflicts related to gender-based discrimination and sexual harassment, including unequal treatment/favoritism due to ethnicity or skin color or gender or sexual advances. The findings also revealed bullying and intimidation as a type of interpersonal conflict, such as bossing around another person instead of speaking politely, which may lead to fights. While the current study found bullying and intimidation as a type of interpersonal conflict, some authors, such as Garcia et al. (2018), discovered that bad management from the ship's principal to the officers on board and poor working conditions were types of interpersonal conflicts.

Bullying by authorities can take many forms, such as extorting bribes for any reason, ordering unnecessary power exercises, using regulations against the crew, requesting crewmembers count every penny and penalization for any small discrepancy, are questing crew members to count every sock even without pair, demanding special treatment, and displaying racism especially in Africa, the Middle East, and South Asia. However, other studies highlighted unfair labor practices of the staffing agency and insults or insulting remarks from superiors, subordinates, and peers as types and causes of conflicts (Kordoutis, 2004).

Egocentrism and self-importance among crew members, including egoistic incidences involving age and seniority, are types of conflicts among the seafarers. Another type of interpersonal conflict relates to cultural differences, such as language barriers and lack of effective communication among crew members. Cultural differences have also been reported in other studies as a type of conflict, stating that individual differences in terms of language, religion, customs, and beliefs are key causes and types of interpersonal conflicts among seafarers (Hocker & Wilmot, 2014, p. 6).

General lack of knowledge and skills and competition among crew has been the key type of conflict among the seafarers. The competition exhibited among crew members due to their level of knowledge and skills negatively affects their relationships. Consistent with current study findings, past studies indicate that ineffective job performance and competition are causes and types of interpersonal conflicts (Sampson et al., 2020, p. 288). The findings add to the body of empirical knowledge by stating that lack of sufficient food onboard may also contribute to conflict among seafarers on board the vessel. Further, the findings also demonstrated interpersonal conflict related to alcohol and substance abuse among crew members and

managers. When a crew is drunk and addicted to substances and alcohol, it may result in conflict between the crew members and or their supervisor.

The conflict related to alcohol and substance abuse was also reported by Romanov et al. (1996, p. 170), who reported that psychological conditions such as depression, psychoses, and alcoholism contribute to the occurrence of interpersonal conflict at work. The research findings have added to the current empirical literature by revealing that interpersonal conflict related to alcohol and substance abuse among crew members and managers may result in conflict between the crew members and his or her supervisor.

Implications of the Research and Recommendations

The implication of the research, supported by the results obtained from its descriptive and inferential non-experimental quantitative approach with a non-interactive thematic analysis qualitative approach, is related to its importance and significance to four primary domains: policy, practice, theory, and subsequent research. Moreover, this study carries significant implications for the fields of conflict resolution and the maritime affairs. In the following sections, we will explore the specific implications for each of these domains and outline recommendations for future action and research in light of these findings.

Implication for Policy

This research holds the potential to inform policy implementations in the maritime industry and beyond. Policymakers and organizational leaders in the maritime industry are therefore advised to implement training and development programs to train seafarers who may find themselves entangled with interpersonal conflicts. For instance, "the effectiveness of individual employees, teams, and entire organizations depend on how they manage interpersonal conflict at work" (De Dreu et al., 2001). The research findings provide maritime professionals

with knowledge and ideas to implement various conflict management strategies for the workplace and suggest policy implementation.

Implication for Practice

The research can serve the practice of different professionals related or not to our field of conflict analysis and resolution because our results can probably have different meanings and significance, which it is recommended to be used as a foundation for future dialogue about the matter (Rink et al., 1996). This research's practical implication may also be associated with the effectiveness of the proposed recommendations, which can be the subject of further research.

Implication for Theory

While this research primarily focuses on practical applications, it also contributes to the development of conflict analysis and resolution theory. By exploring the relationship between cultural diversity, interpersonal conflicts, and their potential impact on maritime casualties and incidents, our study expands the theoretical understanding of conflict dynamics in high-stress environments. The theories discussed through this research may find relevance in broader contexts beyond the maritime industry.

Implication for Subsequent Research

The research suggests further research, as most good research tends to ask more questions than answers. This research serves as a starting point for new investigations, which would allow the deepening or expanding of their results, conclusions, and/or recommendations, contributing to new ideas or proposals for the transformation of the problem under study. Potential areas for subsequent research include examining the long-term effects of conflict management strategies to be implemented and exploring additional factors that may influence interpersonal conflict dynamics onboard the vessels and its consequences. One of the limitations of this study was

essentially associated with the sample and its selection because the population was very diverse due to their multiculturality, country of origin, and mobility. Limitations to data access, as well as time constraints, were confronted in this study. A particular limitation was encountered during the data collection due to the Covid-19 pandemic. The Covid-19 pandemic made it almost impossible to access the crewmembers, and the researcher could only board 4 vessels that were not detailed in this work for confidential reasons. In light of this, future researchers should consider a qualitative study design with semi-structured interviews, capitalizing on the improved access to participants due to the absence of the Covid-19 pandemic. Even though we have found several studies related to marine casualties and incidents during our literature review, very little or almost nothing referred to the topic of interest, which became additional gaps in the literature. Thus, there is a need for more studies to be conducted to determine various strategies for conflict resolution and how training development can be implemented to enhance knowledge and skills among seafarers onboard vessels.

Implications for the Field of Conflict Resolution

Experts in the field of conflict resolution may find this study's results useful in helping them establish causes and types of interpersonal conflicts. Then, it is advisable to resolve those interpersonal conflicts at work using conciliation, mediation, and arbitration, among any other method of conflict resolution that may be available and suitable for any particular situation (Canary, 2003).

The particularity of the work onboard a vessel may also require a proposal for resolving interpersonal conflicts among seafarers. An organizational ombudsman would allow a designated person to provide conflict resolution and problem-solving services. This study's findings could

be used to help resolve individual interpersonal conflicts onboard and with the necessary interest to protect the safety onboard and any adverse effect to the organization as a whole.

Implications for the Maritime Field

This research's theoretical implication was based on the fact that it offers new possibilities for research in conflicts, analysis, and resolution associated with marine casualties and incidents. The maritime industry as a whole will be positively impacted because this study is advancing the knowledge within the field of study related to conflicts among seafarers onboard ships as an underlying cause for human errors that can cause marine casualties and incidents.

Professionals in the maritime industry can use the study findings to understand various types of interpersonal conflicts seafarers experience on board vessels. This would help them create and implement appropriate strategies to alleviate such conflicts in the future. Countless entities share the concern about maritime accidents since such accidents can affect an individual but, depending on the type of accident, they can also affect the corporate sphere (Grech et al., 2019). In these cases, the concern about a maritime accident's occurrence can be extended to communities in general, the States, cargo owners, ship financiers, and insurance companies, among others.

<div align="center">**Conclusions**</div>

This study had a clear and definitive aim: to uncover the perceptions of seafarers concerning interpersonal conflicts in the multicultural workplace aboard vessels and to establish whether these conflicts are linked to human errors resulting in marine casualties and incidents. The paramount significance of this research undeniably lies in its contribution to promote the education of seafarers, and the maritime community, encompassing the development of essential skills, strategies, facilitation techniques, mediation, negotiation, and other invaluable methods for

the effective resolution of interpersonal conflicts onboard. The primary objective was resolutely focused on empowering seafarers with the analytical tools and proficiency required to address conflicts and successfully implement resolutions.

It is worth noting that this research exclusively targeted active seafarers employed on international cargo ships. The identified causes of interpersonal conflicts include differences in ideologies and roles, cultural disparities such as language, race, nationality, and religion, adverse mental health issues among seafarers, leadership-related superiority complexes and arrogance, salary inequalities for similar roles, and subpar working conditions. Additionally, the study revealed that the duration of time spent onboard a vessel directly influences the frequency and intensity of interpersonal conflicts among the crew.

Furthermore, the research findings highlighted the role of multiculturality on board vessels as a source of interpersonal conflicts, stemming from different beliefs and opinions among seafarers due to their diverse cultural backgrounds. Notably, interpersonal conflicts were found to have the potential to cause marine casualties or incidents due to lapses in duties, responsibilities, or safety-related tasks resulting from these conflicts. Cultural differences among seafarers were identified as significant contributors to these conflicts, with a higher number of crew members from diverse cultures increasing the likelihood of such conflicts.

To advance our understanding of these dynamics, future research endeavors should employ a quantitative study design to determine statistical correlations among various types of interpersonal conflicts, conflict resolution strategies, cultural factors, and sources of these conflicts. Additionally, the integration of a qualitative approach, involving onboard interviews, will provide deeper insights into the perceptions of crew members on this critical subject matter, and further improve our comprehensive understanding of the topic under study.

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Appendix A: Definition of Terms

Allision - "An allision occurs when a moving vessel strikes a stationary object such as a dock."

Fisher v. S/Y Neraida, 508 F.3d 586 (11th Cir. 2007).

Bulk carrier - "A ship which is constructed generally with single deck, top-side tanks and hopper side tanks in cargo spaces, and is intended primarily to carry dry cargo in bulk, and includes such types as ore carriers and combination carriers" (IMO, n.d., para. 6); or "A ship which is intended primarily to carry dry cargo in bulk, including such types as ore carriers and combination carriers" (IMO, n.d., para. 7).

Causal factor - Actions, omissions, events, or conditions, without which:

1. the marine casualty or marine incident would not have occurred; or

2. adverse consequences associated with the marine casualty or marine incident would probably not have occurred or have been as serious;

3. another action, omission, event, or condition, associated with an outcome in .1 or .2, would probably not have occurred (IMO – CIC, 2008, p. 2-3).

Chemical tanker - A "vessel designed specifically for the transportation of volatile, poisonous or corrosive liquids in specially constructed tanks" (Glossaria, n.d.), also known as chemical carrier (Tanker).

Collision - "A collision occurs when a moving vessel strikes another moving vessel." Fisher v. S/Y Neraida, 508 F.3d 586 (11th Cir. 2007).

Container ship - "ship specially designed or equipped for carrying containerized cargo" (Merriam-Webster, n.d.).

Cruise ship – "a large ship that stops at different ports and carries passengers who are traveling for pleasure" (Merriam-Webster, n.d.).

Dredge vessel - A type of service vessel "fitted with a device(s) to scrap or suck the sediment deposition over a seabed" (Agarwal, 2021).

Ergonomics - Please see human factors.

Fishing vessel - "Any vessel used commercially for catching fish, whales, seals, walrus or other living resources of the sea" (IMO, n.d., para. 3).

General cargo ship - "A ship with a multi-deck or single-deck hull designed primarily for the carriage of general cargo" (IMO, n.d., para. 9).

Human element - The resolution A.850(20) of IMO defined the human element as the following: Complex multi-dimensional issue that affects maritime safety and marine environmental protection. It involves the entire spectrum of human activities performed by ships' crews, shore based management, regulatory bodies, recognized organizations, shipyards, legislators, and other relevant parties, all of whom need to cooperate to address human element issues effectively… effective remedial action following maritime casualties requires a sound understanding of human element involvement in accident causation. This is gained by a thorough investigation and systematic analysis of casualties for contributory factors and the causal chain of events" (p. 3).

Human error - "A departure from acceptable or desirable practice on the part of an individual or group of individuals that can result in unacceptable or undesirable results" (IMO, Resolution A.884(21), p. 30). The resolution A.884(21) was revoked by the resolution A.1075(28) of December 4, 2013 (IMO, Resolution A.1075 (28), p. 2).

James Reason (1990) explained that "the term 'error' can only be meaningfully applied to planned actions that fail to achieve their desired consequences without the intervention of some chance or unforeseeable agency".

Human factors – "Discovers and applies information about human behavior, abilities, limitations, and other characteristics to the design of tools, machines, systems, tasks, jobs, and environments for productive, safe, comfortable, and effective human use" (Sanders & McCormick, 1993, p. 5). According to the IMO, Resolution A.884(21): "Human factors which contribute to marine casualties and incidents may be broadly defined as the acts or omissions, intentional or otherwise, which adversely affect the proper functioning of a particular system, or the successful performance of a particular task. Understanding human factors thus requires a study and analysis of the design of the equipment, the interaction of the human operator with the equipment, and the procedures followed by crew and management" (p. 4).

International Maritime Organization (IMO) - In 1948 during a summit in Geneva, the United Nations formed a permanent international organization to enhance maritime safety. This conference adopted a convention that officially established the Inter-Governmental Maritime Consultative Organization or IMCO. Later, by Resolution A.358(IX), adopted on November 14, 1975, among other amendments, the title of the Convention was changed to Convention on the International Maritime Organization (IMO). The IMO Convention's purposes are outlined in Article 1(a) and came into effect in 1958: "to provide machinery for cooperation among Governments in the field of governmental regulation and practices relating to technical matters of all kinds affecting shipping engaged in international trade; to encourage the general adoption of the highest practicable standards in matters concerning maritime safety, efficiency of navigation and the prevention and control of marine pollution from ships; and to deal with legal matters related to the purposes set out in this Article" (UN, 2023).

LNG carrier - "Vessel designed to transport natural gas in liquified form" (Glossaria, n.d.).

LPG carrier - "Vessel designed to transport petroleum gas in a form of butane or propane" (Glossaria, n.d.).

Marine casualty - An event, or sequence of events, that has resulted in any of the following which has occurred directly in connection with the operation of a ship:

1. the death of or serious injury to, a person;

2. the loss of a person from a ship;

3. the loss, presumed loss or abandonment of a ship;

4. material damage to a ship;

5. the stranding or disabling of a ship, or the involvement of a ship in a collision;

6. material damage to marine infrastructure external to a ship, that could seriously endanger the safety of the ship, another ship or an individual; or

7. severe damage to the environment, or the potential for severe damage to the environment, brought about by the damage of a ship or ships.

However, a marine casualty does not include a deliberate act or omission to cause harm to the safety of a ship, an individual, or the environment (IMO – CIC, 2008, p. 3-4).

Marine incident - "An event, or sequence of events, other than a marine casualty, which has occurred directly in connection with the operations of a ship that endangered, or, if not corrected, would endanger the safety of the ship, its occupants or any other person or the environment" (IMO – CIC, 2008, p. 4).

Naval ship – "any vessel, which belongs to the armed forces of a State, bears its national insignia, is under the command of a commissioned officer, whose name appears in the service list of officers of the navy of the respective State or in another equivalent document and is manned by a crew, which is under regular armed forces discipline" (Lawinsider, n.d.).

Other vessel or ship - Any other ship or vessel not included in the list of ships or vessels as detailed in the type of vessel asked for in the survey/questionnaire (See Appendix B) developed by the author of the present study to collect data for this study.

Oil tanker - "A ship constructed or adapted primarily to carry oil in bulk in its cargo spaces and includes combination carriers, any 'NLS tanker' as defined in Annex II of the present Convention and any gas carrier as defined in regulation 3.20 of chapter II-1 of SOLAS 74 (as amended), when carrying a cargo or part cargo of oil in bulk (MARPOL Annex I reg. 1.5)" (Marpoltraining, n.d.).

Passenger ship - "usually defined as a ship carrying more than 12 passengers - on international voyages must comply with all relevant IMO regulations, including those in the SOLAS and Load Lines Conventions." (IMO, n.d.).

Ro-Ro ship*:* The roll-on/roll-off ship is defined in the November 1995 amendments to Chapter II-1 of the International Convention for the Safety of Life at Sea (SOLAS), 1974 as being "a passenger ship with ro-ro cargo spaces or special category spaces..." (IMO, n.d.). Also, as "method of cargo transfer between vessel and shore in which cargo is driven on/off using fork-lift, prime-mover/trailer combinations, etc." (Glossaria, n.d.).

Seafarer - "Any person who is employed or engaged or works in any capacity on board a ship" (IMO – CIC, 2008. p. 5).

Service vessel - Ships that support other ships or offshore installations. Tugs, dredges, navigational service vessels, offshore safety vessels, etc., are a few examples that come to mind (Molland, 2008).

Very serious marine casualty - "A marine casualty involving the total loss of the ship or a death or severe damage to the environment" (IMO – CIC, 2008. p. 36).

Appendix B: SeafarersResearch - Questionnaire

SeafarersResearch

As part of my PhD dissertation research in Conflicts Analysis and Resolution in Nova Southeastern University, USA, I am conducting this questionnaire to investigate the Seafarers´ Perceptions about their Interpersonal Conflicts in a Multicultural Workplace (The Ship).

I sincerely thank you for your voluntary participation in this challenge by responding to the following questionnaire. With your help, we will better understand your perceptions about working in a multicultural workplace and the interpersonal conflicts faced by the seafarers on board
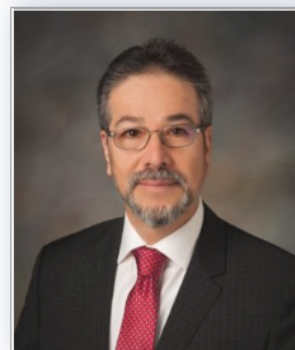
Eugenio Moreno

Your responses are anonymous. Information we learn from you in this research study will be handled in a confidential manner, within the limits of the law. The procedure used to protect your privacy in this research, it is framed on the premise that no personal information such as name and surnames, social security numbers, personal ID numbers, or any other similar personal information is requested. Neither the name of the vessel, IMO Number, dates of sailing and arrival, port of origin and destination, Ip numbers for the connecting devices, among others. The data collected with this questionnaire will be available to the researcher, the Institutional Review Board and other representatives of this institution, and any granting agencies (if applicable). All confidential data will be kept securely in the server provider where the data base is stored during the data collection. Once concluded the data collection, all data will be kept by the researcher for future investigations and destroyed once the researcher considers that is no longer relevant.

I Agree

SeafarersResearch

QUESTIONNAIRE

Date

[   ]

PART I - GENERAL INFORMATION

1. Are you currently a seafarer working onboard a vessel?
○ Yes
○ No

2. Did you work as a seafarer onboard a vessel in the past?
○ Yes
○ No

3. How long have you been a seafarer?

Years	Moths	Days
[ ]	[ ]	[ ]

4. How long were you a seafarer?

Years	Moths	Days
[ ]	[ ]	[ ]

5. Do you perceive that the interpersonal conflicts among the seafarers aboard may have any relationship with the human errors that are reported as the causes of marine casualties and incidents?
○ Yes
○ No

6. What is/was your rank aboard?

○ Officeer
○ Rating

- Select -   ⬍

7. Regarding your current or last voyage aboard please respond the following:

Type of Vessel:	Flag	Length (mts)	Gross tonnage (tons)
- Select -	Select Country	mts	tons

How many days were you on aboard on your most recent voyage?

Days	Months	Year

How long have you been working on this ship altogether?

Days	Months	Year

How many crewmembers are onboard including yourself?

PART II - DEMOGRAPHIC INFORMATION

8. Where were you born?

Select Country

9. What is your nationality?

Select Country

10. What is your age?

Years

11. What is your sex:

○ Male
○ Female
○ Other

12. What is your marital status?

- Select -

13. How do you consider yourself (Race / Ethnicity)

- Select -

14. What religion do you believe in?

- Select -

PART III – INTERPERSONAL CONFLICTS

Definition: Interpersonal conflict is defined as a expressed strong disagreement with high emotion between two or more people and interferes with their need to work together to accomplish tasks and goals. The conflict interaction is usually verbal and, on occasion, might be physical.

15. Please list in order of importance what are the main interpersonal conflicts observed by you aboard, and what do you believe are the causes of said interpersonal conflicts? (Order of Importance)

Conflict

Causes

Conflict

Causes

Conflict

Causes

Conflict

Causes

Conflict

Causes

16. How do you perceive that the Interpersonal conflicts you listed above impact the daily operation of a vessel?

○ Positive
○ Negative
○ Not at all

17. Do you perceive that those interpersonal conflicts can cause marine casualties or incidents?

○ Yes
○ No

18. Culture is defined as "the customary beliefs, social forms, and material traits of a racial, religious, or social group", that includes but is not limited to language, religion, cuisine, or social habits. To what extent do you agree or disagree with each of the following statement?

	Strongly agree	Agree	Undecided	Disagree	Strongly disagree
Interpersonal conflicts are influenced by cultural differences	○	○	○	○	○
As the number of crew members from different cultures increases, the chances of interpersonal conflicts on board is greater	○	○	○	○	○
Interpersonal conflicts caused by cultural differences are difficult to resolve	○	○	○	○	○
Some interpersonal conflicts on board due to cultural differences cause marine casualties or incidents	○	○	○	○	○
Interpersonal conflicts on board are not influenced by cultural differences	○	○	○	○	○

19.Could you please provide the nationalities of the seafarers on board in the vessel for which you are working on now?

Nationalities

Select Country ▼

N° of Seafarers

Nationalities

Select Country ▼

N° of Seafarers

Nationalities

Select Country ▼

N° of Seafarers

Other Nationalities

N° of Seafarers

20. Could you please provide the nationalities of the seafarers onboard In the vessel where you worked on the last time?

Nationalities

Select Country ▼

N° of Seafarers

Nationalities

Select Country ▼

N° of Seafarers

Nationalities

Select Country ▼

N° of Seafarers

Other Nationalities

N° of Seafarers

21. How do you perceive that the multi-culturality on board impact the daily operation of your vessel?

○ Positive
○ Negative
○ Not at all

22. Do you perceive that the multi-culturality on board the vessels is a source of human errors while performing the work?

○ Yes
○ No

23. Do you perceive that the interpersonal conflicts among the seafarers on board the vessel is a source of human errors while performing the work?

○ Yes
○ No

24. Do you perceive that the multi-culturality on board the vessels is a source of interpersonal conflicts among the seafarers on board?

○ Yes
○ No

25. If your answer in question 24 is YES, do you also perceive that those interpersonal conflicts can contribute to marine casualties or incidents?

○ Yes
○ No

26. In your opinion, how do you perceive that the number of days on board can impact the frequency of interpersonal conflicts among the seafarers?

○ Less days less conflicts   **WHY**
○ Less days more conflicts
○ Not at all

○ More days less conflicts   **WHY**
○ More days more conflicts
○ Not at all

27. In your opinion, how do you perceive that the number of days on board can impact the _intensity_ of interpersonal conflicts among the seafarers?

○ Less days less intensive conflicts
○ Less days more intensive conflicts
○ Not at all

WHY

○ More days less intensive conflicts
○ More days more intensive conflicts
○ Not at all

WHY

28. Could you please share with us a particular experience where an interpersonal conflict between two or more seafarers on board could have contributed to a marine casualty or incident?

Submit

Appendix C: IRB Exempt Initial Approval Memo – 10/22/2021.

NOVA SOUTHEASTERN UNIVERSITY
Institutional Review Board

MEMORANDUM

To: Eugenio Moreno
            Halmos College of Arts and Sciences

From: Deanne Roopnarine, D.P.M.
            College Representative, Halmos College of Arts and Sciences

Date: October 22, 2021

Subject: IRB Exempt Initial Approval Memo

TITLE: Seafarers´ Perceptions about their Interpersonal Conflicts in a Multicultural
        Workplace:
Human Errors Contributing to Marine Casualties and Incidents– NSU IRB Protocol Number 2021-
        474

Dear Principal Investigator,

Your submission has been reviewed and Exempted by your IRB College Representative or their
Alternate on **October 17, 2021**. You may proceed with your study.

*Please Note: Exempt studies do not require approval stamped documents. If your study site
requires stamped copies of consent forms, recruiting materials, etc., contact the IRB Office.*

Level of Review: Exempt

Type of Approval: Initial Approval

Exempt Review Category: Exempt 2: Interviews, surveys, focus groups, observations of public
behavior, and other similar methodologies

Post-Approval Monitoring: The IRB Office conducts post-approval review and monitoring of all
studies involving human participants under the purview of the NSU IRB. The Post-Approval
Monitor may randomly select any active study for a Not-for-Cause Evaluation.

Page **1** of **2**

Annual Status of Research Update: You are required to notify the IRB Office annually if your research study is still ongoing via the *Exempt Research Status Update xForm*.

Final Report: You are required to notify the IRB Office within 30 days of the conclusion of the research that the study has ended using the *Exempt Research Status Update xForm*.

Translated Documents: No

Please retain this document in your IRB correspondence file.

CC: Deanne Roopnarine, D.P.M.

        mary hope schwoebel

Appendix D: Chronological summary of the covid-19 pandemic – 2019 / 2022

- Wuhan, China, reported the first pneumonia cases to the World Health Organization (WHO) on December 31, 2019.

- Beginning in 2020, several commercial activities, towns, cities, and nations were locked down.

- The World Health Organization (WHO) announced on January 23, 2020, that the coronavirus is not yet a global public health emergency.

- On February 2, 2020, a man in the Philippines died of coronavirus – the first reported death outside mainland China, resulting in travel restrictions.

- On February 4, 2020, the Japanese Health Ministry announced that ten passengers aboard the Diamond Princess cruise ship, which was docked in Yokohama Bay, were confirmed to be infected with the coronavirus. This was the first news regarding the shipping industry. The ship carrying more than 3,700 passengers was placed in quarantine until February 19, 2020.

- The Anthem of the Seas, a Royal Caribbean cruise ship, departed Bayonne, New Jersey, on February 10, 2020, until positive tests for coronavirus, which had kept the ship and its passengers waiting for days.

- On February 25, 2020, several Italian towns-imposed travel restrictions on more than 100,000 people.

- On March 8, 2020, the Italian Prime Minister issued an order restricting the movement of over 10 million individuals in northern Italy.

- On March 11, 2020, the World Health Organization declared the outbreak of a novel coronavirus to be a pandemic. The United States restricts European travel to the United States for 30 days.

- On March 23, 2020, Secretary-General of the United Nations António Guterres called for an immediate global ceasefire to combat "the common enemy" in light of the pandemic.

- The effects of this pandemic continued throughout 2020, 2021, and 2022, albeit with less social and economic impact.

- On March 12, 2020, Princess Cruises announced an immediate 60-day suspension of operations, while on March 13, 2020, all other major cruise lines announced a "voluntary" suspension of operations for at least 30 days.

- Canada prohibits cruise ships carrying more than 500 passengers from using ports until at least July 1, 2020.

- The Holland America Line ship Zaandam was denied permission to dock in Ushuaia, Argentina, on March 15, 2020, because Argentina has closed its ports to cruise passengers.

- Norwegian Cruise Line announced on March 18, 2020, that salaried employees will experience a 20% pay cut and a 4-day workweek beginning on March 30, 2020.

- Carnival Cruise Line confirms media reports that Carnival Fantasy and Carnival Inspiration will be scrapped in Turkey on July 20, 2020, while former Royal Caribbean and Pullmantur ships Sovereign of the Seas and Monarch of the Seas are beached at the breaker yard in Aliaga, Turkey for scrapping.

- In 2020 and 2021, the cancellation of calls and the prohibition on calling specific ports worldwide continued.

- The CDC reported on April 28, 2021, that cruises could resume in the United States in July 2021. Some businesses resumed operations earlier in other regions of the world. In addition, after the cruise ships resumed operations, passengers and crew were required to undergo a battery of tests before boarding (Martinez, 2021).

