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Incentives for Skills Supply in a Socially Sustainable Shipping

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Abstract

While global demand for shipping continues to grow, the maritime industry is concerned by the impending shortage of skilled seafarers. The challenge is twofold: there is a need to attract and recruit new talent, and to retain, upskill, and reskill existing personnel. This study aims to investigate what motivates students to enrol in and complete a maritime education, and to stay in the profession. A register-based follow-up study, a survey questionnaire, and interviews were conducted with former and current students at a maritime upper secondary school in Sweden. Results show that motives include an interest in shipping or boating, or seeking a practical occupation. It has not been possible to identify any major differences between women's and men's motives. However, women complete their educations to a greater extent than men. Pivotal for seafarers' decision to stay in a seafaring profession is having reasonable working and employment conditions, varied work tasks, and a sense of professional pride. Experiences of good companionship and togetherness are important driving forces. Conversely, social exclusion, harassment, and poor working environments influence the decision to leave the maritime industry. Even though women are at increased risk of being exposed to unwelcome behaviour, they choose to stay at sea to a greater extent than their male colleagues. A sustainable skills supply requires a holistic perspective. Satisfied employees who are allowed to grow in their professional role are likely to act as excellent ambassadors and thereby contribute to the continued recruitment of seafarers.

Keywords

gender equality; job satisfaction; maritime education; occupational commitment; seafarers; social sustainability; upskilling; work environment

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1. Introduction

1.1. Gendered Supply of Maritime Skills

Maritime transport has grown steadily over time. In 2023, the global shipping industry consisted of approximately 105,500 merchant ships of at least 100 gross tonnage (UN Trade and Development, 2023), crewed by an estimated 1.89 million seafarers (International Chamber of Shipping & BIMCO, 2021). Forecasts predict that the need for maritime transportation will continue to grow with the global fleet becoming more technologically sophisticated. This will result in an increased demand for highly skilled seafarers across the industry. In this regard, the gender imbalance in the maritime industry represents a particular challenge in ensuring the availability of a skilled workforce. The maritime industry remains male-dominated and masculine-coded (Kitada, 2021), and despite a cautiously positive trend in gender distribution, there is still a long way to go. The estimated 24,000 women currently working at sea represent just over one per cent of all seafarers. Most of these women are working in crew positions on cruise ships (International Chamber of Shipping & BIMCO, 2021). The segregated labour market and lack of gender diversity demonstrate that women are an untapped resource. It is no longer enough to have "all men on deck," as men constitute only half of the recruitment base. Several campaigns have been launched over the years to encourage women to pursue a career at sea. Already in 1988, the International Maritime Organization (IMO) initiated a programme to integrate more women into the global shipping sector (IMO, 2013). The programme aimed to improve women's access to maritime education and employment, and ultimately to increase the proportion of women at senior management levels. The premise is that a position on board is often a stepping stone to a career ashore. It is uncertain whether a comprehensive assessment of the programme's efficacy has been conducted. Nevertheless, a recent survey indicates that, three decades later, senior roles in high-status departments on board remain predominantly occupied by men. Similarly, shore-based senior management is largely male, while administrative staff tend to be dominated by women (Nastali & Bartlett, 2022). In what is often described as a "leaky pipeline," there is a continuous loss of women at successive career stages (Mackenzie, 2015). An analysis of data from 13 education and training institutions in Europe, South America, and Africa from 2009 to 2018 shows that more women than men leave their seafaring careers before reaching senior positions (Barahona-Fuentes et al., 2020). This trend reduces the representation of women in leadership roles, creating a cycle that discourages future women from staying or advancing. Departing women also take with them institutional knowledge that is essential for both operational and mentoring continuity. Addressing this issue is therefore critical to inclusive skills retention.

In a joint effort to create attractive workplaces in shipping, the European Community Shipowners' Association, together with the European Transport Workers' Federation, has developed guidelines for shipping companies (European Community Shipowners' Association & European Transport Workers' Federation, 2013) that aim to raise awareness of the link between health and safety, social workplace conditions, and attractive jobs. The parties have further committed to increasing the proportion of women in European shipping (European Community Shipowners' Association, 2018), through campaigns using women role models, developing policies and training programmes that promote gender equality and discourage bullying and harassment, and ensuring woman-friendly facilities on board ships. However, previous research has shown that many initiatives to increase the number of women in the industry have not had the desired effect (Kitada, 2021). One reason, as explained by Österman and Boström (2022), is that initiatives based on

a binary and quantitative understanding of gender equality in terms of number of men and women tend to fail if they do not consider the structural and contextual factors that reproduce inequality and increase the risk of vulnerability in the workplace or school environment. It is simply not enough to just add women and stir. Women in male-dominated environments that value traditionally masculine qualities often face a culture with norms and jargon that can make them feel out of place, unwelcome, or tokenized, leading to disengagement. For example, Kitada (2021) reports how women seafarers feel compelled to conform to masculine norms to meet stereotypical expectations and become part of the team, trying to hide their feminine characteristics or using profanity to better fit in with their male colleagues. As women in minority disrupt the male order, they are also at increased risk of pervasive unwelcome behaviour and instances of direct sexual harassment (Bergman & Henning, 2008; Vogt et al., 2007).

