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# **Swedish Seafarers and Seafaring Occupation 2010**

A study of work-related attitudes during different stages of  
life at sea

Carl Hult (editor)



The yearning for the sea where all life begins is eternal. The people of coastal countries and sailors who have dedicated their lives to the sea know this.  
(Jonny Rieger 1954, editors translation)



## *Summary*

The aim of this study of Swedish seafarers was to investigate attitudes, perceptions and work experiences in the seafaring occupation. The study was undertaken partly in response to the needs of the shipping industry to recruit and retain qualified Seafarers, and partly because of political ambitions to extend people's working lives in general. The two main areas of enquiry were seafarers' motivations to work for the specific shipping company (organizational commitment) and seafarers' motivations for working in their particular occupation (occupational commitment). The study is based on survey responses from a sample of 1,309 seafarers taken from the Swedish Register of Seafarers.

The study has shown that the seafaring occupation has strong influence on identity construction and that job satisfaction is generally high. Seafarers enjoy and are motivated by their job content. The study also, however, observed a number of challenges for Swedish shipping. It emerged that flagging out – registration of ships abroad – impairs commitment to the particular shipping company and that perceptions of the social composition on board are one underlying cause. Specifically for older seafarers (55+), flagging-out also resulted in a distinct decline in commitment to the occupation in general. The cause in this case is the perceived inadequacy of the social security structure. Occupational commitment otherwise increases with age and seafarers in the oldest category appear to find the seafaring life unproblematic. In this respect, there is a clear difference compared to the youngest seafarers (aged 19-30), a large proportion of whom believe it is likely they will leave the occupation within the next few years.

The first two chapters of the report present the general aims of the study along with those aspects of shipping and the situations of seafarers in 2009-2010 relevant to the aims. The third chapter presents a selection of earlier Swedish maritime research. Work and commitment are discussed, based on theory and international studies, in the fourth chapter, where the study aims are also defined in greater detail. Chapter five presents the approach to data collection and processing. Results are reported and analyzed thereafter in three separate results chapters. In the final chapter, the most important results are brought to the fore and discussed along with associated recommendations and suggestions for future research.



## *Preface*

This report is the outcome of a research project under the working title “Work and Aging in Swedish Shipping.” The idea for the project came about in spring 2008 after meetings with Jan Snöberg and Christer Bergquist at the Kalmar Maritime Academy. The project was granted funding by the Swedish Mercantile Marine Foundation and was launched in 2009 with interviews of retired and active seafarers. A survey was distributed in 2010 to a large number of active seafarers. The material returned was subsequently compiled and analysis commenced. The bulk of the report was written in 2011, when supplementary interviews with human resources managers representing shipping companies were carried out. The text was translated to English with help from Proper English AB in 2012.

All that remains now is to acknowledge the involvement of many people with the project in various ways. I would like to thank the Swedish Mercantile Marine Foundation for making the project possible and in particular Christer Nordling, who read and commented on the report from the beginning to the finish line. I would also like to thank those who participated in the project reference group and other working groups organized during the course of the project. The participants are all mentioned by name in chapter 5. My sincere thanks are also due to everyone at the Kalmar Maritime Academy for their help, eminently sensible opinions and quite simply for having contributed a superb knowledge environment in which to undertake the study. I would like to thank Andreas Åsenholm, my steadfast project assistant and co-author of one chapter of the report, and Margareta Ljung, who participated in various steps of the project and co-authored two chapters. I would also like to thank Jan Snöberg for repeated close readings of drafts and sociologists Ulf Drugge and Paavo Bergman for important comments on an early version of the report. Heartfelt thanks are also due to the seafarers and shipping company representatives who agreed to be interviewed for the project and to the 1,309 seafarers who responded to the survey.

Finally, I would like to draw special attention to the memory of Master Mariner Christer Bergquist. Christer was involved from the beginning and was an indispensable dialogue partner until he so suddenly and tragically left us before the project pulled safely into harbour.