- As of October 2020, 3,908 confirmed cases of COVID-19 and 111 confirmed deaths were linked to 102 Covid-19 outbreaks involving 124 cruise ships (Muritala et al., 2022).

- Before the pandemic, the cruise industry employed approximately 260,000 seafarers. With the construction of new ships, this number is expected to grow to about 330,000. When vacation rotations are factored in, the total number of seafarers in the cruise industry could exceed 450,000 by 2027 (Working at sea, 2022).

- In 2020, the shipping markets suffered a notable impact. Global seaborne trade contracted by 4.4%, comparable to the contraction of 4.1% during the global financial crisis of 2009. The tanker market improved in April 2020. An excellent cash position was seen after the floating storage climbed 11% of the fleet. The container market fell from 11% to 4% (Clarkson Shipping Intelligence Network, 2020, as cited by Gavalas et al., 2022).

- All the above factors undoubtedly impacted the shipping industry and the seafarers. More than 400,000 seafarers should remain onboard for more than 11 months, being forced to stay onboard over the maximum period without leave allowed by the Maritime Labour Convention. Internationally, several ports did not let the seafarers disembark. The situation also provoked early retirements and loss of trainees due to the disruption caused in some maritime academies.

Appendix E: Invitation letter sent to the International Group of P&I clubs – IGP&I on

12/6/2021.

December 6, 2021

INTERNATIONAL GROUP OF P&I CLUBS – IGP&I
Att. Mr. Paul Jennings – Group Chairman

By email: secretariat@internationalgroup.org.uk

Ref: Seafarers´ Perceptions about their Interpersonal Conflicts in a
Multicultural Workplace (The Ship)

Dear Mr. Jennings

My name is Eugenio Moreno and I am a doctoral candidate in the Department of Conflict Resolution Studies at Nova Southeastern University. I have been a member of the maritime community for 40 years. I am delighted to invite you to participate in this doctoral study of the relationship between onboard interpersonal conflicts and marine casualties and incidents. I believe that this important research may assist in the mitigation of maritime accidents and a reduction in physical and financial losses. However, to achieve this objective it is essential to gather the widest possible data and solicit the input of the largest number of seafarers. It is with this objective in mind that I believe that the **INTERNATIONAL GROUP OF P&I CLUBS – IGP&I** can play an instrumental role in contacting seafarers through your membership and inviting them to participate in our online study.

To access the questionnaire, the participant will be provided with the following weblink: www.seafarersresearch.com. This is a private website purchased by me for this research. The responses are voluntary and anonymous. The information obtained from any participant will be confidential, within the limits of the law. Their privacy will be protected based on the premise that no personal information such as name and surnames, social security numbers, personal ID numbers, or any other similar personal information is requested. Nor will information be collected about the name of the vessel, IMO Number, dates of sailing and arrival, port of origin and destination, Ip numbers for the connecting devices, or any other identifying information. The data collected will be available to the researcher, the Institutional Review Board and other representatives of the Nova Southeastern University, and any granting agencies (if applicable). All confidential data will be kept securely in the server provider where the data base is stored during the data collection. Once the data collection is concluded, all data will be kept by the researcher for future investigations and destroyed once the researcher considers that is no longer relevant.

I trust that you will agree that this is an important study of benefit to all elements of the maritime community and I very much hope that you will agree to participate.

I look forward to receiving your comments and would be pleased to discuss further any questions that you may have.

Yours sincerely

Eugenio Moreno
Ph.D. Candidate, Conflicts Analysis and Resolution
Halmos College of Arts and Sciences
Nova Southeastern University
em1595@mynsu.nova.edu

Cc: P&I Clubs Members of the IGP&I

Appendix F: Invitation Letter Sent to the Most Important Organizations Seafarers Contact

for Help on 12/6/2021.

December 6, 2021

INTERNATIONAL TRANSPORT WORKERS´S FEDERATION (ITF)

By email: mail@itf.org.uk; Nairobi@itf.org.uk; lamug_joseraul@itf.org.uk;
mail@itfindia.co.in; hkfocoffice@itf.org.uk; sydneyoffice@itf.org.uk; mail@itftokyo.org;
itf_americas@itf.org.uk; montrealicao@itf.org.uk;
etf@etf-europe.org; arab-world@itf.org.uk; seafsupport@itf.org.uk

**Ref: Seafarers´ Perceptions about their Interpersonal Conflicts in a
        Multicultural Workplace (The Ship)**

Dear Sirs

My name is Eugenio Moreno and I am a doctoral candidate in the Department of Conflict
Resolution Studies at Nova Southeastern University. I have been a member of the maritime
community for 40 years. I am delighted to invite you to participate in this doctoral study of the
relationship between onboard interpersonal conflicts and marine casualties and incidents. I believe
that this important research may assist in the mitigation of maritime accidents and a reduction in
physical and financial losses. However, to achieve this objective it is essential to gather the widest
possible data and solicit the input of the largest number of seafarers. It is with this objective in
mind that I believe that the **INTERNATIONAL TRANSPORT WORKERS´S FEDERATION
(ITF)** can play an instrumental role in contacting seafarers through your membership and inviting
them to participate in our online study.

To access the questionnaire, the participant will be provided with the following weblink:
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community and I very much hope that you will agree to participate.

I look forward to receiving your comments and would be pleased to discuss further any questions
that you may have.

Yours sincerely

Eugenio Moreno
Ph.D. Candidate, Conflicts Analysis and Resolution
Halmos College of Arts and Sciences
Nova Southeastern University
em1595@mynsu.nova.edu

December 6, 2021

INTERNATIONAL LABOUR ORGANIZATION (ILO)

By email: ilo@ilo.org

**Ref: Seafarers´ Perceptions about their Interpersonal Conflicts in a
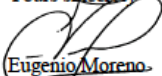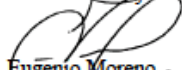   Multicultural Workplace (The Ship)**

Dear Sirs

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I look forward to receiving your comments and would be pleased to discuss further any questions that you may have.

Yours sincerely

Eugenio Moreno
Ph.D. Candidate, Conflicts Analysis and Resolution
Halmos College of Arts and Sciences
Nova Southeastern University
em1595@mynsu.nova.edu

December 6, 2021

THE SEAMEN´S CHURCH INSTITUTE (SCI)

By email: sci@seamenschurch.org; cme@seamenschurch.org; cme@seamenschurch.org; trhoades@seamenschurch.org; jsc@seamenschurch.org; cma@seamenschurch.org

Ref: **Seafarers´ Perceptions about their Interpersonal Conflicts in a Multicultural Workplace (The Ship)**

Dear Sirs

My name is Eugenio Moreno and I am a doctoral candidate in the Department of Conflict Resolution Studies at Nova Southeastern University. I have been a member of the maritime community for 40 years. I am delighted to invite you to participate in this doctoral study of the relationship between onboard interpersonal conflicts and marine casualties and incidents. I believe that this important research may assist in the mitigation of maritime accidents and a reduction in physical and financial losses. However, to achieve this objective it is essential to gather the widest possible data and solicit the input of the largest number of seafarers. It is with this objective in mind that I believe that the **THE SEAMEN´S CHURCH INSTITUTE (SCI)** can play an instrumental role in contacting seafarers through your membership and inviting them to participate in our online study.

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I look forward to receiving your comments and would be pleased to discuss further any questions that you may have.

Yours sincerely

Eugenio Moreno
Ph.D. Candidate, Conflicts Analysis and Resolution
Halmos College of Arts and Sciences
Nova Southeastern University
em1595@mynsu.nova.edu

December 6, 2021

INTERNATIONAL SEAFARERS WELFARERS AND ASSISTANCE NETWORK (ISWAN)

By email: iswan@iswan.org.uk

Ref: Seafarers´ Perceptions about their Interpersonal Conflicts in a Multicultural Workplace (The Ship)

Dear Sirs

My name is Eugenio Moreno and I am a doctoral candidate in the Department of Conflict Resolution Studies at Nova Southeastern University. I have been a member of the maritime community for 40 years. I am delighted to invite you to participate in this doctoral study of the relationship between onboard interpersonal conflicts and marine casualties and incidents. I believe that this important research may assist in the mitigation of maritime accidents and a reduction in physical and financial losses. However, to achieve this objective it is essential to gather the widest possible data and solicit the input of the largest number of seafarers. It is with this objective in mind that I believe that the **INTERNATIONAL SEAFARERS WELFARERS AND ASSISTANCE NETWORK (ISWAN)** can play an instrumental role in contacting seafarers through your membership and inviting them to participate in our online study.

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Halmos College of Arts and Sciences
Nova Southeastern University
em1595@mynsu.nova.edu

December 6, 2021

SAILORS HELPLINE

By email: sailorshelpline@yahoo.com

Ref: **Seafarers´ Perceptions about their Interpersonal Conflicts in a Multicultural Workplace (The Ship)**
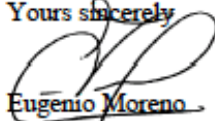
Dear Sirs

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Yours sincerely

Eugenio Moreno
Ph.D. Candidate, Conflicts Analysis and Resolution
Halmos College of Arts and Sciences
Nova Southeastern University
em1595@mynsu.nova.edu

December 6, 2021

APOSTLESHIP OF THE SEA (AOS)

By fax: 409-985-5945

**Ref: Seafarers´ Perceptions about their Interpersonal Conflicts in a
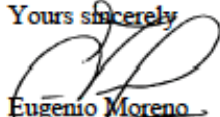   Multicultural Workplace (The Ship)**

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that this important research may assist in the mitigation of maritime accidents and a reduction in
physical and financial losses. However, to achieve this objective it is essential to gather the widest
possible data and solicit the input of the largest number of seafarers. It is with this objective in
mind that I believe that the **APOSTLESHIP OF THE SEA (AOS)** can play an instrumental role
in contacting seafarers through your membership and inviting them to participate in our online
study.

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that you may have.

Yours sincerely

Eugenio Moreno
Ph.D. Candidate, Conflicts Analysis and Resolution
Halmos College of Arts and Sciences
Nova Southeastern University
em1595@mynsu.nova.edu

December 6, 2021

INTERNATIONAL CHRISTIAN MARITIME ASSOCIATION (ICMA)

Att: Dr Jason Zuidema, General Secretary

By email: gensec@icma.as

Ref: Seafarers´ Perceptions about their Interpersonal Conflicts in a Multicultural Workplace (The Ship)
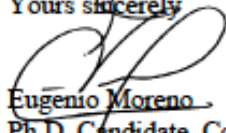
Dear Dr Zuidema

My name is Eugenio Moreno and I am a doctoral candidate in the Department of Conflict Resolution Studies at Nova Southeastern University. I have been a member of the maritime community for 40 years. I am delighted to invite you to participate in this doctoral study of the relationship between onboard interpersonal conflicts and marine casualties and incidents. I believe that this important research may assist in the mitigation of maritime accidents and a reduction in physical and financial losses. However, to achieve this objective it is essential to gather the widest possible data and solicit the input of the largest number of seafarers. It is with this objective in mind that I believe that the **INTERNATIONAL CHRISTIAN MARITIME ASSOCIATION (ICMA)** can play an instrumental role in contacting seafarers through your membership and inviting them to participate in our online study.

To access the questionnaire, the participant will be provided with the following weblink: www.seafarersresearch.com. This is a private website purchased by me for this research. The responses are voluntary and anonymous. The information obtained from any participant will be confidential, within the limits of the law. Their privacy will be protected based on the premise that no personal information such as name and surnames, social security numbers, personal ID numbers, or any other similar personal information is requested. Nor will information be collected about the name of the vessel, IMO Number, dates of sailing and arrival, port of origin and destination, Ip numbers for the connecting devices, or any other identifying information. The data collected will be available to the researcher, the Institutional Review Board and other representatives of the Nova Southeastern University, and any granting agencies (if applicable). All confidential data will be kept securely in the server provider where the data base is stored during the data collection. Once the data collection is concluded, all data will be kept by the researcher for future investigations and destroyed once the researcher considers that is no longer relevant.

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Yours sincerely

Eugenio Moreno
Ph.D. Candidate, Conflicts Analysis and Resolution
Halmos College of Arts and Sciences
Nova Southeastern University
em1595@mynsu.nova.edu

December 6, 2021

THE SEAFARERS´ CHARITY

By email: contact@theseafarerscharity.org

Ref: **Seafarers´ Perceptions about their Interpersonal Conflicts in a Multicultural Workplace (The Ship)**

Dear Sirs

My name is Eugenio Moreno and I am a doctoral candidate in the Department of Conflict Resolution Studies at Nova Southeastern University. I have been a member of the maritime community for 40 years. I am delighted to invite you to participate in this doctoral study of the relationship between onboard interpersonal conflicts and marine casualties and incidents. I believe that this important research may assist in the mitigation of maritime accidents and a reduction in physical and financial losses. However, to achieve this objective it is essential to gather the widest possible data and solicit the input of the largest number of seafarers. It is with this objective in mind that I believe that the **THE SEAFARERS´ CHARITY** can play an instrumental role in contacting seafarers through your membership and inviting them to participate in our online study.

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I look forward to receiving your comments and would be pleased to discuss further any questions that you may have.

Yours sincerely

Eugenio Moreno
Ph.D. Candidate, Conflicts Analysis and Resolution
Halmos College of Arts and Sciences
Nova Southeastern University
em1595@mynsu.nova.edu

Appendix G: Invitation Letter Sent to the Other Organizations Related to the Shipping

Industry on 12/6/2021.

December 6, 2021

INTERNATIONAL TRANSPORT WORKERS´S FEDERATION (ITF)

By email: mail@itf.org.uk; Nairobi@itf.org.uk; lamug_joseraul@itf.org.uk; mail@itfindia.co.in; hkfocoffice@itf.org.uk; sydneyoffice@itf.org.uk; mail@itftokyo.org; itf_americas@itf.org.uk; montrealicao@itf.org.uk; etf@etf-europe.org; arab-world@itf.org.uk; seafsupport@itf.org.uk

Ref: Seafarers´ Perceptions about their Interpersonal Conflicts in a
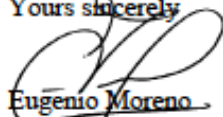Multicultural Workplace (The Ship)

Dear Sirs

My name is Eugenio Moreno and I am a doctoral candidate in the Department of Conflict Resolution Studies at Nova Southeastern University. I have been a member of the maritime community for 40 years. I am delighted to invite you to participate in this doctoral study of the relationship between onboard interpersonal conflicts and marine casualties and incidents. I believe that this important research may assist in the mitigation of maritime accidents and a reduction in physical and financial losses. However, to achieve this objective it is essential to gather the widest possible data and solicit the input of the largest number of seafarers. It is with this objective in mind that I believe that the **INTERNATIONAL TRANSPORT WORKERS´S FEDERATION (ITF)** can play an instrumental role in contacting seafarers through your membership and inviting them to participate in our online study.

To access the questionnaire, the participant will be provided with the following weblink: www.seafarersresearch.com. This is a private website purchased by me for this research. The responses are voluntary and anonymous. The information obtained from any participant will be confidential, within the limits of the law. Their privacy will be protected based on the premise that no personal information such as name and surnames, social security numbers, personal ID numbers, or any other similar personal information is requested. Nor will information be collected about the name of the vessel, IMO Number, dates of sailing and arrival, port of origin and destination, Ip numbers for the connecting devices, or any other identifying information. The data collected will be available to the researcher, the Institutional Review Board and other representatives of the Nova Southeastern University, and any granting agencies (if applicable). All confidential data will be kept securely in the server provider where the data base is stored during the data collection. Once the data collection is concluded, all data will be kept by the researcher for future investigations and destroyed once the researcher considers that is no longer relevant.

I trust that you will agree that this is an important study of benefit to all elements of the maritime community and I very much hope that you will agree to participate.

I look forward to receiving your comments and would be pleased to discuss further any questions that you may have.

Yours sincerely,

Eugenio Moreno
Ph.D. Candidate, Conflicts Analysis and Resolution
Halmos College of Arts and Sciences
Nova Southeastern University
em1595@mynsu.nova.edu

December 6, 2021

WOMEN'S INTERNATIONAL SHIPPING AND TRADING ASSOCIATION (WISTA)

Att: Mrs. Despina Panayiotou Theodossiou, President

By email: wista@wistainternational.com

Ref: **Seafarers´ Perceptions about their Interpersonal Conflicts in a Multicultural Workplace (The Ship)**

Dear Mrs. Panayiotou

My name is Eugenio Moreno and I am a doctoral candidate in the Department of Conflict Resolution Studies at Nova Southeastern University. I have been a member of the maritime community for 40 years. I am delighted to invite you to participate in this doctoral study of the relationship between onboard interpersonal conflicts and marine casualties and incidents. I believe that this important research may assist in the mitigation of maritime accidents and a reduction in physical and financial losses. However, to achieve this objective it is essential to gather the widest possible data and solicit the input of the largest number of seafarers. It is with this objective in mind that I believe that the **WOMEN'S INTERNATIONAL SHIPPING AND TRADING ASSOCIATION (WISTA)** can play an instrumental role in contacting seafarers through your membership and inviting them to participate in our online study.

To access the questionnaire, the participant will be provided with the following weblink: www.seafarersresearch.com. This is a private website purchased by me for this research. The responses are voluntary and anonymous. The information obtained from any participant will be confidential, within the limits of the law. Their privacy will be protected based on the premise that no personal information such as name and surnames, social security numbers, personal ID numbers, or any other similar personal information is requested. Nor will information be collected about the name of the vessel, IMO Number, dates of sailing and arrival, port of origin and destination, Ip numbers for the connecting devices, or any other identifying information. The data collected will be available to the researcher, the Institutional Review Board and other representatives of the Nova Southeastern University, and any granting agencies (if applicable). All confidential data will be kept securely in the server provider where the data base is stored during the data collection. Once the data collection is concluded, all data will be kept by the researcher for future investigations and destroyed once the researcher considers that is no longer relevant.

I trust that you will agree that this is an important study of benefit to all elements of the maritime community and I very much hope that you will agree to participate.

I look forward to receiving your comments and would be pleased to discuss further any questions that you may have.

Yours sincerely

Eugenio Moreno
Ph.D. Candidate, Conflicts Analysis and Resolution
Halmos College of Arts and Sciences
Nova Southeastern University
em1595@mynsu.nova.edu

December 23, 2021

SAILORS' UNION OF THE PACIFIC

By fax: (415) 777-5088

**Ref: Seafarers´ Perceptions about their Interpersonal Conflicts in a
        Multicultural Workplace (The Ship)**

My name is Eugenio Moreno and I am a doctoral candidate in the Department of Conflict
Resolution Studies at Nova Southeastern University. I have been a member of the maritime
community for 40 years. I am delighted to invite you to participate in this doctoral study of the
relationship between onboard interpersonal conflicts and marine casualties and incidents. I believe
that this important research may assist in the mitigation of maritime accidents and a reduction in
physical and financial losses, as well as personal injuries and loss of life. However, to achieve this
objective it is essential to gather the widest possible data and solicit the input of the largest number
of seafarers. It is with this objective in mind that I believe that the **SAILORS' UNION OF THE
PACIFIC** can play an instrumental role in contacting seafarers through your membership and
inviting them to participate in our online study.

To access the questionnaire, the participant will be provided with the following weblink:
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confidential data will be kept securely in the server provider where the data base is stored during
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future investigations and destroyed once the researcher considers that is no longer relevant.

I trust that you will agree that this is an important study of benefit to all elements of the maritime
community and I very much hope that you will agree to participate.

I look forward to receiving your comments and would be pleased to discuss further any questions
that you may have.

Yours sincerely

Eugenio Moreno
Ph.D. Candidate, Conflicts Analysis and Resolution
Halmos College of Arts and Sciences
Nova Southeastern University
em1595@mynsu.nova.edu

December 23, 2021

SUGAR WORKERS UNION

By fax: (510) 787-1676

**Ref: Seafarers´ Perceptions about their Interpersonal Conflicts in a
        Multicultural Workplace (The Ship)**

My name is Eugenio Moreno and I am a doctoral candidate in the Department of Conflict
Resolution Studies at Nova Southeastern University. I have been a member of the maritime
community for 40 years. I am delighted to invite you to participate in this doctoral study of the
relationship between onboard interpersonal conflicts and marine casualties and incidents. I believe
that this important research may assist in the mitigation of maritime accidents and a reduction in
physical and financial losses, as well as personal injuries and loss of life. However, to achieve this
objective it is essential to gather the widest possible data and solicit the input of the largest number
of seafarers. It is with this objective in mind that I believe that the SUGAR WORKERS UNION
can play an instrumental role in contacting seafarers through your membership and inviting them
to participate in our online study.

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the data collection. Once the data collection is concluded, all data will be kept by the researcher for
future investigations and destroyed once the researcher considers that is no longer relevant.

I trust that you will agree that this is an important study of benefit to all elements of the maritime
community and I very much hope that you will agree to participate.

I look forward to receiving your comments and would be pleased to discuss further any questions
that you may have.

Yours sincerely

Eugenio Moreno
Ph.D. Candidate, Conflicts Analysis and Resolution
Halmos College of Arts and Sciences
Nova Southeastern University
em1595@mynsu.nova.edu

December 23, 2021

AMO DISTRICT 2A, TTWISE|U

By fax: (202) 479-1188

Ref: **Seafarers´ Perceptions about their Interpersonal Conflicts in a**
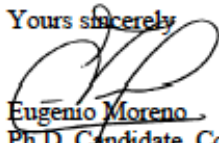**Multicultural Workplace (The Ship)**

My name is Eugenio Moreno and I am a doctoral candidate in the Department of Conflict
Resolution Studies at Nova Southeastern University. I have been a member of the maritime
community for 40 years. I am delighted to invite you to participate in this doctoral study of the
relationship between onboard interpersonal conflicts and marine casualties and incidents. I believe
that this important research may assist in the mitigation of maritime accidents and a reduction in
physical and financial losses, as well as personal injuries and loss of life. However, to achieve this
objective it is essential to gather the widest possible data and solicit the input of the largest number
of seafarers. It is with this objective in mind that I believe that the **AMO DISTRICT 2A,**
TTWISEU can play an instrumental role in contacting seafarers through your membership and
inviting them to participate in our online study.

To access the questionnaire, the participant will be provided with the following weblink:
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confidential data will be kept securely in the server provider where the data base is stored during
the data collection. Once the data collection is concluded, all data will be kept by the researcher for
future investigations and destroyed once the researcher considers that is no longer relevant.

I trust that you will agree that this is an important study of benefit to all elements of the maritime
community and I very much hope that you will agree to participate.

I look forward to receiving your comments and would be pleased to discuss further any questions
that you may have.

Yours sincerely,

Eugenio Moreno
Ph.D. Candidate, Conflicts Analysis and Resolution
Halmos College of Arts and Sciences
Nova Southeastern University
em1595@mynsu.nova.edu

December 23, 2021

UNION OF INTERNATIONAL SEAMEN

By fax: (301) 899-7355

Ref: **Seafarers´ Perceptions about their Interpersonal Conflicts in a Multicultural Workplace (The Ship)**

My name is Eugenio Moreno and I am a doctoral candidate in the Department of Conflict Resolution Studies at Nova Southeastern University. I have been a member of the maritime community for 40 years. I am delighted to invite you to participate in this doctoral study of the relationship between onboard interpersonal conflicts and marine casualties and incidents. I believe that this important research may assist in the mitigation of maritime accidents and a reduction in physical and financial losses, as well as personal injuries and loss of life. However, to achieve this objective it is essential to gather the widest possible data and solicit the input of the largest number of seafarers. It is with this objective in mind that I believe that the **UNION OF INTERNATIONAL SEAMEN** can play an instrumental role in contacting seafarers through your membership and inviting them to participate in our online study.

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I trust that you will agree that this is an important study of benefit to all elements of the maritime community and I very much hope that you will agree to participate.

I look forward to receiving your comments and would be pleased to discuss further any questions that you may have.

Yours sincerely

Eugenio Moreno
Ph.D. Candidate, Conflicts Analysis and Resolution
Halmos College of Arts and Sciences
Nova Southeastern University
em1595@mynsu.nova.edu

December 23, 2021

INDUSTRIAL, PROFESSIONAL, TECHNICAL WORKERS INTERNATIONAL UNION

By fax: (310) 904-8164

**Ref: Seafarers´ Perceptions about their Interpersonal Conflicts in a
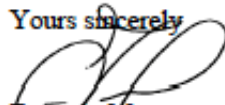   Multicultural Workplace (The Ship)**

My name is Eugenio Moreno and I am a doctoral candidate in the Department of Conflict
Resolution Studies at Nova Southeastern University. I have been a member of the maritime
community for 40 years. I am delighted to invite you to participate in this doctoral study of the
relationship between onboard interpersonal conflicts and marine casualties and incidents. I believe
that this important research may assist in the mitigation of maritime accidents and a reduction in
physical and financial losses, as well as personal injuries and loss of life. However, to achieve this
objective it is essential to gather the widest possible data and solicit the input of the largest number
of seafarers. It is with this objective in mind that I believe that the **INDUSTRIAL,
PROFESSIONAL, TECHNICAL WORKERS INTERNATIONAL UNION** can play an
instrumental role in contacting seafarers through your membership and inviting them to participate
in our online study.

To access the questionnaire, the participant will be provided with the following weblink:
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future investigations and destroyed once the researcher considers that is no longer relevant.

I trust that you will agree that this is an important study of benefit to all elements of the maritime
community and I very much hope that you will agree to participate.

I look forward to receiving your comments and would be pleased to discuss further any questions
that you may have.

Yours sincerely

Eugenio Moreno
Ph.D. Candidate, Conflicts Analysis and Resolution
Halmos College of Arts and Sciences
Nova Southeastern University
em1595@mynsu.nova.edu

December 23, 2021

**SEAFARERS INTERNATIONAL UNION OF NORTH AMERICA-
ATLANTIC, GULF, LAKES & INLAND WATERS**

By fax: (301) 899-0675

Ref: **Seafarers´ Perceptions about their Interpersonal Conflicts in a
Multicultural Workplace (The Ship)**

My name is Eugenio Moreno and I am a doctoral candidate in the Department of Conflict
Resolution Studies at Nova Southeastern University. I have been a member of the maritime
community for 40 years. I am delighted to invite you to participate in this doctoral study of the
relationship between onboard interpersonal conflicts and marine casualties and incidents. I believe
that this important research may assist in the mitigation of maritime accidents and a reduction in
physical and financial losses, as well as personal injuries and loss of life. However, to achieve this
objective it is essential to gather the widest possible data and solicit the input of the largest number
of seafarers. It is with this objective in mind that I believe that the **SEAFARERS
INTERNATIONAL UNION OF NORTH AMERICA - ATLANTIC, GULF, LAKES &
INLAND WATERS** can play an instrumental role in contacting seafarers through your
membership and inviting them to participate in our online study.