1.2. Impact of Working Conditions on Work Motivation and Skills Retention

The problem of skills supply in shipping can be divided into the need to recruit new personnel and the need to retain, upskill, and reskill existing personnel. In the search for economic efficiency in crewing, shipping companies largely utilise flexible employment practices, often through outsourcing recruitment to third-party agencies (Bloor & Sampson, 2009). These employment and recruitment strategies have led to changes in the demographics and origins of the seafarers and today most ships are crewed by nationalities from the global south (International Chamber of Shipping & BIMCO, 2021). This has impacted the upkeep of standards in education and training with employers being reluctant to invest in upskilling and reskilling of a crew that might not return to the same ship, or even the same shipping company (Sampson & Tang, 2016). The flagging out of entire national fleets and the development of new financial markets have resulted in weak psychological contracts between shipowners and their crews (Fei et al., 2009). Essentially, commitment to stay in an occupation depends on perceptions of the intrinsic characteristics of that occupation. In this respect, the prospect of a satisfactory income is undoubtedly an important motivational factor, but there are also qualitative and emotional drivers, such as developing a sense of social status and identity (Lee et al., 2000). Previous studies have shown how physical, organisational, and social working conditions affect employees' organisational commitment and thus their desire to remain in the profession. Organisational commitment can be said to reflect employees' degree of loyalty to their employer and their willingness to contribute in a meaningful way to the achievement of the organisation's goals (Mottaz, 1988; L. W. Porter et al., 1974). A general sense of belonging to the organisation is crucial not only for the inclusion of women but also for other marginalised groups. Employees who feel undervalued and excluded will eventually leave the organisation (Bridges et al., 2021), whereas employees with high organisational commitment are willing to go the extra mile and are more likely to remain with the company.

The link between working conditions and seafarers' health and attitudes towards work has been investigated by Larsen et al. (2012), who identify three key factors for job satisfaction and organisational commitment among cruise ship crews: the respect and fair treatment from supervisors; the social working environment, both concerning colleagues and guests; and the standard of food and accommodation facilities. Similarly, Sandberg et al. (2020) report a strong relationship between organisational commitment and job satisfaction in their studies in the Swedish shipping industry. Their findings show that senior officers are more satisfied than junior officers and ratings, and that seafarers who feel they have reached a career dead end, with limited development and career opportunities, have weaker organisational commitment and are therefore more likely to leave their jobs within the next two years. In Österman et al. (2020), four factors

were identified as positively correlated with both motivations to work at sea and organisational commitment to a particular shipping company: the experience of sufficient manning on board, time to relax, a manager who addresses problems, and good relations between different departments on board.

While socially sustainable values such as good working conditions, gender equality, and equity are fundamentally a question of human rights, they also create long-term business value (M. E. Porter & Kramer, 2019). A meta-analysis covering more than 60,000 companies shows a robust relationship between employee job satisfaction and business performance (Harter et al., 2020). One challenge is the fragmented approach to social sustainability and the lack of an agreed definition of what social sustainability is. There is no commonly agreed "social dioxide" that can be measured and compared in the same way as greenhouse gas emissions and energy consumption. Social sustainability is often said to be primarily about human rights and the physical and mental needs and well-being of individuals. Weingaertner and Moberg (2014) highlight social capital, human capital, and well-being as three key themes on which to build. Based on an extensive review of scientific literature and policy documents, Murphy (2012) suggests that social sustainability is based on the underlying concepts of equity, sustainability awareness, participation, and social cohesion. The safe and efficient operation of international shipping depends on the competence and well-being of seafarers. Building on this, we understand the objectives of socially sustainable shipping as creating safe and attractive workplaces to facilitate recruitment and retention, where seafarers are allowed to grow and achieve their full potential.

1.3. Study Context: The Swedish Perspective

This study was conducted from a Swedish perspective, with data collected from Swedish students and seafarers. Consequently, in addition to the resolutions and circulars issued by IMO, employment and work on board Swedish-flagged ships is covered by Swedish legislation, which is generally stricter than international requirements. Swedish employers have an obligation to have a preventive work environment management system and to take active measures against discrimination and to promote gender equality. These active measures should aim to reduce the pay gap, increase women's participation in the labour market, and encourage men to take parental leave. Following the Parental Leave Act (Svensk författningssamling, 1995), parents are entitled to 480 days of parental leave, which can be shared between them. The employment is protected during the parental leave, giving the parent the right to return to their job after the leave.

The entire Swedish maritime sector, which includes land-based employees of shipping companies, ports, shipbrokers, marine engineering companies, authorities, academia, and research institutes, is estimated to employ around 160,000 people. Furthermore, shipping is crucial for infrastructure, competitiveness, and tourism. Swedish ports handle almost 90% of Sweden's total imports and exports (Lighthouse, 2021). However, in terms of the number of vessels and employees, Swedish shipping is relatively small. In 2021, around 10,600 people were contracted on Swedish ships, including temporary agency personnel from non-European Economic Area countries, mainly the Philippines (Sweship, 2023). Of these, 8,000 work as ratings. Women make up 25% of the seafarers, which is a considerably larger share than globally. However, this is mainly because Sweden has many ferries where most women seafarers (71%) work in service professions on board, often associated with lower social status.

