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Gender Equality is a Maritime Issue:
Examining Structural and Social Barriers to
Closing the Gender Gap in the Maritime Industry

by

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A thesis

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Introduction

The Psalms read, "They that go down to the sea in ships, that do business in great waters; These see the works of the Lord, and his wonders in the deep" (*King James Version Bible,* Psalm 107:23). Oceangoing professions are as diverse as the oceans themselves, with professionals working on vessels of all shapes and sizes. Fishing vessels, both charter and commercial; yachts; cargo ships carrying liquid, bulk, and containerized cargo; training ships; research vessels; offshore platforms, drilling rigs, and the vessels that supply and support them; military vessels; each of these waterborne platforms requires humans to operate them. Maritime transport is a pillar of the global economy, with over 90% of world trade being carried by sea, millions of passengers being moved by sea, and over 1.6 million seafarers working globally (International Chamber of Shipping, 2020, p. 11).

Working in maritime is working in a demanding field, physically, mentally, and emotionally. Obtaining the credentials to enter the maritime workforce is an onerous process, one that requires physical strength and mental acuity, as the training is extensive in both the classroom and practical settings. Maritime working schedules are often grueling, requiring long working periods, often twelve hours a day. Those twelve-hour days come one after another, as nearly all maritime work runs twenty-four hours a day, seven days a week, 365 days a year. Seafarers can be found working a variety of schedules, but one thing they all have in common is that they are longer than the average five-day work week. Many cargo ships will have seafarers onboard for more than 90 days, with international vessels often having crews onboard for many

months in a row. Offshore workers often work rotational schedules, sometimes with uneven time onboard and home, working 28 days with only 14 off. Beyond the long working periods, mariners find themselves in a uniquely isolated working atmosphere: a ship in the Pacific Ocean might be upwards of seven days from the closest point of land, with limited communication methods, and less than 20 persons onboard.

A ship at sea is an iron island. It is an isolated and dangerous working environment that must be largely self-sufficient to fulfill its mission. In the event of an emergency in an innately hazardous environment, the seafarers onboard must act as their own emergency responders, whether the situation at hand is a fire, water ingress, severe weather, or a medical emergency. Trust among the members of a crew is therefore paramount. When a mariner looks at their fellow crew, they are looking at the people who are responsible for the safety of life at sea for everyone onboard. This reality of life at sea often means that a mariner must focus on work despite anything happening in their home life, as loss of focus can lead to injury or incident. This inability to attend to or focus on personal problems, which could affect a mariner's family, can induce frustration, stress, and anxiety.

The long work schedules, the intense environment, and the unique relationship among mariners present challenges to establishing and maintaining human bonds, such as family and friendships. The nature of working at sea often means missing out on important life events, including births of children and deaths of loved ones. It can mean missing birthdays and holidays, and many of life's social milestones. Despite this, it is an alluring profession. The long periods of time away from home equate to long periods of time at home, with a clearly defined balance between work and life. The pay is lucrative, as well as the potential for global travel while at work. Yet, the maritime industry remains significantly less diverse, it is a male-

dominated field, with women seafarers making up less than 2% of the global maritime workforce (International Transportation Federation, n.d.).

Thesis Overview

Problem Statement

The past 30 years have seen an increase of women entering the maritime industry and obtaining maritime related degrees. However, the number of women who compose the global seafaring workforce remains low: only 2% according to the International Maritime Organization.

Seafaring is an old and honored profession, with maritime history dating back thousands of years. However, it is only within the past couple centuries that women have joined the maritime workforce, and then often in disguise and under an assumed name. “Historically, having women seafarers on board was considered bad luck. Whilst much of the thinking has moved on, some shipping companies still perceive that having women on board is more trouble than it is worth" (International Chamber of Shipping, 2020, p. 29). It is only within the past few decades that a maritime education has been available to women, with which they can achieve managerial roles. It is even more recent that the LGBTQIA+ community have begun to feel the freedom to express themselves in the maritime workforce, particularly with the lifting of the “Don’t Ask, Don’t Tell” policies upheld by the United States government and military sectors. While equity and inclusion in the maritime industry for LGBTQIA+ persons are important topics, and worthy of future study, they will not be the focus of this paper.

The number of women who enter maritime through maritime training academies remains low, with the International Chamber of Shipping reporting that “in 2015, women represented

6.9% of global officer trainees" (p. 27). The numbers do not improve over time, even fewer women remain in the industry long enough to obtain management level licenses. This creates a vicious cycle, with even fewer women in managerial roles than in entry-level roles, those women at the entry-level roles are less likely to remain in the industry. There are many younger women working at lower levels in the industry, and "they do not tend to have any women in the chain of command above them. When they look upwards...they see an all-male line" (Mackenzie, 2015, p. 76). Understanding and addressing the barriers to gender equality in maritime can help develop robust recruitment efforts at the educational level and inform future policy objectives at both a company and government level, both of which would contribute to the development of a diverse and robust workforce. Studies "confirmed that when women are appointed into male-dominated groups, they bring with them specialized knowledge skills...women could break the barriers and contribute in specific areas of the shipping companies" (Pastra et al., 2015, p. 50). There are economic advantages to bringing women onboard as well: positive relationships have been found between the percentage of women on the boards of U.S. firms and both return on assets and on investment (Pastra et al., 2015, p. 40).

Aim and Scope

The purpose of this paper is to evaluate the cultural, social, and institutional barriers to gender equality in the maritime industry, specifically those barriers which cause women to leave the maritime profession. This paper will examine the career limitations, harassment, and professional devaluation faced by women in the maritime industry. Multiple researchers have dedicated a considerable amount of time seeking to identify the causes for the underrepresentation of women in maritime. To build upon their previous research to further understand and improve underrepresentation of women in the maritime industry, the qualitative

study presented in this paper seeks to bridge the existing gap in literature related to women in maritime by presenting the personal perceptions and experiences of what it is like to be a gender minority (female) in the maritime industry. By conducting personal interviews with 24 women in the maritime industry, this research offers in-depth insights to women's personal experiences to understand what it is like to be a woman in a male dominated industry in hopes to enhance gender diversity in the maritime industry. Social media channels LinkedIn, Instagram, and Facebook were utilized to locate volunteers to participate in the interviews. Each of the women who volunteered were emailed the same list of questions, included here, and provided their answers via email. All quotations included in this paper by the women interviewed are direct quotes, with only minor modifications for spelling and/or grammar.

1. Tell me about your background in the maritime industry?
2. What license do you currently hold?
3. Did you attend a maritime academy? What led you to choose that educational route?
4. Did you ever feel discriminated against for your gender or orientation at school?
5. Are you currently employed in the maritime industry?
6. Did you ever feel discriminated against for your gender or orientation at work?
7. Did you ever feel that there were barriers in getting hired based on your gender or orientation?
8. Did you ever face harassment onboard a ship?
9. Are you currently sailing?
    1. If NO: Why did you elect to stop sailing?
    1. If YES: What are your long term career goals?
10. Do you have a spouse or children?

    1. If NO: Do you plan to have children? Does your career affect this choice?
    1. If YES: Did your family factor into your career choices?

11. Did you feel as if you had to choose between a career and a family?
12. Could your company have done anything to support BOTH your career and your choice to have a family?
13. What advice would you give to a young woman considering the maritime profession?
14. What advice would you give to Human Resources at your company for supporting women in maritime?

Research Question

A review of recent literature on gender equality in the maritime workforce, as well as first-hand observations and conversations with hundreds of mariners over a fifteen-year career, has led to one reoccurring manifestation of the lack of equality in maritime: women face structural barriers in their maritime career that men do not.

- What structural and cultural barriers limit women's participation in the maritime industry?

Guided by principles of the social constructs of gender and appropriate family roles, the interviews for this paper were conducted with maritime professionals to determine how their career was impacted by structural and cultural barriers. These interviews explore the barriers faced by women maritime professionals throughout their career, from maritime education to working on the water to shoreside roles. Barriers discussed include discrimination, harassment, physical facilities, and both governmental and company policies regarding family leave.

Proposed Contribution

The value of this research lies in presenting the lived experiences of women who are currently sailing or who made the choice to transition to a shoreside career in order to have a family. The sample of women interviewed for this research is small, but their stories are reflections of the reality of the maritime industry as it exists for women today, with current legislation and policies. The literature review presents discussion of those current legislations and policies and whether they provide adequate protection for women seafarers, or guidance for employers and organizations. Further meaningful discussion is offered around current events in the maritime industry with potential to directly impact the safety and security of all mariners working in isolated shipboard environments. The findings of this research highlight issues related to the management of women working at sea.

Definition of Audience

The intended audience for this research is both the women who work within or adjacent to the maritime industry, and decision makers around policies that affect those women. For the women working in maritime, this paper is written to showcase your challenges with equality in the workplace. For decision makers, human resource directors, United State Coast Guard members, members of the advisory boards at the maritime academies, this paper is written to highlight the challenges that women in the global maritime industry face, with suggestions from some of those same women for changes to be made.

To understand how the concept of gender equality within the maritime industry fits into the larger global conversation around Diversity, Equity, and Inclusion, we have first to understand what gender equality is. It is then important to understand that there are structural and cultural barriers to achieving gender equality, which must be overcome to achieve a truly equitable and inclusive workforce.

Cultural Context of Gender Equality

Save the Children, a non-profit humanitarian organization, defines gender inequality as "discrimination on the basis of sex or gender causing one sex or gender to be routinely privileged or prioritized over another.". Gender equality, which is the absence of the discrimination described previously, is a human right. Almost every human rights treaty worldwide prohibits gender discrimination, and there are federal, state, and local laws protecting individuals in the United States. Laws and policies worldwide recognize that gender equality is a "necessary foundation for a peaceful, prosperous and sustainable world" and while progress has been made, "the world is not on track to achieve gender equality by 2030" (United Nations, n.d., *Goals*).

From the Sustainability Report on Gender Equality (United Nations, n.d., *Goals*):

- As of 1 January 2022, the global share of women in lower and single houses of national parliaments reached 26.2 per cent, up from 22.4 per cent in 2015.
- At this pace, it would take another 40 years for women and men to be represented equally in national parliaments.
- In 2019, before the pandemic, women accounted for 39.4 per cent of total employment. In 2020, women represented nearly 45 per cent of global employment losses.
- The share of women in managerial positions worldwide increased from 27.2 to 28.3 percent from 2015 to 2019, but remained unchanged from 2019 to 2020, the first year without an increase since 2013.

It is important to note that gender equality is not a women's issue. UNWomen, an organization through the United Nations dedicated to women's rights, states that men should be concerned with and fully engaged in work towards gender equality. Their definition of gender equality clearly states that the goal is not for women and men to become the same, but that

"women's and men's rights, responsibilities and opportunities will not depend on whether they are born male or female. Gender equality implies that the interests, needs and priorities of both women and men are taken into consideration, recognizing the diversity of different groups of women and men" (United Nations, 2019).

Women represent half the population, half the resources, and half of the potential in any society. They will feel half the consequences of decisions made. In the World Survey on the Role of Women in Development from 2019, the United Nations states:

> "Persistent differences and disparities between women and men can mean that women have to bear more of the costs of lack of development and gain fewer benefits than men from development interventions. This does not only have negative implications for women themselves, but for the society as a whole" (United Nations, 2019).

Structural Barriers to Gender Equality

Despite treaties, laws, and policies at every level of government designed to prevent discrimination on the basis of gender, the facts remain that there are structural barriers to equality between women and men. Education, lack of employment equality, lack of legal protections, and parental leave policies are leading barriers to gender equality.

Education and gender inequality are two interconnected issues that have a significant impact on the development of individuals and societies. Education has the power to break the cycle of poverty and improve gender equality, but it is not enough to simply provide access to education. Instead, it is necessary to create a more inclusive and equitable education system that addresses the root causes of gender inequality.

Gender inequality in education refers to the unequal access and treatment of individuals based on their gender, leading to disparities in educational outcomes and opportunities. This can

manifest in many ways, including a lack of representation in certain subjects and career paths, unequal teacher expectations and treatment, and discrimination in the classroom.

One of the most persistent and significant forms of gender inequality in education is the disparity in enrollment and completion rates. Despite progress in recent decades, girls in many countries are still less likely to attend school and more likely to drop out before completing their education. This can be due to a number of factors, including poverty, cultural norms, and the lack of safe and accessible schools.

In addition to unequal enrollment and completion rates, gender disparities can also be found in the quality of education received. For example, girls are often taught in separate and under-resourced schools, which limits their access to adequate teachers, materials, and technology. This can lead to lower educational attainment, as well as lower self-esteem and limited opportunities for girls.

Moreover, gender stereotypes and gender-based violence can also contribute to unequal outcomes for girls and boys in education. Girls may face harassment, abuse, and discrimination, which can result in lower academic achievement, reduced attendance, and a decreased likelihood of pursuing further education (United Nations, 2019).

Addressing gender inequality in education requires a commitment to changing cultural norms and attitudes, as well as addressing systemic and structural barriers that limit opportunities for girls and women.

