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*Review Article*

### NAVIGATING INEQUALITY: A SYSTEMATIC REVIEW OF DISCRIMINATION AGAINST WOMEN SEAFARERS

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#### ABSTRACT

This study presents a comprehensive systematic review of gender discrimination, workplace perceptions, and structural inequalities affecting women seafarers across global maritime contexts. Synthesizing 144 studies published between 2000 and 2025, this review critically examines gender-based harassment, exclusionary organizational cultures, career progression barriers, and the psychological, social, and operational challenges experienced by women at sea. Using the PRISMA-2020 framework and PICOS criteria, the study identifies five dominant thematic domains: gender-based discrimination and harassment, organizational culture and career progression, maritime education and training constraints, work-family balance and wellbeing, and policy-level interventions. The findings reveal persistent gaps between international regulatory commitments particularly those under the International Maritime Organization (IMO), the International Convention on Standards of Training, Certification and Watchkeeping for Seafarers (STCW), and the Maritime Labour Convention, 2006 (MLC, 2006) and shipboard realities, driven by cultural resistance, weak enforcement, and insufficient institutional support. Despite increasing awareness and emerging gender-responsive initiatives, women remain severely underrepresented in the global seafaring workforce, with available estimates generally indicating a very low share relative to men. The review highlights substantial methodological and regional blind spots in the literature, underscoring the need for longitudinal, intersectional, and intervention-based research to inform effective policy reforms. Strengthening gender-inclusive governance requires not only cultural change and institutional awareness, but also enforceable measures such as confidential reporting systems, gender-sensitive HR practices, structured mentorship pathways, stronger accountability mechanisms, and targeted incentives to improve the recruitment, retention, and advancement of women seafarers.

**Keywords:** *Women Seafarers, Gender Discrimination, Occupational Segregation, Shipboard Culture, Career Barriers, Maritime Gender Equality.*

## 1. INTRODUCTION

Maritime transport continues to serve as a fundamental driver of global economic growth, facilitating the movement of over 80% of international trade by volume (Kitada *et al.*, 2025). By early 2024, the global merchant fleet—comprising vessels of 100 gross tons and above—had grown to an estimated 109,000 ships, collectively operated by around 1.9 million seafarers. The total carrying capacity of the fleet reached approximately 2.4 billion deadweight tons, marking a 3.4% increase in capacity over the preceding year. Looking ahead, United Nations Conference on Trade and Development (UNCTAD) projects that maritime trade will grow by a further 2% in 2024, with an anticipated average annual growth rate of 2.4% between 2025 and 2029 (BIMCO and ICS, 2021; UNCTAD, 2024). These figures highlight the indispensable role that seafarers play in sustaining the global economy and ensuring the uninterrupted flow of international trade. However, despite their critical contribution, the seafaring profession remains overwhelmingly male-dominated (Jeevan *et al.*, 2020). The fact that women represent only about 2% of the global maritime workforce reflects a persistent culture of conservatism within the industry, which has historically restricted women's participation and hindered equal treatment (Grimett, 2024; Ewedji *et al.*, 2024). This imbalance is not only a matter of representation and equality, but also a strategic workforce issue for the maritime sector. In the context of a global shortage of qualified seafarers, the continued exclusion or underutilization of women may weaken workforce sustainability, reduce talent diversification, and limit the sector's long-term operational resilience. According to the 2024 report published by the European Maritime Safety Agency (EMSA), the gender distribution among European Union (EU) certified seafarers remains highly imbalanced. Of the 172,308 masters and officers certified by EU countries, 156,493 are male and 4,480 are female. Within this total, the number of women in senior and operational ranks remains particularly limited; the dataset reports only one female master and approximately 1,000 female officers. Overall, these figures indicate that women account for less than 3% of the EU-certified maritime workforce. This low level of representation is commonly attributed to deeply rooted cultural norms and the persistent undervaluation of women's capabilities in maritime roles, further reinforced by institutional and systemic biases that perpetuate the belief that seafaring is inherently masculine work requiring physical strength and endurance—attributes that are traditionally, yet inaccurately, presumed to be absent in women (Kim *et al.*, 2019; Kitada, 2020; Tang, 2023; Grimett, 2024).

This gendered division, as noted by Appleby (2013), fostered a cultural framework in which seafaring was perceived as incompatible with female presence, thereby institutionalizing the exclusion of women from maritime sectors. Maritime traditions and beliefs have further reinforced this exclusion through superstition and folklore, particularly in coastal towns and fishing communities, where women have long been viewed as harbingers of misfortune or bad luck (Zhao *et al.*, 2017). For instance, certain traditional narratives warn that encountering a woman on the way to a fishing vessel could result in an unproductive voyage. Such beliefs are not merely historical remnants; they persist in

contemporary contexts. Zhao *et al.* (2017), for example, document that even today, female fisheries officers in some English fishing communities are advised not to touch fishing boats, reflecting the continued influence of superstitious perceptions about women at sea. These cultural attitudes have contributed to a maritime environment that continues to challenge women's inclusion, both symbolically and structurally (Tang, 2023; Lyu and Li, 2024; Stavroulakis *et al.*, 2024). Also, this gender imbalance is not just a matter of numbers, it reveals the presence of long-standing structural barriers, traditional gender norms, and deeply rooted biases that have consistently limited women's entry into seafaring roles (Zhao *et al.*, 2017).

The persistent underrepresentation of women in maritime professions and the dominance of male-oriented occupational structures have positioned gender discrimination and the perceptions of women seafarers as critical areas of scholarly inquiry (Kitada, 2020; Tang, 2023; Lyu and Li, 2024). Although international institutions such as the International Maritime Organization (IMO) and the International Labour Organization (ILO) have introduced initiatives to promote gender equality, progress remains slow and limited in scope (Stevenson, 2015; Mishra and Trivedi, 2021). This imbalance carries not only ethical and social implications but also economic urgency, given the global shortage of qualified seafarers and the strategic value of building a more diverse maritime workforce (Tang, 2023). Despite growing awareness, women continue to face interconnected barriers, including restricted access to training, discriminatory hiring practices, workplace harassment, stereotyping, and difficulties balancing work and family life (Lyu and Li, 2024; Yildirim *et al.*, 2024). Research across different regions further reveals wide disparities: while some studies highlight the resilience, agency, and professional contributions of women seafarers (Kitada, 2022; Stavroulakis *et al.*, 2024), others document persistent exclusion, negative gender perceptions, and structural marginalization (Fidan *et al.*, 2020; Kitada, 2020; Das *et al.*, 2022). Particularly underexplored are the lived experiences of women in non-Western and developing maritime contexts, where socio-cultural norms may amplify gendered challenges (Ewedji *et al.*, 2024; Tseng and Pilcher, 2025).