Today, the only way to become a seafarer in Sweden is through a designated maritime training programme. After having completed compulsory school, most young people attend a three-year upper secondary education to prepare for either work or future studies. In total, there are 18 national programmes, of which 12 are vocational and 6 are preparatory for higher education (Skolverket, 2024). A vocational programme prepares students for immediate entry into the workforce by providing professional skills, while also offering the option to gain eligibility for higher education. In addition, there are six national recruiting programmes, the maritime programme being one of them. A national recruiting programme means that students from anywhere in Sweden can apply, regardless of geographical location. Unlike most other upper secondary school programmes, which primarily admit students from the local or nearby regions, nationally recruiting programmes accept applicants from across the entire country without any regional restrictions. After successfully completing the maritime programme, graduates can work as ordinary seafarers, either on deck or in engine. There is also the possibility of applying to a maritime college, regardless of whether the applicant has attended a maritime programme at an upper secondary school or not. After completing a maritime education, most Swedish seafarers work in a 1:1 rotation. The length of service depends on trade and collective bargaining agreement, from one to four weeks in short sea shipping to two to three months on ocean-going vessels, followed by the same time off duty.

1.4. Purpose and Aim

The purpose of this study is to identify the incentives at individual, organisational, and industry levels for skills provision in socially sustainable shipping and explore how these can be put into practice. Specifically, the aim is to systematically and from a holistic perspective investigate:

- What motivates people to enrol in and complete maritime secondary education and are there gender differences?
- What motivates people to stay in the maritime profession and are there gender differences?
- What incentives can be put in place at the organisational and industry level to ensure the supply of skills for socially sustainable shipping?

The overall objective is to identify recommendations to the maritime industry on measures to increase interest in maritime education among a wider target group and create favourable conditions for a sustainable working life in shipping.

2. Research Design and Methods for Data Collection and Analysis

This study was carried out in the setting of the Swedish shipping industry. The research activities can be divided into the following sub-activities:

(a) Register-based follow-up study of upper secondary school students at a maritime school.
(b) Survey questionnaire to former students graduating from a maritime school between 2010 and 2020.
(c) Interviews with upper secondary school students at two maritime schools.

The results of the research activities were analysed, discussed, synthesised, and developed into recommendations.

2.1. Register-Based Follow-Up Study of Upper Secondary School Students at a Maritime School

A time-series study was conducted in 2022 to follow a cohort of students who graduated in 2010 from the three-year upper secondary maritime programme at a maritime school in Sweden, to see how many were still working at sea and how many had decided to pursue higher education to become officers. The reason for choosing the year 2010 was that this cohort completed their education before the Swedish upper secondary school was reformed (Gy2011). These students thus became eligible to apply for a higher maritime degree programme after their graduation. Gy2011 aimed to make students in upper secondary vocational programmes better prepared for working life. It tightened the eligibility requirements for upper secondary education, increased the emphasis on vocational subjects, and made it optional to take the college preparatory courses that were part of the core subjects of vocational programmes.

The maritime programme offers common courses in areas such as safety, environment, electrical and workshop practice, cargo handling, and passenger safety. The students can choose to specialise in either deck or engine to work as an able seafarer deck or able seafarer engine. Based on the school's register of former students, an excerpt of seafaring service was requested from the Swedish Transport Agency's register of seafarers for the years 2010 to 2020. The analysis included a follow-up of the students' performance: upper secondary school leaving certificate, number of active years at sea from graduation in 2010 to 2020, highest certificate of competency obtained, the date of last enrolment at sea, and the extent to which students have pursued higher education in shipping in Sweden.

2.2. Survey Questionnaire to Former Students Graduating Between the Years 2010 to 2020

The main purpose of the survey questionnaire was to investigate the extent to which students were still working on board, within shipping, or if they had left the industry altogether. The aim was also to identify what factors were important in the decision to enrol in maritime education, such as influence from family and friends, as well as what factors were important in the decision to remain or leave the shipping industry. These factors include, for example, experience of induction programmes, employment conditions including salary and rotation, and the possibility of influencing working conditions. Further, the respondents were asked whether they would recommend others to choose a maritime education. The questions were multiple choice with the possibility to add free-text comments. For students who graduated before 2016, a manual search for current postal addresses was carried out. For students who graduated after 2016, information could be retrieved from the Swedish Transport Agency's register of seafarers. The survey questionnaire was distributed in 2022 by mail to a total of 252 people, of which eight letters were returned with an unknown address. After a reminder, 58 people responded, giving a response rate of 23%.

2.3. Interviews With Upper Secondary School Students

The research interviews aimed to investigate what motivated upper secondary school students to choose a maritime education, what they considered to be important factors for the successful completion of their education, and how they thought about their future career choices. Four focus group interviews (Krueger & Casey, 2009) with between three and six students in each group, and nine individual interviews were conducted during 2021 at two different maritime schools in Sweden. In total, 28 students were interviewed. After written consent was obtained from all participants, the interviews were recorded on video and audio.

The focus groups and the individual interviews followed the same semi-structured interview guide, based on five themes. All students were asked about their motives for applying to a maritime school and their thoughts about future career choices. Students who had conducted onboard training were also asked questions regarding their experiences of onboarding, working hours and workload, and victimisation. All five themes were covered in all interviews, but students were given considerable freedom to bring up ideas that they felt were relevant, allowing flexibility for in-depth discussions. Additional questions were asked during the interviews and responses were explored on an individual basis. All interviews were transcribed verbatim and collated, categorised, analysed, and interpreted by the authors.