A 2018 study conducted by the World Bank has shown that women around the world lack adequate legal protection against sexual violence, domestic economic violence, and sexual harassment outside the home. Sexual violence refers to any act of violence or abuse that is sexual in nature and can include acts such as rape, sexual assault, and sexual harassment. In many cases,

laws designed to protect women from sexual violence are often weak or poorly enforced, leaving women vulnerable to abuse and with limited recourse for seeking justice. In many countries, laws do not adequately define and criminalize sexual violence, and the penalties for perpetrators are often lenient or insufficient to deter future crimes. Additionally, women often face significant barriers in accessing justice, such as cultural stigma and discrimination, lack of legal representation, and fear of retaliation. This can result in a culture of impunity for perpetrators of sexual violence, perpetuating a cycle of abuse. Lack of adequate legal protections for sexual violence contributes to "increased absenteeism at work and limits mobility, thereby reducing productivity and earnings" (World Bank, 2018).

Family leave policies are a primary structural barrier to gender equality. As a citizen of the United States, my research focuses on parental leave legislation in the United States. Parental leave policies in the United States refer to the amount of time that parents, including both mothers and fathers, are allowed to take off from work to care for a new child. Currently, there is no federal law mandating paid parental leave in the United States. "Moreover, the U.S. has fewer maternity leave protections and benefits than any other country in the Organization for Economic Cooperation and Development, an international alliance that includes many of the world's most developed and highest-income countries" (World Population Review, 2023). As a result, the availability of parental leave is largely determined by individual employers and varies greatly between companies and industries.

Most companies in the United States offer some form of maternity leave, typically 12 weeks of unpaid leave under the Family and Medical Leave Act or FMLA. This law applies only to companies with 50 or more employees and only guarantees that the employee's job will be

protected for the duration of the leave. Some companies offer paid maternity leave, but this is not a requirement under the law (U.S. Department of Labor, n.d.).

In recent years, there has been a growing push for expanded parental leave policies, including paid leave for both mothers and fathers. Some states, such as California, New Jersey, and Rhode Island, have enacted their own paid family leave laws, offering partially paid leave for both parents (World Population Review, 2013). Additionally, some large companies and industries, such as tech and finance, have expanded their own policies to offer more generous parental leave benefits.

Despite these advances, the majority of working parents in the United States still do not have access to paid parental leave. This can result in significant financial strain and often forces parents to take significant time off work or leave their jobs altogether. When we examine this under the light of traditional gender role expectations, this means that mothers experience a disproportionate impact to their careers from family leave policies, or the lack of them.

Cultural Barriers to Gender Equality

Cultural barriers to gender equality are not as tangible as laws and policies, but the ramifications are every bit as tangible. How a society evaluates the differences between men and women, and the subsequent value of their respective contributions is showcased from education to employment to healthcare to the legal system. “Beliefs about gender run deep and even though progress can be made through laws and structural changes, there’s often a pushback following times of major change” (Soken-Huberty, E., n.d.). Two cultural barriers that must be discussed in the context of this research are job segregation and societal mindsets.

Job segregation refers to the practice of dividing employment opportunities and occupations based on gender. This cultural barrier to gender equality occurs when certain jobs

are deemed "suitable" or "appropriate" for only one gender, leading to unequal distribution of job opportunities and unequal pay between men and women. This often results in a concentration of women in low-paying, lower-status jobs, while men dominate higher-paying, higher-status occupations. This reinforces gender stereotypes and limits women's career advancement, contributing to the persistent gender pay gap and hindering progress towards gender equality in the workplace.

Many companies put into place hiring practices that encourage Diversity, Equity, and Inclusion. However, “While companies may be legally obliged to be unbiased when hiring and managing employees, it is not mandatory to actively aim to build diverse teams” (International Chamber of Shipping, 2020, p. 7).

Societal mindsets are a major cultural barrier to gender equality, as they reflect and reinforce deeply ingrained beliefs and attitudes about gender roles and expectations. These mindsets are shaped by cultural norms, traditions, religious beliefs, and historical experiences, and they often limit the opportunities and freedoms available to individuals based on their gender. For example, a common societal mindset is that women are naturally less capable than men in certain areas, such as math, science, and leadership. This mindset leads to a gender bias in the education and workplace, where women are less likely to be encouraged to pursue careers in science, technology, engineering, and mathematics (STEM) fields, and are often overlooked for promotions in male-dominated industries.

Another aspect of societal mindsets that acts as a cultural barrier to gender equality is the emphasis on traditional gender roles and expectations. In many societies, men are expected to be providers and protectors, while women are expected to be homemakers and caretakers. This division of labor reinforces gender stereotypes and expectations and can lead to women being

paid less, having fewer opportunities for career advancement, and facing discrimination in the workplace. It also perpetuates the idea that women's work, including caregiving, is not as valuable or deserving of recognition and compensation as men's work. This can make it difficult for women to pursue leadership positions, to receive equal pay for equal work, and to gain the respect and recognition they deserve.

According to a study done by Human Right Careers, societal mindsets also perpetuate harmful gender stereotypes and discrimination, which can be physically, emotionally, and mentally damaging to both men and women. For instance, toxic masculinity norms can pressure men to behave in aggressive and violent ways and discourage them from expressing emotions or seeking help. At the same time, toxic femininity norms can pressure women to prioritize their appearance, be submissive, and restrict their choices and ambitions. These gender norms and expectations can harm both men and women and limit their potential for growth and happiness. Overcoming these cultural barriers requires a change in societal mindsets and the rejection of harmful gender norms and expectations.

Research shows that structural barriers, such as discriminatory laws and policies, limit opportunities for women and reinforce gender inequalities in the workplace, education, and other areas of life. Cultural barriers, such as societal mindsets and gender norms, can restrict women's choices and limit their potential. Overcoming these barriers allows women to have equal access to opportunities and resources, which can lead to improved economic growth and well-being for individuals, families, and entire communities.

Framing Equality within Maritime

The percentage of women working in the maritime industry is relatively low, with most estimates suggesting that women make up only a small fraction of the total workforce in this sector. According to the International Maritime Organization (IMO), women accounted for just 2% of the world's seafarers in 2018. This is despite efforts by the IMO and other organizations to increase the participation of women in the maritime industry and to promote gender equality in the workplace.

Why are there so few women entering the maritime workforce, and even fewer staying in it? There are "specificities in a career in marine STEM that make it harder for women to succeed compared to other careers...these include disproportionately low numbers of women in all roles and the additional challenges of working offshore or onboard ships" (Mackenzie, 2015, p. 69). These disproportionately low numbers of women can lead to isolation and the feeling of not seeing anyone "like you" in higher roles.

The underrepresentation of women in the maritime sector is due to a combination of cultural and structural barriers, including traditional gender roles, discrimination, and a lack of access to education and training opportunities. Addressing these barriers and promoting diversity in the maritime industry is important for creating a more inclusive and sustainable sector.

Statistics on Women in Maritime

More women have joined the maritime workforce than any time in history, a change that came about largely in the last century. Seafaring has traditionally been a male profession, due to the necessity of physical strength to perform the job. During the World Wars, the desperate need for ships extended job opportunities, including maritime jobs, to women around the United States, particularly in shipyards ("Women in Maritime," 2012). Throughout the rest of the 20th

century, technology advanced the maritime industry exponentially, making the work less about brute force than about state-of-the-art training.

The number of women in the industry remains staggeringly low despite women's readiness to enter STEM workforces. We have seen the statistic from the IMO of 2% of the global maritime workforce being composed of women. The International Chamber of Shipping reports that the "ITF's recent collective bargaining agreements, the global supply of seafarers available for service on internationally trading ships is estimated at 1,647,500. Women seafarers comprised 1%" (International Chamber of Shipping, 2020, p. 12).

The USCG's National Maritime Center, which is responsible for the evaluation and credentialing of U.S. merchant mariners, provided the following statistics regarding women mariners via personal communication. "At the present the total credentialed U. S. merchant mariner population is approximately 210,000. Of those 210,000...15,465 are female." That is 7.3% of the credentialed mariners in the United States who are female.

Statistics on Women in Managerial Roles in Maritime

There are many barriers to women working in maritime, and there are even more barriers to women staying in the maritime industry to reach the managerial levels of seafarers. The managerial level licenses in the United States would be considered Master, Chief Engineer, Chief Mate, and First Assistant Engineer. Attaining these licenses requires years of accrued sea time, continuous training, the license upgrade process through the United States Coast Guard, and a second round of grueling licensing exams. The National Maritime Center's statistics go on to state this of mariners, "Of those 15,465 (female mariners)…4,729 are female who hold a credential endorsed as 'Master'. Of those 4,729…149 are female who hold a credential endorsed as 'Master Unlimited – Any Gross Tons'" (A. Hagerty, personal communication, August 4,

2020). In other words, of the 210,000 credential merchant mariners in the United States, 0.07% of them hold the highest available license of Master Unlimited – Any Gross Tons.

I recently attended a leadership forum at my own company, where the Captain and three department heads of each vessel in the fleet were in attendance. The company operates 24 drilling rigs, so there were approximately 100 people from the offshore sector in the room, with another session accommodating the other 100 leaders who were onboard the rigs. Of those leaders, I was the only woman.

Barriers to Entering Maritime

Education

Institutional barriers often form the first (and often insurmountable barrier) to women joining the maritime workforce. Maritime universities did not begin opening their doors to women to train as officers aboard merchant ships until the 1970's (Kitada, 2015, p. 113). Some have argued that a historic and pervasive "existing social bias against the participation of women in the global maritime industry" (Baya, 2015, p. 170) discourages women from thinking of a career at sea as anything other than a man's world. Maritime universities, or Maritime Education and Training institutions (METs), are a primary source of recruitment into the maritime industry, providing a structured, formal education in maritime skills at the university level.

The International Chamber of Shipping recorded statistics from 75 METs in their Diversity Tracker, covering data from 2015 through 2018. 24 METs reported no female students; one indicated 40% were women, another said women were 25% of officer and 5% of rating trainees (p. 28). In the United States, there are six METs: the United States Merchant Marine

Academy which is the federal institution, and five state maritime academies located in California, Massachusetts, Texas, New York and Maine.

The following chart from the Class Profile page of the USMMA website shows the percentage of female midshipmen in current classes.

Class of	2021	2022	2023	2024	2025
Female Representation	13.2%	22.9%	26.4%	17.4%	17.2%

Source: https://www.usmma.edu/class-profile

The following chart from the Six-Year Enrollment Survey at California State University Maritime Academy shows the percentage of female students enrolled from Fall 2014 through Fall 2019.

Six-Year Enrollment Summary							
Institutional Research							
24-Oct-19							
Gender	**% F14**	**% F15**	**% F16**	**% F17**	**% F18**	**% F19**	**% All**
Female	**13.9**	**14.7**	**16.8**	**18.1**	**16.6**	**17**	**16.2**

Source: https://www.csum.edu/ir/media/2014-2019-six-year-enrollment-summary.pdf

The following chart from the MMA Key Data Elements & Indicator Report from Massachusetts Maritime Academy shows the percentage of female students enrolled from Fall 2010 through Fall 2020.

Total Undergraduate and Graduate Enrollment

Fall	Total	Female	% Female	ALANA	% ALANA	BLX	% BLX
2010	1,296	132	10%	62	5%	41	3%
2011	1,368	142	10%	93	7%	53	4%
2012	1,415	152	11%	97	7%	53	4%
2013	1,476	180	12%	111	8%	48	3%
2014	1,497	190	13%	142	10%	75	5%
2015	1,674	226	14%	171	11%	87	6%
2016	1,751	231	13%	173	10%	90	5%
2017	1,780	244	14%	170	10%	98	6%
2018	1,802	267	15%	182	11%	109	6%
2019	1,792	245	14%	178	11%	101	6%
2020	1,637	231	14%	166	11%	86	6%

Source: https://drive.google.com/file/d/1422RKdyRJH3tWzld7HwOKuZcddNcxWt5/view

The following chart from the 2016-2017 Fact Book from Texas A&M University at Galveston shows the percentage of license graduates who are females from 2016-2017.

AY 2016-2017: Texas Maritime Academy License Graduates

Degree, Major, and Gender			Race/Ethnicity							Total
			BO	HA	IO	PO	AO	IN	WO	
BS Marine Engineering Technology	Gender	F	0	0			0		3	3
		M	3	1			1		18	23
	Total		3	1			1		21	26
BS Marine Science	Gender	M							1	1
	Total								1	1
BS Marine Transportation	Gender	F	1	0	0				3	4
		M	2	2	1				56	61
	Total		3	2	1				59	65
Masters Maritime Administration	Gender	F	0			1	0	0	0	1
		M	1			0	1	1	7	10
	Total		1			1	1	1	7	11
Total	Gender	F	1	0	0	1	0	0	6	8
		M	6	3	1	0	2	1	82	95
	Total		7	3	1	1	2	1	88	103

Source: https://www.tamug.edu/reporting/Documents/TAMUG_2016-2017_Fact_Book.pdf

SUNY Maritime College reports that the Student Body in 2022 is composed of 86% male and 14% female students (SUNY Maritime). US News reports that Maine Maritime Academy has a student diversity distribution of 82% male and 18% female students.