Although the literature addressing these issues has steadily expanded, existing evidence remains fragmented across studies that vary widely in scope, methodological rigor, and geographical representation (Pineiro and Kitada, 2020; Das *et al.*, 2022). Recent research continues to report discrimination, biased perceptions, limited career progression, and challenges related to safety and well-being among women seafarers (Narayanan *et al.*, 2023; Osundiran and Tshella, 2024; Hermawati *et al.*, 2024; Suresh and Krithika, 2024; Yildirim *et al.*, 2024). However, these findings are scattered across fragmented studies that vary widely in scope, methodology, and regional focus. A comprehensive and systematic synthesis is therefore lacking. This gap makes it difficult for policymakers, maritime institutions, and industry stakeholders to develop evidence-based strategies to improve gender inclusion and occupational well-being. Consequently, a systematic review is essential to consolidate the current knowledge, identify unresolved research questions, and illuminate the structural factors that continue to hinder women's full participation in

maritime careers.

Despite the growing body of research, conceptual ambiguity continues to limit analytical precision, as several closely related terms are often used interchangeably across studies. For the purposes of this review, gender *discrimination* refers to direct or indirect unequal treatment, exclusion, bias, or disadvantage experienced based on gender in workplace relations and employment processes. *Gender perception* is used to denote the attitudes, assumptions, and stereotype-based evaluations through which women's competence, suitability, and professional roles are interpreted, particularly in occupations historically coded as masculine. *Structural inequality* refers to the broader institutional and systemic arrangements through which unequal access to opportunities, recognition, advancement, and resources is reproduced over time, extending beyond isolated interpersonal acts. *Organizational culture*, in turn, refers to the shared values, beliefs, attitudes, and behavioural expectations that shape everyday practices within organizations and influence how gendered norms are maintained or challenged. While analytically distinct, these concepts are closely interconnected and together provide the conceptual basis for examining the multidimensional inequalities experienced by women seafarers (Aldhafeeri, 2024; Heilman et al., 2024; Manzi et al., 2024; Newman et al., 2023; Hing et al., 2023).

This systematic review aims to synthesize and critically evaluate the existing qualitative and quantitative evidence on gender discrimination and the dominant gender perceptions experienced by women in maritime professions, with a particular focus on operational and shipboard roles. By employing a structured and transparent review methodology, the study seeks to identify recurring themes, patterns of inequality, and the socio-organizational mechanisms that shape women's professional experiences at sea. The review further aims to uncover methodological limitations and inconsistencies within the current body of research, highlight understudied dimensions of gendered experiences in maritime contexts, and generate evidence-based recommendations to inform future policy development, institutional interventions, and industry practices aimed at improving gender inclusion and occupational well-being.

## 2. LITERATURE REVIEW

Gender-based discrimination remains a significant challenge across many industries, with the maritime sector being particularly affected due to entrenched stereotypes and occupational gender segregation (Fidan et al., 2020; Kitada, 2022; Lyu and Li, 2024). Historically, the industry has been framed through a masculine linguistic lens, employing terms such as "seamen" and "fishermen" that inherently assume male dominance in maritime roles (Grimett, 2024). This lexical bias not only reflects cultural traditions but also reinforces the perception of seafaring as an exclusively male occupation, thereby perpetuating systemic discrimination against women at sea (Das et al., 2022; Ewedji et al., 2024). Despite the presence of international legal frameworks promoting gender equality, female seafarers continue to face barriers such as biased recruitment, wage disparities, and inadequate facilities onboard (Senbursa, 2025).

These challenges are further compounded by conventional gender norms in physically demanding maritime operations, which restrict women's entry into the profession and hinder their career progression (Kim et al., 2019; Tang, 2023; Grimett, 2024). Moreover, the profession's demanding conditions—including long voyages, irregular schedules, fatigue, piracy threats, and socially restrictive environments—intensify the difficulties women encounter (Fidan et al., 2020; Firdaus, 2025). Collectively, these structural and cultural barriers limit women's advancement and highlight the lack of comprehensive research on the intersectional challenges they face in this male-dominated sector (Tang, 2023).

A literature review on gender discrimination among women seafarers reveals a critical understanding of the barriers they face in a predominantly male-dominated maritime industry. The ongoing challenges are well-documented in various studies that highlight issues such as sexual harassment, bias in hiring, and inadequate support systems onboard vessels (Kitada, 2020; Das et al., 2022; McLaughlin and Fearon, 2022; Ewedji et al., 2024). Kitada (2013) emphasizes the prevalence of gender-related problems, including instances of sexual harassment reported by female seafarers, drawing parallels to the experiences of women in other traditionally male professions like the military and policing. Yildirim et al. (2024) report that women in Türkiye's maritime sector experience pressure and exclusion by male colleagues, contributing to a sense of inadequacy in performing shipboard roles. This finding aligns with broader research emphasizing that maritime occupational culture often perpetuates hegemonic masculinity, as Kitada (2020) argues, thereby reinforcing structural barriers to women's entry and progression in the field. Similarly, Hermawati et al. (2024) highlight that many women face subtle forms of discrimination that contribute to uncertainty about continuing in the profession, underscoring how such negative workplace perceptions deter female retention in maritime roles. Beyond individual experiences, institutional discrimination continues to shape the career trajectories of women in maritime professions. Dragomir (2019) emphasizes the need for policy reform to create a more equitable work environment, particularly through stronger enforcement of frameworks such as the Maritime Labour Convention (MLC, 2006). Yet, as Pineiro and Kitada, (2020) and Tseng and Pilcher, (2025) observes, limited policy awareness and insufficient institutional support perpetuate gender disparities, a reality reflected in the persistently low representation of women in senior positions, especially on cargo vessels, despite ongoing equality initiatives. Addressing these challenges requires not only legal and structural interventions but also cultural change within the industry. Scholars highlight the importance of female empowerment strategies, including greater visibility of women in leadership roles and the establishment of mentorship systems to support career development (Vo et al., 2023). Dragomir and Popa (2018) contend that female role models are essential in demonstrating viable career pathways and instilling confidence among aspiring women seafarers. Taken together, these insights suggest that cultivating a more inclusive maritime sector demands coordinated action from policymakers, industry leaders, and training institutions to dismantle entrenched biases and actively promote gender equity across all levels of the profession.