2.4. Research Ethics

Under the European Code of Conduct for Research Integrity (All European Academies, 2023), the research activities aimed to strike a reasonable balance between the researchers' quest for knowledge and the participants' right to integrity. Since shipping is a relatively small industry in Sweden, the participants' demographic information is described so that no one can be identified against their will. We have also strived for transparency and clarity for all participants involved. Written invitations sent to participants included a description of the purpose, objectives and procedures, how the collected information was to be managed, and that the participants could notify us at any time if they no longer wished to participate. One week before the visits to the schools, a short video recording was sent out in which the researchers introduced themselves and the project, and provided the same information verbally, giving the students time to reflect on their willingness to participate.

3. Results

3.1. Register-Based Follow-Up Study of Upper Secondary School Students

A total of 40 students (8 women and 32 men) graduated from the studied maritime school in 2010. Out of these, 33 students received their final grades qualifying them for higher education at universities. Among these 33 students, one woman and four men pursued higher maritime education in Sweden. This represents about 15% of both genders of those who were eligible to do so. It is not clear if any of the students pursued higher education in other fields or further maritime education abroad.

Figure 1 illustrates the number of students who continued to work on board in various capacities during the ten-year period after graduation. As shown in the figure, over 62% of all students (25 out of 40) chose to work at sea immediately after school. The sharp initial drop represents those students who did not complete their studies or decided not to pursue a career at sea. It should be noted that the relative drop is larger among the men compared to the women. Over time, more and more opted for land-based careers, and by 2020, only seven of the former students still worked on board, four men and three women. Relative to the number of men and women who graduated in 2010, this equates to 37.5% of the women and 12.5% of the men continuing in a seafaring profession.
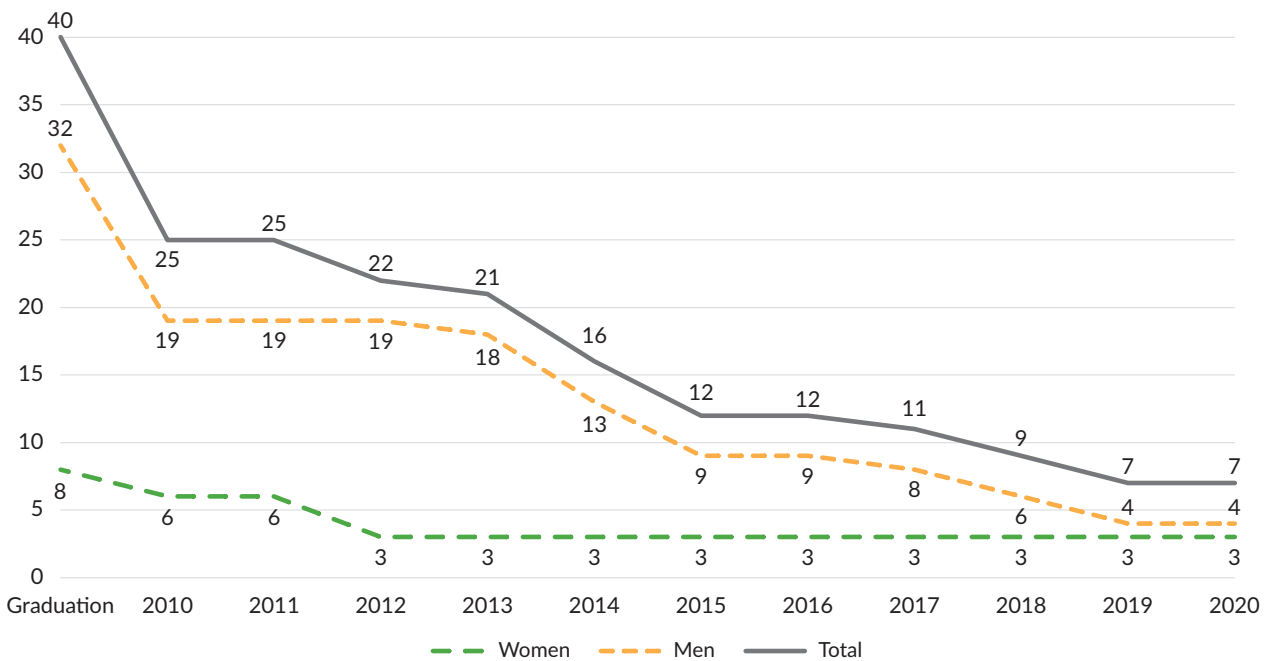
Figure 1. The remaining number of former students working at sea, year by year.