The International Chamber of Shipping Diversity Tracker reports that Maritime Education and Training institutions are the major entry point for women seafarers. Consideration should be given to ensuring that seafarers' educational and training programs are better marketed to attract more women. Encouraging participation in more programs, offering more cadet berths or apprentice placements to women seafarers would help more women to join maritime.

Social acceptance

There are existing social biases around women in the maritime industry, which is based largely on the historical role of women as the caretakers of their families. When that role is held up against the global maritime industry's requirements for long periods away from home, it continues to portray the industry as a man's world. When I meet new coworkers on my deepwater drilling rig, inevitably I get asked, "What does your husband think of you working out here?"

Stereotypical gender roles are rooted in the traditional belief that certain jobs are only suitable for men, including those in the maritime industry. Seafaring is viewed as a job that belongs to hard-boiled sailors, competent captains, rough and ready men. One of the women interviewed for this paper discussed the subculture of the maritime industry, how it often feels that "females are less capable, don't understand, can never do as good a job as a man. Or they are less safe or dangerous or unreliable. Or simply, seen as a problem, not a person, a colleague and not equal. Another aspect…I experienced was that females are better at certain tasks or jobs and should or shouldn't be trusted to do certain things (Participant F). This patriarchal bias has an impact on the jobs that women do find themselves typecast into. The balance of where in the seafaring industry that women work is dramatically skewed: "94% work as hotel staff on passenger ships (ferries and cruise ships), with the remaining 6% working on cargo ships, such

as tankers and container ships" (International Transportation Federation, n.d.). This serves to reinforce the concepts of what is appropriate women's work by relegating women to tasks that resemble those of a household: cooking and cleaning.

"The existence of many religious and social biases against the idea of an isolated workplace on a vessel that contains both men and women" is another challenge to the social acceptance of women at sea (Baya, 2015, p. 171). There is a cultural stigma attached to women who choose to work in a male-dominated environment, particularly one where they may be the only woman in that environment, that those women might be there for reasons other than to work. It is a cultural stigma that is prevalent both within the industry and without. Men within the industry often take a woman coming aboard their vessel as a sign to show extra attention, under an assumption that that is her desire in choosing to work in that environment. Being "'friendly' is synonymous with flirty/easy in this field. Be cordial and direct" (Participant H).

If they are considering the maritime industry as a career path, women will inevitably be asked what they intend to do about having a family, because of "the societal idea that it's okay for fathers to go to sea and leave their kids with their mother, but that there's something wrong with mothers who do the same" (Participant Q). This lays the groundwork for the choice between career and family, which this research will show is a barrier to retention of women in the industry. There is an argument to be made that it is also keeps women from entering the industry. Women may balk at the idea of going through years of training and hard work if they will be forced at a later point to choose between their maritime career and having a family.

The documented discrimination and harassment that occurs in the maritime industry serves to highlight the need for maritime organizations to take action for prevention, but it also serves as a barrier to young women considering the field. Harassment and discrimination are

established as a barrier to retention of women in the industry and will be discussed in greater detail as such in this research. Knowledge of entering an industry where you face nearly certain possibilities of facing discrimination and harassment is in itself a barrier to joining that industry.

These social and cultural barriers help to keep the number of women entering the industry low, and without more women joining the industry through METs or entry level positions, the gender gap will remain wide.

Hiring Practices

Maritime and offshore companies have made minimal strides to reduce the gender gap. One of the biggest challenges is ensuring diversity in the hiring of seafarers. In many cases, women graduate with excellent results from METs but see their job applications being turned down (International Chamber of Shipping, 2020, p. 28). Mackenzie (2015) did a study of graduates with STEM educations. They found that 27% of the females found suitable employment compared to 53% of their male peers. (p.72) One woman interviewed for this paper shared her experience with discrepancies in the hiring process between men and women:

> "I applied as an Offshore Installation Manager and Captain to one of the other drilling companies. The Chief Engineer I worked with got hired after one interview. I had three interviews, the last one being with the VP of Operations who could not comprehend a woman being the OIM. After that interview they wanted me to come back for another one. This is where I drew the line explaining to the HR recruiter that this was ridiculous and that a fourth interview meant that the company was not ready to have women in charge" (Participant I).

In questions about the employment of women, an excuse presented is the lack of facilities for women working offshore or at sea, such as no female specific toilets and often only

communal showers. “Accommodations are very tight, and beds cannot afford to be left empty” is often the “excuse to not take women at all” (Mackenzie, 2015, p. 77). Four of the women interviewed for this research were turned down for positions due to “companies stating that they didn’t have the facilities to house a woman onboard” (Participant B).

Participant C related her experience with applying for jobs in the offshore oilfield, where she was “literally not going to get a job because I was ‘too pretty’”, where “I had a coworker tell me once that if he saw a woman go to an interview for the oilfield in heels he ‘knew she was a slut’.” In other cases, it appears that the hiring process considers the prevailing attitudes onboard vessels, as was the case for one woman who “was set to take over as the boatswain on one of the LSVs, they called a crew meeting and voted if they wanted a female boatswain or not, the vote was no (all male crew)” (Participant T). Another woman was “told directly at one point that they wouldn’t hire females for a particular vessel as the rest of the crew would walk off” (Participant Q).

I recall being rejected for a mate’s position aboard an offshore supply vessel, while multiple male classmates were offered employment. It was only years later that I learned that the now defunct Rigdon Marine made a practice of not hiring women to not have to make accommodations for berthing them. A fellow female mariner recounted an experience where she and her husband both called Hornbeck Offshore Services to inquire if they were hiring. The recruiter informed *him* that yes, they were. But when *she* called, she was told that they were not (Participant X).

Employers may hesitate to employ female cadets or qualified seafarers believing they will not stay long due to assumptions that they will prematurely leave for childbearing and caring responsibilities (International Chamber of Shipping, 2020, p. 28). One of the women interviewed

recalls “I was even told once that I joined ships in order to find a husband and take advantage of his money!” (Participant R).

In conducting research for this paper, I contacted Human Resources at Maersk Drilling, Noble Corporation, Seadrill, Transocean, Hornbeck Offshore Services, Edison Chouest Offshore, Crowley, Polar Tankers, OSG Tankers, and Matson. Of these companies, I received return contact from the DEI Coordinator at Maersk Drilling, and the HR Director at Noble Corporation, who also manages their Environmental, Social, and Governance goals. No other companies returned my inquiry requests.

The DEI Coordinator at Maersk Drilling shared that they had a pilot program in place to increase female diversity and inclusion. In 2022, they focused on hiring women offshore to increase gender diversity onboard the Maersk Developer in Brazil. Their target was 5-10 female crew members onboard Maersk Developer, and they achieved hiring 11 female crew members, including one senior leadership role. In further conversation, the DEI Coordinator conceded that they had only made one in-house hire, and that was of the woman in the senior leadership role. The other positions were either non-permanent third-party personnel or contracted workers in the catering department.

The HR Director of Noble agreed to be interviewed, and related that Noble Corporation has a hiring practice that mandates them to interview at least one minority candidate for any job opening. This is not exclusive to interviewing women though.

Of the 24 women interviewed for this research, 17 reported experiencing barriers to hiring based on their gender. Two women reported that working within a maritime union eliminated gender bias during the hiring process.

Barriers to Retention of Women in Maritime

Entering the maritime industry as a woman comes with demonstrable challenges, as discussed in this research. But staying in the industry, and advancing a license to the managerial level, proves to be where the maritime industry loses women seafarers. It has been called the "leaky pipeline – the continuous loss of women at consecutive career stages within STEM" (Mackenzie, 2015, p. 69). The barriers identified during this research are gender discrimination, sexual and sex-based harassment, physical facilities onboard ships and platforms, and social roles.

Discrimination and harassment have not sunk into the deep, despite the slowly rising numbers of women in maritime. According to the International Transportation Federation, "the low number of women employed means that it is inevitable that discrimination and harassment will occur" (n.d.). It is important to understand the distinction between discrimination and harassment when examining barriers to women remaining in the maritime industry. Discrimination and harassment are two distinct but related concepts that involve treating someone unfairly or differently based on certain characteristics.

Discrimination refers to the unequal or unfair treatment of individuals or groups based on certain characteristics such as race, gender, age, religion, disability, or sexual orientation. Discrimination can take various forms, including denial of opportunities, harassment, or unequal treatment in the workplace, education, housing, and other areas.

Harassment, on the other hand, is a form of discriminatory behavior that involves unwanted and unwelcome conduct that creates an intimidating, hostile, or offensive environment. Harassment can be based on various characteristics such as race, gender, religion, or sexual orientation and can take various forms, including verbal, physical, or sexual harassment.

The key difference between discrimination and harassment is that discrimination involves unequal treatment or denial of opportunities, while harassment involves unwanted behavior that creates a hostile or offensive environment. Discrimination can lead to harassment, but harassment is not always a form of discrimination.

Gender Discrimination

In the interviews with women for this research, 23 of 24 women reported experiencing gender discrimination in the maritime industry. One woman stated, "It'd be better to ask when I didn't feel discriminated against" (Participant C). Another woman's response to whether she had experienced discrimination was "Often. Ranging from underestimation, hostility, exclusion, no personal or professional boundaries and a lack of respect or support…I was given harder work to do…asked to do unsafe things…told to give up, go home…blamed/punished for things I hadn't done" (Participant F).

Discrimination has taken the form of unequal opportunities, contributing to an imbalance in where in the maritime industry women work. This imbalance is an indicator of what is considered acceptable work for women, as jobs in the hospitality sector meet the criteria of "women's work" more so than the technical, demanding jobs, such as being an engineer or deck officer aboard a cargo ship. Even those women who have obtained technical competence and are licensed as a deck or engineering officer report discrimination in the workplace. "All the time. I have been given the lowest paid contract jobs in the union and almost no Captain job despite proving myself across multiple vessels" (Participant A). Another woman reported: "I had to self-advocate to get off the semi-submersible and onto a drillship. I had been passed over twice because they did not know how a woman would be on deck" (Participant I). One woman

explained about how her employer “took me off a project because one of the clients “wasn’t comfortable” with a woman as their surveyor” (Participant W).

Discrimination has taken the form of unequal treatment: “As a cadet I recall one captain who forbid the girls to socialize with the crew after hours (playing cards or video games or whatnot) whereas it was fine for the guys” (Participant E). Another woman relates: “As a cadet, a Chief Engineer refused to engage in any training with me. He said I was a waste of a cadetship because I would only get married and have children” (Participant J).

Unfair treatment is often a symptom of second-generation gender bias, which is often much less obvious than first generation gender bias, which are the intentional acts of discrimination described above. The Harvard Business Review describes second-generation gender bias as “‘something in the water’ – in which women fail to thrive or reach their full potential,” describing structures and practices that put women at a disadvantage in the workplace (Ibarra et al., 2013). There should be no doubt, however, that the unfair treatment resulting from the second-generation gender bias is discrimination: “No matter how hard I worked, it was never good enough for them. I was naïve and didn’t realize at the time that they treated me this way because I am female” (Participant P).

Women are simply not provided the same opportunities as men in the maritime industry. Bev Mackenzie notes in “The Leaky Pipeline”, that both genders hold implicit biases, and women are not offered the same career opportunities and encouragement as men (p. 76). It is a disconnect that appears to take place somewhere between upper management and onboard management. NPR finds that “executives already embrace diversity. The focus these days is on middle managers where the hiring and firing happens” (Brady, 2017).

When women are not offered the same opportunities or even the same treatment as their colleagues, it has a compounding effect due on the disproportionate number of women in the maritime industry. If a man in an industry that is 98% men is not offered the same opportunities or treatment, it has a vastly different effect than that on a woman in an industry where she makes up part of only 2%. The man will likely have another opportunity, or there is another man who was given that opportunity. It is different for a woman. She might have been the only one ready for promotion, or the only one on her vessel. If that woman is discriminated against, it can be the end of her career.

Sexual Harassment and Gender-Based Harassment

In the interviews with women for this research, 24 of 24 women reported experiencing sexual harassment or sex-based harassment, and 5 of 24 women listed it as a key reason for no longer actively sailing. One woman described her experience of having "panic attacks on board in the middle of the night. I'd wake up panicking…and go into full fight or flight mode" (Participant C). Another stopped sailing because "I couldn't balance the cost versus the reward. I grew more and more unhappy every time I arrived at the airport to start the next trip…to protect my physical and mental health, working offshore wasn't the best path" (Participant F). One woman shared "I left my dream job because of harassment and retaliation, I was getting sick thinking of returning to work, and have since been diagnosed with PTSD thanks to one man's retaliation against me (Participant X).

From page 26 of the International Chamber of Shipping's Diversity Tracker,

> "Though male seafarers may be victims of sexual harassment, most reported cases relate to women seafarers. Over 18% of women seafarers stated they were sexually harassed on ships. It is a key issue for women seafarers on board cargo ships, who are cautious to

> protect themselves and lock their cabin doors to prevent intrusion from other crew members. Five out of nine female cadets interviewed reported being subject to or witnessing sexual harassment at sea, e.g. verbal abuse, inappropriate behaviour and innuendos."