Kalmar, September 2012, Carl Hult





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## ***1. Embarking on the Year of the Seafarer 2010***

*Carl Hult*

The unique hazards confronting the 1.5 million seafarers of the world - including pirate attacks, unwarranted detention and abandonment - coupled with the predicted looming shortage of ships' officers, make it ever more incumbent to take immediate and effective action to forestall a situation from developing in which ships are not manned with sufficient skilled personnel. (IMO, 2009)

With these words announced IMO<sup>1</sup> Secretary-General Efthimios Mitoropolos that 2010 had been designated the *Year of the Seafarer*.<sup>2</sup> One of the reasons for the designation was to pay tribute to an occupational group and industry whose operations take place mainly at sea and thus usually out of sight and out of mind. Another reason is found in concerns about an anticipated future shortage of qualified ships' officers. Several assessments abound in the context. One figure mentioned is a projected global shortage of 27,000 officers in 2015 if nothing is done;<sup>3</sup> in another source, the figure is 40,000.<sup>4</sup> Even if the numbers vary, there is clearly a sense of an imminent problem within the industry. The difficulty has to do with recruiting – but also retaining – qualified and experienced onboard personnel.<sup>5</sup> One common estimate is that the average time a ship's officer with a university degree remains in the occupation is as little as eight years.<sup>6</sup> In something which thus could be interpreted as a dilemma, the recruiting discussion emphasizes that the occupation of ship's officer should not only be seen as a career choice in itself, but also as a passport to future careers ashore.<sup>7</sup> In summary, it can be said that there were hopes in the lead-up to 2010 that the Year of the Seafarer would entail a breakthrough for raised awareness of the significance of shipping to the global economy and of seafaring as an important, modern, qualified and appealing occupation.

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<sup>1</sup> International Maritime Organization.

<sup>2</sup> IMO 2009.

<sup>3</sup> IMO 2010, Circular Letter 2010, Annex 2, page 3.

<sup>4</sup> Growth Analysis 2010: 101.

<sup>5</sup> Swedish Maritime Administration 2010 a: 4.

<sup>6</sup> Swedish Employment Service, Shipping 2010: 10, see also Swedish Maritime Administration 2010 a: 17.

<sup>7</sup> IMO 2010, Circular letter 2010, Annex 2, page 3

Sweden is one of the most export-dependent countries in the world and thus highly dependent on shipping.<sup>8</sup> It has been estimated that 80-90 percent of our international trade is shipped by sea.<sup>9</sup> Figures indicate that 66,540 merchant ships called at Swedish ports between January and September 2009 and that the figure for the full year was 87,000 ships (about one call every six minutes). There are also figures that state, with astounding precision, that 22,883,593 passengers used some type of passenger ferry at a Swedish port during the period of January-September 2009.<sup>10</sup> It has also been estimated that the annual volume of maritime cargo is equivalent to nearly 20 tonnes per Swede<sup>11</sup> and that shipping and related businesses employ about 220,000 people.<sup>12</sup> Although one might want to take a somewhat conservative view of the figures, taken as a whole they show no shortage of arguments for the need to draw attention to the Swedish shipping industry and Swedish seafarers. In order to maintain and preferably enhance the appeal of the seafaring occupation, however, there is also good reason – not only for the industry but also for trade unions, maritime academics, seafarers’ schools, politicians, and we other citizens – to have up-to-date information about what people who work at sea have to say about their work and occupation.

For most people, most of the time, ships are simply  
“out of sight and out of mind.” (IMO *b*, Circular  
letter 2010, Annex 1, page 1)

During the first few weeks of 2009, the Kalmar Maritime Academy began a project on work at sea. The aim of the project, funded by the Swedish Mercantile Marine Foundation, was to study Swedish seafarers’ attitudes towards their work and occupation. The rationale for the project was the aforementioned recruiting problem, the high attrition rate and the need to secure future labour supply. The focus of the study was the commitment of onboard personnel and how this might vary during different stages of life. Data were collected through interviews and surveys.<sup>13</sup> Although this report

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<sup>8</sup> Swedish Employment Service Maritime 2009: 2; Ekonomifakta 2010: 1.

<sup>9</sup> Palmberg et al. 2006: 6; Ports of Sweden 2010; Swedish Employment Service Maritime 2009: 2.

<sup>10</sup> Ports of Sweden 2010.

<sup>11</sup> Swedish Maritime Administration 2009 *a*: 6.