3.2. Survey Questionnaire to Graduates Between 2010 and 2020

The survey was answered by 58 people who completed upper secondary education at the maritime school between 2010 and 2020. Of the respondents, 83% are men and evenly distributed across the graduation years, with slightly fewer from the class of 2019 and no responses from the class of 2020. Of these 58 people, 26 still work on board, five work ashore in a maritime-related occupation, and 27 have left shipping altogether as of 2022 when the survey was taken. None reports working in education/research or being unemployed. Combined, this means that 53% of the respondents (31 out of 58) still work within the maritime industry. However, Figure 2 shows that, in relation to their total number, 88% of women remain within the maritime industry, while only 50% of the men do. In Figure 2, two individuals who did not disclose their sex have been omitted.
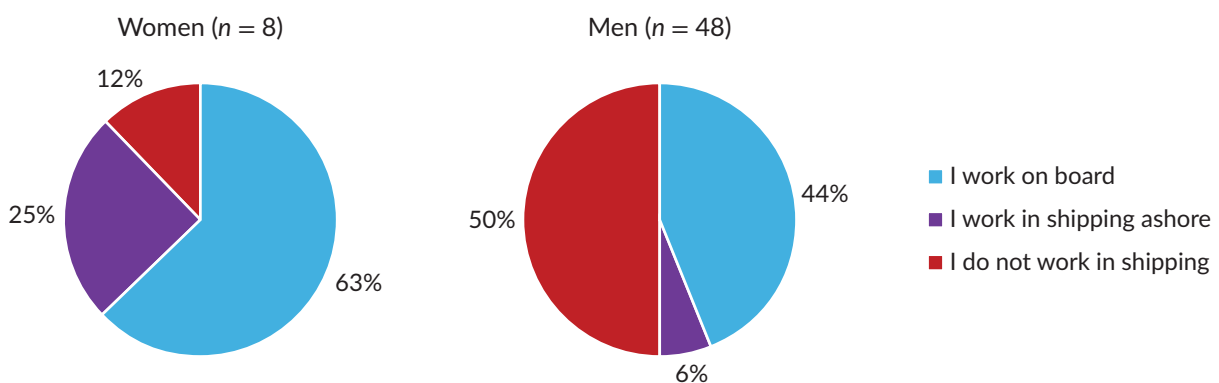
Figure 2. Number of respondents working at sea.

The driving factor behind the decision to enrol in a maritime education is largely that the expectations of the seafaring profession, and to some extent of shipping as an industry, match the aspirations for a future working life. Family or relatives who work or have worked at sea have a major influence. So does an interest in recreational boating and travel. The perception that "the maritime profession would suit me" is particularly true for respondents still working on board or in another maritime occupation. This is largely consistent with the perception of shipping as an attractive industry.

Those still working on board state that the decisive factors in their decision to stay at sea are largely related to the fact that they enjoy their work and their colleagues and that they have a relief system that fits their private life and interests. Almost 80% state that they are proud to be seafarers. On the other hand, several respondents believe that there is potential for improvement in terms of salary development, the possibility to influence their work situation, their work tasks and professional development, and the possibility of staying connected with family and friends while on board. These are factors that further strengthen organisational commitment and a sense of belonging.

Only half of the respondents report that they were well cared for when they first came on board as newcomers. Given the strong research support for the importance of good induction and mentoring for new recruits, particularly those new to the profession, this is a finding that would need to be addressed specifically within the industry. The open-ended responses provide several examples of the importance of the social working environment on board:

> What I like most is that when we are on board, we become our own little dysfunctional family. The community is the most important and best part of working at sea. I was most attracted to this career choice to escape life on land.

> Great colleagues on board and long holidays. When you are free, you are free, you never have to take your work home with you. Another thing is that you get to see and discover beautiful places in the world.

Of the 27 respondents who had left the maritime sector, 18 provided their alternative reasons for leaving, in addition to the fixed responses provided. The main reason for leaving is that they were offered a more attractive job elsewhere. However, the answers to the survey's open questions show that several chose another occupation after leaving school, either because they could not find work at sea at all or because they were not offered a secure employment contract and therefore had to look for other alternatives. Some express an interest in returning to the industry when jobs become available, but the need to renew and pay to update certificates is seen as a barrier. Five respondents stated that they were either not well treated on board or that they were ostracised, bullied, or harassed. This has affected both their willingness to remain at sea and their perception of the industry: "The workplace was full of sexism and racism, the atmosphere on board felt unhealthy and the romantic idea I had before quickly died."

The respondents were asked whether they would recommend family or friends to choose a maritime education today. This is a variation of a classic question used in many surveys to assess the loyalty and commitment of employees or customers. The options given in the questionnaire were "yes," "no," and "I don't know." There was also an option for free-text answers. The question was answered by all 58 respondents and 28 also commented

with their own words, indicating an interest in the question. Of all respondents, 62% (36 people) say they would recommend someone close to them to choose a maritime education today. 17% (10 people) would not and 21% (12 people) are unsure. Of those who have left shipping, more than half (59%) would consider recommending maritime training to others. Several free-text comments provided by those who answered "yes" concern positive factors such as the variety of tasks and long periods off work. Those who reply "no" or state that they are reluctant to recommend others, refer to difficulties in entering the industry without personal contacts, finding permanent employment, dissatisfaction with salary development, lack of personnel policy, and difficulties in staying connected with family and friends while on board.

3.3. Interviews With Upper Secondary School Students

The reasons given during the interviews for why the students had applied for a maritime education can be divided into three categories: a personal relationship with the sea, an interest in practical training, and coincidence. With few exceptions, these categories form a whole. One group of respondents have a previous relationship with the sea or shipping, for example, relatives who work or have worked at sea. This relationship can be close and long-standing when people come from a maritime family. For some, an older sibling or friend has recently trained to become a seafarer, and this has inspired them. The relationship may also be more distant, such as "a great-grandmother was a shipowner." Although this may be considered history, the memory lives on and has an influence. However, the relationship with the sea is not necessarily linked to commercial shipping. Several respondents have a general interest in the sea, such as having a pleasure boat or having grown up in the archipelago. Some experience a strong interest in the sea or boating without being able to pinpoint the exact origin of the interest. For other respondents, practical elements play a central role, both in the educational programme and in their future profession. This is expressed as a wish to work practically or with one's hands, or as having a general interest in engines. For those valuing vocational education, this is often linked to school fatigue or that the person does not see themselves as theoretically inclined. For some it is more a statement of what they do not want to do, as expressed by a student: "I realised in seventh grade that when I finish primary school, I'm not going to be an office slave." On-the-job training is also seen as a quicker route to a job, particularly attractive to those who are tired of school. Finally, for a relatively large group of students, the decision to apply to a maritime education is more random. These students have no prior knowledge of the industry. The decision can be based on an information leaflet, talking to someone at an upper secondary school fair, or an open day. It can also be a single event that triggers the interest, like being invited on a cruise. These events are often serendipitous, where the decision to choose an education stems from a sudden realisation of the existence of an entire industry, as the following quote shows: "I was visiting the Naval Museum, and I thought 'damn, I'm going to work on a boat.'" Surprisingly, many students are unaware of the career opportunities available in shipping until shortly before choosing a course of study. Several students also testify to the ignorance of many study and career advisers. In some cases, adults close to the student express reluctance or their own opinions and try to dissuade the student from going to sea.