One of the women interviewed related her experiences: "Stealing items from my cabin, including personal items such as underwear from my cupboard. Personal physical boundary violations, touch, proximity, grabbing, brushing past, leaning. Unwanted physical contact, "love letters", name calling, phone calls listened in on, emails read before sending, threats" (Participant F).

In an article with NPR, Pink Petro founder Katie Mehnert stated that what changed the trajectory of her career was being asked in a business setting, "What's a pretty young lady like you doing in a dark, dangerous business like oil?" Women mariners recount how they make themselves aware of manual call points for the firefighting system when they enter a space alone with male coworkers, as a means of calling help to their location, or how they always keep a pocket knife on their person. A former female coworker showed a social media post of her onboard an offshore drilling vessel, where the comment was left by a male colleague, calling her "eye candy for the company man."

In 2015, a woman working aboard a Transocean drilling rig found a clothing hook hanging up in her cabin, which was removed a couple days later. Another woman onboard then found the same hook in her room, together they took it apart and found a tiny camera. The first woman reported it, and later stated nothing was done to find the perpetrator, but she was removed from the vessel and told that if she wanted legal action taken, that it would be her

personal responsibility. She filed a lawsuit against Transocean and the oil company the rig was working for, BHP Billiton (Valencia, 2016).

When speaking to the women interviewed for this research, it becomes apparent that part of the barrier of sexual and sex-based harassment is the lack of robust response from shoreside offices and human resources. Of the 24 women interviewed, 16 reported feeling that their shoreside management could have done more to support them. “My first HR manager…after the first month of being onboard when I reported assault by the Bosun (aged 16) and was told “it is your fault for being a young woman onboard a ship” (Participant D). Four women experienced their report not being kept confidential. Five women experienced retaliation for reporting sexual or sex-based harassment. “Yes, the senior most captain…sexually harassed me for over a year. When I reported it to the chief of staff in the office, she said she wouldn't have believed me unless I had the evidence (texts, gifts, notes etc). After I reported him, it was not kept confidential, I became a pariah in the fleet…” (Participant O).

The experiences lived by the women interviewed for this research paint a picture of harassment and discrimination in the maritime workforce. However, the entire community was rocked by the allegations laid before shipping giant Maersk by Midshipman X and Midshipman Y in 2021. The ugly reality of the dangers posed by sexual predators on the high seas made international headlines, as did the ensuing litigation against Maersk, and the policy changes in the United States.

On September 28, 2021, a post was released on an online blog called Maritime Legal Aid, that recounts the experiences of a female U.S. Merchant Marine Academy midshipman, a member of the Class of 2022, during her cadet shipping experience. Midshipman X’s blog post describes an environment of sexual harassment onboard the ship where she was the only woman.

The 1st Assistant Engineer, who "often made derogatory comments about women and told me early in the trip that 'you should know your place, and it ain't out here. A woman's place is in the home.'" (MLAA Blog).

Midshipman X then describes in detail a night of forced drinking, waking up naked in her bed the next morning with "My clothes…all over the floor and they were soaking wet, I had a massive hangover, there was blood on my sheets, and I knew immediately that I had been raped" (MLAA Blog).

Midshipman X goes on to describe her flashback memories of the night prior, and she pieced together that the 1st Assistant Engineer, a man in his sixties, had gotten her drunk, taken her back to her stateroom, and forced himself on her. She describes being kissed by this man, forced to perform oral sex, and then blacking out during the rape itself. The following day, she was called to the 1st Engineer's stateroom, where she confronted him by saying that he forced himself on her. His response was to deny, gaslight, and threaten her, saying "Whatever you believe happened, you wouldn't tell the captain, would you?" and "Whatever. No one is ever going to believe you" (MLAA Blog).

Midshipman X is believed and is heard. The response to her account has escalated to an international level. The U.S. Merchant Marine Academy's cadet shipping program came under intense scrutiny, not for the first time, as there was a stand-down of the program in 2016 due to sexual assault incidents. That stand-down lasted nine months, and the program was reinstated with what were intended to be safeguards, such as sexual assault trainings for crew members, and debriefings for the cadets to report sexual harassment and assault. As evidenced by Midshipman X's account, those measures were ineffective (Washington Post). The details of Midshipman X's story "shocked leaders in the shipping industry and members of Congress who

oversee it…The Maritime Administration…that oversees the Academy, said that it referred the allegations to the Coast Guard's investigative unit…and that it plans to review measures designed to ensure ships are safe" (Duncan, 2021).

Maersk, the world's largest container shipping company, responded swiftly, in suspending five crew members and launching an investigation. Enough details were available in the blog post that the company was able to identify the ship and the crew members alleged to have been involved in the assault (Ellis and Hicken, 2021). The maritime community rallied around Midshipman X through social media, and in an open letter on the maritime forum G-Captain, where John Konrad calls out the culture of the maritime industry, "You were failed by a mariner culture that has gone on for year after year after year for centuries. Centuries of rape – first of men, now of men and women – at sea. A culture that promotes passivity. A culture that is not understood and mostly ignored by our society. A culture encourages seafarers to simply turn a blind eye." But while Maersk suspended and later fired the crew members involved, the company stated that "it was 'unable to make any findings with respect to the rape allegation' because certain employees refused to cooperate with the investigation. The Coast Guard investigated the alleged rape as well and referred the case to the Department of Justice, but prosecutors declined to comment on whether charges would be filed, citing the ongoing investigation" (Ellis and Hicken, 2022).

In June 2022, Midshipman X revealed her identity as Hope Hicks, as she filed a lawsuit against Maersk Line, Limited. She was joined in the lawsuit by and 2nd midshipman from USMMA, who was also the subject of sexual harassment and assault aboard the same Maersk ship. The women hope that their lawsuit will "give other victims the courage to come forward so that Maersk and other shipping companies will be forced to create safe working environments for

female crew members, who are significantly outnumbered in the industry" (Ellis and Hicken, 2022).

In the wake of Hope Hicks coming forward, more stories began appearing in news articles around the world about sexual misconduct at sea. The blog Maritime Legal Aid devoted a section of their website to "Survivor Stories," sharing account after account of harassment, discrimination and assault both on the campuses of the federal and state maritime academies in the United States, and onboard ships around the world. Maritime Me Too is a rallying cry for all mariners, regardless of gender, to work together to change the culture and make the seas safe for everyone.

In June 2022, the French newspaper Le Monde published an article about cases of harassment and sexual violence emerging in the merchant navy. The article, by Marie Beatrice-Baudet and Julien Bouisson recounts the experiences of women working on international vessels, including harassment and assault. The article states that "Sexual abuse, in various forms, is recurrent, even trivialized: pornographic displays, inappropriate remarks about the physical, explicit proposals and, a small peculiarity of the environment, theft of underwear from the laundry. Panties and bras disappear quickly."

Before Maritime Me Too, there was #MeToo, which according to Baudet and Bouisson, is "moving the line a little" in a culture that dictates that sailors look the other way and remain loyal to each other. In 2018, a women's Facebook group in Sweden began using #lättaankar, meaning "weigh anchor" in English, to highlight the 1,150 accounts of harassment experienced by their members while working on ships (2022).

In December 2022, the LA Times reported on sexual misconducts, racism and hostility toward women, transgender and non-binary students at California State University Maritime

Academy under the headline "'Always have a knife with you': Women and trans students fear harassment, hate at CSU campus." The article was written in response to a Campus Culture Survey undertaken in 2021, which reported "Females expressed an understanding that it is not a matter of 'if' they will experience sexual harassment or assault…but 'when' and 'how often'." One woman reported that she had been raped and subsequently resigned from the school while the investigation played out over months. Another cadet reported that their motorcycle had been vandalized with the word "dike" carved into it. In discussing their annual summer training cruise aboard the campus training ship, cadets "reported frequent use of the N-word and 'rampant use' of the words 'faggot,' 'homo' and 'dyke' to refer to fellow cadets, including those in the LGBTQIA+ community." Interviewing an alumna of the school, the Times reported that she was drugged and assaulted over a decade ago while a student at CSUMA (Lopez and Shalby, 2022).

In January 2023, GCaptain reported that a federal judge ruled that a sex trafficking and forced labor lawsuit against Crowley, a US based tug and barge company, could proceed. The complainant alleges that while employed by Crowley, she was sexually assaulted by her supervisor. When she reported the assault, she was threatened and told to stay silent, and further that she would be required to travel on a business trip with her assailant or face termination. She alleges that on that business trip, she was raped by her supervisor. When she reported the rape, she was told to "shut up," which led her to report the incident to Crowley's Vice President of Ethics and Compliance who later informed her that the supervisor had been fired, but that she was to remain silent about the incident. The complainant was ultimately terminated by Crowley, at which time she brought suit against them. Her case is pending (Schuler, 2023).

In her article "Stranded at sea: amateur female sailors speak of sexual abuse by captains they met online" for The Guardian in January 2023, Eden Gillespie explores a world that many

would think of as adventurous and romantic: pleasure sailing craft. The article shares the stories of women who, for many reasons, decide to try working onboard pleasure sailing vessels, as either amateur or experienced crew. Many of these vessels are crewed through online job listings, where they are connected directly with the captains of sailboats. Gillespie writes of "more than a dozen women who say they have had negative – sometimes terrifying – experiences after meeting skippers through popular sailing websites such as Crewbay. Their claims include sexual assault and harassment, while others were made to feel unsafe." One woman shared her story of sailing with a captain who, she learned after arriving onboard, was a convicted sex offender. There was a group of women who learned that the captain they had been sailing for had been sentenced to six years in jail for rape. And there was repeated concern about the lack of safety measures being implemented by the crewing websites. This echoes the concern of many of the women interviewed for this research, that when they speak up about harassment or abuse, they do not feel heard or taken seriously.

In March 2023, CNN published a report titled "Failed oversight, lax punishments: How the Coast Guard has allowed sexual assault at sea to go unchecked." This report sums up the experiences of Midshipmen X and Y, but also names alleged and convicted sexual predators who have been permitted to continue sailing on their merchant mariner's credential - CNN reporters identified "more than 25 mariners who held credentials after being convicted of sex crimes including rape, sexual battery, sexual assault and child molestation." The U.S. Coast Guard is the agency responsible for the credentialing of merchant mariners in the United States, and for the investigation into any reports of sexual misconduct. "Yet hundreds of pages of the Coast Guard's own records, as well as interviews with shipping company and union officials, current and former government employees and dozens of mariners, show that the Coast Guard has failed to

use its power to prevent and punish sexual assault and misconduct for decades." The CNN article reports that until 2021, many mariners were entirely unaware that they could report incidents directly to the USCG.

These reports serve as a double edged sword for women in the maritime industry. On one hand, reports like this shine a light on the issues around sexual assault, harassment, and discrimination in the industry, which is often the only means of driving meaningful change. On the other hand, reports like this are an added barrier to women entering and staying in the maritime industry, as they are likely to discourage women from pursuing maritime careers.

Physical Facilities at Sea

The facilities onboard a ship, or even in a shipyard, can greatly impact the number of women seafarers. Inadequate or inappropriate facilities can make working conditions unattractive or even hostile for women, leading to a low representation of female workers in the maritime industry. For example, lack of separate, private, and secure sleeping quarters, washroom and shower facilities can create discomfort and security concerns for female seafarers. One woman interviewed related her experience as a marine surveyor. She would "find that at shipyards there are not proper bathroom facilities at the dockside for women, and this can mean that I must walk back to an office building (often more than 1km) to find a bathroom" (Participant L).

From 2013 through 2020, I worked onboard a modern drilling vessel that had a separate changing room for women and designated female toilets. The berthing arrangements are such that I shared a cabin with a male colleague, but our shifts were opposite and so we never occupied the space at the same time. However, even this was not enough. When my vessel was temporarily contracted to the oil and mining giant BHP Billiton, they designated a specific set of

rooms as “female rooms,” and installed cameras in the passageways outside just those rooms, to monitor all persons coming and going. I elected to remain in my own room and was required to sign a waiver to be allowed to do so. There was no discussion about installing cameras in every hallway, and no alternatives were raised in response to this discriminatory treatment.

Seafarers are often required to wear a specific company uniform and safety gear such as boiler suits, safety harnesses, lifejackets, work gloves, and steel toed boots. This equipment is often constructed to fit a generic body - a generic male body. “Women seafarers are particularly affected by this, being both of different stature and shape to the generic body type serviced by most equipment” (International Chamber of Shipping, 2020, p. 24). The Diversity Tracker goes on to mention that for a woman to be able to effectively perform her role onboard a ship, safety protection equipment and work gear must be made to fit, as loose clothing can present a danger of being caught in moving machinery. There are sanitary issues as well, the boiler suits are a single piece jumpsuit designed to accommodate the male body. While a man can urinate from a standing position, women must sit down, which requires unzipping and lowering the boiler suit to the floor every time she uses the restroom. This causes unnecessary exposure to unsanitary surfaces.