Women in the maritime industry continue to face a wide spectrum of structural and cultural barriers that limit both their entry into and advancement within seafaring professions. As illustrated in Figure 1, these obstacles range from deeply entrenched cultural perceptions such as the long-standing superstition that women bring “bad luck” at sea to institutional weaknesses, including insufficient enforcement of gender-sensitive provisions under key international conventions like the Maritime Labour Convention (MLC, 2006) and the Standards of Training, Certification and Watchkeeping (STCW). Addressing these challenges requires a multidimensional

policy approach that moves beyond regulatory compliance and confronts the cultural and organizational dynamics that perpetuate inequality. Integrating gender perspectives into maritime governance, as emphasized by Paraggua *et al.* (2022) is essential for ensuring that policy instruments reflect the lived realities of women and meaningfully expand their opportunities. This aligns with emerging recommendations for fostering inclusive organizational cultures in which training, leadership development and career progression pathways are accessible irrespective of gender (Popa *et al.*, 2023).

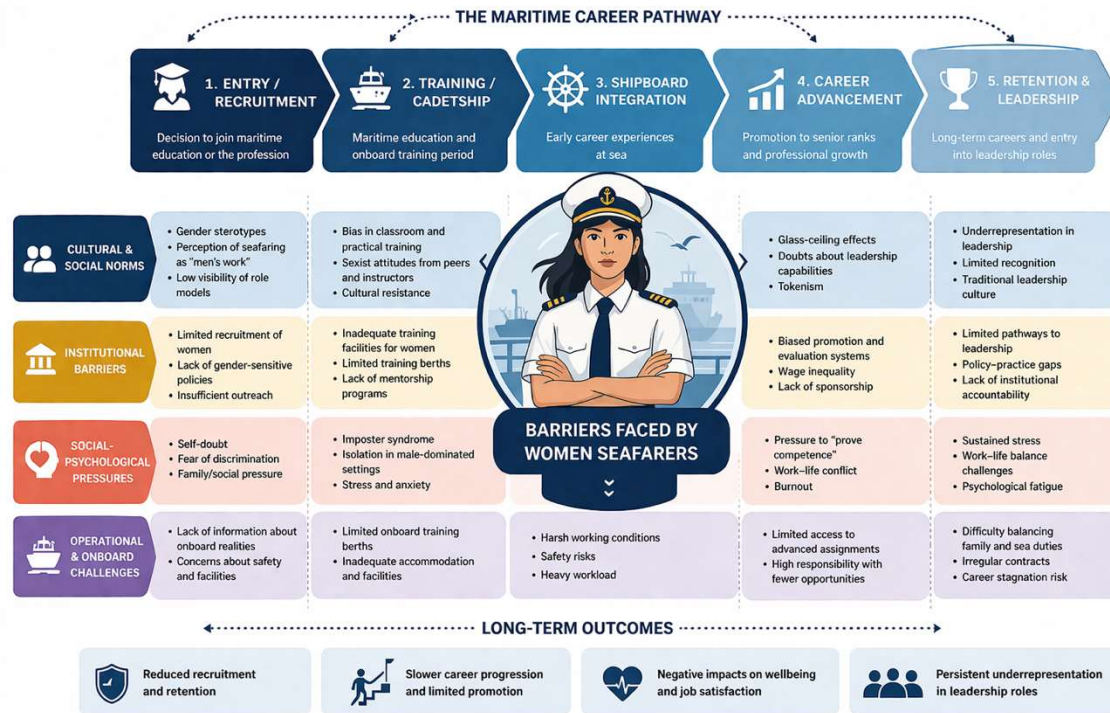


**Fig 1.** Conceptual Overview of Career Barriers Faced by Women Seafarers  
Source: Author-developed conceptual synthesis based on the reviewed literature.

Current reform proposals highlight the importance of gender-sensitive recruitment and promotion practices, structured mentorship and sponsorship systems, and robust monitoring mechanisms to evaluate adherence to equity principles (Samanmalie and Anjalika, 2023). Tackling institutional resistance within traditionally male-dominated maritime cultures is equally critical to improving women’s participation and retention. Research indicates that affirmative action policies, diversity-focused workplace reforms and supportive management practices can substantially reduce gender-based exclusion and discrimination, thereby contributing to a more equitable and resilient maritime workforce (Pineiro and Kitada, 2020; Barahona-Fuentes *et al.*, 2020).

At the global governance level, the International Maritime Organization (IMO), the International Convention on Standards of Training, Certification and Watchkeeping for Seafarers (STCW), and the Maritime Labour Convention, 2006 (MLC, 2006) collectively provide the principal regulatory framework for promoting non-discrimination, safe working conditions, and equal opportunity in maritime employment. The IMO has increasingly acknowledged gender inequality as a barrier

to sustainable maritime development and has introduced initiatives such as the Women in Maritime Programme and the IMO Gender Equality Strategy to improve women’s visibility, participation, and professional recognition in the sector (Popa and Nistor, 2025). Nevertheless, the literature consistently shows that the existence of formal regulatory commitments does not automatically translate into effective protection in everyday shipboard settings. Although STCW prohibits discriminatory barriers in certification and competence-based progression, and MLC 2006 establishes standards for equal treatment, decent working conditions, and protection from harassment, their practical effectiveness is often weakened by limited enforcement, inconsistent institutional follow-up, and the absence of sufficiently accessible, confidential, and trusted reporting mechanisms (Dragomir and Popa, 2018; Dragomir, 2019; Pineiro and Kitada, 2020; Pike *et al.*, 2021). These implementation problems are further reinforced by informal power relations aboard ships, where rank hierarchies, dependence on senior officers, and concern over future employability may discourage women from reporting discrimination or resisting exclusionary

practices.

In addition, masculine shipboard norms continue to normalize gendered assumptions, question women's competence, and frame equality-related protections as secondary to traditional occupational culture (Tang, 2023; Kitada et al., 2025). Taken together, these findings indicate that the gap between policy intent and shipboard realities is sustained not only by regulatory weakness, but also by organizational and cultural dynamics that limit the operationalization of gender-sensitive protections. This underscores the need for stronger implementation strategies, gender-responsive auditing mechanisms, confidential complaint procedures, and enforceable accountability measures capable of translating international commitments into tangible improvements in the lived experiences of women seafarers.