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the data collection. Once the data collection is concluded, all data will be kept by the researcher for
future investigations and destroyed once the researcher considers that is no longer relevant.

I trust that you will agree that this is an important study of benefit to all elements of the maritime
community and I very much hope that you will agree to participate.

I look forward to receiving your comments and would be pleased to discuss further any questions
that you may have.

Yours sincerely

Eugenio Moreno
Ph.D. Candidate, Conflicts Analysis and Resolution
Halmos College of Arts and Sciences
Nova Southeastern University
em1595@mynsu.nova.edu

December 23, 2021

UNITED INDUSTRIAL, SERVICE, TRANSPORTATION, PROFESSIONAL AND GOVERNMENT WORKERS OF NORTH AMERICA

By fax: (301) 899-7355

Ref: **Seafarers´ Perceptions about their Interpersonal Conflicts in a Multicultural Workplace (The Ship)**
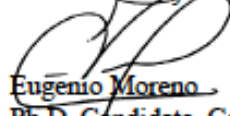
My name is Eugenio Moreno and I am a doctoral candidate in the Department of Conflict Resolution Studies at Nova Southeastern University. I have been a member of the maritime community for 40 years. I am delighted to invite you to participate in this doctoral study of the relationship between onboard interpersonal conflicts and marine casualties and incidents. I believe that this important research may assist in the mitigation of maritime accidents and a reduction in physical and financial losses, as well as personal injuries and loss of life. However, to achieve this objective it is essential to gather the widest possible data and solicit the input of the largest number of seafarers. It is with this objective in mind that I believe that the **UNITED INDUSTRIAL, SERVICE, TRANSPORTATION, PROFESSIONAL AND GOVERNMENT WORKERS OF NORTH AMERICA** can play an instrumental role in contacting seafarers through your membership and inviting them to participate in our online study.

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I trust that you will agree that this is an important study of benefit to all elements of the maritime community and I very much hope that you will agree to participate.

I look forward to receiving your comments and would be pleased to discuss further any questions that you may have.

Yours sincerely

Eugenio Moreno
Ph.D. Candidate, Conflicts Analysis and Resolution
Halmos College of Arts and Sciences
Nova Southeastern University
em1595@mynsu.nova.edu

December 23, 2021

MARINE FIREMEN'S UNION

By fax: (415) 362-4592

**Ref: Seafarers´ Perceptions about their Interpersonal Conflicts in a
     Multicultural Workplace (The Ship)**

My name is Eugenio Moreno and I am a doctoral candidate in the Department of Conflict
Resolution Studies at Nova Southeastern University. I have been a member of the maritime
community for 40 years. I am delighted to invite you to participate in this doctoral study of the
relationship between onboard interpersonal conflicts and marine casualties and incidents. I believe
that this important research may assist in the mitigation of maritime accidents and a reduction in
physical and financial losses, as well as personal injuries and loss of life. However, to achieve this
objective it is essential to gather the widest possible data and solicit the input of the largest number
of seafarers. It is with this objective in mind that I believe that the **MARINE FIREMEN'S
UNION** can play an instrumental role in contacting seafarers through your membership and
inviting them to participate in our online study.

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the data collection. Once the data collection is concluded, all data will be kept by the researcher for
future investigations and destroyed once the researcher considers that is no longer relevant.

I trust that you will agree that this is an important study of benefit to all elements of the maritime
community and I very much hope that you will agree to participate.

I look forward to receiving your comments and would be pleased to discuss further any questions
that you may have.

Yours sincerely

Eugenio Moreno
Ph.D. Candidate, Conflicts Analysis and Resolution
Halmos College of Arts and Sciences
Nova Southeastern University
em1595@mynsu.nova.edu

December 23, 2021

SEAFARERS INTERNATIONAL UNION OF CANADA

By fax: (514) 931-3667

**Ref: Seafarers´ Perceptions about their Interpersonal Conflicts in a
       Multicultural Workplace (The Ship)**

My name is Eugenio Moreno and I am a doctoral candidate in the Department of Conflict
Resolution Studies at Nova Southeastern University. I have been a member of the maritime
community for 40 years. I am delighted to invite you to participate in this doctoral study of the
relationship between onboard interpersonal conflicts and marine casualties and incidents. I believe
that this important research may assist in the mitigation of maritime accidents and a reduction in
physical and financial losses, as well as personal injuries and loss of life. However, to achieve this
objective it is essential to gather the widest possible data and solicit the input of the largest number
of seafarers. It is with this objective in mind that I believe that the **SEAFARERS
INTERNATIONAL UNION OF CANADA** can play an instrumental role in contacting seafarers
through your membership and inviting them to participate in our online study.

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community and I very much hope that you will agree to participate.

I look forward to receiving your comments and would be pleased to discuss further any questions
that you may have.

Yours sincerely

Eugenio Moreno
Ph.D. Candidate, Conflicts Analysis and Resolution
Halmos College of Arts and Sciences
Nova Southeastern University
em1595@mynsu.nova.edu

December 23, 2021

ASSOCIATED PHILIPPINE SEAFARERS UNION

By fax: (+63 2) 924-7553

**Ref: Seafarers´ Perceptions about their Interpersonal Conflicts in a
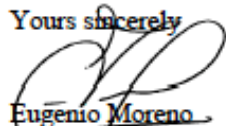   Multicultural Workplace (The Ship)**

My name is Eugenio Moreno and I am a doctoral candidate in the Department of Conflict Resolution Studies at Nova Southeastern University. I have been a member of the maritime community for 40 years. I am delighted to invite you to participate in this doctoral study of the relationship between onboard interpersonal conflicts and marine casualties and incidents. I believe that this important research may assist in the mitigation of maritime accidents and a reduction in physical and financial losses, as well as personal injuries and loss of life. However, to achieve this objective it is essential to gather the widest possible data and solicit the input of the largest number of seafarers. It is with this objective in mind that I believe that the **ASSOCIATED PHILIPPINE SEAFARERS UNION** can play an instrumental role in contacting seafarers through your membership and inviting them to participate in our online study.

To access the questionnaire, the participant will be provided with the following weblink: www.seafarersresearch.com. This is a private website purchased by me for this research. The responses are voluntary and anonymous. The information obtained from any participant will be confidential, within the limits of the law. Their privacy will be protected based on the premise that no personal information such as name and surnames, social security numbers, personal ID numbers, or any other similar personal information is requested. Nor will information be collected about the name of the vessel, IMO Number, dates of sailing and arrival, port of origin and destination, Ip numbers for the connecting devices, or any other identifying information. The data collected will be available to the researcher, the Institutional Review Board and other representatives of the Nova Southeastern University, and any granting agencies (if applicable). All confidential data will be kept securely in the server provider where the data base is stored during the data collection. Once the data collection is concluded, all data will be kept by the researcher for future investigations and destroyed once the researcher considers that is no longer relevant.

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I look forward to receiving your comments and would be pleased to discuss further any questions that you may have.

Yours sincerely

Eugenio Moreno
Ph.D. Candidate, Conflicts Analysis and Resolution
Halmos College of Arts and Sciences
Nova Southeastern University
em1595@mynsu.nova.edu

December 23, 2021

SEAFARERS INTERNATIONAL UNION

By fax: (301) 899-7355

Ref: **Seafarers' Perceptions about their Interpersonal Conflicts in a Multicultural Workplace (The Ship)**
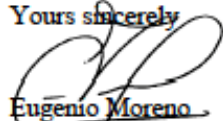
My name is Eugenio Moreno and I am a doctoral candidate in the Department of Conflict Resolution Studies at Nova Southeastern University. I have been a member of the maritime community for 40 years. I am delighted to invite you to participate in this doctoral study of the relationship between onboard interpersonal conflicts and marine casualties and incidents. I believe that this important research may assist in the mitigation of maritime accidents and a reduction in physical and financial losses, as well as personal injuries and loss of life. However, to achieve this objective it is essential to gather the widest possible data and solicit the input of the largest number of seafarers. It is with this objective in mind that I believe that the **SEAFARERS INTERNATIONAL UNION** can play an instrumental role in contacting seafarers through your membership and inviting them to participate in our online study.

To access the questionnaire, the participant will be provided with the following weblink: www.seafarersresearch.com. This is a private website purchased by me for this research. The responses are voluntary and anonymous. The information obtained from any participant will be confidential, within the limits of the law. Their privacy will be protected based on the premise that no personal information such as name and surnames, social security numbers, personal ID numbers, or any other similar personal information is requested. Nor will information be collected about the name of the vessel, IMO Number, dates of sailing and arrival, port of origin and destination, Ip numbers for the connecting devices, or any other identifying information. The data collected will be available to the researcher, the Institutional Review Board and other representatives of the Nova Southeastern University, and any granting agencies (if applicable). All confidential data will be kept securely in the server provider where the data base is stored during the data collection. Once the data collection is concluded, all data will be kept by the researcher for future investigations and destroyed once the researcher considers that is no longer relevant.

I trust that you will agree that this is an important study of benefit to all elements of the maritime community and I very much hope that you will agree to participate.

I look forward to receiving your comments and would be pleased to discuss further any questions that you may have.

Yours sincerely

Eugenio Moreno
Ph.D. Candidate, Conflicts Analysis and Resolution
Halmos College of Arts and Sciences
Nova Southeastern University
em1595@mynsu.nova.edu

Appendix H: Invitation Letter Sent to other Organizations Enclosing Flyer to be

Distributed Among Seafarers on 04/20/2022 (Flyers)

April 20, 2022

SEAFARERS INTERNATIONAL HOUSE
123 East 15th Street
New York, NY 10003

Ref: **Seafarers´ Perceptions about their Interpersonal Conflicts in a**
Multicultural Workplace (The Ship)

Dear Sirs,

My name is Eugenio Moreno and I am a doctoral candidate in the Department of Conflict Resolution Studies at Nova Southeastern University in Florida, USA. I am delighted to invite you to participate in this doctoral study of the relationship between onboard interpersonal conflicts and marine casualties and incidents. I believe that this important research may assist in the mitigation of maritime accidents, which are highly associated with personal injuries and loss of life and physical and financial losses. However, to achieve this objective it is essential to gather the widest possible data and solicit the input of the largest number of seafarers. It is with this objective in mind that I believe that the **SEAFARERS INTERNATIONAL HOUSE** can play an instrumental role in contacting seafarers and inviting them to participate in our online study.

To access the questionnaire, the participant shall be provided with the following weblink: www.seafarersresearch.com. The responses are voluntary and anonymous. The information obtained from any participant will be confidential. Their privacy will be protected based on the premise that no personal information is requested. Nor will information be collected about the name of the vessel, IMO Number, dates of sailing and arrival, port of origin and destination, etc.

I am enclosing some flyers that I highly appreciate if you help me to distribute during your ship visiting to support the seafarers.

I trust that you will agree that this is an important study of benefit to the maritime community as a whole and I very much hope that you will agree to participate.

I look forward to receiving your comments and would be pleased to discuss further any questions that you may have.

Yours sincerely

Eugenio Moreno
Ph.D. Candidate, Conflict Analysis and Resolution
Halmos College of Arts and Sciences
Nova Southeastern University
em1595@mynsu.nova.edu

April 20, 2022

SEAFARERS INTERNATIONAL UNION OF NORTH AMERICA
5201 Capital Gateway Drive, Camp Springs, MD, United States, 20746

Ref: **Seafarers´ Perceptions about their Interpersonal Conflicts in a**
Multicultural Workplace (The Ship)

Dear Sirs,

My name is Eugenio Moreno and I am a doctoral candidate in the Department of Conflict
Resolution Studies at Nova Southeastern University in Florida, USA. I am delighted to invite you
to participate in this doctoral study of the relationship between onboard interpersonal conflicts and
marine casualties and incidents. I believe that this important research may assist in the mitigation
of maritime accidents, which are highly associated with personal injuries and loss of life and
physical and financial losses. However, to achieve this objective it is essential to gather the widest
possible data and solicit the input of the largest number of seafarers. It is with this objective in
mind that I believe that the **SEAFARERS INTERNATIONAL UNION OF NORTH**
AMERICA can play an instrumental role in contacting seafarers and inviting them to participate in
our online study.

To access the questionnaire, the participant shall be provided with the following weblink:
www.seafarersresearch.com. The responses are voluntary and anonymous. The information
obtained from any participant will be confidential. Their privacy will be protected based on the
premise that no personal information is requested. Nor will information be collected about the
name of the vessel, IMO Number, dates of sailing and arrival, port of origin and destination, etc.

I am enclosing some flyers that I highly appreciate if you help me to distribute among your
members.

I trust that you will agree that this is an important study of benefit to the maritime community as a
whole and I very much hope that you will agree to participate.

I look forward to receiving your comments and would be pleased to discuss further any questions
that you may have.

Yours sincerely

Eugenio Moreno
Ph.D. Candidate, Conflict Analysis and Resolution
Halmos College of Arts and Sciences
Nova Southeastern University
em1595@mynsu.nova.edu

April 20, 2022

THE MISSION TO SEAFARERS
One East 11th Street Ste 600
Riviera Beach
FL 33404 USA

**Ref: Seafarers´ Perceptions about their Interpersonal Conflicts in a
        Multicultural Workplace (The Ship)**
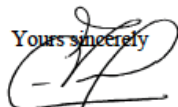
Dear Sirs,

My name is Eugenio Moreno and I am a doctoral candidate in the Department of Conflict
Resolution Studies at Nova Southeastern University in Florida, USA. I am delighted to invite
you to participate in this doctoral study of the relationship between onboard interpersonal
conflicts and marine casualties and incidents. I believe that this important research may assist
in the mitigation of maritime accidents, which are highly associated with personal injuries
and loss of life and physical and financial losses. However, to achieve this objective it is
essential to gather the widest possible data and solicit the input of the largest number of
seafarers. It is with this objective in mind that I believe that **THE MISSION TO
SEAFARERS** can play an instrumental role in contacting seafarers and inviting them to
participate in our online study.

To access the questionnaire, the participant shall be provided with the following weblink:
www.seafarersresearch.com. The responses are voluntary and anonymous. The information
obtained from any participant will be confidential. Their privacy will be protected based on the
premise that no personal information is requested. Nor will information be collected about the
name of the vessel, IMO Number, dates of sailing and arrival, port of origin and destination, etc.

I am enclosing some flyers that I highly appreciate if you help me to distribute during your ship
visiting to support the seafarers.

I trust that you will agree that this is an important study of benefit to the maritime community as a
whole and I very much hope that you will agree to participate.

I look forward to receiving your comments and would be pleased to discuss further any questions
that you may have.

Yours sincerely

Eugenio Moreno
Ph.D. Candidate, Conflict Analysis and Resolution
Halmos College of Arts and Sciences
Nova Southeastern University
em1595@mynsu.nova.edu

April 20, 2022

THE MISSION TO SEAFARERS
Houston International Seafarers' Centre
Postal (Centre): PO Box 9506
Houston, TX 77206-0603

Ref: **Seafarers´ Perceptions about their Interpersonal Conflicts in a
       Multicultural Workplace (The Ship)**

Dear Sirs,

My name is Eugenio Moreno and I am a doctoral candidate in the Department of Conflict
Resolution Studies at Nova Southeastern University in Florida, USA. I am delighted to invite
you to participate in this doctoral study of the relationship between onboard interpersonal
conflicts and marine casualties and incidents. I believe that this important research may assist
in the mitigation of maritime accidents, which are highly associated with personal injuries
and loss of life and physical and financial losses. However, to achieve this objective it is
essential to gather the widest possible data and solicit the input of the largest number of
seafarers. It is with this objective in mind that I believe that **THE MISSION TO
SEAFARERS** can play an instrumental role in contacting seafarers and inviting them to
participate in our online study.

To access the questionnaire, the participant shall be provided with the following weblink:
www.seafarersresearch.com. The responses are voluntary and anonymous. The information
obtained from any participant will be confidential. Their privacy will be protected based on the
premise that no personal information is requested. Nor will information be collected about the
name of the vessel, IMO Number, dates of sailing and arrival, port of origin and destination, etc.

I am enclosing some flyers that I highly appreciate if you help me to distribute during your ship
visiting to support the seafarers.

I trust that you will agree that this is an important study of benefit to the maritime community as a
whole and I very much hope that you will agree to participate.

I look forward to receiving your comments and would be pleased to discuss further any questions
that you may have.

Yours sincerely

Eugenio Moreno
Ph.D. Candidate, Conflict Analysis and Resolution
Halmos College of Arts and Sciences
Nova Southeastern University
em1595@mynsu.nova.edu

April 20, 2022

THE MISSION TO SEAFARERS
International Maritime Center
4001 - 7th St, Oakland, CA 94607

Ref: **Seafarers' Perceptions about their Interpersonal Conflicts in a
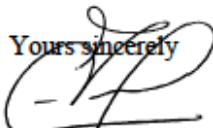   Multicultural Workplace (The Ship)**

Dear Sirs,

My name is Eugenio Moreno and I am a doctoral candidate in the Department of Conflict
Resolution Studies at Nova Southeastern University in Florida, USA. I am delighted to invite
you to participate in this doctoral study of the relationship between onboard interpersonal
conflicts and marine casualties and incidents. I believe that this important research may assist
in the mitigation of maritime accidents, which are highly associated with personal injuries
and loss of life and physical and financial losses. However, to achieve this objective it is
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name of the vessel, IMO Number, dates of sailing and arrival, port of origin and destination, etc.

I am enclosing some flyers that I highly appreciate if you help me to distribute during your ship
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I trust that you will agree that this is an important study of benefit to the maritime community as a
whole and I very much hope that you will agree to participate.

I look forward to receiving your comments and would be pleased to discuss further any questions
that you may have.

Yours sincerely

Eugenio Moreno
Ph.D. Candidate, Conflict Analysis and Resolution
Halmos College of Arts and Sciences
Nova Southeastern University
em1595@mynsu.nova.edu

April 20, 2022

INTERNATIONAL SEAFARERS MINISTRY
1180 S American Way, Miami, FL 33132

**Ref: Seafarers´ Perceptions about their Interpersonal Conflicts in a
        Multicultural Workplace (The Ship)**
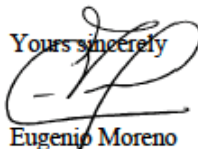
Dear Sirs,

My name is Eugenio Moreno and I am a doctoral candidate in the Department of
Conflict Resolution Studies at Nova Southeastern University in Florida, USA. I am
delighted to invite you to participate in this doctoral study of the relationship between
onboard interpersonal conflicts and marine casualties and incidents. I believe that this
important research may assist in the mitigation of maritime accidents, which are highly
associated with personal injuries and loss of life and physical and financial losses.
However, to achieve this objective it is essential to gather the widest possible data and
solicit the input of the largest number of seafarers. It is with this objective in mind that I
believe that **INTERNATIONAL SEAFARERS MINISTRY** can play an instrumental
role in contacting seafarers and inviting them to participate in our online study.

To access the questionnaire, the participant shall be provided with the following weblink:
www.seafarersresearch.com. The responses are voluntary and anonymous. The information
obtained from any participant will be confidential. Their privacy will be protected based on the
premise that no personal information is requested. Nor will information be collected about the
name of the vessel, IMO Number, dates of sailing and arrival, port of origin and destination, etc.

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visiting to support the seafarers.

I trust that you will agree that this is an important study of benefit to the maritime community as a
whole and I very much hope that you will agree to participate.

I look forward to receiving your comments and would be pleased to discuss further any questions
that you may have.

Yours sincerely

Eugenio Moreno
Ph.D. Candidate, Conflict Analysis and Resolution
Halmos College of Arts and Sciences
Nova Southeastern University
em1595@mynsu.nova.edu

April 20, 2022

INTERNATIONAL SEAFARERS MINISTRY
PO Box 71486, 3621 Azalea Dr, North Charleston, SC 29415, USA

**Ref: Seafarers´ Perceptions about their Interpersonal Conflicts in a
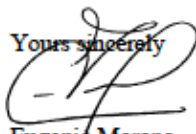Multicultural Workplace (The Ship)**

Dear Sirs,

My name is Eugenio Moreno and I am a doctoral candidate in the Department of
Conflict Resolution Studies at Nova Southeastern University in Florida, USA. I am
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associated with personal injuries and loss of life and physical and financial losses.
However, to achieve this objective it is essential to gather the widest possible data and
solicit the input of the largest number of seafarers. It is with this objective in mind that I
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role in contacting seafarers and inviting them to participate in our online study.

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www.seafarersresearch.com. The responses are voluntary and anonymous. The information
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name of the vessel, IMO Number, dates of sailing and arrival, port of origin and destination, etc.

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visiting to support the seafarers.

I trust that you will agree that this is an important study of benefit to the maritime community as a
whole and I very much hope that you will agree to participate.

I look forward to receiving your comments and would be pleased to discuss further any questions
that you may have.

Yours sincerely

Eugenio Moreno
Ph.D. Candidate, Conflict Analysis and Resolution
Halmos College of Arts and Sciences
Nova Southeastern University
em1595@mynsu.nova.edu

April 20, 2022

INTERNATIONAL SEAFARERS MINISTRY
3713 Hospital Rd., Pascagoula, MS 39581

**Ref: Seafarers´ Perceptions about their Interpersonal Conflicts in a
Multicultural Workplace (The Ship)**

Dear Sirs,

My name is Eugenio Moreno and I am a doctoral candidate in the Department of
Conflict Resolution Studies at Nova Southeastern University in Florida, USA. I am
delighted to invite you to participate in this doctoral study of the relationship between
onboard interpersonal conflicts and marine casualties and incidents. I believe that this
important research may assist in the mitigation of maritime accidents, which are highly
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I trust that you will agree that this is an important study of benefit to the maritime community as a
whole and I very much hope that you will agree to participate.

I look forward to receiving your comments and would be pleased to discuss further any questions
that you may have.

Yours sincerely

Eugenio Moreno
Ph.D. Candidate, Conflict Analysis and Resolution
Halmos College of Arts and Sciences
Nova Southeastern University
em1595@mynsu.nova.edu

Appendix I: Exchange with a Representative of Female Seafarers Association of Nigeria on

5/19/2022

Appendix J: Maria Dixon – CEO, ISM Shipping Solutions – Shore Leave for

Seafarers – Posted in LinkedIn on 6/6/2022.

Maria Dixon · Following
CEO, ISM Shipping Solutions - Panama Shipping Matters Expert - Spe...
1d · 🌐
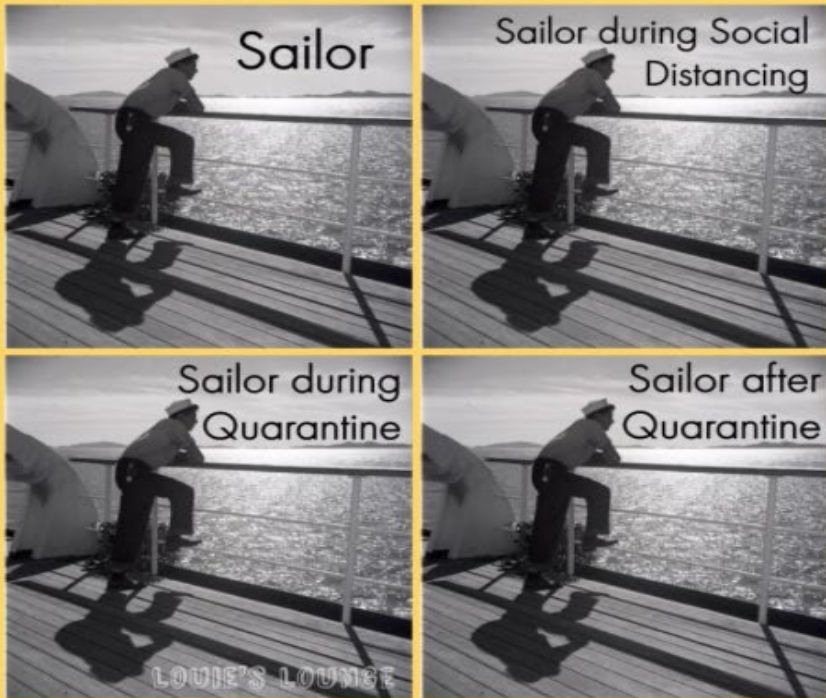
 I need seafarers and anyone who knows about this, to HELP ME here ..
I have received the following comment:

"The biggest concern for seafarers now is the "shore leave for seafarers".
Now that the whole world is normalised , it seems that nobody is taking any
initiative for re-opening the ****shore leaves***** for seafarers.
Everyone is just talking about mental well-being but nothing happening on
the ground.
Shipping Companies or Crew Agents/Managers are giving short contract as
no shore leave is available, however, no one is pressurizing countries to
open shore leave for seafarers."

*** Is this correct?
*** Are countries still SHUT to crews??
*** How can we help Seafarers?
*** How can companies, and countries and associations work together for
the well being of our seafarers?

No Seafarers = No Shipping = No Shopping

#shipping #work #wellbeing #help #shipsandshipping #oilandgas
Gordon Foot MNM FNI Gordon Rennie James Foong MBA AFNI AFRIN
Jillian Carson-Jackson Natalie Shaw MBE ISWAN - SOUTH ASIA Manoj J.
Sarvendra singh Suvidha Sharma Sarvendra Saxena AFNI Sarvendra
Singh Arie Palmers Anglo-Eastern

Sailor

Sailor during Social Distancing

Sailor during Quarantine

Sailor after Quarantine

LOUIE'S LOUNGE

Appendix K: Eugenio Moreno – Response to Maria Dixon - Shore Leave for

Seafarers – posted in LinkedIn on 6/6/2022.

Eugenio Moreno · You   15h ···
Venezuelan Maritime Attorney, P&I Correspondent, Mediator, Arb...

The seafarers themselves are not the problem. They were isolated as many people, and the only way to have COVID onboard is bringing it to the vessel. The vessel became one of the safest places to stay. However, like the rest of the world, once you are vaccinated, why some of them are not allowed to disembark? Could it be that the concern is that they may bring the virus on board even after being vaccinated? It seems to me that the problem is bigger and requires a clear and fair conversation, and they shall be part of that conversation. The truth is that the world is changing, and we need to find a way to protect the seafarers, as well as what they represent as part of the whole system. How valuable they are have been speaking out by different people. How we can mitigate the negative impact of this crisis on them requires ideas and work from people like you. Many thanks for bringing up the point. I would like to invite like you to have a discussion over what could be the possible solutions.

Appendix L: Curriculum Vitae of Eugenio Moreno

CONTACT INFORMATION

Address:	1195 Balboa Ct, Weston FL 33326
Mobile Phone:	**+1 954 8214776**
Work E-Mail:	**e.moreno@pandiusa.com**

PROFILE

Legal and business professional with 40+ years of experience in the maritime and energy industry. Experience that began to develop working for the C.A. Venezolana de Navegación for 13 years. Then, in a partnership agreement with the New York Law Firm Mahoney & Keane for 5 years, after which the firm became into E. Moreno Consultores. In 2012, Pandi Venezuela was also incorporated, and Pandi USA in 2018. I have had firsthand experience with maritime insurance throughout my career, including but not limited to H&M, P&I, FD&D, LOE, cargo handling facilities, port authority cover, ship operator, transport, and logistic operators. As a representative of the assured or as Venezuelan Correspondent for International Insurers and P&I Clubs, whether or not they are a part of the International Group of P&I Clubs, I have intervened in the negotiation and placement of covers in various international insurance markets as well as in the investigation and handling of maritime claims, such as hull and machinery claims, cargo claims, collisions, allisions, personal injuries, and pollution. Additionally, I have managed and settled certain disputes that call for leadership abilities, decision-making, and the integration of diverse teams, as well as a high level of public interaction. A business-focused counselor with creative issue-solving, critical thinking, and logical problem-solving expertise.