A universal issue facing women at sea is access to sanitary items and hygiene products, as well as discreet disposal methods for these products. Ships are often at sea for weeks at a time without a port call, and while in port, seafarers have been restricted to ship in the post-COVID pandemic era. This prevents women from being able to go ashore to obtain the sanitary and hygiene products they may require. When the items are provided by the company, it is often through the ship’s medical officer, which may discourage women from seeking the assistance

they need due to embarrassment or hesitation to report what could be misconstrued as a medical concern.

Women seafarers may use gender-identity management to handle and sometimes avoid confrontation on ships, according to the International Chamber of Shipping Diversity Tracker. This approach is commonly referred to as "being one of the guys." Such strategies can cause women to adopt behaviors or alter appearances, such as their clothing or hair styles, to a style usually associated with a masculine identity. I have personally adopted keeping my hair in a bun, wearing a baseball cap, and not wearing makeup as part of my offshore identity. In picking up my boiler suit for my current role on an offshore drilling rig, the warehouse manager told me that the boiler suit should not fit too tight, because "everyone would be looking" if it was. Women, in joining a "male-dominated area often have to accept a totally new life...as well as a new culture, new jokes, pastimes and values...it is important that women...develop useful coping strategies for these conditions without losing their own identities" (Cars and Osterman, 2015, p. 147). Women are often expected to accept the attitude that ships and offshore platforms are a man's world, where men can act like men, in ways that are often not considered socially acceptable, much less acceptable in a workplace with mixed genders (Mackenzie, 2015, p. 77).

Loneliness and isolation are serious problems affecting seafarers of all genders, and likely contribute to the lack of retention of seafarers. The International Chamber of Shipping Diversity Tracker reports "reduced crewing of vessels, increased working time, stress, long periods at sea and other factors, including language and cultural barriers, contribute to increased isolation and may affect living conditions and mental health issues" (p. 30). Internet connectivity and access to social media is a means to improve mental health, but ships around the world still lack adequate internet and communications. "61% of seafarers indicated access to crew

communications services “most of the time”; 75% stated connectivity affected choice of employer; and 92 % stated it influenced them strongly or very strongly” (p. 30).

The facilities onboard a ship can impact the number of women seafarers by creating a more inclusive and accommodating environment. Adequate living quarters, sanitation facilities, and privacy considerations can make it easier for women to work on board a ship. Additionally, amenities such as gyms, recreational spaces, and access to communication can improve the quality of life for seafarers, including women. Creating a safe and welcoming environment for all seafarers can encourage more women to pursue careers at sea.

Social Roles and Families

For those women who surmount the institutional barriers and seek the training and education to pursue a career at sea, they then run up against cultural barriers to that pursuit, specifically the social expectations of women becoming mothers. These cultural barriers, under which societal pressures and expectations bloom and grow, take the blame for women leaving the industry when they choose to start a family. It is considered unacceptable for women, to a significantly higher degree than men, to be away from the home for periods of time especially when they have children, and motherhood is “listed as the most important factor that results in women leaving a scientific career” (Mackenzie, 2015, p. 72). Indeed, it is often seen as an all-in or all-out situation, with a perception that women in STEM have achieved high level positions by compromising and choosing not to have a family (Mackenzie, 2015, p. 69). One of the women interviewed put it very bluntly, “Get knocked up and get knocked out” (Participant A).

Contrast this with the prevailing attitudes towards men. Having children seems to have no negative impact on male retention, “while men are parents too...studies repeatedly show that women invest more time in children and household duties than do men” (Mackenzie, 2015, p.

72). I grew up in a household with a father in transportation, who worked as a pilot for the airline industry for my entire childhood. He was gone over fifty percent of the time, often working holidays and birthdays, often missing important events. My mother shouldered the load of raising daughters, but this was not considered in any way unusual. In fact, the class and culture I grew up in had many families with fathers working as pilots, and it was an item of pride and status. Now, as an adult woman working in the maritime industry, it is obvious to me that men and women have the same *choices* available to them when it comes to raising a family:

- Choose not to have biological or adopted children at all.
- Choose to leave the industry after starting a family.
- Choose to join the industry when children are older.
- Choose to continue to pursue a seafaring career with children.

However, what I have learned is that the stakes and the *consequences* are perceivably much higher for women. Of those choices, some are clearly not considered to be appropriate or correct for a woman, and she may face social ramifications for it. Of the 24 women interviewed for this research, 23 of 24 reported that the decision to have a family directly impacted or will impact their career choices. Of the 24, seven of those women are actively sailing on their license, and those seven have each made the choice to not have biological children. Statements from others were conclusive: “I wanted to have kids. Didn’t see a way to have a baby and have a career at sea. No paid maternity leave, can’t sail if you are pregnant” (Participant K); “I was 6 months pregnant, even though I couldn’t say that in my statement because Keystone would’ve laid me off” (Participant N); “I chose to stop sailing to have my kids and be home with them while they’re little” (Participant W). When asked if she had to choose between career and family, one woman’s response was simply “100%” (Participant X).

It has been called the “leaky pipeline – the continuous loss of women at consecutive career stages within STEM” (Mackenzie, 2015, p. 69). Upon a review of the Family Medical Leave Act [“FMLA”] in the United States, it is a small wonder. The FMLA requires employers to provide 12 weeks of unpaid leave for birth and care of a newborn; placement with the employee of a child for adoption or foster care; or care for an immediate family member with a serious health condition (Wage and Hour Division). An article from Forbes reports that the United States ranks dead last in the world, according to a UNICEF study, when it comes to paid leave available to mothers and fathers (Ferrante, 2019). Therefore, due to responsibilities within “expected gender roles...many women seafarers, as discussed earlier, tend to quit their jobs when they have children” (Kitada, 2015, p. 120). Of the 24 women interviewed, 16 reported having a family (either spouse or children), and each of those 16 women had transitioned to shoreside employment. Six of 24 women report plans to have children someday and feel as though they will have to choose between going to sea and having children.

The United States Coast Guard (USCG) does not offer specific guidance for merchant mariners on maternity leave. The USCG regulates and oversees the maritime industry, including the licensing and certification of merchant mariners, but does not have a role in determining leave policies for individual maritime companies.

Parental leave policies, including maternity leave, are typically determined by individual maritime companies and are subject to applicable federal and state laws, such as the FMLA. Individual maritime companies may offer their own leave policies, which may include maternity leave, and it is important for mariners to understand their rights and benefits under these policies. Several of the women interviewed for this research reported having unclear maternity leave policies. One woman reported that her company’s employee handbook clearly outlined the

paternal leave policy, but under maternal leave it simply stated to request further information from HR. Another woman stated, “I was always too afraid to ask about maternity rights in case my employer saw it as a red flag or felt I was unable to have those conversations with senior managers” (Participant J).

The American Maritime Organization, the largest union of maritime officers in the United States, maintains a policy of granting time off without pay for maternity leave. The employee is required to submit a written request for maternity leave, submit a written doctor’s statement including the expected delivery date, and notify AMO of the expected duration of the maternity leave. AMO does permit the employee to continue working, if physically fit to do so, until their delivery date. The employee may also request transfer to a less strenuous or hazardous position. After the birth of a child, the maximum length of (unpaid) maternity leave is 12 weeks, and if further time is needed, it is considered disability leave. AMO does guarantee that the employee’s employment rights will be preserved, including pay increases, vacations, and other accrued benefits, as well as reinstatement to a position with the same seniority, status, and pay. (American Maritime Organization, pp. 16-17).

In cases where women elect to pursue the difficult road of maintaining their seafaring career while also raising a family, they find themselves marginalized, even penalized for this choice. The nature of the work in shipping and offshore requires distance from home, which cannot be changed. Many women seafarers “see it would be the most reasonable alternative...to switch their jobs from a ship-based to shore-based work” (Kitada, 2015, p. 119). Companies could and should offer other opportunities to women. “While a woman raises her family, she may be able to work in a shore-based role and should be given every opportunity to do so”, states Bev Mackenzie (p. 76). This exact scenario played out aboard my drilling vessel in 2019, when a

female deck officer became pregnant. Her doctor cleared her to return to work, but the company elected to remove her from the vessel, citing a maternity policy that had not been distributed to the fleet. This woman requested to work inside the office during her pregnancy, and this was denied. In fact, the company's initial reaction was to tell her that they would be happy to offer her job back postpartum, but in effect they would need her to resign until then. She pushed back on the legality of this, leading the company to ultimately offer her disability leave instead. With the initial option of forced resignation, it is abundantly clear why women struggle to find equal footing with men in the maritime industry.

Women are often not offered the same opportunities as men in the maritime industry due to various factors such as gender bias, stereotypes, and limited representation. Women may face discrimination during recruitment and promotions, and their abilities may be underestimated or undervalued. Women may also be excluded from certain job roles, such as in the deck and engineering departments, which are often considered more physically demanding and therefore not suitable for women, despite their qualifications and capabilities. Moreover, the lack of female role models in the industry can further discourage women from pursuing careers at sea. When women make the choice to have children, the system appears largely unprepared to support them through pregnancy and caregiving while continuing their career. These systemic barriers can prevent women from accessing equal opportunities, which can hinder their professional growth and limit the diversity of the maritime workforce.

Changing the Face of Maritime

Presenting problems without solutions is simply complaining. How should the maritime industry implement gender equality? The first step is getting more women into the industry, as

the “under-representation of women in itself is a barrier to progression” (Mackenzie, 2015, p. 73). One of the women interviewed points out that “However many women you think you are hiring is not enough. Hire more, and in positions of leadership” (Participant C).

The Global Maritime Forum presents an article in which young professionals identified six areas for improvement in the maritime industry. The six areas are “diversity, clarification of the purpose and values in the industry, creating more flexibility in maritime workplaces, making sure the industry is more inclusive to all, ensuring decent working conditions, and, last but not least, shaping and visualizing stronger long-term career prospects including transitions between sea and shore” (2022). These six improvement areas have the potential to directly impact gender equality, as they are the very same areas that women in the industry have highlighted.

Women who find themselves as the only one onboard a ship may experience exacerbated situations of gender bias, and having more than one woman on board could help. Having more women in higher responsibility levels is crucial to balancing the inequality as well. There are many younger women working at lower levels in the industry, and “they do not tend to have any women in the chain of command above them. When they look upwards...they see an all-male line” (Mackenzie, 2015, p. 76). “The top paying ships in my union have no women in senior management positions…there are no women in union leadership positions either” (Participant A).

The International Chamber of Shipping Diversity Tracker reports that women seafarers are often relegated to roles in the hotel and catering divisions. Onboard my current vessel, there is one woman in a managerial role, one woman in a technical role, and the remaining nine are in administrative or catering roles. Creating awareness of other seafaring roles is key in promoting access to other positions. Additionally, women seafarers often face doubts over their abilities and

competences to perform physically demanding tasks, despite technological developments leading to less physical labor for all seafarers, as automated systems replace tasks previously deemed physically strenuous (p. 29).

Representation matters, women working in the industry need to see role models, who "include women who are juggling a career in STEM with...work-life balance" (Mackenzie, 2015, p. 78). Role models and mentors can relieve the sense of isolation women in professional fields find themselves facing. Women working with other women offers the advantage of practical support on operational issues, as well as combatting the problems women face regarding promotion opportunities. "Invest in training and leadership opportunities for women…and stop using all-male led leadership classes" (Participant C).

In other sector areas it is becoming increasingly clear that development goals will not be met unless the needs and priorities of all stakeholders are identified and addressed, for example in the transport or health sectors. Even in areas where gender perspectives were normally considered irrelevant, such as trade and macroeconomics, it is increasingly recognized that sound developments must be based on a clear assessment of the contributions of women as well as men and the potential impact of planned interventions on both women and men and on their productivity. There has been a steady accumulation of evidence that gender differences and inequalities directly and indirectly affect the impact of development strategies and hence the achievement of overall development goals. (United Nations, n.d.).

Expand Maritime Education

Attracting young people into the maritime industry is a priority for not only reducing the gender gap, but for meeting the increasing demand for seafarers. Maritime academies and the

maritime industry should be taking steps to increase the number of students, particularly female students.

METs should utilize outreach and awareness, including embracing the use of social media. Social media is a tool that can be utilized to excite and engage young men and women about seafaring as a career choice. Marketing campaigns, school visits, career fairs, and partnerships with organizations that advocate for women in STEM fields should be utilized to spread awareness about the maritime industry and the opportunities it offers to women. One such organization is WISTA, the Women's International Shipping and Trading Association, whose mission is "to facilitate the exchange of contacts, information and experiences amongst our members, promote the education of our members, and to develop business contacts around the world" (Orsel, 2015, p. 229).

Programs like WISTA can provide access to mentorship and networking. METs should provide mentorship and networking opportunities for female students to connect with successful women in the maritime industry and receive guidance and support. Financial assistance for membership fees could encourage young women to participate in these organizations, where they have increased opportunity to find support from other women in the industry.

Offer scholarships and financial aid programs specifically for female students to make maritime education more accessible. It is an established fact that women and girls do not have the same access to education as men and boys do. Emmaline Soken-Huberty reports on Human Rights Careers that 25% of women between the ages of 15-24 will not finish primary school, and of all the illiterate people in the world, 65% are women. Part of the gap is that of financial freedom, the ability to access financial aid, through loans, scholarships or grants can close the gap.