The results of the interviews further highlight two main motives for students wanting to complete the training and pursue a maritime career. The first set of drivers represents the traditional image of the life of a seafarer. Salary, time off, and a chance to see the world are recurring drivers cited by respondents, with time off being the most prominent one. The ability to work on a relief system where a working shift is followed by an equal amount of time off is crucial for many. Another, more diffuse aspect of the traditional seafarer's life is the

sense of freedom, as expressed by one student: "Just the thought of going out on a big ship in the middle of nowhere makes me happy." Being somewhat isolated from the outside world can be a form of relaxation, and experiencing this feeling can be an incentive to complete maritime school and start working on board. The other main incentive is a desire to work in a practical and varied way, where no two days are the same. This stands in stark contrast with an office job ashore, that some students consider unthinkable. Here, a sense of professional pride in choosing a maritime career is observed. This pride is expressed in terms of doing something out of the ordinary, as well as being a part of the backbone of global trade. Despite this strong sense of pride, working at sea can be perceived as a working-class job. The image of the profession and the lower status associated with it may discourage prospective students, as their guardians may see further higher education as a matter of course.

One of the most important components for how the students perceive their education and welcome the industry is the onboard training that is part of the programme and particularly the supervision received during the time on board. Much of the discussion about shipboard placements revolved around this, and respondents shared many positive, as well as negative examples. Positive experiences include being allowed to try new tasks, receiving constructive feedback, and feeling included and welcomed into the social life on board. On the other hand, other examples include students feeling like unpaid labour, being afraid to ask questions, and being subjected to bullying and harassment, as well as outright racism:

> I felt deterred from my first ship. I was absolutely not welcome there, there was no commitment from the crew. I was given no work schedule, nothing, no organisation. I didn't learn anything special, it was just sour faces and words that you don't want to hear as a student.

Finally, although many students report being treated well, for others negative experiences are a deal breaker causing students to leave the ship early or decide not to pursue a career at sea.

4. Discussion

The research activities show a high degree of consistency in terms of incentives for enrolment and completion of maritime education. For some students, it is either an interest in and previous experience of shipping or a desire for an education that leads to a varied and practical occupation. Similar to previous Swedish studies, the presence of family or relatives who work or have worked at sea is a driving factor (Hult, 2012). This effect is metaphorically known as career inheritance (Inkson, 2004). In Hult and Österman (2016), the effect of having a relative working or having worked at sea was statistically significant for men, but not for women. Furthermore, this effect was said to be mainly emotional and not particularly influenced by the actual nature of the work. In the present study, we do not see any major differences between the motivations of women and men to apply for and complete a maritime programme. From the open-ended responses, growing up in the archipelago and having an interest in recreational boating and travelling were also highlighted as factors influencing the decision. For others, the decision is more serendipitous, and for these, the choice to enrol is often made close to the start of school.

As seen in Figure 1, women students are more likely to complete their maritime studies than men. This is similar to the findings of Barahona-Fuentes et al. (2020), where women students in equivalent maritime programmes were more likely to complete their entire education to graduation. In the follow-up of a cohort

of upper secondary school students, 15% of both sexes chose to continue their education. Women who chose to go to sea after upper secondary education were more likely than men to stay at sea. Although 80% of the graduates were men, about the same number of women as men were active ten years later. If this cohort is representative, it shows that it is worth investing in women seafarers. Although the studied group is small, we conclude that the women in this cohort both chose to work at sea and have remained at sea to a greater extent than their male classmates. It is often implied that women seafarers find it difficult to combine work and family life and hence would leave an onboard position during childbearing years. As seen in Hult and Österman (2016), women seafarers with young children at home have a strong occupational commitment. This suggests that working at sea may serve as a coping mechanism for navigating the challenges of a dual role trying to balance family and career. However, this positive effect was dependent on the level of satisfaction with the job content.