### 3. RESEARCH METHODOLOGY

This study employed a systematic review methodology to synthesize and critically evaluate the existing body of literature on gender discrimination and gendered perceptions affecting women seafarers. The review followed the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA 2020) framework using the PICOS criteria—Population (women seafarers), Intervention/Issue (gender discrimination and workplace perceptions), Comparison (regional, research areas, and policy differences), Outcome (research aspect, strength and limitation), and Study type (qualitative, quantitative, and mixed-method research) which are essential for ensuring methodological transparency, reproducibility, and a structured synthesis of evidence in high-quality systematic reviews (Agrawal *et al.*, 2024). The overall aim of this systematic review is to provide a comprehensive understanding of how gender discrimination, workplace perceptions, and structural inequalities shape the professional experiences, opportunities, and wellbeing of women seafarers across global maritime contexts.

#### 3.1. Search Strategy

The literature search was conducted on 10 September 2025 using the Scopus and Web of Science Core Collection databases as the primary indexed sources. These databases were selected due to their comprehensive coverage of high-quality, peer-reviewed academic publications in maritime studies, social sciences, and organizational research.

The search strategy was designed to ensure both conceptual comprehensiveness and analytical precision. A structured query was developed using a combination of Boolean operators (AND/OR), phrase searching, and truncation symbols, allowing for the systematic retrieval of studies addressing women's participation in maritime professions and gender-related workplace inequalities.

The search query was organized into two main conceptual blocks. The first block represented the target population and professional context, while the second block captured gender-based challenges and workplace dynamics. Within each block, synonymous and related terms were combined using the Boolean operator OR to maximize sensitivity. The two blocks were then

connected using AND to ensure that retrieved studies simultaneously addressed both conceptual dimensions.

The core search structure applied in Scopus and Web of Science was as follows:

**Search Block 1:** Population / occupational context (“women seafarer\*” OR “female seafarer\*” OR “women at sea” OR “female officer\*” OR “women maritime professional\*” OR “women in shipping” OR “women in maritime”)

AND

**Search Block 2:** Gender-related barriers / workplace inequality

(“gender discrimination” OR “gender inequality” OR harassment OR bullying OR stereotype\* OR “occupational segregation” OR “organizational culture” OR “career barrier\*” OR “workplace perception\*” OR “shipboard culture”)

Searches were conducted within the title, abstract, and keywords fields to ensure relevance and consistency across databases. Minor syntax adjustments were made where necessary to accommodate database-specific requirements.

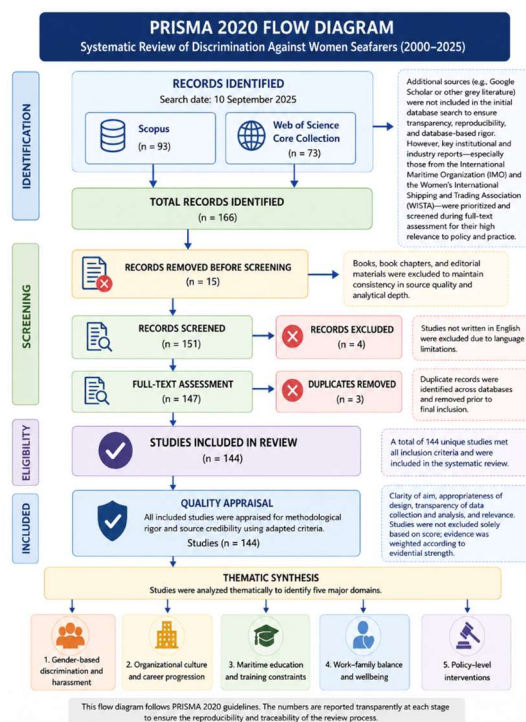


**Fig. 2.** PRISMA 2020 Flow Diagram of the Study Selection Process

The initial search yielded 93 records from Scopus and 73 records from Web of Science, resulting in a total of 166 records. Following the initial retrieval, books, book chapters, and editorial materials (n = 15) were excluded to ensure consistency in publication type and academic rigor. Additionally, non-English publications (n = 4) were excluded due to language constraints. This process resulted in 147 records eligible for further screening. Subsequently, records were exported and cross-checked across databases, and duplicate studies (n = 3) were identified and removed. After the deduplication process, a total of 144 studies were included in the final review and thematic synthesis.

This structured and stepwise search and filtering process was implemented to ensure the transparency, reproducibility, and methodological robustness of the systematic review as can be seen Figure 2.

### **3.2. Screening and Eligibility Criteria**

Following the identification and initial filtering stages, a structured multi-step screening and eligibility assessment process was implemented in accordance with PRISMA 2020 guidelines to ensure methodological transparency and consistency.

In the first stage, all retrieved records were subjected to title and abstract screening. This stage aimed to eliminate studies that were clearly irrelevant to the research scope, particularly those not related to women's participation in maritime professions or not addressing gender-related workplace issues. The screening process was conducted based on predefined inclusion and exclusion criteria to ensure consistency in study selection.

The inclusion criteria were defined as follows:

- studies focusing on women seafarers, female officers, and women cadets engaged in compulsory onboard training or sea internship as part of professional preparation for seagoing careers.
- studies addressing gender-related issues such as discrimination, inequality, harassment, workplace culture, career barriers, or organizational dynamics.
- empirical or conceptual studies providing relevant insights into maritime employment contexts; and
- peer-reviewed journal articles published in English.

The exclusion criteria included:

- studies not directly related to the maritime sector.
- studies not addressing gender-related issues.
- publications in the form of books, book chapters, or editorial materials; and
- studies not published in English.

Following the initial screening, the remaining records were subjected to full-text assessment to evaluate their eligibility in greater depth. At this stage, studies were examined in terms of their conceptual relevance, methodological clarity, and contribution to understanding gender dynamics in maritime contexts. Attention was given to the distinction between general student perceptions and professionally relevant maritime training experiences. In this respect, studies involving women cadets were included only when they addressed onboard training, sea internship experience, or direct exposure to shipboard occupational culture. This criterion was adopted because women cadets undertaking compulsory sea training may encounter barriers like those experienced by professional women seafarers at the early stage of their maritime careers.

To enhance the reliability of the selection process, the screening and eligibility assessment were conducted by two independent reviewers. Any discrepancies or disagreements in study selection were resolved through discussion and consensus, ensuring consistency and minimizing selection bias.