Create a supportive and inclusive environment. Encourage a culture of diversity and inclusion and ensure that the campus environment is safe and welcoming for female students. This can include things like offering gender-neutral restrooms, or hosting events and workshops focused on gender equality. For uniformed maritime institutions, such as the United States maritime academies, women should have access to uniforms that fit properly. The academy should have a proper selection of sizes and should carry uniform items for each gender. 18 of the 24 women interviewed in this research attended a maritime academy. When asked if they felt discriminated against during their tenure at their respective academies, fourteen of those women answered yes. “I felt like I stood out (Participant A); “it was…a juvenile locker-room mentality thing” (Participant E); “

Consider offering flexible learning options such as online courses or part-time programs, to make it easier for female students to balance their education with other responsibilities. Due to traditional social roles, women are often the caregivers in a family, whether of children or adults. The ability to complete an educational program part-time, offering alternative housing options, and distance learning could reduce the gender gaps.

Maritime could learn from the mining industry, another traditionally male dominated field, which has adopted the practice of pre-education, making young female students aware during their early education of the existence of vocational opportunities. Education can help build a career: if a young woman visualizes herself as the captain of a ship before she enters higher educational fields, then she has a better chance of success. “Education gives women the tools they need to overcome the counter-weights imposed on them by society...education is the key to entering the global maritime industry, especially at higher responsibility levels” (Baya, 2015, p. 171).

By taking these steps, maritime academies can create a more inclusive and supportive environment for female students and help to increase their enrollment.

Expand Physical Facilities at Sea

Conversation around the gender gap in the maritime and offshore industry must include modernization and a shift in mindset of the companies themselves. Expanded facilities onboard ships and platforms, to improve the quality of life at sea for all seafarers, which could increase the number of women entering the sector. “Things like better access to the internet, personal protective equipment which fits different shapes and sizes of people” appear to be minor issues, but they have cascading effects on quality of life (Berti, 2019).

Connectivity should be a top priority for improving crew welfare onboard ships. “Make it easier to stay in touch with home while at sea. Text-only email in the age of video calls is an insult. Especially for women missing children, pictures and video are crucial to not feeling isolated and guilty about being gone” (Participant N).

Company uniforms and personal protective equipment [“PPE”] that fit properly is a common concern for women in maritime. I bought my own steel-toed boots when I joined the offshore industry, because the smallest size available was a men’s size seven, while I wear a men’s five and a half. Women’s sizing was, and is, not even available through the inventory system. “Make it easier for women to be at sea - provide PPE that fits” (Participant K). There are companies that provide women specific workwear, with cuts and sizing that are specific to a female body. However, many maritime organizations have established contracts with large scale uniform and safety providers, which supply on economy of scale. These organizations should take the extra step of contracting with providers who offer women’s uniforms and PPE and remove that potential cost burden from the employee.

"Sanitary wear should be free and available on board; garbage management plan should include guidance for safe disposal" (Participant K). Maritime organizations should take female health into consideration for stores, and maintain an inventory of female sanitary supplies onboard, with easy access for the women seafarers. Garbage management plans and garbage segregation plans should provide guidance for disposal of sanitary products. Most ships have signage indicating proper disposal of all recyclable waste and provide specific color-coded waste bins for different categories of garbage. On my current ship, the toilets were each fitted with a waste bin for paper products only, which was considered to be the only waste produced in a toilet. It was not until my assignment to the ship in a managerial role that a change was affected to include common waste disposal bins in the toilets for female sanitary products.

These changes might seem insignificant, but as one of the women interviewed pointed out, "None of these things are hard, they just don't get thought about by men" (Participant K).

Company policies to enhance inclusion

A retraining of the workforce to accept and rise above the differences in gender is necessary to bring about equality in the industry. Inequality goes so far as the language used in the maritime field, consider how "language in the sector is heavily male-dominated and we talk about 'unmanned ships' and 'seaman' etc" (Berti, 2019). Progressive and gender-neutral language should be promoted whenever possible, such as seafarer instead of seaman.

One company, BP, has implemented required training, "including one that teaches employees how to transcend issues arising from differences in gender or culture" (Mackenzie, 2015, p. 78). Further training in diversity, equity, and inclusion is necessary to help employees and employers around the world work towards creating a positive culture. "Regular DEI training for both shore and vessel personnel including scenarios and workshops relevant to onboard

examples…workshops between shore management and female seafarers to facilitate greater understanding and target initiatives better" (Participant D).

The International Maritime Organization acknowledges the importance of policymaking in gender equality efforts, and so designated the theme of World Maritime Day in 2019 to "Empowering Women in the Maritime Community." The IMO, in line with the United Nations, recognizes gender equality as a key to a sustainable future, and established a Women in Maritime program. "IMO supports gender equality and the empowerment of women through gender specific fellowships; by facilitating access to high-level technical training for women in the maritime sector in developing countries; and creating the environment in which women are identified and selected for career development opportunities in maritime administrations, ports and maritime training institutes" ("Women in Maritime", 2012).

The IMO establishes international conventions and establishes resolutions for increasing the number of women in maritime, but they have no ability to impose regulations or standards on vessel operators. It is incumbent on maritime organizations at the national (flag state and port state) level and at the vessel operator level to establish Codes of Conduct that sets standards and includes clear anti-harassment and anti-bullying policies to protect underrepresented people at sea. Harassment onboard ships is a real and present threat to the continued performance of the maritime industry, and we must teach men and women how to deal with it in the workplace. "We can only create a zero-tolerance to harassment workplace by identifying the existing aggressions and microaggressions" (Participant U).

Parental Leave Policies

Discussions around the pregnancy of women seafarers yields a consistent response from the women at sea: "I think there needs to be a very clear maternity plan. Had we not moved, I

would have been working still when I got pregnant. I have NO CLUE what would have happened. I should have known upfront what the plan would have been" (Participant W). Vessel operators must have a clear maternity plan in place and visible to employees without the employee having to request it. "I was always too afraid to ask about maternity rights in case my employer saw it as a red flag" (Participant J).

Access to maternity protection and measures which enable seafarers to balance work and family responsibilities would make great strides in promoting gender equality. "I would (and do) recommend female seafarer friendly policies from the outset and not when needed, such as policies for reassigned work for female seafarers when pregnant or during breastfeeding" (Participant D). A woman seafarer would feel a greater degree of job security with pregnancy and maternity protection such as job access; wage and benefits maintenance during maternity leave; and no fear of losing her job if she chose to have a baby. Additionally, maternity protection and childcare provisions enable all seafarers to have families and remain in work. "I would have felt more supported if the company had a transparent maternity policy with support for flexible return to work, either in shoreside or seagoing roles. The opportunity to job share with other seafarers is key. This applies to both seagoing and shoreside." (Participant J).

To increase the retention of women seafarers, Maersk introduced new maternity benefits in 2016, including a global guaranteed minimum of 18 weeks' maternity leave on full pay, subject to local workforce regulations; a "Return to Work" program giving women a smoother transition back to work through working fewer hours a year post childbirth or adoption at full contractual pay; and a week's paternity leave. Maersk's policy considers factors closely linked to reentering the workforce and include not being downgraded from a certain post, flexible working

arrangements and having full opportunities for training (International Chamber of Shipping, 2020, p. 30).

The International Chamber of Shipping Diversity Tracker reports that in some instances, pregnant women and those returning from paternity, maternity or parental leave experienced harassment from co-workers, subordinates, or superiors. Robust policies and sensitivity training around harassment must be put in place to protect new parents returning from leave. Maritime organizations should ensure that employees know "if they choose to have a family, guarantee that they will have a position when they return from leave" (Participant S).

Maternity policies are a point of contention for many vessel operators. With the small number of women in the seafaring workforce, they often do not see it as being worthwhile to offer a robust maternity policy beyond the minimum required by law. The reasoning provided by Noble Corporation's HR Director was that for any one woman who is reassigned to a shoreside position during her pregnancy, that is an extra salary that must be paid to the person who is back-filling for her on the rig. She also observed that there seem to be so few women who actually want to continue working at sea while also raising a family that many companies just have not tackled the problem yet. But with the desire to increase the number of women at sea, this research concludes that robust and transparent maternity policies are necessary.

Mentorship

"I would also advise them to find a mentor and begin their leadership journey and continue to read and learn about leadership. I would also advise them to always stand up for themselves and be willing to self-advocate. A mentor both onboard the vessel and one that they can turn to who understands what they are going through is important" (Participant I). Mentoring programs, whether through a company or an independent organization, are a valuable tool in the

work towards closing the gender gap in maritime. A good mentor is an experienced person in the field, who offers help and advice, as well as access to their knowledge and experience. Giving women the opportunity to connect with a mentor, whether that mentor be male or female, can be crucial to their ability and desire to advance within an organization.

A challenge to a robust mentorship program, as observed in "How to Cope with Second-Generation Gender Bias in Male-Dominated Occupations" is that mentors "tend to choose people resembling themselves. This may put the women in a disadvantageous position in male-dominated organizations, as there are not a lot of women in top positions" (Ozdemir and Albayrak, 2015, p. 222). The advice from the women interviewed for this research seems to echo that challenge, as the onus is placed on the woman to "Create professional relationships, ask questions and find mentors" (Participant F), and "Seek out an experienced 'mentor,' establish trust, and do not sacrifice" (Participant H). It has been my own experience that finding a mentor within my own organization has been virtually impossible, as I am the most senior woman working in the offshore sector.

Ozdemir and Albayrak go on to suggest that participative leadership in mentoring groups may be a solution to the mentorship challenge in these male-dominated organizations. The model suggested in their paper is that of a mentorship group consisting of three people, two of which can be men, guided by a higher-level leader. The group should have a structured progression, in which they are given projects and assignments to work together in closer cooperation than day-to-day work. "The goal of this team will not only be a mentor-mentee relationship, but also helping the mentees overcoming the second-generation gender bias" (2015, p. 224).

The "implementation of a buddy/mentoring system for women in maritime" (Participant D), has the potential to break the cycle: gender bias against women as managers serves to restrict

women's access to those management roles, which shuts them out from opportunities to show managerial responsibility and develop further as leaders. Mentorship programs give women the visibility they need for upward mobility and should be led by maritime organizations from the top down.

Remove Predators from the Seas

"Don't deliberately put female seafarers on ships with known harassers who already have multiple complaints against them" (Participant Q). While this single sentence appears to have a self-evident meaning, it is one that has gone largely unheeded in the United States. The same woman's advice to a young woman considering the maritime industry as a career was "Learn self-defense and plan how you'll deal with different types of harassment and assault onboard… Lock your cabin door." As CNN reported in February 2022, a mariner who was also a convicted sex offender states that "it would be unfair to bar all sex offenders from the industry" and expressed confusion at why his conviction and his mariner's credential were related. The article also refers to mariners who were allowed to keep the mariner's credentials through settlements with the USCG, despite convictions for rape, sexual assault, and other offenses. It is a disturbing prospect to consider boarding a ship, which is a floating workplace where employees both live and work for months at a time, isolated from family and friends, with a convicted sex offender.

Even in cases where a victim reports an assault to an employer and the mariner is suspended or fired, as was the case with Hope Hicks' assailant, that same mariner can obtain another job on a different ship within the same union. Disconnection and unclear lines of communication between the USCG, employers, and maritime unions can lead to accused, or even convicted, mariners continuing to work.

On February 28, 2022, the U.S. Congress introduced the “Safer Seas Act,” H.R. 6866, in a bill to address sexual assault and sexual harassment in the U.S. maritime industry. This is the first bill of its kind, and its provisions are laid out here:

- requires the U.S. Coast Guard to revoke or suspend a license, certificate of registry, or merchant mariner's document to an individual who has been convicted of sexual assault within the previous 10 years and to revoke or suspend such credentials to an individual who has been convicted of sexual harassment within the previous 5 years;
- provides protection of seaman against discrimination for those who report or intend to report sexual assault or sexual harassment incidents;
- directs the Coast Guard to promulgate regulations related to possession and consumption of alcohol by crewmembers aboard documented vessels;
- requires non-passenger carrying, ocean-going, commercial vessels to install and maintain a video surveillance system with audio capability in areas adjacent to bedrooms and limit access to the surveillance to law enforcement officials and victims of sexual assault or sexual harassment; and
- creates new reporting mandates and procedures for crew and vessel owners to report sexual assault or sexual harassment.

One action that many mariners, particularly women mariners, feel is a necessary step is that of temporarily suspending the credentials of any mariner accused of sexual misconduct while investigations are ongoing. The USCG has such a policy in place for drug and alcohol cases, which they pursue with vigilance, but not for sexual misconduct.

Robust regulatory oversight and investigative processes that remove predators from the seas would make them safer for everyone. The knowledge that there is an investigative agency that will follow up on reports of sexual misconduct paves the way for better reporting.