The decision to remain working at sea is predominantly influenced by securing a job that offers a suitable work–life balance and aligns with personal interests and aspirations. It is also important to have a variety of tasks, to be able to develop oneself and to have professional pride. The experience of a good sense of community and belonging is an important driver for staying at sea. The possibility to influence one's work situation, work tasks, and professional development, and the possibility to stay connected with family and friends while on board are factors that further strengthen organisational commitment and a sense of belonging. This link between perceived occupational pride and an employee's satisfaction with their working conditions and social support is well-known from previous research (Mas-Machuca et al., 2016; Welander et al., 2017). Conversely, social exclusion, harassment, and poor working conditions are barriers to retention. Half of the respondents stated that they were not well looked after when they were new on board. For some, this was a deciding factor in leaving the industry, as seen also in Kitada (2021). The organisational and social working environment is particularly important in the early stages of a new career, especially for new employees coming directly from a training programme (Bauer et al., 2007). It is often a transformative period when the employee is expected to settle in and understand their role both professionally and socially in the short term. To address new employees' experiences of uncertainty and stress, thoughtful induction policies and on-the-job training are needed (Frögéli et al., 2023). This may include, for example, counselling, mentoring, and a gradual escalation of work tasks (Österman & Boström, 2022).

There are undoubtedly considerable differences in the global working and living conditions of seafarers. Although this study is based on a Swedish perspective, its findings may have implications also for the international maritime industry. An increased focus on seafarers' health, gender equality, and social (in)justice is likely to make progress towards a more equitable level playing field over time. In addition, increasing societal demand for sustainable practices and the pursuit of the Sustainable Development Goals will hopefully push the industry towards fairer competition based on fundamental human and labour rights. As a result, these findings are relevant from a global perspective.

5. Recommendations

Building on the individual motives that emerged from the results, we see an opportunity to operationalise these into incentives that can be put in place at the organisational and industry level to ensure the long-term supply of skills for socially sustainable shipping. We see incentives as something that encourages an individual to act in a certain way to achieve an intended outcome. Incentives can be implemented at the

organisation level, such as an individual shipping company introducing an induction programme, or at the industry level, such as an industry-wide mentoring programme. Our proposed recommendations are presented here as links in a chain, consisting of attract, recruit, retain, and grow. The rationale is that the whole can never be stronger than the weakest link. There is an obvious risk of sub-optimisations if decisions are made and measures are taken unilaterally, rather than adopting a wider perspective. Maritime employers need to address both recruitment and the development of working conditions. This can be done in different ways, but the work needs to be long-term and involve employees at different levels.

5.1. Attract

To attract more people to apply for maritime education and careers, the industry needs to increase its visibility, especially outside the maritime community where knowledge already exists. This can be done, for example, by shipping companies reaching out to interest groups representing under-represented target groups. The image of the industry needs to be modernised and broadened to better reflect contemporary professions and work tasks. This image must be based on diversity so that more people can see themselves in a future career at sea. This applies not only to the production of marketing material, but to all forms of representation, such as guest lectures and industry councils in schools, presentations at conferences, and panel discussions. Role models need to represent a wide range of professions and different career stages. It is not enough to show the top executive at the end of the line, but also other opportunities along the way and what it takes to get there.

Communication and marketing of maritime education must be targeted at both students and their guardians and include information about what the programmes can lead to in the future. Strategic partnerships between companies and schools at the secondary and tertiary levels can increase the visibility of shipping. This can be done by, for example, company representatives visiting schools or holding webinars where employees talk about their jobs and career opportunities; offering scholarships, internships, summer jobs, job shadowing, mentoring programmes, and workplace visits for students; or offering graduates and young professionals trainee programmes to try different jobs.

5.2. Recruit

Recruitment includes both getting people to apply for a maritime education or job and ensuring a good induction. During the recruitment process, students and job seekers need to be made aware of both positive and negative aspects of their future careers. Relevant and detailed information, as well as a good induction, plays a significant role in the decision to complete the studies and remain in the industry. With clear and inclusive recruitment processes, an organisation can ensure that all vacancies are widely advertised and all applications welcome, regardless of the socio-demographic characteristics of the applicant. This can be done by setting targets for recruitment, hiring and promotion, and developing procedures such as anonymised recruitment so that hiring decisions are made based on set targets. In addition to the legal requirements for familiarisation of all newcomers to a ship, an induction programme may include:

- A short introductory film in which the company, before the first day of work, sends a welcome message from key people, presents its activities and values, and provides information about personnel procedures.
- Details of how to get to the ship and whom to contact.
- Ensuring the availability of appropriate working clothes, tools, and personal protective equipment.

- Information on working and eating hours on board.
- A welcome reception with a guided tour and an opportunity to meet colleagues.
- A plan for gradual escalation of work tasks.
- A follow-up of the induction programme. A good way to follow up is through personal contact after a certain period of employment or at the end of an internship.

5.3. Retain

The decision to stay with an employer depends firstly on the possibility of being offered a relevant job with reasonable employment conditions and a relief system that the employee finds compatible with personal life. Having satisfactory physical, organisational, and social working conditions is also crucial. This includes having tasks that feel fulfilling, a safe working environment, and good cooperation with managers and colleagues. As the salary is partly determined by factors beyond the control of individual employers, it is even more important to find ways, other than purely monetary, of providing value to seafarers. Examples of measures to retain satisfied employees include:

- Implement a family-friendly personnel policy that provides support for parental leave and a degree of flexibility, for example, in terms of working hours or shore leave.
- Set short and long-term targets for actions to achieve gender balance in all occupations and at all levels of the organisation.
- Ensure continuity in ship crews so that the same people return to the same ship as much as possible. This promotes mutual learning, social interaction, and increases retention.
- Plan for women seafarers to serve on the same ship at the same time to avoid being the only woman on board. This empowers women, develops the team socially and professionally, and reduces the risk of victimisation.
- Provide managers and supervisors with time, knowledge, and tools to improve the working environment.
- Increase security for positions and work situations where there is a high likelihood of employees being exposed to threats and harassment.