During the screening process, duplicate records identified across Scopus and Web of Science ( $n = 13$ )

were removed. Additionally, non-English studies ( $n = 4$ ) and non-article publication types such as books, book chapters, and editorial reports ( $n = 15$ ) were excluded in line with the predefined criteria.

As a result of this systematic and multi-stage screening procedure, a total of 144 studies were deemed eligible and included in the final analysis.

### **3.3. Quality Appraisal**

To enhance the methodological rigor and analytical credibility of the review, all studies retained after full-text screening were subjected to a structured quality appraisal. Given the methodological heterogeneity of the included literature, encompassing qualitative, quantitative, mixed-method, and conceptual studies, an adapted cross-study appraisal framework was employed rather than a single design-specific checklist. Each study was evaluated against four criteria: clarity of research aim, appropriateness of study design, transparency of data collection and analysis procedures, and relevance to the review objectives. Based on the overall methodological transparency and evidentiary contribution of each study, the included literature was classified as demonstrating high, moderate, or low methodological robustness.

This appraisal was not used as a strict basis for exclusion; rather, it informed the interpretation, relative weighting, and critical discussion of findings during the thematic synthesis. Accordingly, evidence derived from methodologically stronger studies was afforded greater interpretive emphasis, whereas findings from studies with more limited methodological transparency were incorporated with greater caution. This approach strengthened the reliability of the synthesis while preserving the breadth and inclusiveness of the evidence base.

## **4. FINDINGS**

The findings of the systematic review were analyzed using a thematic synthesis approach, allowing the identification of recurring patterns and structural dimensions of gender discrimination in the maritime sector.

### **4.1. Thematic Review on Gender Discrimination in Maritime Sector**

The literature on gender discrimination among women seafarers reveals several interrelated themes that highlight the multifaceted challenges faced by women in the maritime industry. Central themes include pervasive gender-based discrimination and harassment, organizational and cultural barriers impacting career progression, and the critical role of policies and interventions aimed at fostering gender equality. Studies also emphasize the influence of education and training environments, as well as work-life balance issues, demonstrating geographic and cultural variations in experiences and solutions. These themes collectively contribute to a growing academic discourse seeking practical solutions and policy frameworks to enhance the recruitment, retention, and empowerment of women seafarers globally as seen Table 1.

**Table 1.** Trends and Themes in Studies on Women Seafarers

| Research Area                                          | Reference                                                                                                                                                                                                                                  | Theme Description                                                                                                                                                                                                                                                                                                                                                                                                                          |
|--------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Gender-Based Discrimination and Sexual Harassment      | Guo and Liang, 2012; Kitada, 2013; Kim <i>et al.</i> , 2019; Jeevan <i>et al.</i> , 2020; Kitada, 2020; Pike <i>et al.</i> , 2021; Yildirim <i>et al.</i> , 2024; Lyu and Li, 2024; Ewedji <i>et al.</i> , 2024; Popa <i>et al.</i> , 2025 | Women seafarers frequently face gender-based discrimination, harassment, and bullying onboard, which negatively impacts their job satisfaction, mental health, and career advancement. This theme encompasses sexual harassment, bullying in confined shipboard environments, and the systemic marginalization of women in male-dominated maritime cultures across diverse regions such as Ghana, Turkey, China, and the UK.               |
| Organizational Culture and Career Progression Barriers | Stevenson, 2015; Dragomir and Popa, 2018; Das, 2021; Das <i>et al.</i> , 2022; McLaughlin and Fearon, 2022; Paraggua <i>et al.</i> , 2022; Samanmalie and Anjalika, 2023                                                                   | The male-dominated maritime organizational culture, including unconscious bias and gender stereotypes, creates significant barriers to women's career development and leadership opportunities. Many studies identify the glass ceiling effect, lack of women role models, and biased perceptions of leadership competence, which hinder women's upward mobility and retention in maritime careers                                         |
| Policies, Interventions, and Practical Solutions       | Abd Rahman and Salleh, 2018; Kitada, 2020; Barahona-Fuentes <i>et al.</i> , 2020; Pineiro and Kitada, 2020; Tang, 2023                                                                                                                     | Research highlights the importance of implementing gender mainstreaming policies, gender-responsive budgeting, support groups, training programs, and stakeholder engagement to address gender inequality. Evidence from regional organizations and educational institutions illustrate successful intervention models that enhance inclusivity and empower women, with calls for top-down and bottom-up approaches for sustainable change |
| Maritime Education and Training Environment            | Barahona-Fuentes <i>et al.</i> , 2020; Belev <i>et al.</i> , 2020; Barahona-Fuentes, 2023; Pedroso and Palencia, 2024                                                                                                                      | Persistent gender imbalances and stereotypes within Maritime Education and Training (MET) institutions affect women's recruitment and preparedness for seafaring roles. Studies emphasize gender-sensitive curricula, presence of female role models, and policy integration in educational settings as essential for closing the gender gap and promoting career readiness                                                                |
| Work-Family Balance and Mental Health Challenges       | Narayanan <i>et al.</i> , 2023; Hermawati <i>et al.</i> , 2024; Suresh and Krithika, 2024; Yildirim <i>et al.</i> , 2024                                                                                                                   | Women seafarers encounter conflicts between demanding sea-based work and family responsibilities, often leading to stress, mental health issues, and career indecision. Strategies for coping, support mechanisms, and institutional adjustments are examined to improve well-being and retention of women in maritime professions                                                                                                         |

Research on gender discrimination among women seafarers has evolved considerably over nearly two decades, beginning with foundational studies documenting the prevalence of harassment and structural barriers in the early 2000s. Initial works focused on revealing the extent of discrimination and sexual harassment, setting the stage for subsequent research that delved deeper into organizational culture, recruitment challenges, and career progression issues. More recent studies emphasize practical interventions, policy implementation, and educational reforms to promote inclusivity and gender mainstreaming. Additionally, geographical diversification of research has expanded, highlighting regional differences and tailored solutions in various maritime contexts.