Safe Reporting for Harassment and Discrimination

Companies, unions, and compliance organizations (such as the U.S. Coast Guard) must provide mandatory, safe, and confidential means for reporting incidents. From the interviews conducted in this research, it is clear that while many reporting systems exist, discrimination, bullying, harassment, and assault are still occurring with alarming regularity in the maritime industry. An issue identified within the unique command structure of a ship is that a mariner is put in the position of making a report of harassment or discrimination to their captain or chief engineer, who may be the perpetrator, or in the often tight-knit community of shipping, be friendly with the perpetrator. Many women do not see reporting onboard as an option, for fear of not being believed or for being retaliated against for reporting. “When someone reports harassment or assault, assume it’s true and don’t just pass the report straight on to the captain while the ship’s still at sea, as the victim/target is still in danger from the perpetrator” (Participant Q).

It is important for there to be an independent means of reporting, one that is fully confidential. “There needs to be a way for employees to raise issues without fear of or actual negative consequences” (Participant F). And upon receiving a report, “Human Resource departments need to have workers with a backbone. That actually protects and enforces policies created by their company to protect women’s rights, not ignore, victim blame and dismiss women who raise issues of harassment and inequality in the workplace” (Participant B). For

retention of women in the maritime workforce, a transparent communication structure, with two-way trust and support is critical.

Active Check-ins with Women at Sea

Maritime organizations can develop that trust and support through active-check in programs with women mariners. A woman captain suggested in her interview that companies "Create a safe space for women to provide honest and open feedback. Discuss the long-term plans and the need to support them if they would like to pursue a career. Check-in…every six months. If an organization really wants to support female mariners, they will start a program that does a check in with them. HR needs to create a safe space" (Participant I).

In interviewing the director of DEI at Maersk Drilling, she explained that Maersk Lines, the container shipping fleet, has established a check-in program with their female seafarers. After every trip onboard, the women would be contacted within a certain number of days by Human Resources with a set selection of questions to verify that they felt safe and supported during their time onboard.

Maersk Supply Service, the offshore supply vessel sector of Maersk, established internal resources for its 3% female workforce by creating a private online channel or forum for them. "They will be able to use the internal channel to build their network and communicate…to share inspirational stories, motivate each other and share the challenges of offshore work and how to navigate them best" (Virginio, 2021).

In their efforts to prevent another Midshipman X or Y incident, the Maritime Administration of the United States has established new standards for cadet shipping that maritime organizations must comply with to be permitted to bring cadets onboard. These standards are known as EMBARC, or Every Mariner Builds a Respectful Culture. One of the

requirements in EMBARC is that every vessel operator must designate a Sexual Assault/Sexual Harassment (SASH) contact onshore who has completed Victim Assistance Training. The vessel operator is required to confirm that cadets will have a meeting virtually or in person with the SASH contact prior to joining a ship or within 48 hours of joining. They are also required to provide adequate communication means for the cadets and SASH contact to connect within seven days of boarding, and every fourteen days while the cadet is onboard. The SASH contact is required to "encourage and honor requests from cadets for increased frequency of check-ins" (U.S. Maritime Administration, 2015).

Maintaining proactive communication with women seafarers offers feelings of safety and visibility for them, in an industry where it is easy to be overlooked.

Men's Role in Equality

In the maritime industry, where 98% of the seafaring workforce is male, equality cannot be achieved without active participation from men. An article from MenEngage highlights a study done by UNFPA where a majority of men believe there should be more women in leadership, while two-thirds of them agree that women face major barriers in their chosen professions. But those men are not taking the necessary steps to reduce the gender gap.

It is men who must advocate for gender-equitable policies in the workplace. Pay transparency, parental leave, and robust policies around discrimination and harassment need voiced support from men, not simply women. The UNFPA study showed that 77% of men believe they are doing everything they can to reduce the gender gap, while only 41% of women agreed with that assessment.

Sexism and implicit biases held by men must be challenged by other men. Bystander intervention is a powerful weapon in the fight for gender equality. On a ship with only one

woman onboard, if she feels that she has allies against chauvinist treatment, she will be that much more likely to return for another voyage.

The barrier of pregnancy and childcare is one of the largest hindering women remaining and advancing in the maritime industry. Men should advocate for work-life balance measures, including paid parental leave. Partners and co-parents who are willing to take on a full share of household labor and childcare are helping to close the gender gap by making those responsibilities proportionate between men and women.

Support of women leaders within organizations requires the support of the men they work with. Talent must be recognized by existing leaders, who are predominantly men, and developed. Men must use their influence and resources to help women where they need to be helped.

Women in male-dominated fields are often lauded for their bias breaking work, and encouraged to be confident in the face of underrepresentation, to lean into challenges. It is not women who need to change, though, it is the system they are working within. Gender imbalance is not women's problem to solve. Forbes reported in 2023 that women now comprise 10% of the Fortune 500 CEOs. This means that 90% of major corporations are being led by men, and they have the power to set the standard for inclusion.

Changes in the maritime industry are vital to closing the gender gap. Hiring more women and supporting them through their careers to leadership positions is a necessity to changing the overall face of maritime. Forbes reports that women’s presence in company leadership has cascading effects in helping to dismantle the stereotypes that hold women back. Women are more likely to hire women, leading to better representation throughout an organization. Expanding maritime education to include young women is critical to achieving the goal of hiring more women. Once they have been hired, providing them with a safe and comfortable

workplace, free of harassment and discrimination is crucial. Robust maternity and return to work policies that are transparent from the beginning are a means of retaining female seafarers. The maritime industry stands to benefit from 50% of the world's population joining the seafaring workforce.

Conclusions

Importance of Equality in Maritime

Gender equality is not only a fundamental human right, but a necessary foundation for a peaceful, prosperous, and sustainable future. Eradicating gender issues means a world where women and men, girls and boys all enjoy equal rights, resources, opportunities, and protections. Promoting gender equality is also central to ensuring child protection and the fulfillment of child rights, as abuse, neglect, violence against women and exploitation both reflect and reinforce gender inequalities (Save the Children, n.d.). History suggests that when we fight gender oppression, societies are more stable, safe, and prosperous, with happier, better educated citizens.

Society is further stabilized through adequate trade, and 80% of the world's trade is by sea. Globalization levels new challenges at the maritime sector, and it will take both men and women rising to the occasion, if the world's goods and fuel are to be carried in a safe, efficient, and clean manner (Tansey, 2015, p. 18). Women are ready to rise to the occasion, as trends show more women than ever working outside the home to meet the demands of a rising cost of living and rising cost of childcare, as well as in pursuit of financial and social independence. A global shortage of seafarers is predicted, particularly of qualified maritime officers, which calls for addressing the factors that keep people at sea and those that cause mariners to leave the industry

prematurely. 50% of the world's population is female, yet women still only comprise 1-2% of the global seafaring workforce, which highlights the importance of equality in maritime: every resource must be explored and utilized.

Studies "confirmed that when women are appointed into male-dominated groups, they bring with them specialized knowledge skills...women could break the barriers and contribute in specific areas of the shipping companies" (Pastra et al., 2015, p. 50). There are economic advantages to bringing women onboard as well: positive relationships have been found between the percentage of women on the boards of U.S. firms and both return on assets and on investment (Pastra et al., 2015, p. 40).

Barriers to Equality in Maritime

The barriers to equality in maritime are both structural and social. There are barriers to women entering the maritime workforce, and even more to retaining women and supporting them to achieve managerial roles.

Barriers to entering the maritime workforce lie within the education system, social acceptance of women in seafaring roles, and maritime hiring practices. Gender bias is a major factor in these barriers.

Barriers to retention of women in maritime are discrimination, harassment, physical facilities on ships, and the roles of women in society and their families.

Changing the Face of Maritime

To change the face of maritime and increase the representation of women in seafaring roles, these barriers to entry and retention of women in maritime must be dismantled. Recommendations from literature review and from women working in the industry have been presented in this research. The International Chamber of Shipping Diversity Tracker shares data

from one of the world's largest shipping lines, which has a 98% retention rate of its seafarers, which they attribute to five factors:

- For all seafarers: training and professional development courses; leadership development, team building, and cultural training for senior crew
- Decent onboard working conditions
- Management/employer communication to crew providing opportunities for feedback
- Long-term, stable employment opportunities
- Wages paid on time

These five factors are a starting point for not just retention of seafarers, but of women seafarers.

Decent onboard working conditions should develop into expanded physical facilities onboard ships to create a more inclusive space for women. This includes safe and secure rooms and bathroom facilities, company uniforms and safety gear that fits their bodies, and safe and discreet means of disposing of feminine sanitary items would contribute to women's comfort and equity onboard vessels.

Development courses and cultural training translates to company policies for diversity, equity, and inclusion. This includes gender sensitivity training with a focus on removing secondary biases around women in the maritime workforce.

Long term stable employment opportunities should include parental leave policies that are transparent, accessible, and supportive of women through pregnancy and childcare and their return to work. Programs should be established for providing shoreside opportunities for new parents or caregivers, during pregnancy and in early childcare.

Protection of women at sea through robust mentorship programs, active steps to remove sexual predators from shipboard work, a safe and secure system to report harassment and discrimination, and a system for actively checking in with women seafarers. These are tangible actions, and government policies have already begun to shift towards the protection of all mariners, not just women. The Safer Seas Act and EMBARC program for USMMA cadets are policy guides towards a safe workplace that is free from harassment and discrimination.

Why Right Now is the Right Time for Action

The shift in policy guidance in the United States, and the increase in press interest in the maritime industry, make now the right time for companies to take robust action in response to documented cases of harassment and discrimination. This research presents the importance of more women in maritime, and more women in managerial roles, as a major step towards equity and inclusion in the industry. Taking steps to remove the structural barriers women face in choosing and maintaining a seafaring career would have cascading impacts on attracting women to maritime and retaining them through their careers, which in turn would have cascading impacts on the cultural barriers. Now is the time for policy makers, for vessel operators, and for the maritime academies to take notice of the importance of women in the industry, and to make it a more accessible, equitable and inclusive place for them to pursue a career.

Conclusion

Gender equality does not have to remain on the horizon. By making educational opportunities available, by breaking down cultural and institutional barriers, by men stepping up to support women both professionally and at home, women can and will take the helm. If companies promote women to managerial levels, providing role models and mentors for younger women, the balance will begin to tip. The days of women disguising themselves as men to go to

sea, or only working aboard a ship because their husband did are over. Women already serve in all capacities, from hospitality workers to captains to executives. The world's largest container shipping company, Maersk Line, has a woman as its deputy chairman and a major stakeholder. Now it is time for those numbers to increase, to see entire crews of women, such as the polar research vessel SA Agulhas, which completed a voyage in 2010 with an entirely female crew ("Women in Maritime," 2012). Supreme Court Justice Ruth Bader Ginsburg is famous for answering the question of when there would be enough women on the Supreme Court by replying "when there are nine". In an industry that has always been dominated by men, when will there be enough women? When it is equally likely to walk onboard a ship and find it entirely crewed by women as it historically has been for men.

References

Amon, D.J., Filander, Z., Harris, L., Harden-Davies, H. (2022, January 20). Safe working environments are key to improving inclusion in open-ocean, deep-ocean, and high-seas science. *Marine Policy, Volume 137*, 2022, 104947, ISSN 0308-597X. https://doi.org/10.1016/j.marpol.2021.104947

Baudet, Marie-Beatrice and Bouisson, Julien. (2022, June 29). *In the very masculine world of the merchant navy, cases of harassment and sexual violence are slowly emerging*. Le Monde. https://www.maritimelegalaid.com/foia/le-monde-in-the-very-masculine-world-of-the-merchant-navy-cases-of-harassment-and-sexual-violence-are-slowly-emerging

Baya, Wilson Thoya. "Education for Career-Building: How Women in the Maritime Industry Can Use Education to Improve Knowledge, Skills, Organizational Learning and Development, and Knowledge Transfer." In M. Kitada, E. Williams, and L. Froholdt (Eds.), *Maritime Women: Global Leadership* (pp. 167-178). World Maritime University.

Berti, Adele. (2019, October 15). *Roundtable: the women fighting for equality in maritime*. Ship Technology. www.ship-technology.com/features/women-in-maritime/

Brady, Jeff. (2017, November 5). *Big Oil Has a Diversity Problem*. NPR. www.npr.org/2017/11/05/553969144/big-oil-has-a-diversity-problem

California State University Maritime Academy (2019, October 24). *Six-Year Enrollment Summary.* [Data Set]. Institutional Research. https://www.csum.edu/ir/media/2014-2019-six-year-enrollment-summary.pdf

Cars, Maria Bostrom and Osterman, Cecilia. "Mind the Gap! Maritime Education for Gender-Equal Career Advancement." In M. Kitada, E. Williams, and L. Froholdt (Eds.), *Maritime Women: Global Leadership* (p. 147). World Maritime University.