WORK EXPERIENCE

PANDIUSA
From 2018 – Director
Maritime cases and mediations.

PANDI VENEZUELA EMC, C.A.
Caracas, Venezuela – From 2012   - Director

Responsible for investigating and handling third-party liability claims as Venezuelan Correspondent for P&I Clubs, international and domestic insurance companies, and shipowners, among others.

E. MORENO CONSULTORES   (Ex Mahoney & Keane de Venezuela)
Caracas, Venezuela – From 1994 – Director

Responsible for investigating and handling insurance casualties and claims in the energy and maritime field and representing and advising international and domestic insurance companies on maritime, energy, and banking claims, among others.

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MAHONEY & KEANE DE VENEZUELA INTERNATIONAL CONSULTANTS, C.A. 1994-1999

Founding Shareholder/ General Director
Legal Representative for the New-York based law firm Mahoney & Keane in Venezuela

C.A. VENEZOLANA DE NAVEGACION
Caracas, Venezuela – From 1981 - 1994
-     1992 / 1994   Insurance and Claims Manager
-     1989 / 1992   Chief of the Insurance Department
-     1987 / 1989   Chief of the Maritime Insurance Division
-     1985 / 1990   Assistant to the Economic Advisor of the Company's President.
  -     *1986 / 1987   Marketing Department- Marketing Analyst*
-     1981 / 1986   Marketing Analyst II

VENEZUELAN FOREIGN TRADE INSTITUTE (INSTITUTO DE COMERCIO EXTERIOR DE VENEZUELA (ICE))
Caracas, Venezuela – From 1980 - 1981   - Analyst Assistant II

SEGUROS HORIZONTE INSURANCE COMPANY
Caracas, Venezuela - From 1978 / 1979
Officer IV: Billing Department.

PANAMERICAN DE VENEZUELA INSURANCE COMPANY
Caracas, Venezuela - From 1978 / 1978
Assistant to the Billing Department.

<div align="center">

JUDICIARY ACTIVITIES

</div>

Sixth Co-Judge of the Superior Maritime Court with National Jurisdiction and Venue in Caracas – October 2008- 2012

<div align="center">

LICENSES AND CERTIFICATIONS

</div>

Florida Supreme Court Certified Circuit, Civil, County, and Family Court Mediator from May 04, 2018 through May 04, 2024.

State of Florida, Executive Department, Notary Public, Notary I.D. No. 1501027, from May 2, 2017, through May 1, 2025.

Florida Supreme Court Qualified Arbitrator.

ACBL Oral Proficiency Interview – computer (OPIc) according to the ACTFL Proficiency Guidelines 2012 – Speaking. American Council on the Teaching of Foreign Languages (ACTFL). 2018.

Loss Adjuster. Duly Authorized by the Venezuelan Insurance Superintendence – From 2005.
Caracas, Venezuela

Risk Inspector. Duly Authorized by the Venezuelan Insurance Superintendence – From 2005.
Caracas, Venezuela

EDUCATION

Year	Degree	Field of Study / Specialization or Concentration	Institution
2021	Ph.D.	Conflict, Analysis and Resolution (Candidate)	NSU
2018	M.S.	Conflict, Analysis and Resolution	NSU
2012	Specialist	International Maritime Law	UPC
2010	Diploma	Investigation of Maritime Accidents and Casualties	UIMP
2008	Diploma	Constitutional Rights	IEC
2001	JD	Attorney at Law – Venezuela	USM
1992	Specialist	International Maritime Trade, Major: Shipping Management – School of Superior Studies of the Merchant Marine	EESMM
1991	Bachelor	Business Administration, Major: Materials and Financial Resources	UNESR
1980	Associate	Foreign Trade	IUNP

OTHER RELATED EDUCATION

Year	Degree	Field of Study / Specialization or Concentration	Institution
2018	Certification	Florida Supreme Court Certified Circuit - Civil, County, and Family Court Mediator	FSC
2017	Paralegal	Paralegal	FIU
2016	Diploma	Fundamentals of Transnational Law: The US Legal System, Cross-Border Litigation & International Arbitration	FIU
2016	Diploma	Immigration Procedures	FIU
2014	Diploma	Fundamentals of International Arbitration Course	UM
2005	Certification	Loss Adjuster	SUDESEG
2005	Certification	Risks Inspector	SUDESEG

LANGUAGES

Spanish – Native Language.
English – read, write, and speak fluently.

HONORS

Paul Harris Fellow, in appreciation of tangible and significant assistance given for the furtherance of better understanding and friendly relations among peoples of the world. 2017.

Florida International University. College of Law. Paralegal Honors Certificate. 2017.

MEMBERSHIPS

2023	Florida Bar – Foreign Legal Consultant
2022	Comité Maritime International - CMI
2019	Maritime Law Association of the United States
2018	Association of South Florida Mediators and Arbitrators
2017	National Notary Association
2017	Rotary Club of Weston
2013	Member in good standing of the Venezuelan American National Bar Association (Venambar)
2012	Vice-president of the Venezuelan Branch of the Iberoamerican Maritime Law Institute (2012 – 2017)
2005	Member in good standing of the Iberoamerican Maritime Law Institute
2002	Member in good standing of the Venezuelan Maritime Law Association under No. 157
2001	Member in good standing of the Venezuelan Bar Association, Venezuelan Bar No. 47.572
1991	Member in good standing of the Venezuelan Business Administration Commission under No. 12,801 (Colegio de Licenciados en Administracion del Distrito Federal)

ACADEMIC, TRAINING, AND WORKSHOP ACTIVITIES

Year	Title	Field of Study / Specialization or Concentration	Institution
2018	Lecturer	Overcoming Communications Barriers – Module I – Emotional Intelligence	Allied Roofing
2018	Lecturer	Overcoming Communications Barriers – Module II – Reflective Listening	Allied Roofing
2018	Lecturer	Overcoming Communications Barriers – Module III – Interpersonal Communication and Conflict Management Skills	Allied Roofing

Year	Title	Field of Study / Specialization or Concentration	Institution
2015	Lecturer	VIII Maritime Law International Congress, Definition, Legal Nature and Functions of the Protection and Indemnity Clubs	AVDM
2014	Lecturer	Environmental Maritime Insurance, Rio de Janeiro, Brazil.	IIDM
2014	Lecturer	VII Divulgation Plan for the Insurance Program – Maritime Insurance and Claims	PDVSA/PDVIC
2013	Lecturer	XVIII Maritime Law Iberoamerican Institute and United States Maritime Law Association – Fall Meeting – Current Challenges for the Provision of Adequate Insurance Cover for the Main Environmental Disasters – Prevention versus Processes – Puerto Rico, USA.	IIDM & MLAUS
2010	Lecturer	V International Ports Congress, I Training for Maritime and Ports Insurance Law – The P&I Clubs and their Covers	Private
2010	Lecturer	Maritime Insurance and Claims	INC
2010	Lecturer	The P&I Clubs, Maritime Legal Liability Cover	PDVSA/PDVIC
2008	Lecturer	Divulgation Corporate Insurance Program – The Adjuster´s role, and types of covers under the Extraordinary Expenses for Operators section.	PDVSA/PDVIC
2008	Lecturer	Maritime Insurance and Claims	PDVSA/PDVIC
2007	Lecturer	Divulgation Corporate Insurance Program – The Adjuster´s role, types of covers under the section of the Extraordinary Expenses for Operators.	PDVSA/PDVIC
2006	Lecturer	XI Iberoamerican Congress about Transport, Ports, Maritime Safety, Ports Protection, Ports of Refuge and Maritime Arbitration – The P&I Clubs and Covers, Santo Domingo, Dominican Republic.	IIDM
2006	Lecturer	IV Maritime Law Congress – Towards a Uniform Transport Law" – The Protection and Indemnity Clubs.	AVDM
2006	Lecturer	Maritime Claims, Handling, procedure, and other aspects	INC
2005	Lecturer	X Iberoamerican Maritime Law Congress – The New Iberoamerican Maritime Law of the XX Century – Law on Foreign Exchange Crimes and the Aquatic Sector	IIDM
2003	Lecturer	Divulgation Corporate Insurance Program – The Adjuster´s role, types of covers under the Extraordinary Expenses for Operators section.	PDVSA/PDVIC
Various	Lecturer	Richards Hogg Lindley, Inc. – Transport and Insurance	RHL
1988	Professor	Exports – Program of International Transport	IESA

Year	Title	Field of Study / Specialization or Concentration	Institution
1988	Professor	Export Management – Program of International Transport	IESA
1986	Professor	Tourism– Administration of Tourism Enterprises	IUNP

PUBLICATIONS

Papers

Moreno, E. (2017). Paradoxes inter members, groups as a whole, and inter groups. CARM 6660 GE1 (Hybrid) Conflict Management in Groups: Over and Covert Dynamics. Dr. Neil Katz.

Moreno, E. (2017). Portfolio. CARM 6660. (Hybrid) Conflict Management in Groups: Overt and Covert Dynamics. Dr. Neil Katz.

Moreno, E. (2017). Reflections paper on values. CARM 6150. Professional Practice and Ethics. Dr. Hoffman.

Moreno, E. (2017). Reflective Journal. CARM 6150. Professional Practice and Ethics. Dr. Hoffman.

Moreno, E. (2017). The three-pillar framework to map the three pillars of the Syrian conflict. CARM 6660. GE1 (Hybrid) Foundations and Developments of the Field of Conflict Resolution. Dr. Amisi.

Moreno, E. (2017). Use of bathrooms and other facilities by the transgender people at elementary schools. CARM 6140. Facilitation Theory and Practice. Dr. Mary Hope Schwoebel.

Moreno, E. (2018). Conflicts among seafarers in a multinational environment while onboard the vessel. CARD: 7090 GE: Quantitative Methods I - Professor Elena Bastidas, Ph.D. Nova Southeastern University.

Moreno, E. (2018). El Rol del Mediador. CARM: 6130: Practicum I. Dr. Mary Hope Schwoebel. Nova Southeastern University.

Moreno, E. (2018). Overcoming Communication Barriers. Module I: Emotional Intelligence. Module II: Reflective Listening, and Module III: Interpersonal Communication and conflict management skills. CARD 6639. Organizational Conflict Intervention. Dr. Neil Katz.

Moreno, E. (2018). Reflections on Ethics for conducting research with human subjects. CARD 7110 – Qualitative Research Methods I – Dr. Robin Cooper. Nova Southeastern University.

Moreno, E. (2018). The Pareto Efficient Frontier And Its Use For Negotiations Purpose. CARM: 30310: Negotiation Theory and Practice - Prof. Neil Katz. Nova Southeastern University.

Moreno, E., Chang, J. and Rojas, A. (2018). Mediation Training Proposal. The Transformative Mediation Model. CARM 30377: Mediation Theory and Practice. Dr. Georgakopoulos.

Moreno, E. (2019). Ethnography qualitative research proposal on how seafarers perceive themselves working with people from different culture. CARD 7120. Qualitative Research Methods II. Dr. Mary Hope Schwoebel.

Moreno, E. (2019). Seafarers' experiences working with people from different culture. CARD 7120. Qualitative Research Methods II. Dr. Mary Hope Schwoebel.

Moreno, E. (2019). The elderly person and family caregivers and when the abuse begins. CARD: 6610. Dr. Judith McKay.

Books

Co-author

Moreno, E. (2011). La cobertura de responsabilidad civil marítima y los clubes de protección e indemnización. In Omaña Pares, G. (Ed.) *Libro Conmemorativo X Años de Legislación Acuática Venezolana*. Primera Edición. Caracas, Venezuela. Legislación Económica, C.A., 2011. ISBN 978-980-387-196-3

Moreno, E. (2012). La cobertura de responsabilidad civil marítima y los clubes de protección e indemnización. In Omaña Pares, G. (Ed.) *Derecho de los seguros marítimos y portuarios. Libro homenaje al Dr. Alberto Baumeister Toledo.* Primera Edición. Caracas, Venezuela. LEGIS, 2012. ISBN 978-980-387-218-2

Moreno, E. (2013). El Retiro de Mercancías en Venezuela bajo el Sistema Aduanero Automatizado – Sidunea. In Moreno, E. (Ed.) *Derecho Marítimo Iberoamericano. Volumen I* (pp. 277-292). Instituto Iberoamericano de Derecho Marítimo, Rama Venezolana. Caracas, Venezuela. Miguel Angel Garcia e Hijo, S.R.L.

Moreno, E. & Ramirez, A.M. (2015). Retos Actuales en la Provisión de Cobertura de Seguro Adecuada en los Principales Desastres Ambientales: Prevención Versus Procesamiento. In Ulloa Ferrer, W., Castro Cortez, R.A. & Omaña Parez, G. (Eds.) *Estudios de Derecho Marítimo. Libro Homenaje a la memoria de Carlos A. Matheus.* Asociación Venezolana de Derecho Marítimo. Comité Marítimo Venezolano. (pp. 253-283). Instituto

Iberoamericano de Derecho Marítimo, Rama Venezolana. Caracas, Venezuela. Miguel
Angel Garcia e Hijo, S.R.L.

Moreno, E. (2019). La Frontera Eficiente de Pareto y el Negocio Marítimo. In Blanco, M.G.
(Ed.) *Derecho Marítimo Iberoamericano. Volumen II* (pp. 217-227). Instituto
Iberoamericano de Derecho Marítimo, Rama Venezolana. Caracas, Venezuela. Editorial
Jurídica Venezolana.

Supplemental Material: Descriptive Statistics for Each Variable in the Research

Questionnaire. Generated using Statistical Package for the Social Sciences (SPSS),

version 28.

Statistics

1. Are you currently a seafarer working onboard a vessel?

N	Valid	142
	Missing	0

1. Are you currently a seafarer working onboard a vessel?

	N	%
Yes	142	100.0%

1.Are you currently a seafarer working onboard a vessel?

■ Yes

100.00%
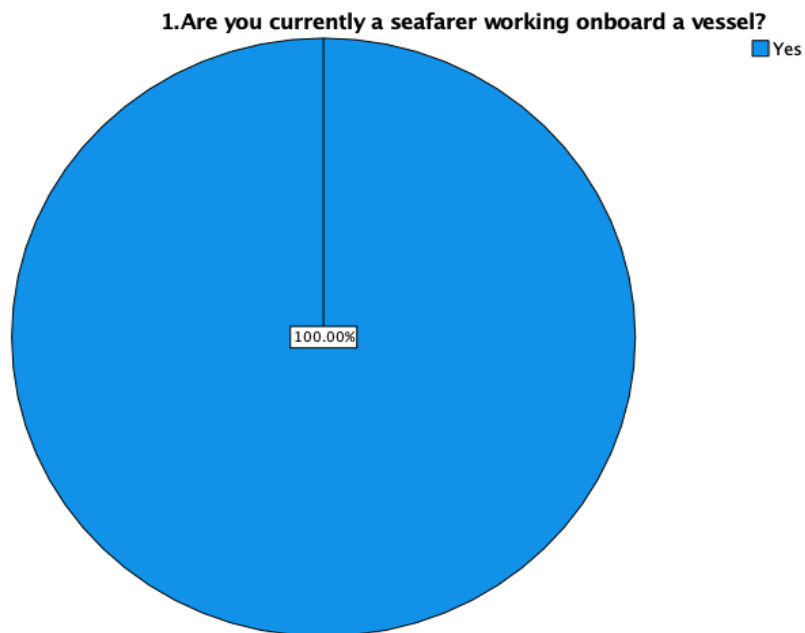
Statistics

3. How long have you been a seafarer (years)?

N	Valid	141
	Missing	1
Mean		12.3635
Std. Deviation		10.71607
Minimum		.02
Maximum		45.00

3. How long have you been a seafarer (years)?

	N	%
.02	1	0.7%
.10	1	0.7%
.33	1	0.7%
.58	2	1.4%
.75	1	0.7%
.77	5	3.5%
.90	1	0.7%
1.00	3	2.1%
1.04	1	0.7%
1.15	1	0.7%
1.17	1	0.7%
1.51	1	0.7%
1.69	1	0.7%
1.76	1	0.7%
2.00	2	1.4%
2.19	1	0.7%
3.00	2	1.4%
3.17	1	0.7%
3.24	1	0.7%
3.34	1	0.7%
3.43	1	0.7%
3.57	1	0.7%
3.78	1	0.7%
4.00	1	0.7%
4.25	1	0.7%

4.50	1	0.7%
4.52	2	1.4%
5.00	2	1.4%
5.17	1	0.7%
5.33	1	0.7%
5.50	1	0.7%
6.00	4	2.8%
6.08	1	0.7%
6.17	1	0.7%
6.27	1	0.7%
6.63	1	0.7%
7.00	3	2.1%
7.18	1	0.7%
7.25	1	0.7%
7.31	1	0.7%
7.57	1	0.7%
7.63	1	0.7%
7.75	1	0.7%
8.00	2	1.4%
8.04	1	0.7%
8.42	1	0.7%
8.83	1	0.7%
9.00	3	2.1%
9.14	1	0.7%
9.25	1	0.7%
9.33	1	0.7%
9.50	1	0.7%
9.92	1	0.7%
10.00	4	2.8%
10.17	1	0.7%
10.50	1	0.7%
10.51	1	0.7%
10.73	1	0.7%
10.86	1	0.7%
11.35	1	0.7%
11.47	1	0.7%
11.57	1	0.7%
11.67	1	0.7%

11.84	1	0.7%
12.00	2	1.4%
12.22	1	0.7%
12.32	1	0.7%
12.51	1	0.7%
13.00	1	0.7%
13.46	1	0.7%
13.53	1	0.7%
14.00	1	0.7%
14.37	1	0.7%
14.43	1	0.7%
14.99	1	0.7%
15.00	4	2.8%
15.08	2	1.4%
15.13	1	0.7%
16.15	1	0.7%
16.17	1	0.7%
16.30	1	0.7%
17.50	1	0.7%
18.61	1	0.7%
20.00	1	0.7%
20.09	1	0.7%
20.17	1	0.7%
21.00	1	0.7%
21.61	1	0.7%
22.00	1	0.7%
22.10	1	0.7%
22.59	1	0.7%
23.00	1	0.7%
23.83	1	0.7%
24.00	1	0.7%
25.00	2	1.4%
26.50	1	0.7%
28.00	1	0.7%
29.00	1	0.7%
30.00	1	0.7%
30.78	1	0.7%
31.00	2	1.4%

32.00		1	0.7%
32.50		1	0.7%
33.00		1	0.7%
35.00		1	0.7%
36.00		1	0.7%
40.00		3	2.1%
40.46		1	0.7%
43.89		1	0.7%
45.00		1	0.7%
Missing	System	1	0.7%

Histogram

Mean = 12.36
Std. Dev. = 10.716
N = 141

3. How long have you been a seafarer (years)?
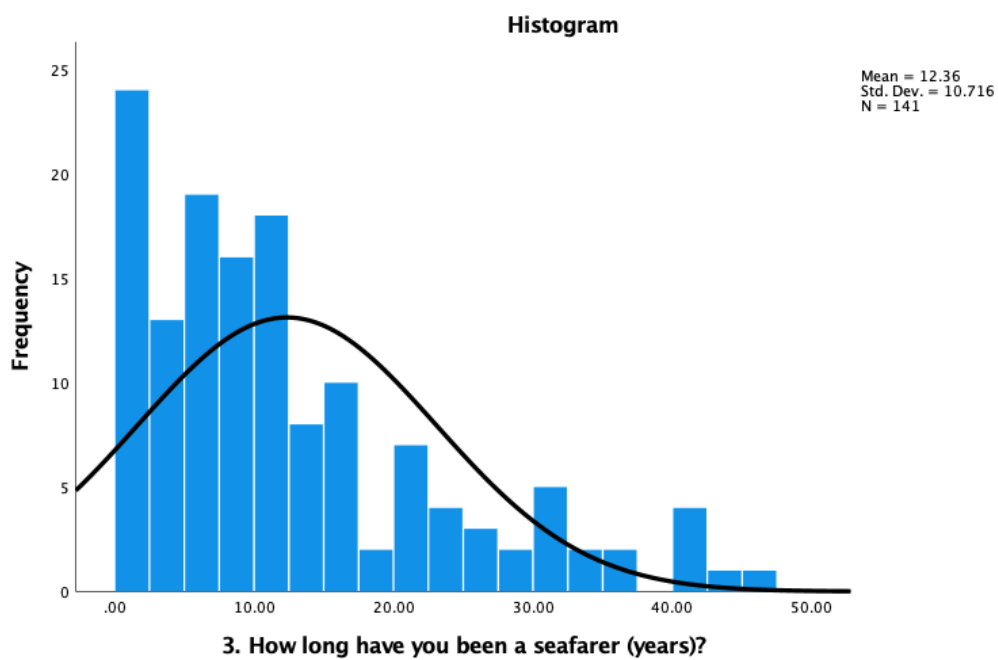
Statistics

5.   Do you perceive that the interpersonal conflicts among the seafarers aboard may have any relationship with the human errors that are reported as the causes of marine casualties and incidents?

N	Valid	142
	Missing	0

5.   Do you perceive that the interpersonal conflicts among the seafarers aboard may have any relationship with the human errors that are reported as the causes of marine casualties and incidents?

	N	%
Yes	98	69.0%
No	44	31.0%

5.Do you perceive that the interpersonal conflicts among the seafarers aboard may have any relationship with the human errors that are reported as the causes of marine casualties and incidents?
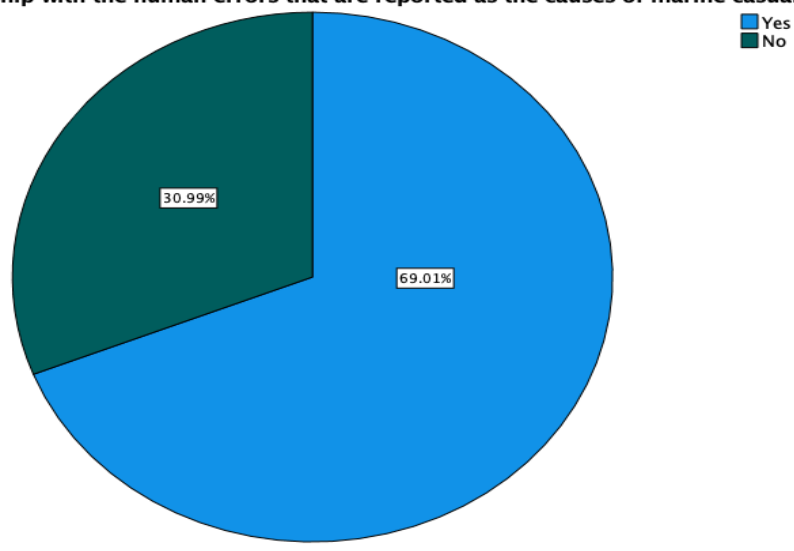
Statistics

6. What is your rank onboard?

N	Valid	138
	Missing	4

6. What is your rank onboard?

	N	%
Officer	124	87.3%
Rating	14	9.9%
Missing System	4	2.8%

6. What is your rank onboard?
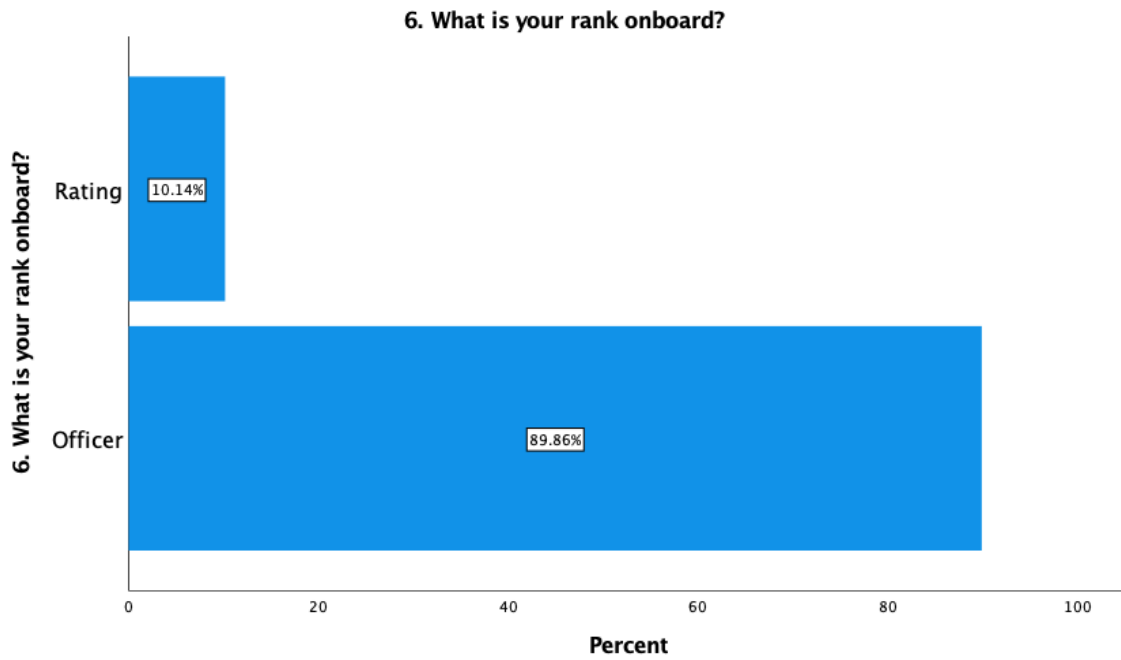
Statistics

Vessel Department

N	Valid	134
	Missing	8

Vessel Department

	N	%
Deck Department	87	61.3%
Engineering Department	46	32.4%
Steward Department	1	0.7%
Missing System	8	5.6%
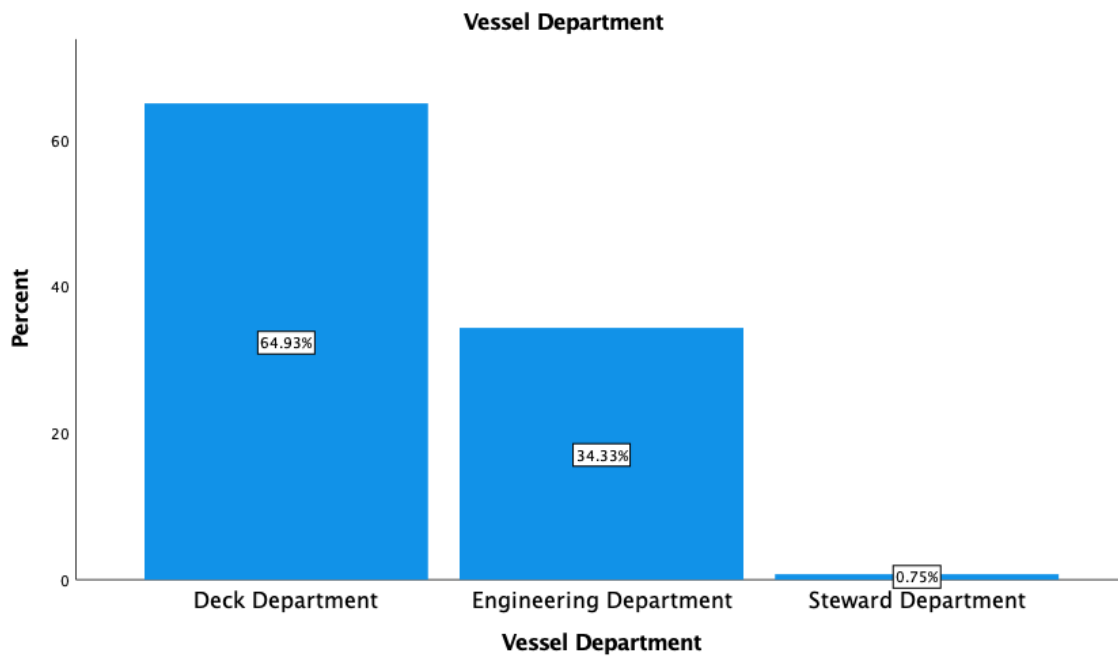
Statistics