Building on the thematic patterns identified in Table 1, this review contributes to the literature by advancing a more integrative and systemic interpretation of gender discrimination in the maritime sector. Rather than viewing discrimination, career barriers, and work–family challenges as isolated phenomena, the synthesis highlights their mutually reinforcing nature within shipboard and institutional ecosystems. Specifically, gender-based harassment onboard not only undermines individual wellbeing but also interacts with organizational cultures and MET environments to reproduce structural exclusion across the maritime career pipeline. A key contribution of this discussion lies in foregrounding the implementation gap between formal

gender-equality policies and everyday maritime practices; while recent studies increasingly emphasize interventions and regulatory frameworks, empirical evidence suggests that weak enforcement mechanisms, informal power relations, and deeply embedded masculine norms continue to limit their effectiveness. Moreover, the growing geographic diversity of studies reveals that gender discrimination is not culturally uniform but context-dependent, calling for adaptive, locally grounded policy instruments rather than one-size-fits-all solutions. By synthesizing these strands, the review moves beyond descriptive accounts. It highlights the need for multi-level and evidence-based governance approaches. These approaches should integrate policy design, organizational change, and educational reform to promote sustainable gender equity and long-term retention of women seafarers in global shipping.

**Table 2.** Mapping Research Perspectives and Evidence Gaps in Maritime Gender Studies

| Research Gap                                                    | Contextual Overview                                                                                                                                                                                                                  | Future Research Directions                                                                                                                                                                                                | Why This Gap Matters                                                                                                                                                                                    |
|-----------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Limited empirical evaluation of intervention effectiveness      | Many studies propose interventions (e.g., gender mainstreaming, mentoring, policy reforms) but lack rigorous empirical evaluation of their real-world impact and sustainability (Boström and Österman, 2022; Barahona-Fuentes, 2023) | Conduct longitudinal and mixed-method studies to assess the effectiveness, scalability, and contextual adaptability of gender equality interventions in maritime workplaces. Develop standardized metrics for evaluation. | Without robust evaluation, it is difficult to identify best practices or justify resource allocation for interventions, limiting progress toward gender equity (Boström and Österman, 2022; Tang, 2023) |
| Underrepresentation of intersectional analyses                  | Intersectional factors such as ethnicity, nationality, and age are insufficiently integrated into research on gender discrimination among women seafarers (Das, 2021; Das <i>et al.</i> , 2022; Hägele and Hornidge, 2025)           | Design studies that explicitly incorporate intersectionality frameworks to examine how overlapping identities impact experiences of discrimination and career outcomes. Use diverse examples across regions.              | Intersectionality is critical understanding the complexity of discrimination and tailoring effective, inclusive policies (Hägele and Hornidge, 2025)                                                    |
| Geographic and cultural research gaps                           | Certain regions, especially developing maritime nations like West Africa and the Pacific, are underrepresented in research, limiting understanding of localized challenges and solutions                                             | Extend qualitative and quantitative research to under-researched regions to capture the different socio-cultural and institutional contexts that influence the experiences of women seafarers.                            | Regional disparities affect the applicability of interventions; localized data is essential for culturally sensitive policymaking (Ewedji <i>et al.</i> , 2024)                                         |
| Disconnect between maritime education and employment practices  | Despite female enrollment in maritime education, there is a gap between training and actual employment retention in seafaring roles (Kitada, 2020; Barahona-Fuentes <i>et al.</i> , 2024)                                            | Investigate barriers to post-training recruitment and employment practices; develop integrated programs linking MET institutions with transportation companies to facilitate women's employment and career development.   | Bridging this gap is vital to convert educational gains into workforce diversity and retention (Kitada, 2020)                                                                                           |
| Lack of male stakeholder engagement in gender equality efforts  | Male colleagues and management often show limited awareness or involvement in addressing gender discrimination (Kitada, 2019; Tang, 2023)                                                                                            | Design interventions and training programs that actively engage male stakeholders to raise awareness, reduce unconscious bias, and foster allyship in maritime workplaces.                                                | Male engagement is crucial for cultural change implementation of gender equality policies (Tang, 2023)                                                                                                  |
| Scarcity of data on harassment reporting and support mechanisms | Sexual harassment is prevalent but underreported; existing policies lack enforcement and support structures for victims (Thomas, 2006; Pineiro and Kitada, 2020; Senbursa, 2025)                                                     | Investigate barriers to reporting harassment, develop confidential and effective reporting systems, and evaluate support services' accessibility and impact on women seafarers' well-being.                               | Improving reporting and support mechanisms critical to creating safe and inclusive maritime environments (Thomas, 2006; Pike <i>et al.</i> , 2021; Popa <i>et al.</i> , 2025)                           |

#### 4.2. Research Perspectives and Blind Spots in Maritime Gender Studies

The literature on gender discrimination among women seafarers offers a multidimensional view of the cultural, organizational, and policy barriers shaping their maritime experiences. While qualitative studies provide rich insights and quantitative research identifies broader patterns, the findings remain uneven due to regional gaps and limited integration of intersectional factors like race or nationality. Although recent work emphasizes practical interventions, their effectiveness and implementation vary widely across contexts. Overall, the literature has enhanced academic understanding and awareness but still requires greater empirical depth and contextual diversity to inform impactful policy and practice. Table 2 shows the main research perspectives examined in the literature along with the persistent blind spots that remain insufficiently addressed in maritime gender studies.

The literature on women seafarers provides valuable insights into methodological diversity, geographical scope, and policy interventions addressing gender discrimination in the maritime sector. Qualitative case studies and mixed-method research offer rich understandings of complex experiences such as

harassment and career indecision (Yildirim *et al.*, 2024; Ewedji *et al.*, 2024), though many studies rely on small samples or lack longitudinal data, limiting generalizability. While research spans diverse regions including Turkey, Ghana, and the Nordic countries (Lyu and Li, 2024), there is insufficient representation from developing maritime nations and limited attention to intersectionality (Hägele and Hornidge, 2025). The literature effectively identifies key barriers such as male-dominated culture, unconscious bias, and work-family conflict (Pike *et al.*, 2021) yet often overlooks structural and policy-level discrimination (Kitada, 2020). Although several papers propose practical solutions, such as gender mainstreaming and mentoring (Barahano-Fuentes *et al.*, 2024), few studies assess their real-world effectiveness (Boström and Österman, 2022). Research also emphasizes the impact of organizational culture, mental health, and retention challenges, but lacks systemic approaches to address them. Overall, the field highlights progress in academic discourse and awareness but calls for more inclusive, interdisciplinary, and outcome-based research to support sustainable gender equity at sea.