Duncan, Ian. (2021, October 14.) *A Merchant marine academy cadet says she was raped at sea. Her story has Washington looking for answers*. Washington Post. https://www.washingtonpost.com/transportation/2021/10/14/merchant-marine-assault-investigation/

Ellis, B. and Hicken, M. (2021, October 12). *'I was trapped': Shipping giant investigates alleged rape of 19-year-old during federal training program*. CNN. https://www.cnn.com/2021/10/11/business/maersk-rape-investigation-merchant-marine/index.html

Ellis, B. and Hicken, M. (2022, June 15). *Two students sue shipping giant Maersk, alleging sexual assault and harassment*. CNN. https://www.cnn.com/2022/06/15/business/maersk-rape-lawsuits-students-invs/index.html

Ellis, B. and Hicken, M. (2023, March 16). *Failed oversight, lax punishments: How the Coast Guard has allowed sexual assault at sea to go unchecked*. CNN. https://www.cnn.com/2023/03/16/us/coast-guard-rape-investigations-invs/index.html

Eltin, Liz. (2023, January 27). *New Year, New Glass Heights: Women Now Comprise 10% of Top U.S. Corporation CEOs*. Forbes. https://www.forbes.com/sites/lizelting/2023/01/27/new-year-new-glass-heights-for-the-first-time-in-history-over-10-of-fortune-500-ceos-are-women/?sh=2f2e1d20e77f

Ferrante, Mary Beth. (2019, June 21). *Unicef Study Confirms: The U.S. Ranks Last for Family-Friendly Policies.* Forbes. www.forbes.com/sites/marybethferrante/2019/06/21/unicef-study-confirms-the-u-s-ranks-last-for-family-friendly-policies/#4c18b0333ba1

Gillespie, Eden. (2023, January 22). *Stranded at sea: amateur female sailors speak of sexual abuse by captains they met online.* The Guardian.

https://www.theguardian.com/society/2023/jan/23/stranded-at-sea-amateur-female-sailors-speak-of-sexual-abuse-by-captains-they-met-online

Global Maritime Forum. (2022, September 22). *Young maritime professionals identify six areas for improvement to make the maritime industry more attractive.* https://www.globalmaritimeforum.org/press/young-maritime-professionals-identify-six-areas-for-improvement-to-make-the-maritime-industry-more-attractive

Ibarra, H., Ely, R.J., and Kolb, D. (2013, August 21). *Educate everyone about second-generation gender bias*. Harvard Business Review. https://hbr.org/2013/08/educate-everyone-about-second

I was a 19-year-old-virgin when I was raped by a 60+ year-old 1st engineer aboard a Maersk ship during sea year. I know several other current USMMA students who were also raped during sea year. (n.d.) M.L.A.A. Retrieved January, 2023, from https://www.maritimelegalaid.com/blog/i-was-raped-aboard-a-maersk-ship-during-sea-year

International Chamber of Shipping (2020, November). *International Chamber of Shipping Diversity Tracker.* https://www.ics-shipping.org/wp-content/uploads/2020/11/ICS-Diversity-Tracker.pdf

International Transportation Federation. (n.d.) *Women Seafarers.* ITF Seafarers. www.itfseafarers.org/en/issues/women-seafarers

Kitada, Momoko. “Absent Mother Sailors: How Possible is it to Do the Impossible?” In M. Kitada, E. Williams, and L. Froholdt (Eds.), *Maritime Women: Global Leadership* (pp. 113-120). World Maritime University.

Konrad, John. (2021, October 10). *Rape at Sea - An Open Letter to Midshipman X*. gCaptain. https://gcaptain.com/rape-usmma-midshipman-x/

Lopez, Robert J. and Shalby, Collen. (2022, December 13). *"Always have a knife with you": Women and trans students fear harassment, hate at CSU campus*. LA Times. https://www.latimes.com/california/story/2022-12-13/csu-maritime-academy-women-trans-nonbinary-harassment

Mackenzie, Bev. "The 'Leaky Pipeline': Examining and Addressing the Loss of Women at Consecutive Career Stages in Marine Engineering, Science and Technology." In M. Kitada, E. Williams, and L. Froholdt (Eds.), *Maritime Women: Global Leadership* (pp. 69-78). World Maritime University.

Maersk Tankers. (2022, August 2). *Maersk tankers to offer 24 weeks' paid parental leave to new parents.* https://maersktankers.com/newsroom/maersk-tankers-to-offer-24-weeks-paid-parental-leave-to-new-parents

Maritime College State University of New York. (2022). *SUNY Maritime College Fast Facts.* [Data set]. https://www.sunymaritime.edu/sites/default/files/2022-11/FastFact2022.pdf

Massachusetts Maritime Academy (2021). *Key Data Elements and Indicators Report*. [Data set]. MMA Office of Institutional Effectiveness https://drive.google.com/file/d/1422RKdyRJH3tWzld7HwOKuZcddNcxWt5/view

Ozdemir, P., and Albayrak, T. "How to Cope with Second-Generation Gender Bias in Male-Dominated Occupations." In M. Kitada, E. Williams, and L. Froholdt (Eds.), *Maritime Women: Global Leadership* (pp. 217-227). World Maritime University.

Safer Seas Act, H.R. 6866. (2022). https://www.congress.gov/bill/117th-congress/house-bill/6866?s=1&r=8

Save the Children. (n.d.) *Gender Discrimination Causes Inequality*. https://www.savethechildren.org/us/charity-stories/how-gender-discrimination-impacts-boys-and-girls#:~:text=What%20is%20gender%20inequality%3F,violated%20by%20gender%2Dbased%20discrimination

Pastra, Aspasia S., Koufopoulos, Dimitrios N., and Gkliatis, Ioannis P. "Board Characteristics and the Presence of Women on the Board of Directors: The Case of the Greek Shipping Sector." In M. Kitada, E. Williams, and L. Froholdt (Eds.), *Maritime Women: Global Leadership* (pp. 40-50). World Maritime University.

Schuler, Mike. (2023, January 12). *Judge rules sex trafficking lawsuit against Crowley can move forward.* gCaptain. https://gcaptain.com/judge-rules-sex-trafficking-lawsuit-against-crowley-can-move-forward/

Soken-Huberty, Emmaline. (n.d.). *10 Causes of gender inequality*. Human Rights Careers. https://www.humanrightscareers.com/issues/causes-gender-inequality/

Tansey, Pamela. "Women at the Helm: 25 Years of IMO's Gender Programme." In M. Kitada, E. Williams, and L. Froholdt (Eds.), *Maritime Women: Global Leadership* (p. 18). World Maritime University.

Texas A&M University at Galveston. (2017). *Fact Book 2016-2017*. [Data set]. Institutional Reporting and Assessment. https://www.tamug.edu/reporting/Documents/TAMUG_2016-2017_Fact_Book.pdf

The Family and Medical Leave Act OF 1993, 29 CFR 825.120. (1993). https://www.ecfr.gov/current/title-29/subtitle-B/chapter-V/subchapter-C/part-825#825.120

United Nations. (n.d.). *Sustainable Development Goals, Goal 5: Achieve gender equality and empower all women and girls.* https://www.un.org/sustainabledevelopment/gender-equality/

United Nations. (n.d.). *UN Women, Concepts and definitions.* https://www.un.org/womenwatch/osagi/conceptsandefinitions.htm

United Nations. (2019). *World Survey on the Role of Women in Development.* UN Women. https://www.unwomen.org/sites/default/files/Headquarters/Attachments/Sections/Library/Publications/2019/World-survey-on-the-role-of-women-in-development-2019.pdf

U.S. Maritime Administration (2015, December 15). *Every Mariner Builds a Respectful Culture (EMBARC) Standards*. https://www.maritime.dot.gov/sites/marad.dot.gov/files/2021-12/EMBARC_Standards.pdf

U.S. Merchant Marine Academy (2021). *Class Profile*. [Data set]. https://www.usmma.edu/class-profile

U.S. News. (2023). *Best Colleges Rankings: Maine Maritime Academy*. Retrieved January, 2023, from https://www.usnews.com/best-colleges/maine-maritime-academy-2044

Valencia, Nick (2016, April 1). *Oil rig worker says she was secretly recorded, files $1 million lawsuit.* CNN. www.cnn.com/2016/03/31/us/transocean-spy-camera-lawsuit/index.html

Virginio, Fernanda. (2021, March 5). *Retaining our talent and developing our female seafarers.* Maersk Supply Service. https://www.maersksupplyservice.com/2021/03/05/retaining-our-talent-and-developing-our-female-seafarers/

Wage and Hour Division. *Family and Medical Leave Act.* U.S. Department of Labor. www.dol.gov/agencies/whd/fmla

International Maritime Organization. (n.d.). *Women in Maritime.* https://www.imo.org/en/OurWork/TechnicalCooperation/Pages/WomenInMaritime.aspx

WOMEN IN MARITIME: RISE UP TO CHALLENGE. (2012, September 21). *MaritimeGateway*. https://link-gale-com.sunymaritime.idm.oclc.org/apps/doc/A303306996/GBIB?u=sunymaritime&sid=bookmark-GBIB&xid=b1c2ae78

World Bank. (2018, February 1.). *More than 1 billion women lack legal protection against domestic sexual violence, finds World Bank study.* https://www.worldbank.org/en/news/press-release/2018/02/01/more-than-1-billion-women-lack-legal-protection-against-domestic-sexual-violence-finds-world-bank-study

World Population Review. (2023). *Maternity leave by country 2023.* https://worldpopulationreview.com/country-rankings/maternity-leave-by-country

Appendix I - Annotated Bibliography

Amon, D.J., Filander, Z., Harris, L., Harden-Davies, H. (2022, January 20). Safe working environments are key to improving inclusion in open-ocean, deep-ocean, and high-seas science. *Marine Policy, Volume 137*, 2022, 104947, ISSN 0308-597X. https://doi.org/10.1016/j.marpol.2021.104947

The authors address the issue of underrepresented groups at sea, specifically in offshore science, and the need for step change in approaches to ensuring safety and inclusion. As the individuals participating in ocean-going science initiatives becomes more diverse, the need for initiatives to make ocean exploration and science more inclusive, equitable, and accessible at various levels becomes more important. The authors provide a framework for preventing harassment and discrimination at sea, from individual responsibility to codes of conduct at all levels, and address the need for mechanisms for the reporting and handling of incidents.

Brady, Jeff. (2017, November 5). *Big Oil Has a Diversity Problem*. NPR. www.npr.org/2017/11/05/553969144/big-oil-has-a-diversity-problem

Interviews with oil industry personnel regarding their experiences of racism and sexism within oil and gas.

Cars, Maria Bostrom and Osterman, Cecilia. “Mind the Gap! Maritime Education for Gender-Equal Career Advancement.” In M. Kitada, E. Williams, and L. Froholdt (Eds.), *Maritime Women: Global Leadership* (p. 147). World Maritime University.

The authors examine how gender equality is addressed in maritime education, especially in strategies for reducing the gender equality gap. They address how simply bringing more women into maritime studies is not the same as producing equality, as gender issues must be well defined and included in policy making at structural and symbolic levels.

International Chamber of Shipping (2020, November). *ICS Diversity Tracker.* https://www.ics-shipping.org/wp-content/uploads/2020/11/ICS-Diversity-Tracker.pdf

A report produced by the International Chamber of Shipping to track diversity in shipping in follow-up to an International Labor Organization paper focusing on recruitment and retention of women seafarers. It contains key findings on the importance of diversity in seafaring and recommendations for vessel operators on immediate improvement opportunities for increasing diversity and inclusion.

International Transportation Federation. (n.d.) *Women Seafarers.* ITF Seafarers. www.itfseafarers.org/en/issues/women-seafarers

Issues discussed by International Transportation Federation Seafarers around why women are underrepresented in the global shipping industry.

Kitada, Momoko. "Absent Mother Sailors: How Possible is it to Do the Impossible?" In M. Kitada, E. Williams, and L. Froholdt (Eds.), *Maritime Women: Global Leadership* (pp. 113-120). World Maritime University.

This paper examines balancing work and family life among women who work on merchant cargo ships, with interviews of thirty-six women seafarers, ten of whom are mothers. It focuses on the choice women face around family versus career and the challenges faced if they elect to attempt both.

Mackenzie, Bev. "The 'Leaky Pipeline': Examining and Addressing the Loss of Women at Consecutive Career Stages in Marine Engineering, Science and Technology." In M. Kitada, E. Williams, and L. Froholdt (Eds.), *Maritime Women: Global Leadership* (pp. 69-78). World Maritime University.

This author examines the progressive loss of women at consecutive career stages within STEM, identifying three primary results. First that women do not leave STEM careers because they do not wish to progress their careers, and that supportive employers are a necessity. Second that work-life balance and the all-important choice of whether to have a family are not only the major issues, but that they are exacerbated by working in marine STEM careers. Third, that representation of women in managerial roles is vital to effecting change.

Pastra, Aspasia S., Koufopoulos, Dimitrios N., and Gkliatis, Ioannis P. "Board Characteristics and the Presence of Women on the Board of Directors: The Case of the Greek Shipping Sector." In M. Kitada, E. Williams, and L. Froholdt (Eds.), *Maritime Women: Global Leadership* (pp. 40-50). World Maritime University.

A discussion around transparency of the boards of Greek shipping companies, specifically why there is limited female representation on boards of directors. Practical suggestions for why qualified women should be on the boards are presented.