Officer Deck Rank

N	Valid	73
	Missing	69

Officer Deck Rank

	N	%
Master	22	15.5%
Chief Mate (Chief Officer)	13	9.2%
Second Mate (Second Officer)	20	14.1%
Third Mate (Third Officer)	10	7.0%
Deck Cadet	7	4.9%
Other Rank	1	0.7%
Missing System	69	48.6%
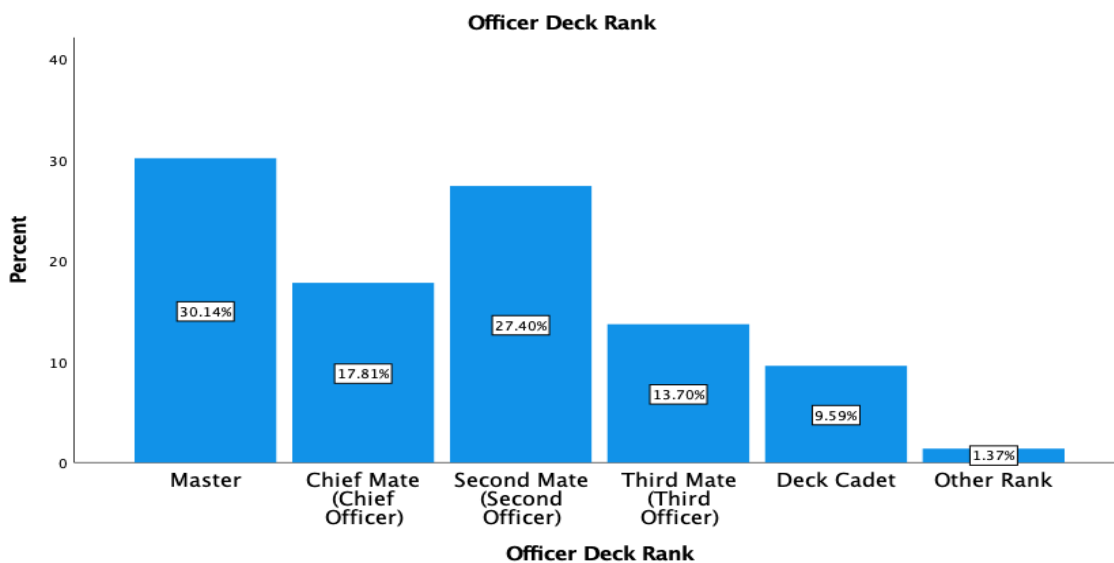
Statistics

Rating Deck Rank

N	Valid	8
	Missing	134

Rating Deck Rank

	N	%
Boatswain (Bosun/Deck Foreman)	1	0.7%
Able-Bodied Seaman (AB) (Quartermaster)	4	2.8%
Ordinary Seaman (OS)	2	1.4%
Other Rank	1	0.7%
Missing System	134	94.4%
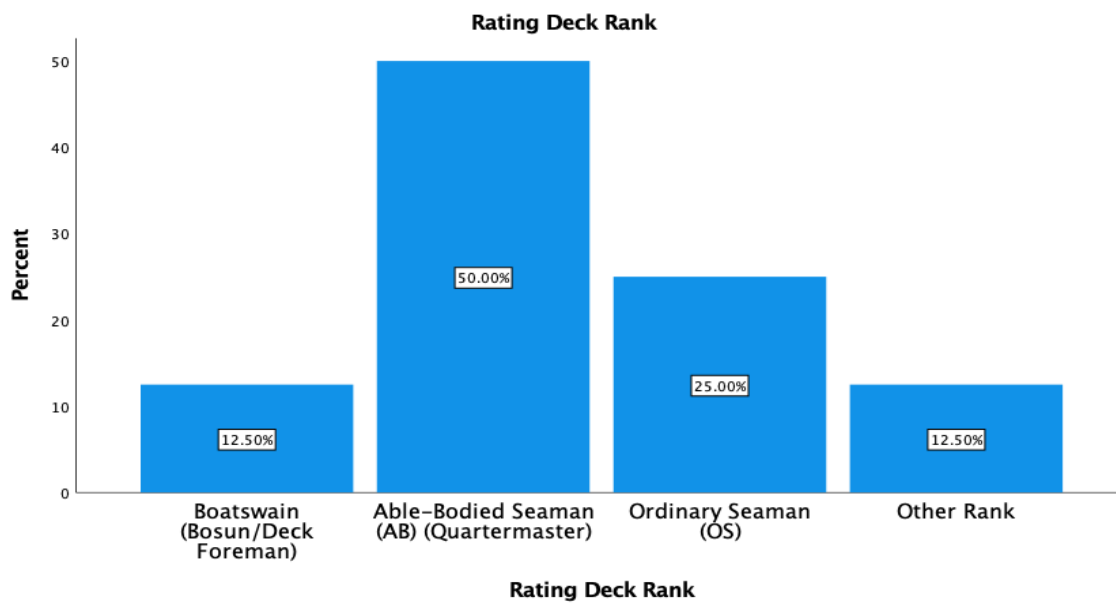
Statistics

Officer Engine Rank

N	Valid	36
	Missing	106

Officer Engine Rank

	N	%
Chief Engineer	11	7.7%
Second Engineer	7	4.9%
Third Engineer	3	2.1%
Fourth Engineer	8	5.6%
Electrician	1	0.7%
Engine Cadet	6	4.2%
Missing System	106	74.6%
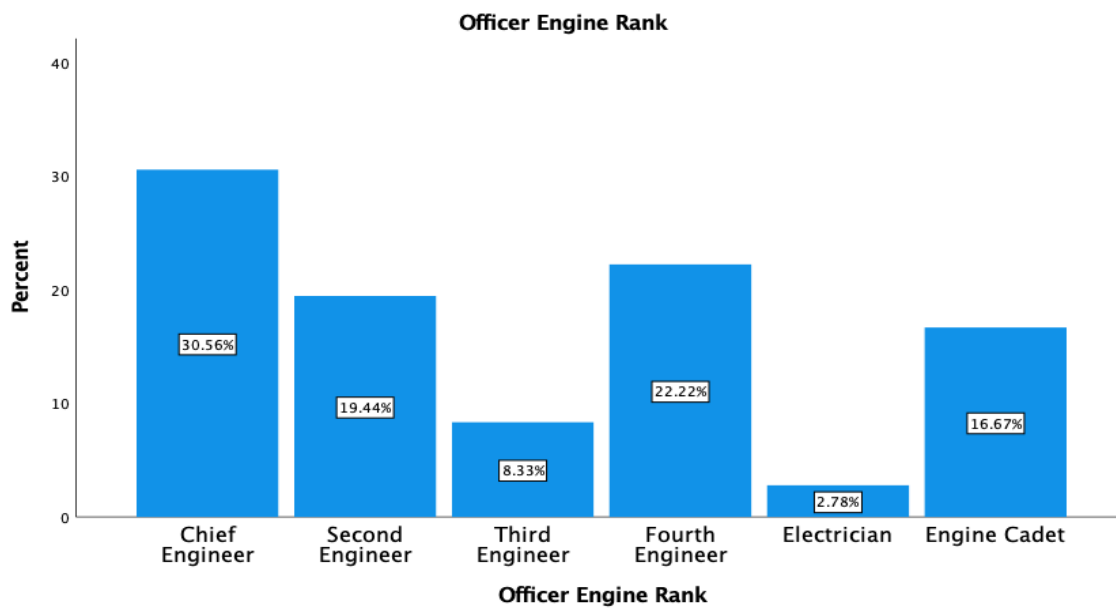
Statistics

Rating Engine Rank

N	Valid	3
	Missing	139

Rating Engine Rank

	N	%
Oiler	2	1.4%
Other Rank	1	0.7%
Missing System	139	97.9%
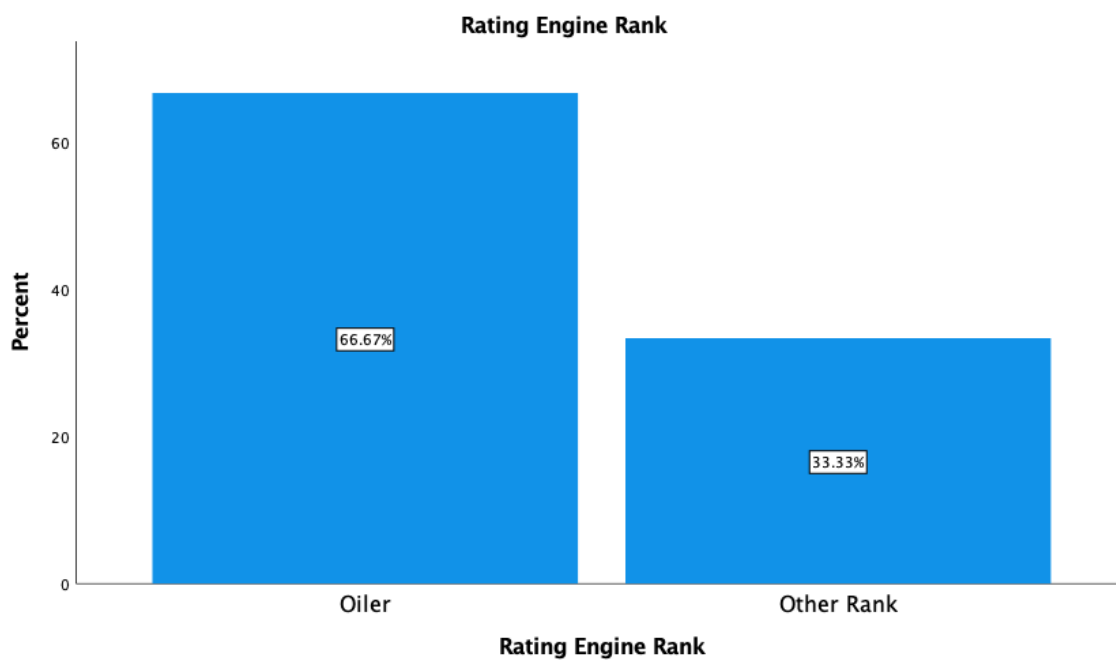
Statistics

Steward Rank

N	Valid	1
	Missing	141

Steward Rank

	N	%
Messman	1	0.7%
Missing System	141	99.3%

Steward Rank
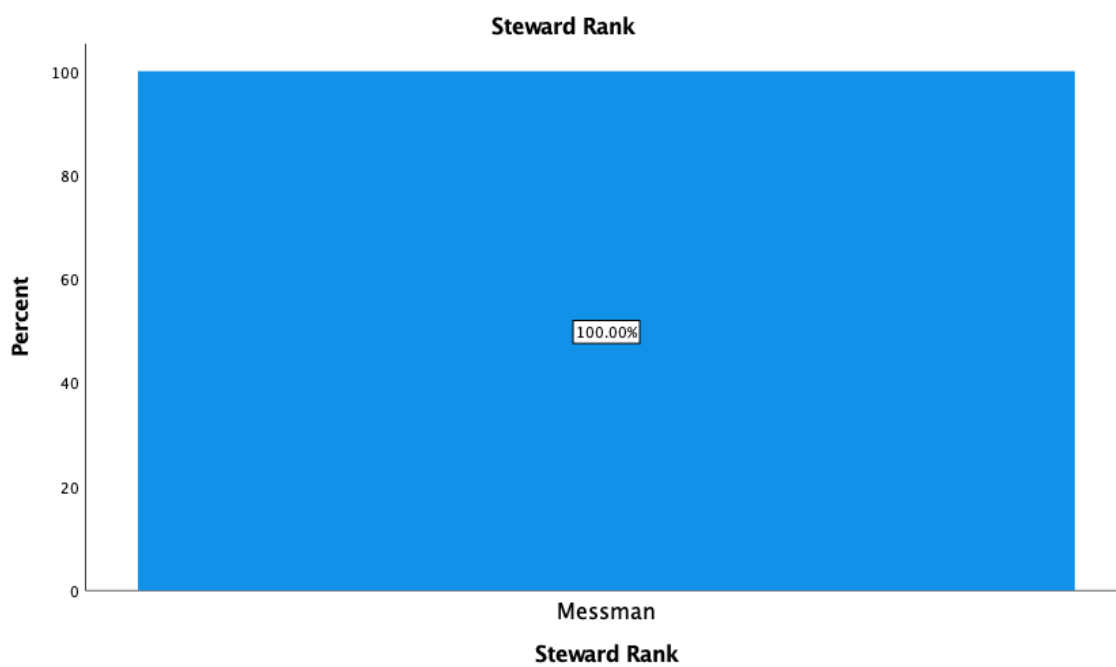
7. Regarding your current or last voyage aboard please respond the following:

Statistics

Type of Vessel

N	Valid	142
	Missing	0

Type of Vessel

	N	%
General Cargo Ship	13	9.2%
Container Ship	24	16.9%
Ro-Ro Ship	15	10.6%
Bulk Carrier	21	14.8%
Oil Tanker	34	23.9%
Chemical Tanker	18	12.7%
LNG Carrier	10	7.0%
LPG Carrier	7	4.9%

Type of Vessel
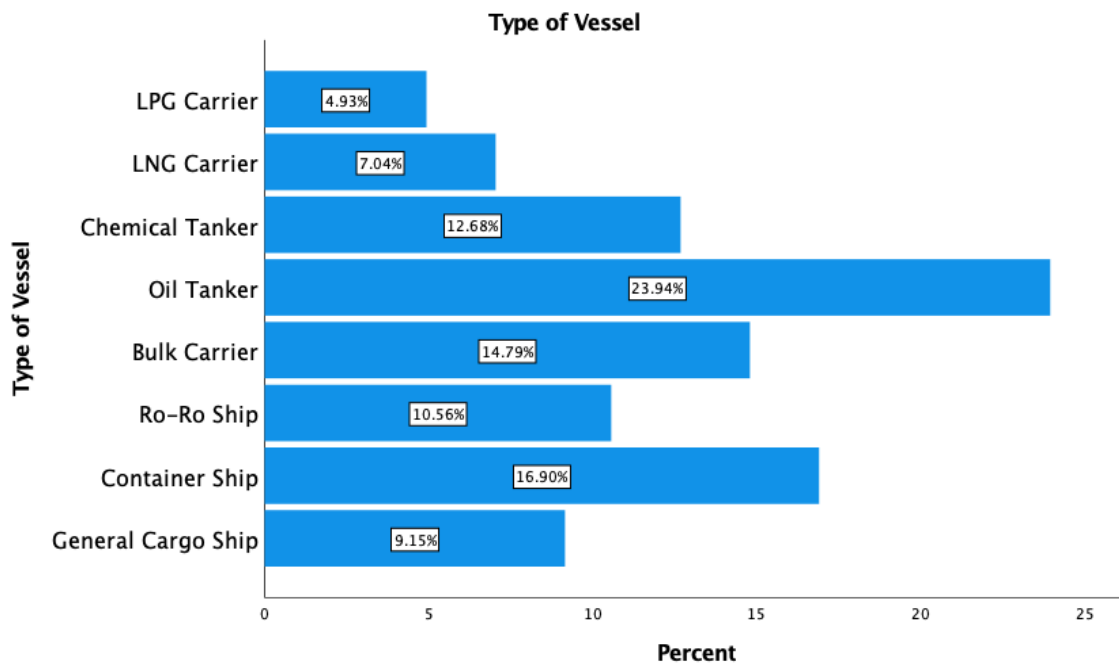
Statistics

Flag

N	Valid	136
	Missing	6

Flag

	N	%
Antigua and Barbuda	3	2.1%
Bahamas	5	3.5%
Belgium	2	1.4%
Bermuda	3	2.1%
Brazil	2	1.4%
Cameroon	1	0.7%
Comoros	1	0.7%
Cook Islands	1	0.7%
Cuba	1	0.7%
Cyprus	3	2.1%
Denmark	1	0.7%
Germany	3	2.1%
Hong Kong	7	4.9%
India	6	4.2%
Indonesia	3	2.1%
Isle of Man	1	0.7%
Italy	1	0.7%
Liberia	14	9.9%
Malta	6	4.2%
Marshall Islands	21	14.8%
Nigeria	2	1.4%
Norway	3	2.1%
Panama	19	13.4%
Philippines	1	0.7%
Portugal	1	0.7%
Russia	2	1.4%
Saint Vincent and the Grenadines	1	0.7%
Saudi Arabia	1	0.7%
Singapore	10	7.0%

Spain	1	0.7%
Thailand	1	0.7%
Tunisia	1	0.7%
Tuvalu	1	0.7%
United Kingdom (UK)	1	0.7%
United States (US)	2	1.4%
Venezuela	4	2.8%
Missing	6	4.2%

Flag

Other 1%
Venezuela 3%
United States (US) 1%
Singapore 7%
Russia 1%
Panama 14%
Norway 2%
Nigeria 1%
Marshall Islands 15%
Malta 4%
Liberia 10%
Indonesia 2%
India 4%
Hong Kong 5%
Germany 2%
Cyprus 2%
Brazil 1%
Bermuda 2%
Belgium 1%
Bahamas 4%
Antigua and Barbuda 2%

Flag

Percent Flag
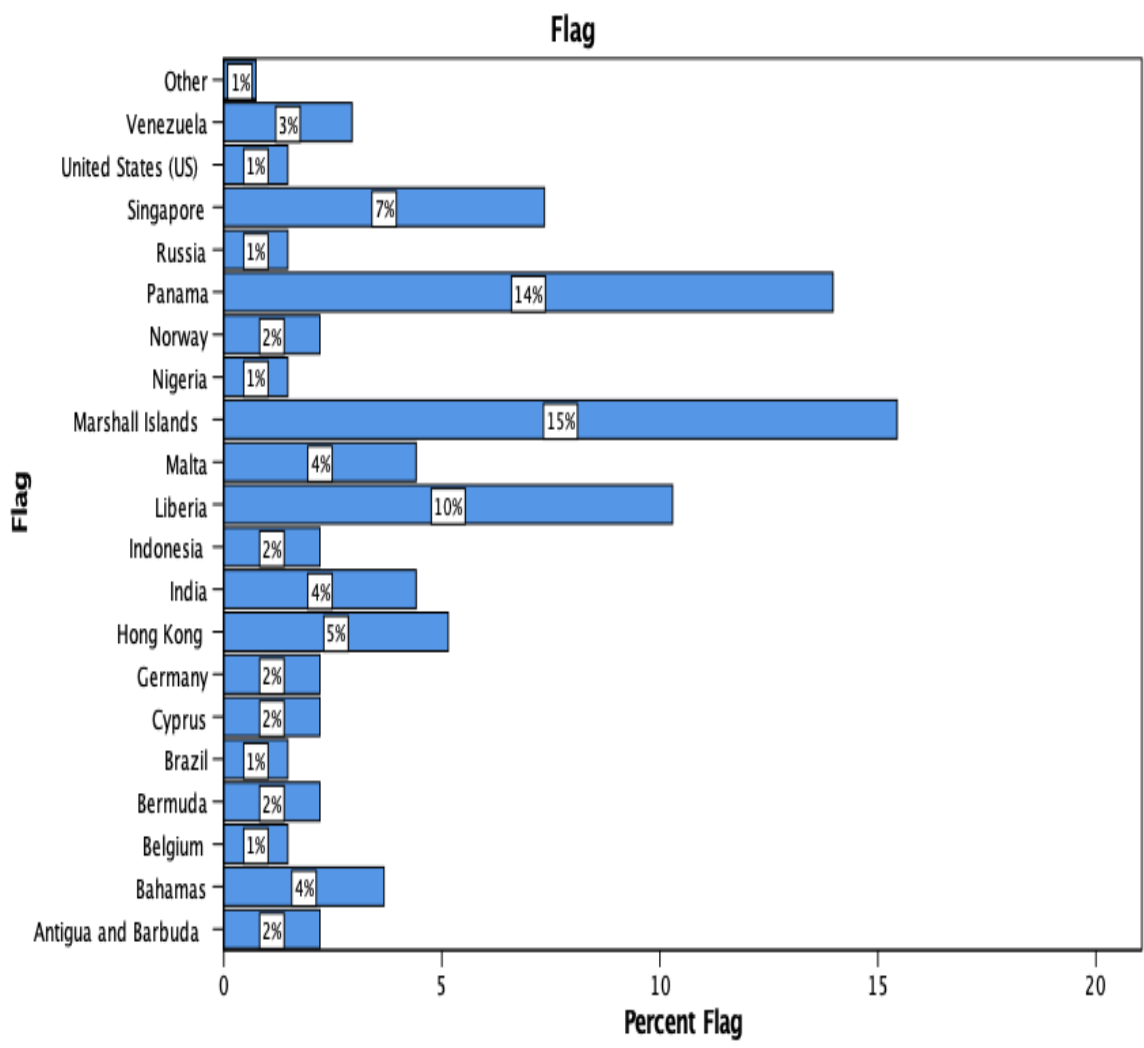
Statistics

How many days were you aboard on your most recent voyage?

N	Valid	142
	Missing	0
Mean		153.99
Std. Deviation		107.109
Minimum		2
Maximum		548

How many days were you aboard on your most recent voyage?

	N	%
2	1	0.7%
5	1	0.7%
6	3	2.1%
7	2	1.4%
8	2	1.4%
14	1	0.7%
15	2	1.4%
18	1	0.7%
20	1	0.7%
30	3	2.1%
33	2	1.4%
36	1	0.7%
37	1	0.7%
42	2	1.4%
45	1	0.7%
52	2	1.4%
55	6	4.2%
59	1	0.7%
60	1	0.7%
65	1	0.7%
71	1	0.7%
75	3	2.1%
84	1	0.7%
85	1	0.7%

90	5	3.5%
94	1	0.7%
105	2	1.4%
111	1	0.7%
113	2	1.4%
115	1	0.7%
116	1	0.7%
120	6	4.2%
122	3	2.1%
124	1	0.7%
126	1	0.7%
133	1	0.7%
136	1	0.7%
139	1	0.7%
142	1	0.7%
150	3	2.1%
157	1	0.7%
160	2	1.4%
162	1	0.7%
165	3	2.1%
167	1	0.7%
170	1	0.7%
172	2	1.4%
179	1	0.7%
180	14	9.9%
190	1	0.7%
192	2	1.4%
198	1	0.7%
199	1	0.7%
200	1	0.7%
205	1	0.7%
210	6	4.2%
219	2	1.4%
220	1	0.7%
225	1	0.7%
237	1	0.7%
240	4	2.8%
242	1	0.7%

253	1	0.7%
254	1	0.7%
255	1	0.7%
270	1	0.7%
271	1	0.7%
290	1	0.7%
291	1	0.7%
300	1	0.7%
304	1	0.7%
305	1	0.7%
312	1	0.7%
320	1	0.7%
323	1	0.7%
327	1	0.7%
360	1	0.7%
366	1	0.7%
370	1	0.7%
399	1	0.7%
500	1	0.7%
540	1	0.7%
548	1	0.7%

Histogram

Mean = 153.99
Std. Dev. = 107.109
N = 142

How many days were you aboard on your most recent voyage?
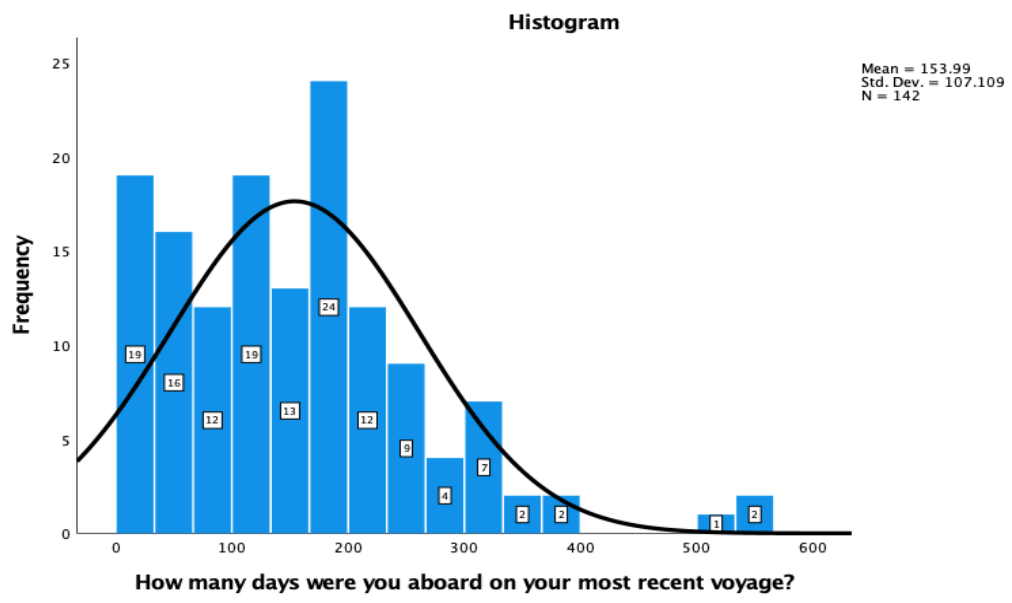
Statistics

How long in days have you been
working on this ship altogether?

N	Valid	137
	Missing	5
Mean		638.37
Std. Deviation		1188.702
Minimum		7
Maximum		7300

How long in days have you been working on this ship altogether?