**Table 3.** Thematic Assessment of Strengths and Limitations in Studies on Women Seafarers

| Aspect                                     | Strengths                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Weaknesses                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|--------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Methodological Approaches                  | Many studies employ robust qualitative methods, including in-depth interviews and thematic analysis, offering nuanced insights into women seafarers lived experiences in countries such as Turkey, Ghana, and Taiwan (Yildirim <i>et al.</i> , 2024; Ewedji <i>et al.</i> , 2024; Tseng and Pilcher, 2025). Mixed method designs further enrich findings by integrating surveys with interviews (Baldonado and Espiritu, 2024), allowing researchers to capture the complexity of gender discrimination and shipboard occupational cultures.                   | The predominance of small-sample and purely qualitative studies limits generalizability (Das <i>et al.</i> , 2022). Many investigations remain confined to specific national or cultural contexts, lacking broader comparative frameworks. Quantitative studies often lack longitudinal data, reducing the ability to assess temporal changes (Suresh and Krithika, 2024). Some surveys exhibit limited respondent diversity, which may produce biased outcomes.                        |
| Thematic Coverage of Gender Discrimination | Existing literature identifies multiple dimensions of gender discrimination, including harassment, stereotyping, exclusion, and career barriers (Lyu and Li, 2024; Pike <i>et al.</i> , 2021; Popa <i>et al.</i> , 2025). Studies also highlight the intersection of gender with cultural and racial identities, enriching understanding of discrimination's multifaceted nature (Das, 2021). Recognition of health and safety risks specific to women seafarers is another notable contribution (Stannard <i>et al.</i> , 2015; Senbursa, 2025).              | Despite extensive thematic identification, systematic quantification of discrimination prevalence across maritime sectors is limited (Stavroulakis <i>et al.</i> , 2024; Kitada <i>et al.</i> , 2025). Some studies focus heavily on negative experiences, overshadowing coping strategies or organizational support mechanisms (Kitada, 2013). Evolving industry dynamics and shifting gender roles remain underexplored.                                                              |
| Regional and Cultural Contextualization    | Numerous studies provide valuable insights into regional and cultural influences on women's experiences, including research conducted in China, Turkey, Ghana, and West Africa (Lyu and Li, 2024; Yildirim <i>et al.</i> , 2024; Ewedji <i>et al.</i> , 2024). These analyses illustrate how local norms, governance structures, and industry practices shape opportunity structures, addressing key objectives related to comparing regional differences (Tang, 2023; Tseng and Pilcher, 2025).                                                               | Cross-regional comparative studies remain scarce, limiting the transferability of findings (Guo and Liang, 2012). There is a notable lack of integration between global policy frameworks and local practices, contributing to gaps in understanding how conventions such as MLC 2006 influence national implementation (Dragomir and Popa, 2018; Dragomir, 2019). Developing maritime regions remain under-researched (Ewedji <i>et al.</i> , 2024), hindering broader global insight. |
| Evaluation of Policies and Interventions   | The literature discusses a range of policy efforts, including the role of international frameworks such as the Maritime Labour Convention and organizational gender mainstreaming initiatives (Dragomir and Popa, 2018; Dragomir, 2019; Barahona-Fuentes, 2023; Pineiro and Kitada, 2020). Stakeholder perspectives on needed reforms and gender equality strategies are widely documented (Tang, 2023). Several studies also provide actionable recommendations for strengthening recruitment, retention, and workplace culture (Boström and Österman, 2022). | Empirical assessments of policy effectiveness remain limited, with few studies evaluating real-world outcomes of interventions or enforcement mechanisms (Kitada, 2020). Much of the literature focuses on policy description rather than critical appraisal. Resistance from male seafarers and organizational culture change are insufficiently explored in intervention studies (Tang, 2023).                                                                                        |
| Career Progression and Leadership Barriers | Research highlights persistent obstacles to women's career advancement and leadership roles, including stereotyping, lack of mentorship, and organizational biases (Das <i>et al.</i> , 2022). Studies also explore identity negotiation strategies used by women to navigate male-dominated environments (Kitada, 2013; Johnson <i>et al.</i> , 2013). These findings contribute to understanding recruitment, retention, and advancement challenges.                                                                                                         | Longitudinal studies tracking women's career trajectories are limited. Leadership development and succession planning remain underexamined (McLaughlin and Fearon, 2022). Intersectional factors such as age, nationality, or contract type receive insufficient attention (Das, 2021). Leadership's role in fostering supportive environments is underexplored (Pike <i>et al.</i> , 2021).                                                                                            |
| Psychological and Wellbeing Aspects        | Research emphasizes mental health, stress, and wellbeing concerns faced by women, including the effects of harassment and isolation (Stannard <i>et al.</i> , 2015; Yildirim <i>et al.</i> , 2024; Suresh and Krithika, 2024). Studies also recognize work-family conflict and physical health challenges specific to women seafarers (Vo <i>et al.</i> , 2023), enriching understanding of occupational risks at sea.                                                                                                                                         | There is a lack of intervention-based research focused on improving wellbeing or testing support system outcomes (Stannard <i>et al.</i> , 2015; Hermawati <i>et al.</i> , 2024). Psychological impacts of discrimination are often described but not systematically measured or linked to retention outcomes.                                                                                                                                                                          |
| Data Quality and Representation            | Some studies employ large datasets or multi-country samples, enhancing robustness and cross-national insight (Das <i>et al.</i> , 2022). Inclusion of both male and female perspectives in surveys deepens understanding of gender dynamics (Stavroulakis <i>et al.</i> , 2024; Tseng and Pilcher, 2025).                                                                                                                                                                                                                                                      | Data quality remains inconsistent, with relying on self-reported measures vulnerable to bias (Suresh and Krithika, 2024). There is significant underrepresentation of women in command roles, limiting into leadership-level discrimination (Vo <i>et al.</i> , 2023). Research also identifies inequality-related data bias as a key barrier to accurate analysis (Tseng and Pilcher, 2025).                                                                                           |

#### **4.3. Synthesis and Critical Assessment of Previous Research**

The synthesis of strengths and weaknesses across methodological, thematic, contextual and policy-related domains highlight a complex yet evolving research landscape on gender discrimination and women seafarers' experiences. Collectively, the literature provides a rich qualitative understanding of how women navigate male-dominated shipboard environments, yet it also reveals substantial epistemological, methodological and structural gaps that continue to limit the field's empirical advancement and policy relevance. While Table 1 maps the dominant thematic domains emerging from the reviewed literature, Table 3 moves beyond thematic identification and offers a more critical synthesis of the methodological, contextual, and policy-related strengths and limitations of existing studies. In this sense, the two tables serve complementary but analytically distinct purposes: the former captures what has been studied, whereas the latter evaluates how that evidence has been produced and where its explanatory boundaries remain.