What is perceived as attractive work conditions will be valued differently throughout a working life. To maintain competence, maritime employers need to provide opportunities to meet different needs as far as possible. The course of a working life is rarely straightforward.

5.4. Grow

Skills are not static. Skills vary from person to person and need to be maintained and updated over time to remain relevant. Employees' needs and expectations of work change with age. Young people are generally less interested in seafaring as a lifestyle job and more likely to be driven by factors such as job satisfaction, that the work is stimulating, and that it can contribute to achieving other important goals outside work. Organisational structures must allow employees to thrive, develop, and grow according to the needs of the different working-life stages. An individual employee's development may be in a different direction, into a new role, or by deepening their current position. Whatever the direction, the development will strengthen the employee's attachment to the organisation.

The traditional career path at sea is hierarchical and more clearly manifested compared to other workplaces through, for example, uniforms and the size and location of the cabin on board. Career planning needs to be a dialogue between employer and employee, with a thorough understanding of mutual expectations and what is required to take the next step. For those who do not want or cannot be given the opportunity to pursue a traditional career, this dialogue should involve other paths—at sea and ashore—and include a plan on how to get there. It should also be made clear to what extent a proposed skills development can be expected to affect salary progression. Of course, competency planning should cover all employees. Even in job categories where there is no clear career path, such as crew positions, this planning is essential to help people grow as individuals.

There is an inherent conflict between the traditional view of what initially attracts people to a life at sea and what subsequently leads seafarers to seek work ashore. Those initially attracted by seeing the world and having long, uninterrupted holidays may find the same things limiting later in life because they also mean being away from home. Similarly, the sense of adventure may fade, resulting in the worker moving on to new ventures. Therefore, promoting onboard work as adventurous might be unwise. A better marketing strategy would be to showcase the variety of tasks and the wide range of possible career paths. It must be made clear that choosing a career at sea is not a dead end; on the contrary, it is a decision that can open many doors. For some, the possibility of a temporary position ashore during the early years of starting a family may be a good solution. Others may prefer to continue working on board, but on a part-time basis, for example by sharing a position. This may suit parents as well as other seafarers who wish to combine work at sea with other interests. There are also older seafarers who do not want to work full-time but are not ready to go ashore completely. Still, others may wish to continue working in the maritime cluster but long for new challenges. The point here is that the many and varied opportunities for development may be at least as important a selling point as pay and time off, especially given that almost none of the respondents thought it likely that they would work at sea for their entire careers.

6. Conclusions

This study has identified incentives for skills supply in socially sustainable shipping and explored how these can be put into practice. The overall objective was to recommend measures that could, in the long term, increase interest in maritime education among a wider target group and create good conditions for a sustainable working life in shipping. The research activities of the study show a high degree of consistency in the motives for applying for and completing a maritime education. For most, it is an established interest in shipping or boating or a desire for a hands-on career. For others, the decision is more serendipitous. No major differences were found between the motivations of women and men. However, women are more likely than men to complete their studies. Crucial to the decision to stay at sea is having a job with reasonable working and employment conditions and a functioning support system. It is also important to have varied work, to be able to develop and to feel professional pride. Experiencing social cohesion is an important driver for staying at sea. Conversely, social exclusion, harassment, and poor working conditions can be barriers to retention. Women are at increased risk of discrimination and unwelcome behaviour. However, it is noted that although women are considerably fewer in number, they are more likely to remain at sea.

Ensuring a sustainable skills supply requires a holistic approach that includes ways to attract and recruit new people to the industry, as well as efforts to retain and develop those already working in shipping. If the

shipping industry can retain people who are allowed to grow in their professional roles, they will act as good ambassadors and contribute to the continued recruitment of seafarers. The visibility of seafaring also needs to be increased, especially among groups that are currently in the minority in maritime programmes. A better understanding of the importance of seafaring and the breadth of possible careers will create favourable conditions for family and friends to support those who wish to go to sea. Effective and welcoming onboarding and induction of students and new recruits is essential. A welcoming induction is a strong incentive for students to complete the programme and increases the willingness to continue in their chosen career path. Conversely, poor experiences can bring a career to an abrupt end. Feeling unseen or unwelcome, harsh jargon or hostile attitudes cause some students to drop out. One of the most important components for a student to have a rewarding internship on board is supportive supervision. In addition to the pedagogical perspective, organisational conditions need to be in place that provide clarity about onboard supervision and who is expected to do what. Supervisors must be given time and recognition for this task. After leaving school, a job with reasonable conditions is a prerequisite for entering the labour market. Later in working life, adjustments may need to be made to facilitate career progression, for example through flexible working hours to allow people to start families or through targeted career development for promotion. There is no single solution that will fit all seafarers throughout their careers. Employers and the industry need to meet seafarers at different stages of their working lives to help them grow.

Shipping is a highly regulated industry, including minimum manning requirements and working hours. However, it is a matter of priorities. Employers need to look at what they can offer to make the job and the workplace more attractive and to encourage people to stay and go the extra mile. Efforts to retain loyal, highly skilled staff should be seen as an investment rather than a cost.

Conflict of Interests
In this article, editorial decisions were undertaken by Kristina Svels (Natural Resources Institute Finland), Milena Schreiber (University of Santiago de Compostela), and Kristen Ounanian (Aalborg University).

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