	N	%
7	1	0.7%
30	1	0.7%
36	1	0.7%
45	2	1.4%
52	3	2.1%
55	5	3.5%
59	1	0.7%
60	1	0.7%
65	1	0.7%
66	1	0.7%
71	1	0.7%
75	4	2.8%
81	1	0.7%
84	1	0.7%
90	1	0.7%
105	2	1.4%
111	1	0.7%
113	2	1.4%
116	1	0.7%
120	3	2.1%
122	3	2.1%
124	1	0.7%
126	1	0.7%
133	1	0.7%

136	1	0.7%
139	1	0.7%
150	2	1.4%
157	1	0.7%
160	2	1.4%
162	1	0.7%
165	2	1.4%
170	2	1.4%
172	1	0.7%
180	10	7.0%
192	2	1.4%
199	1	0.7%
200	1	0.7%
210	3	2.1%
217	1	0.7%
219	1	0.7%
220	1	0.7%
225	2	1.4%
237	1	0.7%
240	4	2.8%
253	1	0.7%
255	1	0.7%
270	3	2.1%
271	1	0.7%
278	1	0.7%
290	1	0.7%
300	1	0.7%
312	1	0.7%
327	1	0.7%
360	3	2.1%
365	2	1.4%
366	1	0.7%
370	1	0.7%
377	1	0.7%
379	1	0.7%
385	1	0.7%
396	1	0.7%
425	1	0.7%

465	1	0.7%
515	1	0.7%
545	2	1.4%
547	1	0.7%
615	1	0.7%
730	7	4.9%
1035	1	0.7%
1095	1	0.7%
1125	1	0.7%
1460	1	0.7%
1669	1	0.7%
1825	1	0.7%
1895	1	0.7%
2131	1	0.7%
2190	2	1.4%
2250	1	0.7%
2340	1	0.7%
2555	1	0.7%
2875	1	0.7%
3455	1	0.7%
3650	1	0.7%
3760	1	0.7%
3852	1	0.7%
4745	1	0.7%
7300	2	1.4%
Missing System	5	3.5%

Histogram

Mean = 638.37
Std. Dev. = 1188.702
N = 137

How long in days have you been working on this ship altogether?
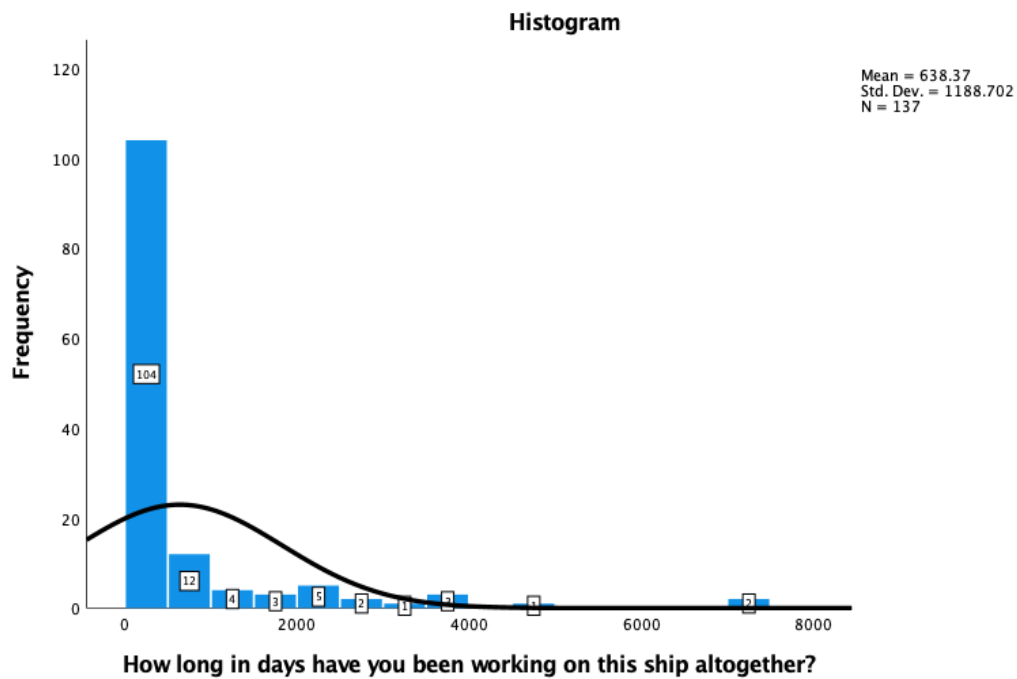
How many crewmembers are
onboard including yourself?

N	Valid	138
	Missing	4
Mean		22.99
Std. Deviation		6.766
Minimum		6
Maximum		65

How many crewmembers are onboard including yourself?

	N	%
6	1	0.7%
10	1	0.7%
12	2	1.4%
14	4	2.8%
15	5	3.5%
16	5	3.5%
17	4	2.8%
18	7	4.9%
19	1	0.7%
20	10	7.0%
21	10	7.0%
22	20	14.1%
23	14	9.9%
24	16	11.3%
25	9	6.3%
26	4	2.8%
27	1	0.7%
28	5	3.5%
29	1	0.7%
30	7	4.9%
31	1	0.7%
32	4	2.8%
33	1	0.7%
34	1	0.7%
35	1	0.7%

		1	0.7%
40		1	0.7%
51		1	0.7%
65		1	0.7%
Missing	System	4	2.8%

Histogram

Mean = 22.99
Std. Dev. = 6.766
N = 138

How many crewmembers are onboard including yourself?
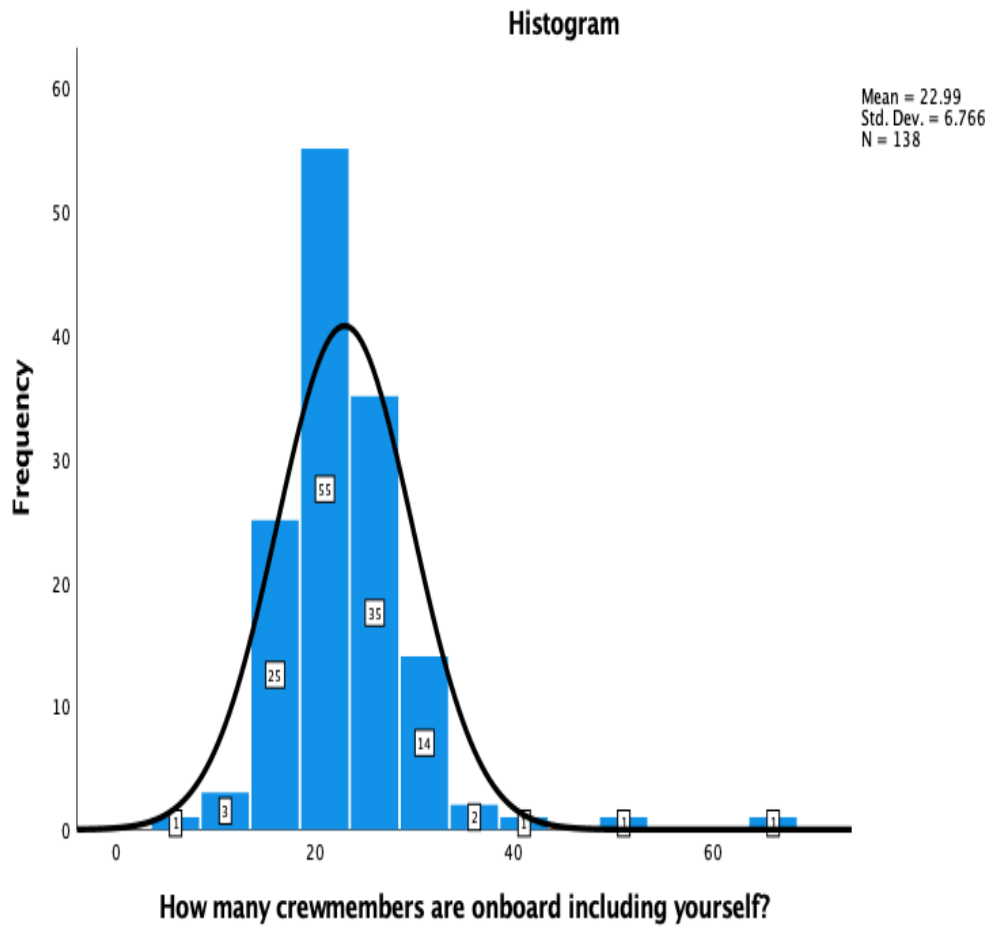
Statistics

8. Where were you born?

N	Valid	140
	Missing	2

8. Where were you born?

	N	%
Bangladesh	2	1.4%
Brazil	2	1.4%
Bulgaria	1	0.7%
Cameroon	1	0.7%
Croatia	4	2.8%
Cuba	2	1.4%
Cyprus	2	1.4%
Egypt	1	0.7%
Germany	2	1.4%
Ghana	1	0.7%
Guyana	1	0.7%
India	51	35.9%
Indonesia	5	3.5%
Ireland	1	0.7%
Italy	1	0.7%
Malaysia	1	0.7%
Moldova	1	0.7%
Montenegro	3	2.1%
Nigeria	7	4.9%
Pakistan	1	0.7%
Panama	1	0.7%
Peru	1	0.7%
Philippines	7	4.9%
Poland	2	1.4%
Russia	1	0.7%
Singapore	1	0.7%
South Africa	1	0.7%
Spain	1	0.7%
Sri Lanka	1	0.7%

Syria	2	1.4%
Tunisia	1	0.7%
Turkey	3	2.1%
Ukraine	6	4.2%
United Kingdom (UK)	5	3.5%
United States (US)	2	1.4%
Venezuela	15	10.6%
Missing	2	1.4%

8. Where were you born?
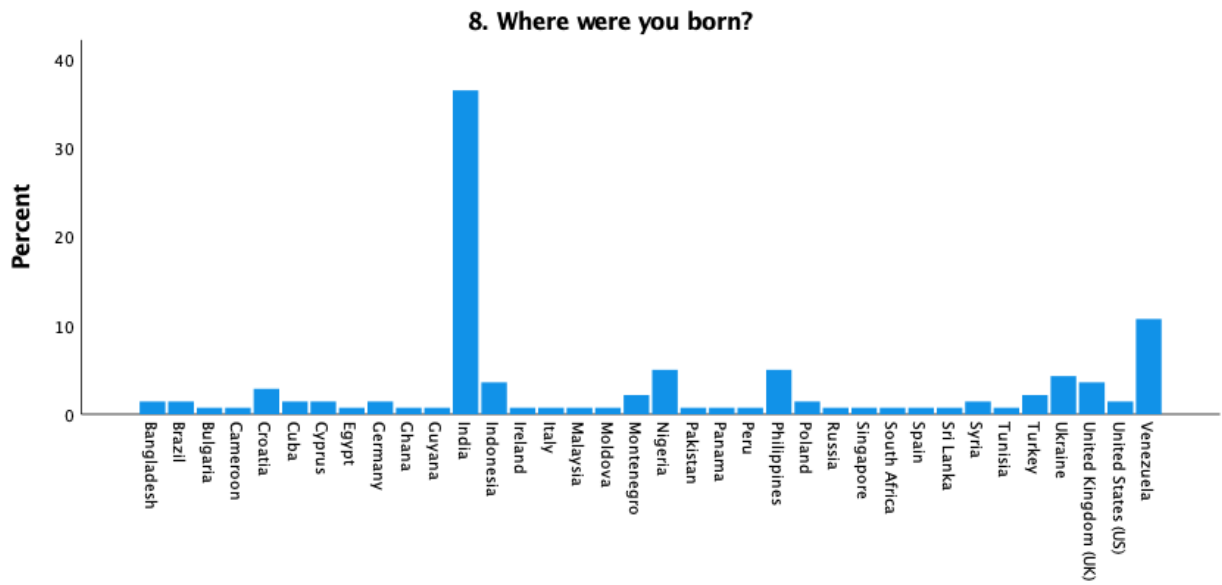
8. Where were you born?

Statistics

9. What is your nationality?

N	Valid	138
	Missing	4

9. What is your nationality?

	N	%
Bangladesh	2	1.4%
Brazil	2	1.4%
Bulgaria	1	0.7%
Cameroon	1	0.7%
Croatia	5	3.5%
Cuba	2	1.4%
Egypt	1	0.7%
Germany	2	1.4%
Ghana	1	0.7%
India	50	35.2%
Indonesia	4	2.8%
Ireland	1	0.7%
Italy	2	1.4%
Malaysia	1	0.7%
Montenegro	2	1.4%
Nigeria	7	4.9%
Pakistan	1	0.7%
Panama	2	1.4%
Peru	1	0.7%
Philippines	7	4.9%
Poland	2	1.4%
Russia	1	0.7%
Singapore	1	0.7%
South Africa	1	0.7%
Spain	1	0.7%
Sri Lanka	1	0.7%
Syria	2	1.4%
Tunisia	1	0.7%
Turkey	3	2.1%

Ukraine	7	4.9%
United Kingdom (UK)	7	4.9%
United States (US)	3	2.1%
Venezuela	13	9.2%
Missing	4	2.8%
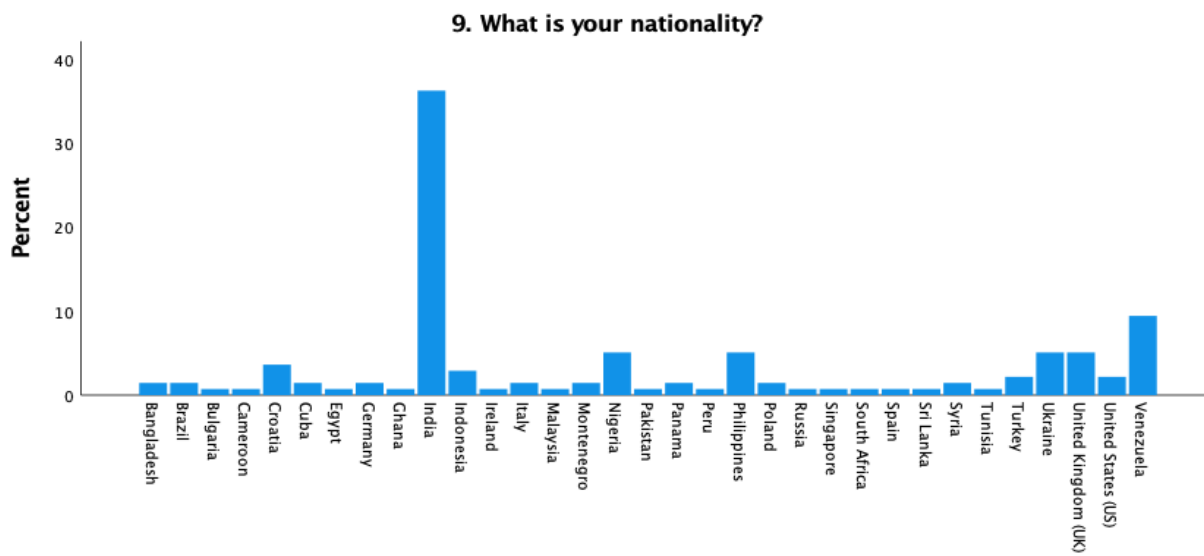
9. What is your nationality?

Statistics

10. What is your age?

N	Valid	140
	Missing	2
Mean		35.01
Std. Deviation		11.115
Minimum		21
Maximum		70

10. What is your age?

	N	%
21	1	0.7%
22	3	2.1%
23	5	3.5%
24	5	3.5%
25	6	4.2%
26	7	4.9%
27	16	11.3%
28	7	4.9%
29	8	5.6%
30	6	4.2%
31	8	5.6%
32	7	4.9%
33	3	2.1%
34	7	4.9%
35	1	0.7%
36	5	3.5%
37	4	2.8%
38	2	1.4%
39	3	2.1%
40	1	0.7%
41	3	2.1%
42	3	2.1%
43	3	2.1%
44	1	0.7%
45	1	0.7%

46		1	0.7%
47		1	0.7%
48		2	1.4%
49		2	1.4%
50		1	0.7%
52		2	1.4%
54		1	0.7%
55		2	1.4%
56		2	1.4%
57		3	2.1%
59		1	0.7%
60		1	0.7%
61		1	0.7%
64		1	0.7%
66		1	0.7%
67		1	0.7%
70		1	0.7%
Missing	System	2	1.4%

Histogram

Mean = 35.01
Std. Dev. = 11.115
N = 140

10. What is your age?
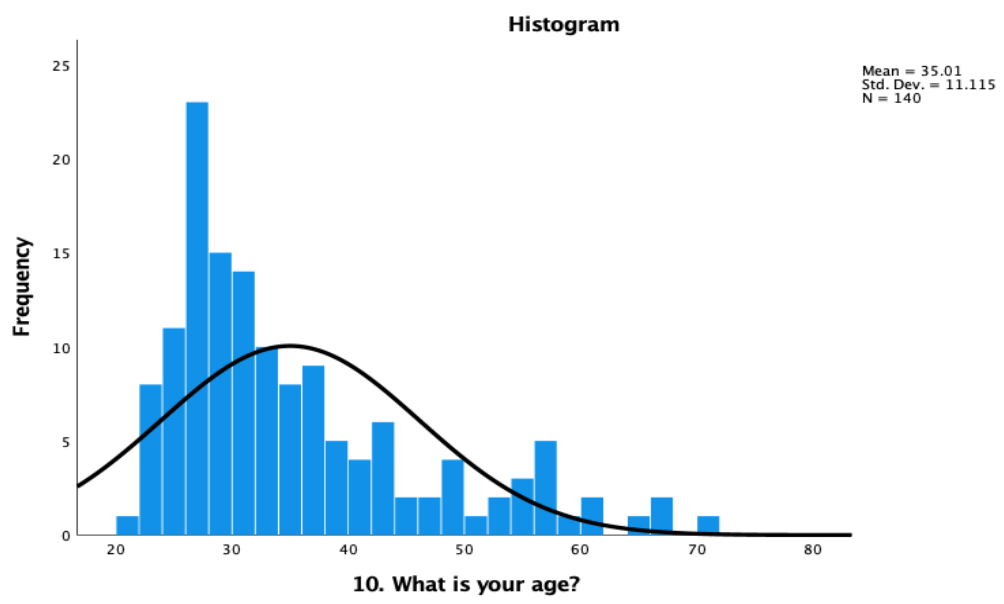
Statistics

11. What is your sex?

N	Valid	142
	Missing	0

11. What is your sex?

	N	%
Male	135	95.1%
Female	7	4.9%
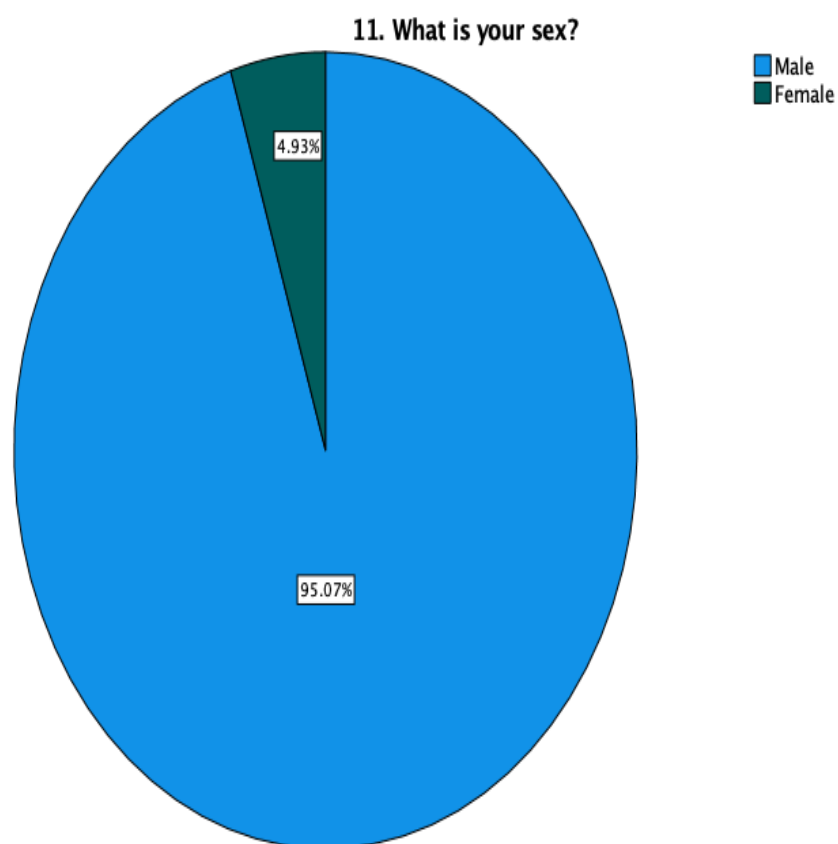
11. What is your sex?

Statistics

12. What is your marital status?

N	Valid	142
	Missing	0

12. What is your marital status?

	N	%
Single	65	45.8%
Married	73	51.4%
Divorced	2	1.4%
Separated	1	0.7%
Other	1	0.7%

12. What is your marital status?
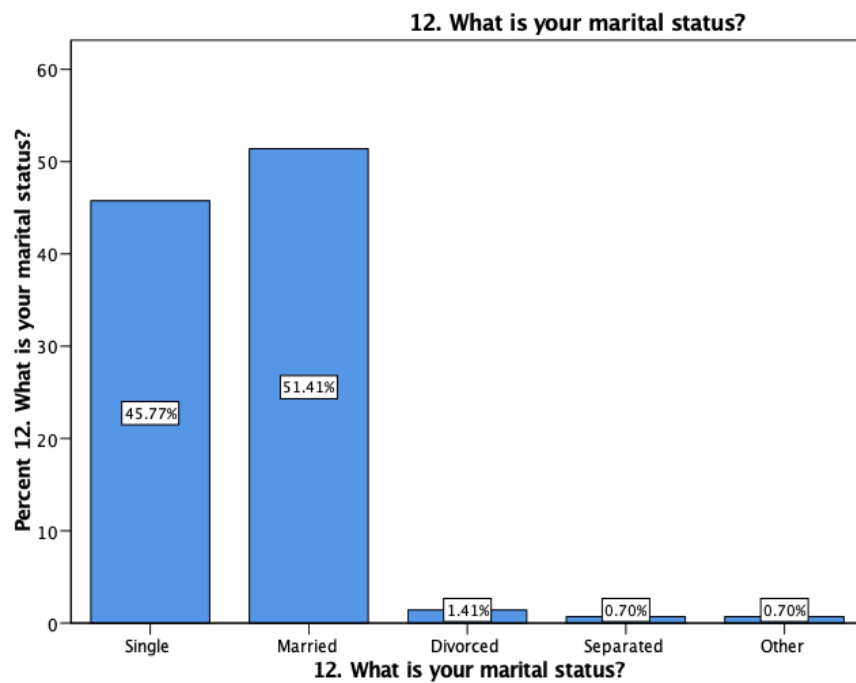
Statistics

13. How do you consider yourself
(Race / Ethnicity)?

N	Valid	137
	Missing	5

13. How do you consider yourself (Race / Ethnicity)?

	N	%
White	41	28.9%
Hispanic or Latino Origin	18	12.7%
Black or African-American	11	7.7%
East Asian or South Asian	45	31.7%
Middle Eastern or North African	5	3.5%
Some other race, ethnicity, or origin	17	12.0%
Missing System	5	3.5%

13. How do you consider yourself (Race / Ethnicity)?
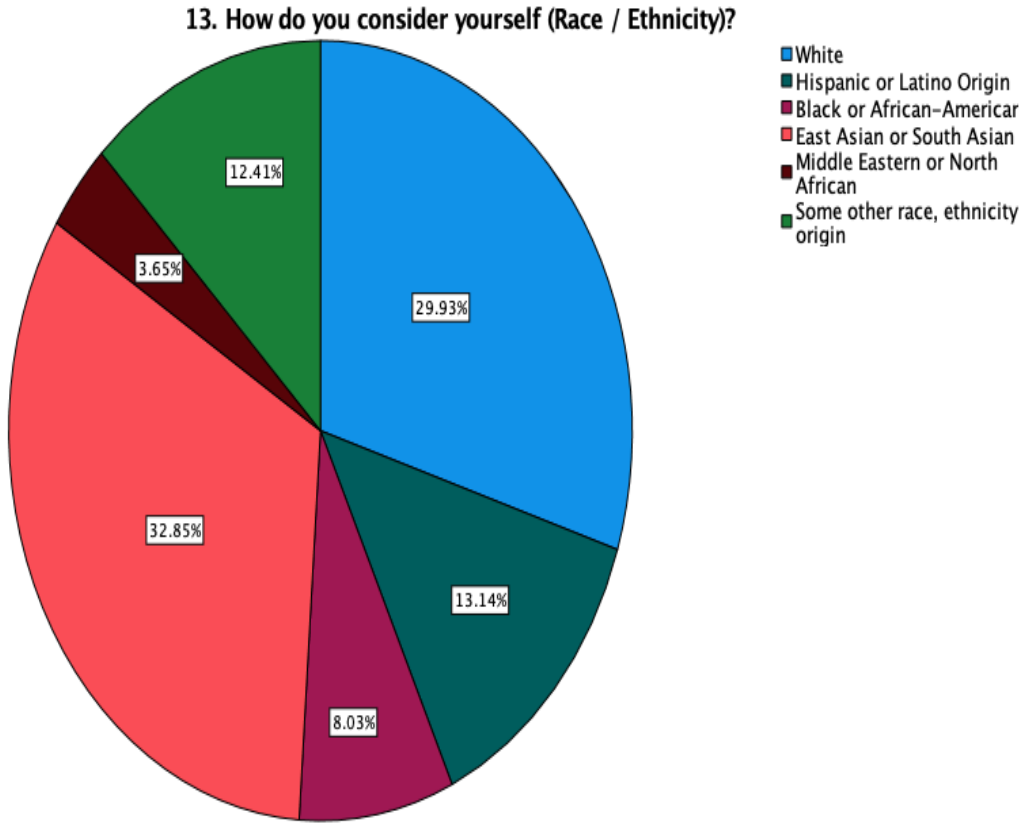
Statistics

14. What religion do you believe
in?

N	Valid	141
	Missing	1

14. What religion do you believe in?

	N	%
Christianity	49	34.5%
Islam	19	13.4%
Hinduism	36	25.4%
Buddhism	3	2.1%
No religious affiliation	32	22.5%
Other	2	1.4%
Missing System	1	0.7%
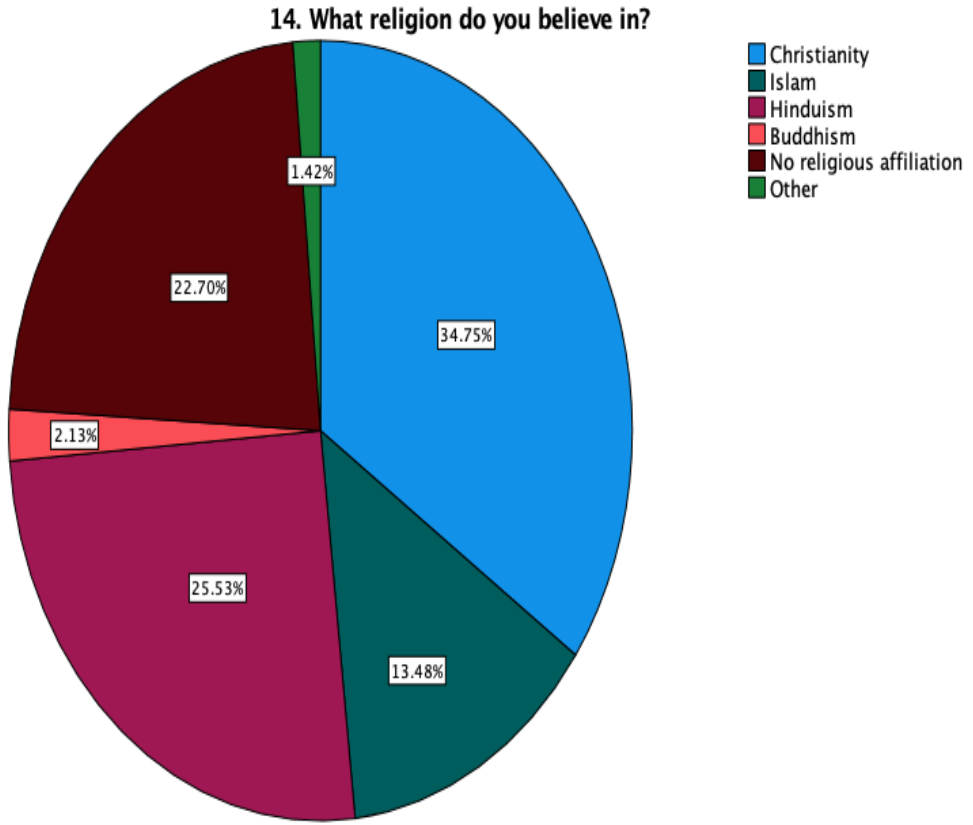
Statistics