As can be seen Table 3.; Methodologically, qualitative and mixed-method approaches have been instrumental in uncovering lived experiences, identity negotiations and nuanced manifestations of discrimination. These approaches illuminate the emotional, cultural and organizational realities of women's daily interactions onboard, revealing phenomena that would be difficult to capture through quantitative means alone. However, the dominance of small-sample qualitative studies and the limited use of longitudinal or cross-national quantitative datasets constrain generalizability and prevent a comprehensive understanding of long-term career trajectories and the evolving nature of gendered inequalities at sea. The literature's heavy reliance on self-reported data further raises concerns about potential bias, underscoring the need for more rigorous and diverse methodological designs.

Thematically, research successfully identifies the multidimensional forms of gender discrimination including harassment, stereotyping, exclusion and career stagnation and highlights the intersectional layers of race, nationality and cultural norms. Yet systematic quantification of discrimination patterns across maritime sectors is rare. While many studies foreground negative experiences, fewer examine protective factors, organizational allies or positive interventions, resulting in an incomplete picture of shipboard gender dynamics. Moreover, the tendency to treat gender discrimination as static rather than embedded in an evolving industry context limits theoretical depth.

The regional and cultural contextualization of findings remains a major strength of the literature. Studies conducted in Asia, Africa, and parts of Europe help reveal how local traditions, governance frameworks and maritime labor markets shape women's experiences. Nonetheless, the scarcity of comparative cross-regional analyses hampers the development of global insights and reduces the ability to evaluate how international regulatory frameworks such as IMO, STCW and MLC 2006 translate into national practice. This disjunction reflects broader concerns regarding policy implementation gaps and the limited capacity of international conventions to transform entrenched

cultural and organizational norms.

Policy evaluations in the literature emphasize the relevance of international frameworks, gender mainstreaming initiatives and institutional expectations for fair treatment. However, empirical assessments of policy effectiveness are limited, and many studies focus on describing policy provisions rather than critically appraising implementation or enforcement. The lack of systematic evaluation contributes to persistent gaps between policy intent and shipboard realities, particularly regarding harassment reporting mechanisms, monitoring practices and leadership accountability.

Career progression and leadership pathways emerge as key areas where structural barriers converge—ranging from gendered organizational norms to limited mentorship opportunities and inadequate leadership pipelines for women. Despite this recognition, the absence of longitudinal and intersectional data limits efforts to understand career trajectories or evaluate leadership interventions. Meanwhile, psychological wellbeing research convincingly demonstrates the mental and emotional toll of discrimination, but intervention-based studies remain scarce, leaving wellbeing outcomes insufficiently addressed in practice.

Overall, the literature offers valuable insights into the challenges experienced by women seafarers but remains fragmented by methodological limitations, regional imbalance and insufficient policy evaluation. Future research must prioritize multi-country comparative studies, longitudinal quantitative designs, rigorous evaluation of interventions and the integration of male perspectives and organizational drivers of change. Addressing these gaps is essential for translating international regulatory commitments into meaningful improvements in women lived realities at sea and for informing evidence-based reforms to foster a genuinely inclusive maritime sector.

#### **5. CONCLUSION**

This systematic review demonstrates that gender discrimination in maritime professions remains a deeply embedded and multidimensional problem shaped by cultural norms, organizational practices, and persistent shortcomings in regulatory implementation. Despite increasing international attention to gender equality and the existence of formal protections under IMO initiatives, STCW standards, and MLC 2006, women seafarers continue to face exclusion, harassment, stereotyping, and restricted opportunities for career progression. The reviewed evidence shows that the gap between policy intent and shipboard reality remains substantial, indicating that formal commitments alone are insufficient to transform entrenched institutional and cultural barriers.

The synthesis highlights several recurring structural challenges, including male-dominated organizational cultures, limited leadership pathways, weak implementation of gender-responsive policies, persistent work-family tensions, and insufficient institutional protection against harassment and discrimination. Although emerging practices such as mentorship schemes, diversity-oriented recruitment, and supportive leadership interventions suggest possible pathways for improvement, their implementation remains uneven and their long-term effectiveness is rarely evaluated systematically. These findings underline the need for stronger organizational

accountability and more enforceable mechanisms capable of improving the lived experiences of women at sea.

Future research should move beyond descriptive documentation and prioritize methodologically robust, longitudinal, comparative, and intervention-oriented designs to capture the evolving and intersectional nature of gender inequality in maritime contexts. Greater attention is needed to women's career trajectories, promotion patterns, retention outcomes, and work-family experiences across different vessel types, ranks, and cultural settings. Comparative cross-regional studies would help clarify how labour regimes, maritime education systems, and socio-cultural norms shape women's experiences in different maritime environments. At the same time, intervention-based research is needed to assess the effectiveness of reporting systems, mentorship structures, gender-sensitive leadership programmes, workplace policies, and institutional support mechanisms. Further work should also examine how international regulatory instruments are translated into everyday shipboard practice, with particular attention to implementation gaps, organizational culture, and the psychosocial consequences of discrimination, isolation, and job insecurity.

At the policy level, the literature suggests that meaningful progress will depend on moving beyond awareness-raising toward enforceable measures that strengthen recruitment, retention, promotion, and workplace protection for women seafarers. Confidential reporting systems, stronger monitoring procedures, gender-sensitive human resource practices, institutional accountability, and targeted incentives for shipowners and operators should be treated as essential components of gender-inclusive maritime governance rather than optional reforms.

Overall, achieving gender equality in the maritime sector is both a strategic workforce priority and an ethical imperative. Sustainable progress will require coordinated action among policymakers, maritime administrations, MET institutions, unions, and industry leaders to align regulatory commitments with effective implementation and to foster a more inclusive, equitable, and resilient maritime workforce.

### Declaration of Generative AI and AI-Assisted Technologies

During the preparation of this manuscript, AI-assisted tools were used only for limited supportive purposes, including language refinement, improvement of sentence clarity, and visual formatting assistance for author-developed conceptual figures. These tools were not used to generate original research data, conduct database searches, determine study eligibility, perform thematic analysis, interpret findings, or formulate the scientific conclusions of the study. All database searches, screening decisions, eligibility assessments, thematic synthesis, critical interpretations, and final academic judgments were carried out by the authors. The authors reviewed, verified, and take full responsibility for the accuracy, originality, integrity, and ethical appropriateness of all content included in the manuscript.

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