16. How do you perceive that the
Interpersonal conflicts you listed
above impact the daily operation of
a vessel?

N	Valid	127
	Missing	15

**16. How do you perceive that the Interpersonal
conflicts you listed above impact the daily
operation of a vessel?**

	N	%
Positive	23	16.2%
Negative	87	61.3%
Not at all	17	12.0%
Missing System	15	10.6%

16. How do you perceive that the Interpersonal conflicts you listed above impact the daily operation of a vessel?
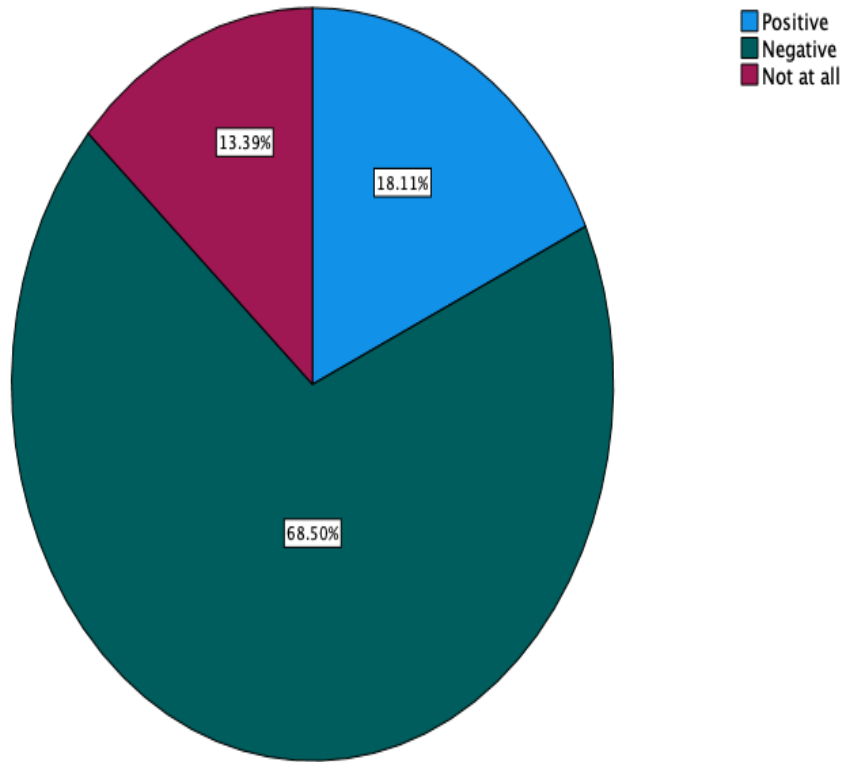
Statistics

17. Do you perceive that those interpersonal conflicts can cause marine casualties or incidents?

N	Valid	128
	Missing	14

17. Do you perceive that those interpersonal conflicts can cause marine casualties or incidents?

	N	%
Yes	103	72.5%
No	25	17.6%
Missing System	14	9.9%

17. Do you perceive that those interpersonal conflicts can cause marine casualties or incidents?
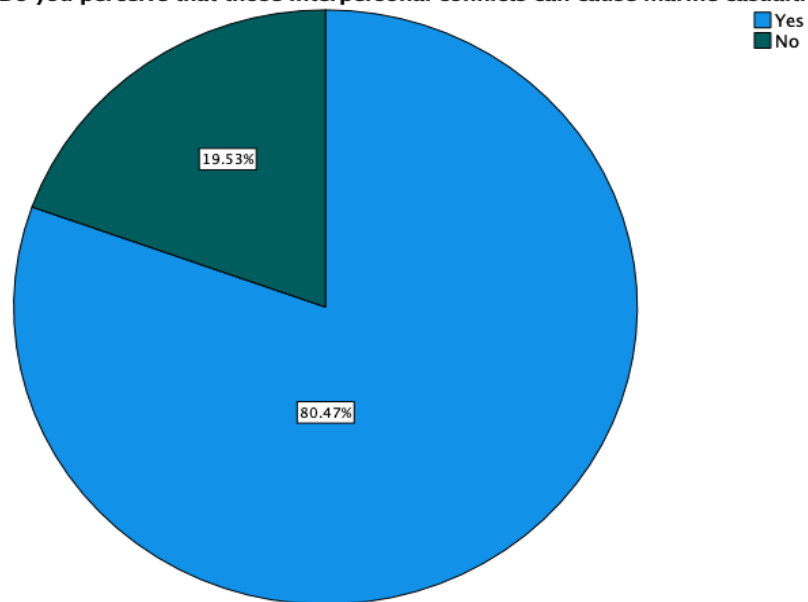
18. Culture is defined as "the customary beliefs, social forms, and material traits of a racial, religious, or social group", that includes but is not limited to language, religion, cuisine, or social habits. To what extent do you agree or disagree with each of the following statements?

Statistics

		Interpersonal conflicts are influenced by cultural differences	As the number of crew members from different cultures increases, the chances of interpersonal conflicts on board is greater	Interpersonal conflicts caused by cultural differences are difficult to resolve	Some interpersonal conflicts on board due to cultural differences cause marine casualties or incidents	Interpersonal conflicts on board are not influenced by cultural differences
N	Valid	129	128	128	127	128
	Missing	13	14	14	15	14
Mean		2.57	3.01	3.04	2.64	3.02
Std. Deviation		1.172	1.181	1.139	1.059	1.031

Interpersonal conflicts are influenced by cultural differences

	N	%
Strongly agreed	20	14.1%
Agree	60	42.3%
Undecide	13	9.2%
Disagree	28	19.7%
Strongly disagree	8	5.6%
Missing System	13	9.2%

As the number of crew members from different cultures increases, the chances of interpersonal conflicts on board is greater

	N	%
Strongly agree	13	9.2%
Agree	37	26.1%
Undecide	26	18.3%
Disagree	40	28.2%
Strongly disagree	12	8.5%
Missing System	14	9.9%

Interpersonal conflicts caused by cultural differences are difficult to resolve

	N	%
Strongly agree	9	6.3%
Agree	41	28.9%
Undecide	26	18.3%
Disagree	40	28.2%
Strongly disagree	12	8.5%
Missing System	14	9.9%

Some interpersonal conflicts on board due to cultural differences cause marine casualties or incidents

	N	%
Strongly agree	12	8.5%
Agree	58	40.8%
Undecide	29	20.4%
Disagree	20	14.1%
Strongly disagree	8	5.6%
Missing System	15	10.6%

Interpersonal conflicts on board are not influenced by cultural differences

	N	%
Strongly agree	7	4.9%
Agree	39	27.5%
Undecide	32	22.5%
Disagree	44	31.0%
Strongly disagree	6	4.2%
Missing System	14	9.9%

Interpersonal conflicts are influenced by cultural differences

As the number of crew members from different cultures increases, the chances of interpersonal conflicts on board is greater

As the number of crew members from different cultures increases, the chances of interpersonal conflicts on board is greater
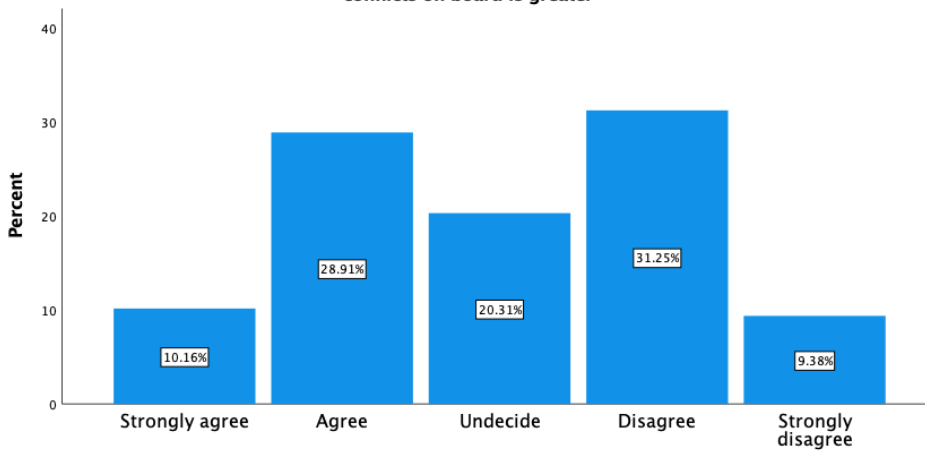
Interpersonal conflicts caused by cultural differences are difficult to resolve
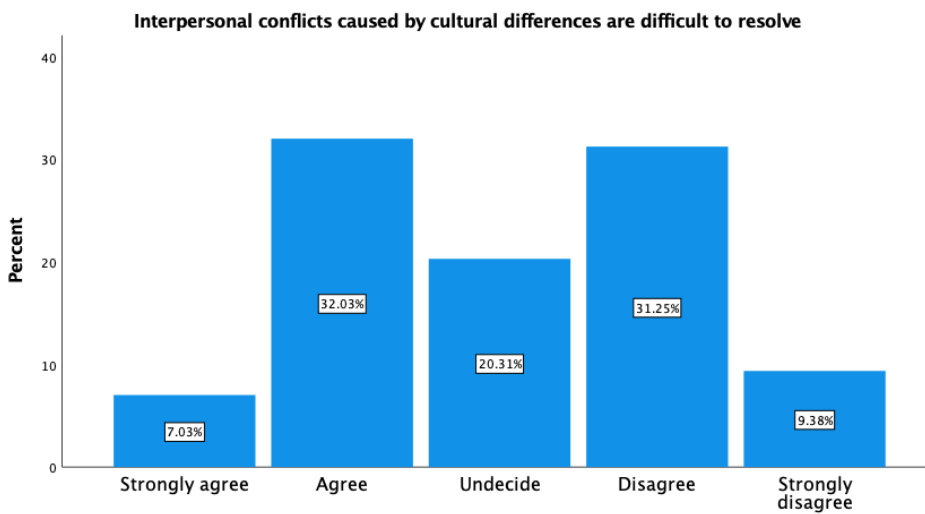
Interpersonal conflicts caused by cultural differences are difficult to resolve

Some interpersonal conflicts on board due to cultural differences cause marine casualties or incidents
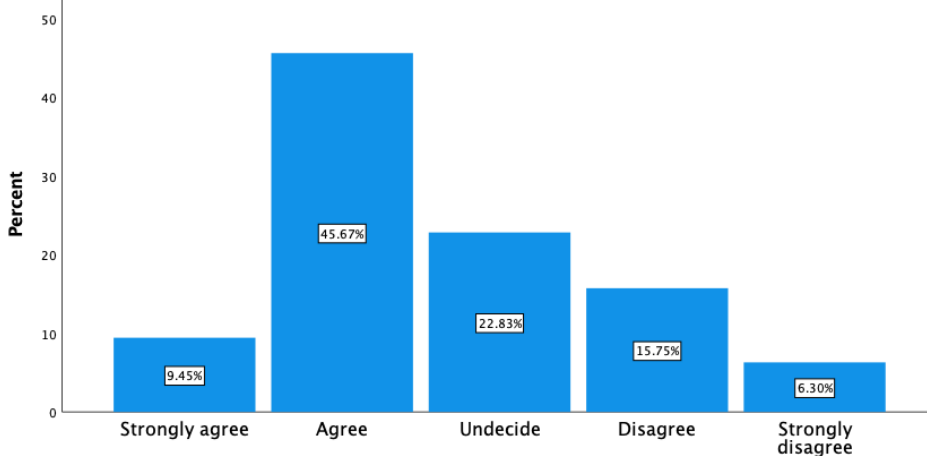
Some interpersonal conflicts on board due to cultural differences cause marine casualties or incidents

Interpersonal conflicts on board are not influenced by cultural differences
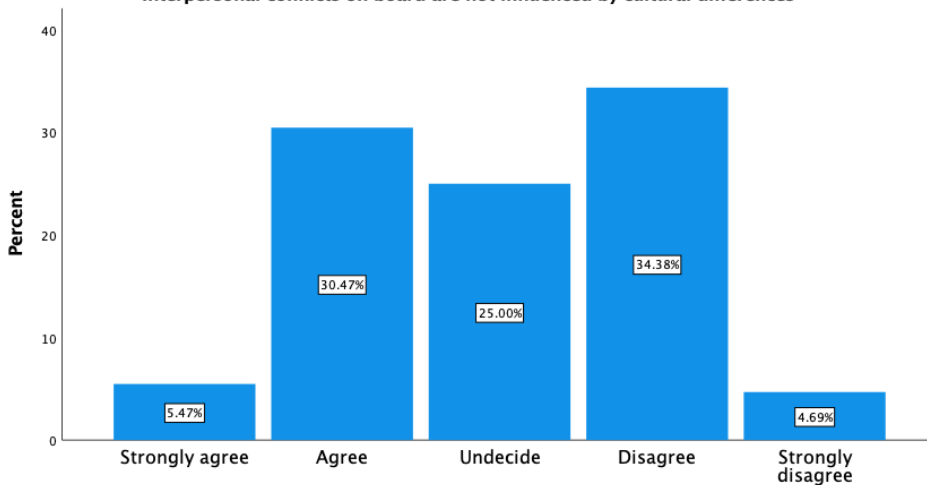
Interpersonal conflicts on board are not influenced by cultural differences

Statistics

21. How do you perceive that the multiculturality on board impacts the daily operation of your vessel?

N	Valid	127
	Missing	15

21. How do you perceive that the multiculturality on board impacts the daily operation of your vessel?

	N	%
Positive	73	51.4%
Negative	21	14.8%
Not at all	33	23.2%
Missing System	15	10.6%

21. How do you perceive that the multiculturality on board impacts the daily operation of your vessel?
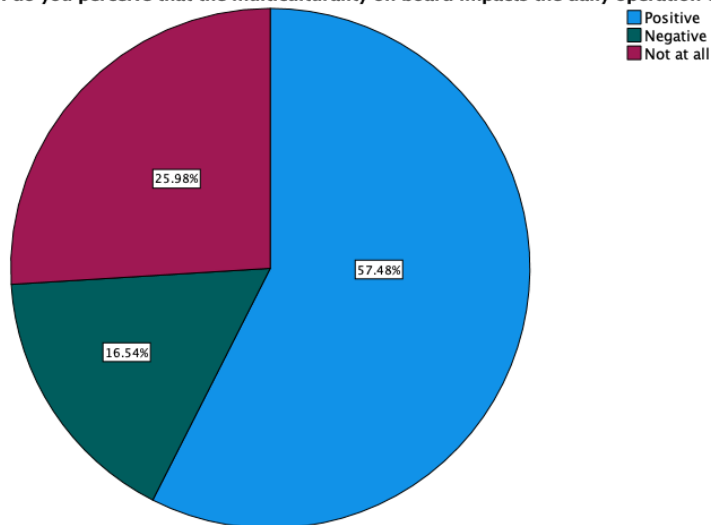
Statistics

22. Do you perceive that the multiculturality on board the vessels is a source of human errors while performing the work?

N	Valid	126
	Missing	16

22. Do you perceive that the multiculturality on board the vessels is a source of human errors while performing the work?

	N	%
Yes	41	28.9%
No	85	59.9%
Missing System	16	11.3%

22. Do you perceive that the multiculturality on board the vessels is a source of human errors while performing the work?
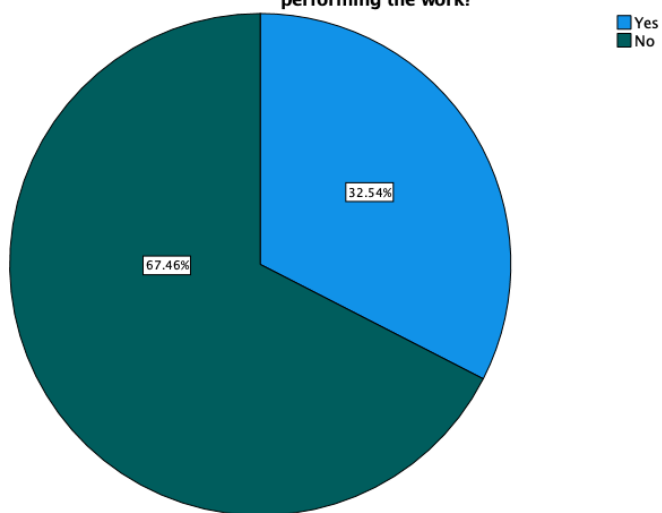
Statistics

23. Do you perceive that the interpersonal conflicts among the seafarers on board the vessel is a source of human errors while performing the work?

N	Valid	125
	Missing	17

23. Do you perceive that the interpersonal conflicts among the seafarers on board the vessel is a source of human errors while performing the work?

	N	%
Yes	86	60.6%
No	39	27.5%
Missing System	17	12.0%

23. Do you perceive that the interpersonal conflicts among the seafarers on board the vessel is a source of human errors while performing the work?
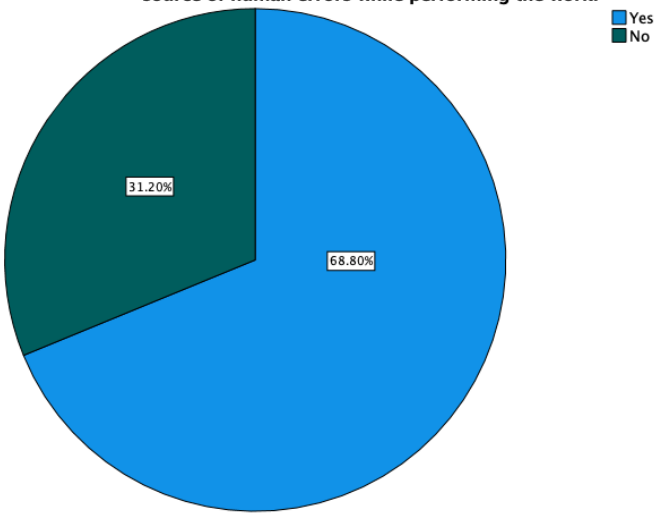
Statistics

24. Do you perceive that the multiculturality on board the vessels is a source of interpersonal conflicts among the seafarers on board?

N	Valid	126
	Missing	16

24. Do you perceive that the multiculturality on board the vessels is a source of interpersonal conflicts among the seafarers on board?

	N	%
Yes	48	33.8%
No	78	54.9%
Missing System	16	11.3%

24. Do you perceive that the multiculturality on board the vessels is a source of interpersonal conflicts among the seafarers on board?
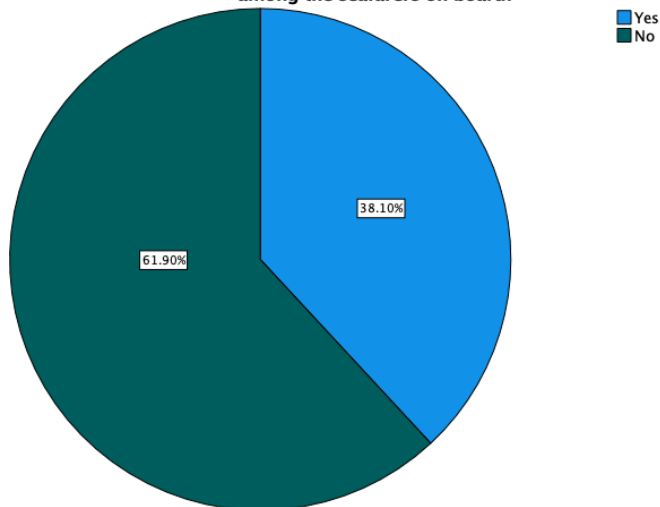
25. If your answer in question 24 is YES, do you also perceive that those interpersonal conflicts can contribute to marine casualties or incidents?

N	Valid	46
	Missing	96

25. If your answer in question 24 is YES, do you also perceive that those interpersonal conflicts can contribute to marine casualties or incidents?

		N	%
Yes		44	31.0%
No		2	1.4%
Missing	System	96	67.6%

25. If your answer in question 24 is YES, do you also perceive that those interpersonal conflicts can contribute to marine casualties or incidents?
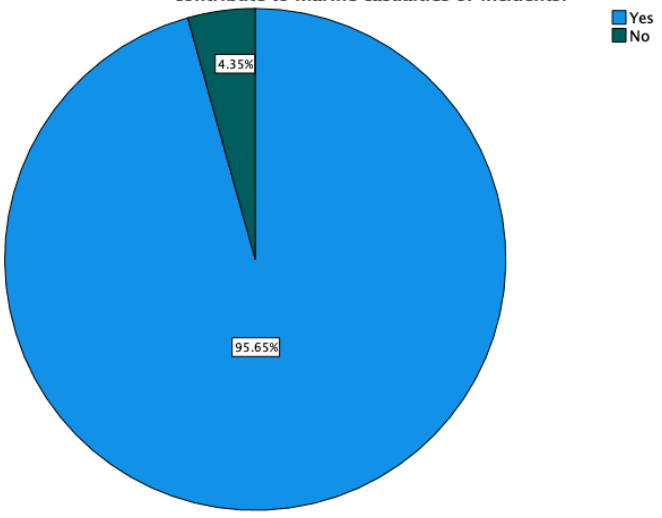
Statistics

		26. In your opinion, how do you perceive that the number of days on board can impact the frequency of interpersonal conflicts among the seafarers?		27. In your opinion, how do you perceive that the number of days on board can impact the intensity of interpersonal conflicts among the seafarers?	
		Frequency of conflicts - Less Days	Frequency of conflicts - More Days	Intensity of Conflicts - Less Days	Intensity of Conflicts - More Days
N	Valid	125	98	115	88
	Missing	17	44	27	54
Mean		1.41	2.09	1.50	2.16
Std. Deviation		.784	.519	.831	.523

Frequency of conflicts - Less Days

	N	%
Less days less conflicts	97	68.3%
Less days more conflicts	5	3.5%
Not at all	23	16.2%
Missing System	17	12.0%

Frequency of conflicts - More Days

	N	%
More days less conflicts	9	6.3%
More days more conflicts	71	50.0%
Not at all	18	12.7%
Missing System	44	31.0%

Intensity of Conflicts - Less Days

	N	%
Less days less intensive conflicts	83	58.5%
Less days more intensive conflicts	7	4.9%
Not at all	25	17.6%
Missing System	27	19.0%

Intensity of Conflicts - More Days

	N	%
More days less intensive conflicts	6	4.2%
More days more intensive conflicts	62	43.7%
Not at all	20	14.1%
Missing System	54	38.0%

Frequency of conflicts – Less Days

Frequency of conflicts – More Days

Frequency of conflicts – More Days

Intensity of Conflicts – Less Days

Intensity of Conflicts – Less Days

Intensity of Conflicts – More Days
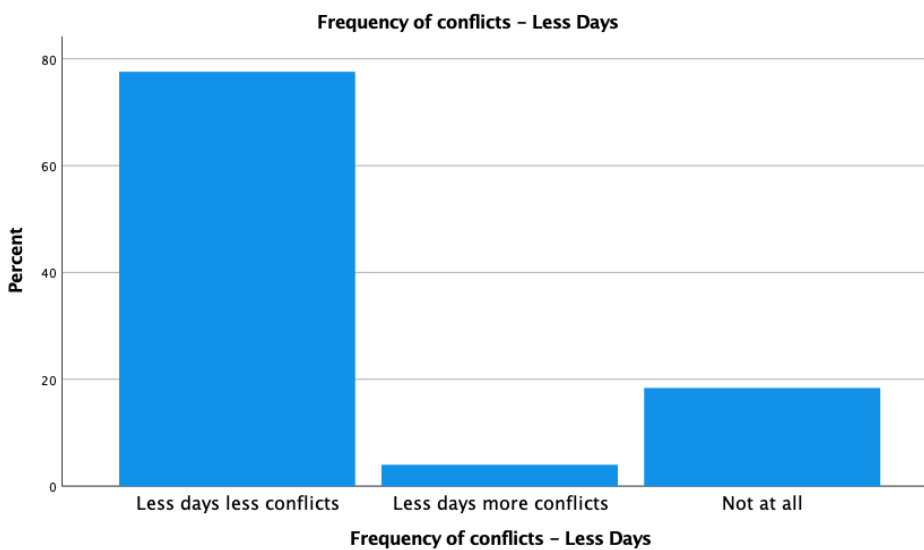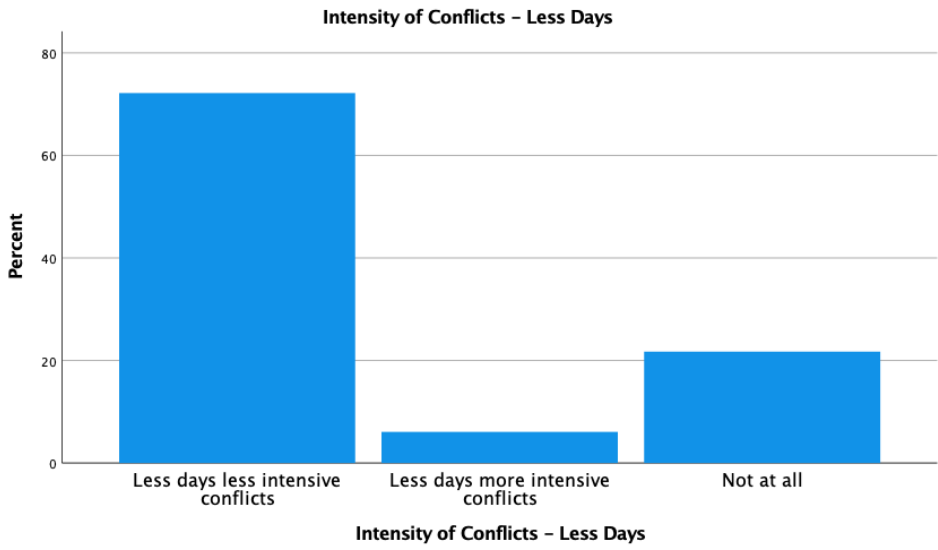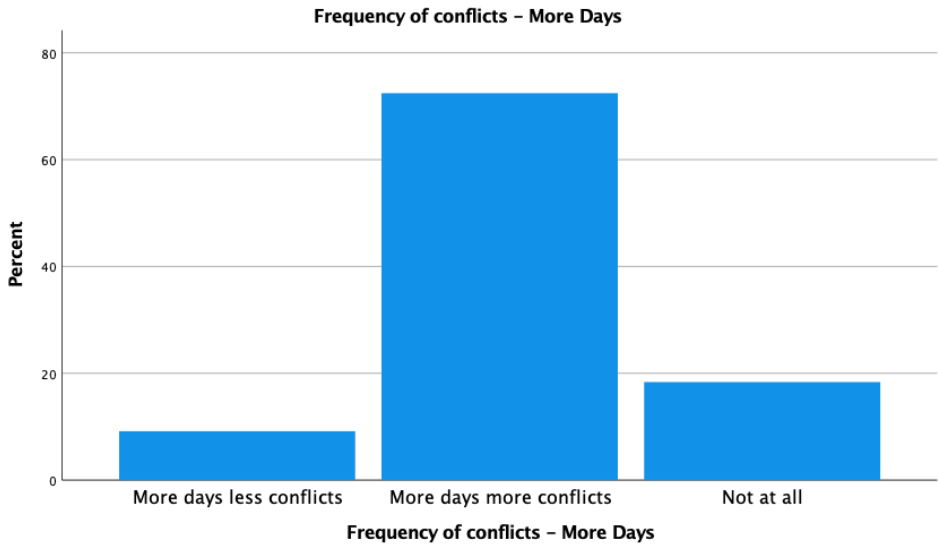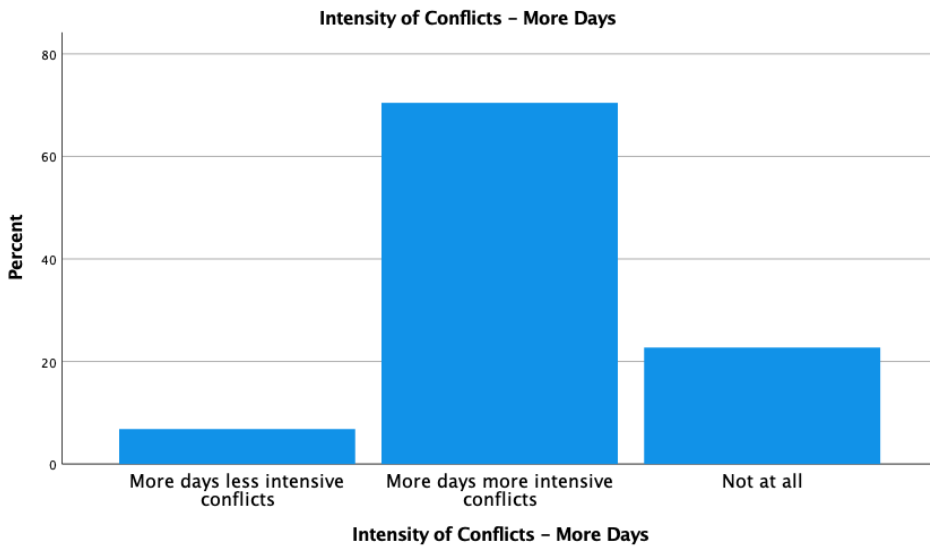
Statistics

Date

N	Valid	142
	Missing	0

Date

	N	%
12/15/21	1	0.7%
01/11/22	1	0.7%
01/15/22	1	0.7%
01/17/22	1	0.7%
01/21/22	1	0.7%
01/23/22	1	0.7%
01/24/22	4	2.8%
01/26/22	1	0.7%
01/31/22	1	0.7%
02/01/22	1	0.7%
02/02/22	1	0.7%
02/18/22	1	0.7%
02/19/22	1	0.7%
02/21/22	1	0.7%
04/13/22	2	1.4%
04/15/22	1	0.7%
04/17/22	2	1.4%
04/18/22	1	0.7%
04/19/22	1	0.7%
04/20/22	2	1.4%
04/21/22	2	1.4%
04/22/22	1	0.7%
04/24/22	2	1.4%
04/30/22	2	1.4%
05/01/22	4	2.8%
05/02/22	2	1.4%
05/08/22	3	2.1%
05/09/22	1	0.7%
05/10/22	1	0.7%

05/11/22	1	0.7%
05/13/22	1	0.7%
05/14/22	2	1.4%
05/15/22	3	2.1%
05/16/22	4	2.8%
05/18/22	1	0.7%
05/19/22	1	0.7%
05/22/22	1	0.7%
05/23/22	1	0.7%
05/24/22	3	2.1%
05/27/22	1	0.7%
05/29/22	1	0.7%
05/30/22	1	0.7%
05/31/22	1	0.7%
06/01/22	1	0.7%
06/02/22	1	0.7%
06/03/22	1	0.7%
06/06/22	1	0.7%
06/08/22	1	0.7%
06/10/22	2	1.4%
06/14/22	3	2.1%
06/15/22	1	0.7%
06/16/22	1	0.7%
06/20/22	1	0.7%
06/21/22	2	1.4%
06/24/22	1	0.7%
06/29/22	1	0.7%
06/30/22	1	0.7%
07/03/22	1	0.7%
07/19/22	4	2.8%
07/20/22	1	0.7%
07/24/22	1	0.7%
07/25/22	1	0.7%
07/27/22	1	0.7%
07/30/22	1	0.7%
08/01/22	1	0.7%
08/04/22	1	0.7%
08/05/22	1	0.7%

08/06/22	1	0.7%
08/07/22	1	0.7%
08/11/22	3	2.1%
08/12/22	2	1.4%
08/20/22	2	1.4%
08/25/22	2	1.4%
08/28/22	1	0.7%
08/30/22	1	0.7%
09/07/22	2	1.4%
09/09/22	1	0.7%
09/17/22	2	1.4%
09/27/22	1	0.7%
09/30/22	1	0.7%
10/02/22	1	0.7%
10/03/22	3	2.1%
10/08/22	2	1.4%
10/09/22	1	0.7%
10/28/22	4	2.8%
10/29/22	7	4.9%
10/31/22	1	0.7%
11/05/22	2	1.4%
11/08/22	1	0.7%
11/09/22	1	0.7%
11/15/22	1	0.7%
11/19/22	1	0.7%

Date

Histogram

Mean = 06/21/22
Std. Dev. = 83.919 days
N = 142
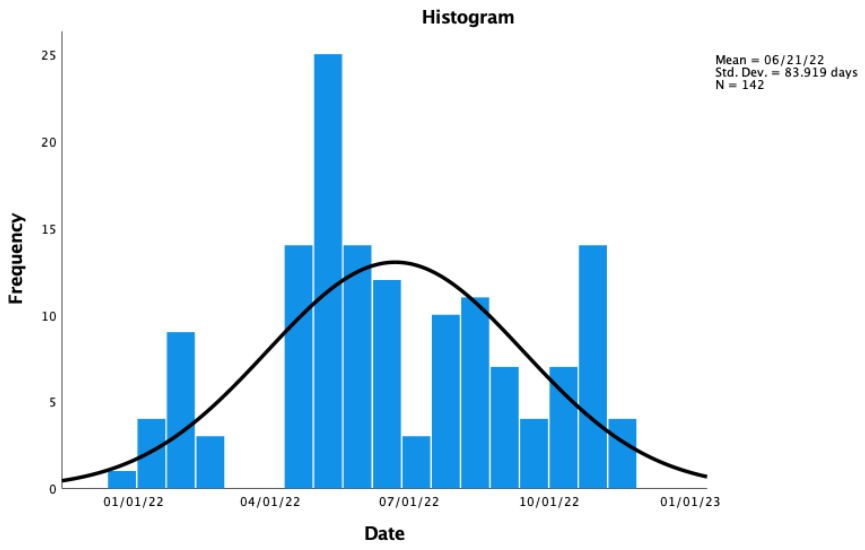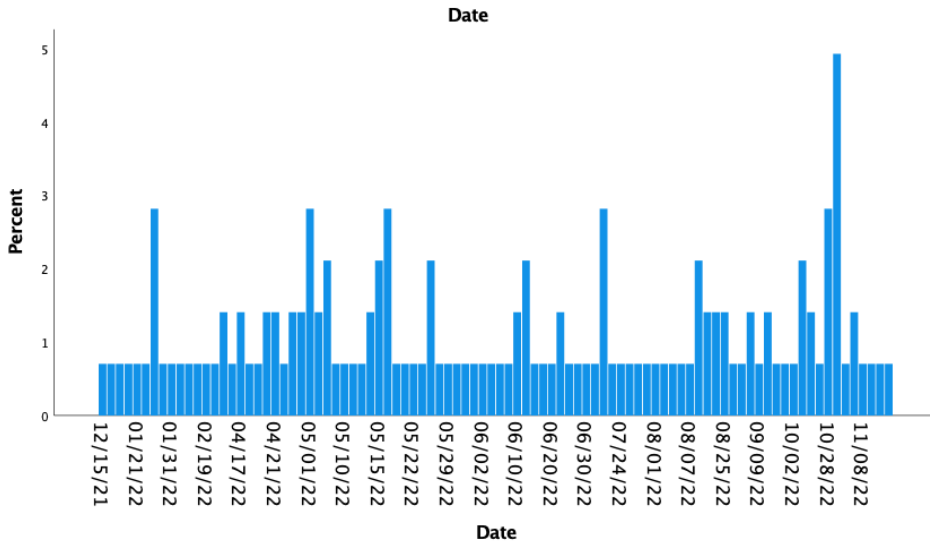
Supplemental Material: Instrumental Variables Used in the Study, Organized by Type.

VARIABLE		DATA			TYPE OF VARIABLE		
					SPSS	NVIVO	STATISTICALLY
Participant		XXX				Classifying field	
Date		MM/DD/YY			Scale	Classifying field	Continuous
1.	Are you currently a seafarer working onboard a vessel?	1 = YES 2 = NO			Nominal	Classifying field	Binary
2.	Did you work as a seafarer onboard a vessel in the past?	1 = YES 2 = NO			Nominal	Classifying field	Binary
3.	How long have you been a seafarer?	# of years			Scale	Classifying field	Continuous
4.	How long were you been a seafarer?						
5.	Do you perceive that the interpersonal conflicts among the seafarers aboard may have any relationship with the human errors that are reported as the causes of marine casualties and incidents?	1 = YES 2 = NO			Nominal	Classifying field	Binary
5.1.	WHY do you perceive that the interpersonal conflicts among the seafarers aboard may have any relationship with the human errors that are reported as the causes of marine casualties and incidents?	Text				Codable field	Nominal Categorical

	VARIABLE	DATA			TYPE OF VARIABLE		
					SPSS	NVIVO	STATISTICALLY
5.2.	HOW do you perceive that the interpersonal conflicts among the seafarers aboard may have any relationship with the human errors that are reported as the causes of marine casualties and incidents?	Text				Codable field	Nominal Categorical
5.3.	WHY DON´T you perceive that the interpersonal conflicts among the seafarers aboard may have any relationship with the human errors that are reported as the causes of marine casualties and incidents?	Text				Codable field	Nominal Categorical
6.	What is/was your rank onboard?	1 = Officer	1 = Deck Department	1 = Master 2 = Chief Mate (Chief Officer) 3 = Second Mate (Second Officer) 4 = Third Mate (Third Officer) 5 = Deck Cadet 6 = Other Rank (Pls specify)	Ordinal	Classifying field	Ordinal

VARIABLE		DATA		TYPE OF VARIABLE		
				SPSS	NVIVO	STATISTICALLY
		2 = Engineering Department	1 = Chief Engineer 2 = Second Engineer 3 = Third Engineer 4 = Fourth Engineer 5 = Gas Engineer 6 = Electrician 7 = Engine Cadet 8 = Other Rank (Pls specify)	Ordinal	Classifying field	Ordinal
		3 = Steward Department	1 = Chief Cook 2 = Messman 3 = Ordinary Seaman (OS) 4 = Other rank (Pls Specify)	Ordinal	Classifying field	Ordinal
		4 = Other Department	What is the name of the department?	Ordinal	Classifying field	Ordinal
			What is your rank in this department?	Ordinal	Classifying field	Ordinal
	2 = Rating	1 = Deck Department	1 = Boatswain (Bosun/Deck Foreman) 2 = Able-Bodied Seaman (AB) (Quartermaster) 3 = Ordinary Seaman (OS) 4 = Other Rank (Pls Specify)	Ordinal	Classifying field	Ordinal

VARIABLE	DATA			TYPE OF VARIABLE		
				SPSS	**NVIVO**	**STATISTICALLY**
		2 = Engineering Department	1 = Pump Man 2 = Ordinary Seaman (OS) 3 = Fitter 4 = Welder 5 = Oiler 6 = Wiper (Motorman) 7 = Other Rank (Pls Specify)	Ordinal	Classifying field	Ordinal
		3 = Steward Department	1 = Chief Cook 2 = Messman 3 = Ordinary Seaman (OS) 4 = Other rank (Pls Specify)	Ordinal	Classifying field	Ordinal
		4 = Other Department	What is the name of the department?	Nominal	Classifying field	Nominal Categorical
			What is your rank in this department?	Nominal	Classifying field	Nominal Categorical
department?				Nominal	Classifying field	Nominal Categorical
Other Department?				Nominal	Classifying field	Nominal Categorical
Officer Deck Rank				Ordinal	Classifying field	Ordinal
Other Officer Deck Rank				Nominal	Classifying field	Nominal Categorical
Rating Deck Rank				Ordinal	Classifying field	Ordinal
Other Rating Deck Rank				Nominal	Classifying field	Nominal Categorical
Officer Engine Rank				Ordinal	Classifying field	Ordinal

VARIABLE	DATA			TYPE OF VARIABLE		
				SPSS	NVIVO	STATISTICALLY
Rating Engine Rank				Ordinal	Classifying field	Ordinal
Steward Rank				Ordinal	Classifying field	Ordinal
Please specify				Nominal	Classifying field	Nominal Categorical
Other Officer Engine Rank				Nominal	Classifying field	Nominal Categorical
7. Regarding your current or last voyage aboard please respond the following:						
7.1. Type of Vessel:	1 = Container Ship 2 = Ro-Ro Ship 3 = Bulk Carrier 4 = Oil Carrier 5 = Chemical Tanker 6 = LNG Carrier 7 = LPG Carrier 8 = Passenger Ship 9 = Cruise Ship 10 = Fishing Ship 11 = Service Vessel 12 = Dredge Vessel 13 = Naval Ship			Nominal	Classifying field	Nominal Categorical
7.2. Other (Please specify)	14 = Other (Pls Specify)			Nominal	Classifying field	Nominal Categorical
7.3. Flag	Countries			Nominal	Classifying field	Nominal Categorical

VARIABLE	DATA			TYPE OF VARIABLE		
				SPSS	**NVIVO**	**STATISTICALLY**
7.4. Length (mts)	meters			Scale	Classifying field	Continuous
7.5. Gross tonnage (tons)	tons			Scale	Classifying field	Continuous
7.6. How many days were you aboard on your most recent voyage? (DAYS)	# of days			Scale	Classifying field	Continuous
7.7. How long have you been working on this ship altogether? (DAYS)	# of days			Scale	Classifying field	Continuous
7.8. How many crewmembers are onboard including yourself?	# of crewmembers			Scale	Classifying field	Continuous
8. Where were you born?	Country			Nominal	Classifying field	Nominal Categorical
9. What is your nationality?	Country			Nominal	Classifying field	Nominal Categorical
10. What is your age?	Years			Scale	Classifying field	Continuous
11. What is your sex:	1 = Male 2 = Female 3 = Other (Pls specify)			Nominal	Classifying field	Nominal Categorical
11.1. Other (please specify):	Text			Nominal	Classifying field	Nominal Categorical

VARIABLE	DATA			TYPE OF VARIABLE		
				SPSS	**NVIVO**	**STATISTICALLY**
12. What is your marital status?	1 = Single 2 = Married 3 = Co-habiting 4 = Divorced 5 = Separated 6 = Widowed 7 = Other (Pls specify)			Nominal	Classifying field	Nominal Categorical
12.1. Other (please specify):	Text			Nominal	Classifying field	Nominal Categorical
13. How do you consider yourself (Race / Ethnicity)	1 = White 2 = Hispanic or Latino origin 3 = Black or African American 4 = East Asian or South Asian 5 = Native American 6 = Native Hawaiian or Other Pacific Island 7 = Middle Eastern or North African 8 = Some other race, ethnicity, or origin			Nominal	Classifying field	Nominal Categorical
13.1. Other (please specify):	Text			Nominal	Classifying field	Nominal Categorical

VARIABLE	DATA	TYPE OF VARIABLE		
		SPSS	**NVIVO**	**STATISTICALLY**
14. What religion do you believe in?	1 = Christianity 2 = Islam 3 = Hinduism 4 = Buddhism 5 = Judaism 6 = No Religious affiliation 7 = Other	Numerical	Classifying field	Nominal Categorical
14.1. Other. (please specify):	Text	Nominal	Classifying field	Nominal Categorical
15. Please list in order of importance what are the main interpersonal conflicts observed by you aboard, and what do you believe are the causes of said interpersonal conflicts? (Order of Importance)	Text		Codable field	Nominal Categorical
15.1. What are the main interpersonal conflicts observed aboard? 1	Text		Codable field	Nominal Categorical
15.2 Causes 1	Text		Codable field	Nominal Categorical
15.3. What are the main interpersonal conflicts observed aboard? 2	Text		Codable field	Nominal Categorical
15.4. Causes 2	Text		Codable field	Nominal Categorical
15.5. What are the main interpersonal conflicts observed aboard? 3	Text		Codable field	Nominal Categorical
15.6. Causes 3	Text		Codable field	Nominal Categorical
15.7. What are the main interpersonal conflicts observed aboard? 4	Text		Codable field	Nominal Categorical

VARIABLE	DATA			TYPE OF VARIABLE		
				SPSS	NVIVO	STATISTICALLY
15.8. Causes 4	Text				Codable field	Nominal Categorical
15.9. What are the main interpersonal conflicts observed aboard? 5	Text				Codable field	Nominal Categorical
15.10.Causes 5	Text				Codable field	Nominal Categorical
16. How do you perceive that the Interpersonal conflicts you listed above impact the daily operation of a vessel?	1 = Positive 2 = Negative 3 = Not at all			Nominal	Classifying field	Nominal Categorical
16.1. WHY do you perceive that the Interpersonal conflicts you listed above impact the daily operation of a vessel in that way?	Text				Codable field	Nominal Categorical
17. Do you perceive that those interpersonal conflicts can cause marine casualties or incidents?	1 = Yes 2 = No			Nominal	Classifying field	Binary
17.1. WHY do you perceive that those interpersonal conflicts can cause marine casualties or incidents?	Text				Codable field	Nominal Categorical
17.2. WHY DON´T YOU perceive that those interpersonal conflicts can cause marine casualties or incidents?	Text				Codable field	Nominal Categorical

VARIABLE	DATA	TYPE OF VARIABLE		
		SPSS	NVIVO	STATISTICALLY
18. Culture is defined as "the customary beliefs, social forms, and material traits of a racial, religious, or social group", that includes but is not limited to language, religion, cuisine, or social habits. To what extent do you agree or disagree with each of the following statements?				
18.1. Interpersonal conflicts are influenced by cultural differences	1 = Strongly agree 2 = Agree 3 = Undecide 4 = Disagree 5 = Strongly disagree	Ordinal	Classifying field	Ordinal
18.2. As the number of crew members from different cultures increases, the chances of interpersonal conflicts on board is greater	1 = Strongly agree 2 = Agree 3 = Undecide 4 = Disagree 5 = Strongly disagree	Ordinal	Classifying field	Ordinal
18.3. Interpersonal conflicts caused by cultural differences are difficult to resolve	1 = Strongly agree 2 = Agree 3 = Undecide 4 = Disagree 5 = Strongly disagree	Ordinal	Classifying field	Ordinal

VARIABLE	DATA			TYPE OF VARIABLE		
				SPSS	**NVIVO**	**STATISTICALLY**
18.4. Some interpersonal conflicts on board due to cultural differences cause marine casualties or incidents	1 = Strongly agree 2 = Agree 3 = Undecide 4 = Disagree 5 = Strongly disagree			Ordinal	Classifying field	Ordinal
18.5. Interpersonal conflicts on board are not influenced by cultural differences	1 = Strongly agree 2 = Agree 3 = Undecide 4 = Disagree 5 = Strongly disagree			Ordinal	Classifying field	Ordinal
19. Could you please provide the nationalities of the seafarers on board the vessel for which you are working on now? 20. Could you please provide the nationalities of the seafarers onboard in the vessel where you worked on the last time?						
19.1.-20.1. Nationality 1	Countries			Nominal	Classifying field	Nominal Categorical
19.2.-20.2. N° of Seafarers 1	# of seafarers			Scale	Classifying field	Continuous
19.3.-20.3. Nationality 2	Countries			Nominal	Classifying field	Nominal Categorical
19.4.-20.4. N° of Seafarers 2	# of seafarers			Scale	Classifying field	Continuous
19.5.-20.5. Nationality 3	Countries			Nominal	Classifying field	Nominal Categorical

VARIABLE	DATA			TYPE OF VARIABLE		
				SPSS	NVIVO	STATISTICALLY
19.6.-20.6. N° of Seafarers 3	# of seafarers			Scale	Classifying field	Continuous
19.7.-20.7. Other Nationalities - N° of Seafarers	# of seafarers			Scale	Classifying field	Continuous
21. How do you perceive that the multiculturality on board impact the daily operation of your vessel?	1 = Positive 2 = Negative 3 = Not at all			Nominal	Classifying field	Nominal Categorical
21.1. WHY do you perceive that the multiculturality on board impact the daily operation of your vessel in that way?	Text				Codable field	Nominal Categorical
22. Do you perceive that the multiculturality on board the vessels is a source of human errors while performing the work?	1 = Yes 2 = No			Nominal	Classifying field	Binary
22.1. WHY Do you perceive that the multiculturality on board the vessels is a source of human errors while performing the work?	Text				Codable field	Nominal Categorical
22.2. WHY DON´T YOU perceive that the multiculturality on board the vessels is a source of human errors	Text				Codable field	Nominal Categorical

VARIABLE	DATA			TYPE OF VARIABLE		
				SPSS	NVIVO	STATISTICALLY
while performing the work?						
23. Do you perceive that the interpersonal conflicts among the seafarers on board the vessel is a source of human errors while performing the work?	1 = Yes 2 = No			Nominal	Classifying field	Binary
23.1. WHY Do you perceive that the interpersonal conflicts among the seafarers on board the vessel is a source of human errors while performing the work?	Text				Codable field	Nominal Categorical
23.2. WHY DON´T YOU perceive that the interpersonal conflicts among the seafarers on board the vessel is a source of human errors while performing the work?	Text				Codable field	Nominal Categorical
24. Do you perceive that the multiculturality on board the vessels is a source of interpersonal conflicts among the seafarers on board?	1 = Yes 2 = No			Nominal	Classifying field	Binary
24.1. WHY Do you perceive that the multiculturality on board the vessels is a	Text				Codable field	Nominal Categorical

VARIABLE	DATA			TYPE OF VARIABLE		
				SPSS	NVIVO	STATISTICALLY
source of interpersonal conflicts among the seafarers on board?						
24.2. WHY DON´T YOU perceive that the multiculturality on board the vessels is a source of interpersonal conflicts among the seafarers on board?	Text				Codable field	Nominal Categorical
25. If your answer in question 24 is YES, do you also perceive that those interpersonal conflicts can contribute to marine casualties or incidents?	1 = Yes 2 = No			Nominal	Classifying field	Binary
25.1. WHY Do you perceive that the multiculturality on board the vessels is a source of interpersonal conflicts among the seafarers on board?	Text				Codable field	Nominal Categorical
25.2. WHY DON´T YOU perceive that the multiculturality on board the vessels is a source of interpersonal conflicts among the seafarers on board?	Text				Codable field	Nominal Categorical
26. In your opinion, how do you perceive that the number of days on board can impact						

VARIABLE	DATA			TYPE OF VARIABLE		
				SPSS	NVIVO	STATISTICALLY
the <u>frequency</u> of interpersonal conflicts among the seafarers?						
26.1. How do you perceive that the number of days on board can impact the frequency of interpersonal conflicts among seafarers? (Less days - frequency)	1 = Less days less conflicts 2 = Less days more conflicts 3 = Not at all			Ordinal	Classifying field	Ordinal
26.2. WHY do you perceive that less days on board impact the frequency of interpersonal conflicts among the seafarers?	Text				Codable field	Nominal Categorical
26.3. How do you perceive that the number of days on board can impact the frequency of interpersonal conflicts among seafarers? (More days - frequency)	1 = Less days less conflicts 2 = Less days more conflicts 3 = Not at all			Ordinal	Classifying field	Ordinal
26.4. WHY do you perceive that more days on board impact the frequency of interpersonal conflicts among the seafarers?	Text				Codable field	Nominal Categorical
27. In your opinion, how do you perceive that the number of days on board can impact the <u>intensity</u> of						

VARIABLE	DATA			TYPE OF VARIABLE		
				SPSS	NVIVO	STATISTICALLY
interpersonal conflicts among the seafarers?						
27.1. How do you perceive that the number of days on board can impact the frequency of interpersonal conflicts among seafarers? (Less days - intensity)	1 = Less days less conflicts 2 = Less days more conflicts 3 = Not at all			Ordinal	Classifying field	Ordinal
27.2. WHY do you perceive that less days on board impact the intensity of interpersonal conflicts among the seafarers?	Text				Codable field	Nominal Categorical
27.3. How do you perceive that the number of days on board can impact the frequency of interpersonal conflicts among seafarers? (More days - intensity)	1 = Less days less conflicts 2 = Less days more conflicts 3 = Not at all			Ordinal	Classifying field	Ordinal
27.4. WHY do you perceive that more days on board impact the intensity of interpersonal conflicts among the seafarers?	Text				Codable field	Nominal Categorical

	VARIABLE	DATA			TYPE OF VARIABLE		
					SPSS	NVIVO	STATISTICALLY
28.	Could you please share with us a particular experience where an interpersonal conflict between two or more seafarers on board could have contributed to a marine casualty or incident?	Text				Codable field	Nominal Categorical