<sup>12</sup> Palmberg et al. 2006; Swedish Employment Service, Shipping 2009: 2.

<sup>13</sup> Please see the section on collection and processing of data for more detailed information about the study approach.

focuses on the survey responses, the survey design was based on the interviews and a selection of quotations from the interviews will be used initially to provide some background information about the seafaring occupation.

The Year of the Seafarer 2010, also the year when the project's survey responses were collected and compilation of results began, was a difficult year for shipping and seafarers. The shipping industry had been hit hard by the ongoing and serious financial crisis, which probably kept confidence in the seafaring occupation, at least temporarily, at a muted level. Worries were exacerbated in Sweden by a wave of flagging-out of ships. Compared to 2009, the Swedish-registered merchant navy had declined by 12.5 percent, calculated as ships of 300 gross tonnes and above.<sup>14</sup> Port calls by merchant ships declined by 15 percent and passenger ferry use by 3 percent.<sup>15</sup> The year also began with a conflict surrounding the termination of the ships' officers' pension agreement related to the option to retire at age 60 in certain circumstances. The conflict was, however, short-lived and the agreement remained in force.<sup>16</sup> Events of this kind may, in a way that is difficult to assess, have affected responses to the project survey. The situation was probably felt most keenly by able seamen and motormen because opportunities for Swedish ratings to compete with other nationalities were further constrained by the foreign registrations. According to the Swedish Employment Service Maritime Forecast for 2011, only senior officers can feel relatively secure in light of current developments.<sup>17</sup>

All of this turbulence concerning jobs, working conditions and finances may, despite everything, be seen as fluctuations within the more long-term trend towards a predicted labour-supply shortage, a trend that does not apply exclusively to the shipping industry. Few have been able to avoid hearing about the demographic trend of an aging population, declining birth rate and progressively later entry to the labour market. These factors combined are thought to portend a future shortage of active labour market participants in most industries in Europe. In response to such a scenario, explicit political ambitions in the EU have been aimed at increasing labour market participation in the 55+ age category.<sup>18</sup> The forecasts for the shipping sector, as al-

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<sup>14</sup> Lighthouse 2010; Swedish Employment Service Maritime Forecast 2010: 3.

<sup>15</sup> Transport Analysis 2011; Ports of Sweden 2010.

<sup>16</sup> SARF 2010a; 2010b; 2010c; SBF 2009; SBF 2010; SFBF 2010.

<sup>17</sup> Swedish Employment Service Maritime 2010: 21.

<sup>18</sup> European Commission 2003; 2004.

ready discussed, do not appear brighter than for other sectors. A very large proportion of employees in the shipping industry are approaching the end of their active careers,<sup>19</sup> and the average age of onboard personnel rose by 11 percent between 2006 and 2009.<sup>20</sup> Here, as in other industries, there is thus reason to try to retain employees for as long as it is possible and appropriate. In order to succeed at these ambitions, policymakers have emphasized the importance of financial incentives that make it profitable to postpone retirement and of promoting working conditions that make people willing keep working and able to do so.<sup>21</sup> The Swedish parliamentary committee on senior citizens' issues, SENIOR 2005, emphasized in the context how people are pushed out involuntarily due to labour market conditions and the significance of individual commitment with respect to the prioritization of work and leisure.<sup>22</sup>

The importance of financial incentives on the job should not be underestimated. But since reasonable financial gain must be considered fundamentally important to wage earners of all ages, it is doubtful whether financial incentives should be stressed as a particularly prominent motivator, specifically in relation to older workers. A great deal has already been done in Sweden towards resolving this issue long-term through the 2001 pension reform that links pension income to people's total lifetime income combined with a flexible age of retirement.<sup>23</sup> More interesting factors in a decision to continue working a few additional years are whether people are *willing*, *able*, and *allowed* to continue performing a paid job.

In this context, *willing* refers to a more qualitative link to the labour market, occupation and the work organization; that is, incentives fuelled by the non-financial values of the activity. These non-financial values may be roughly summarized in the social aspects of the activity and the job content. One can on solid grounds presume that the qualitative preferences are often decisive in the choice to retire or keep working. If people can afford to retire and wish to do so, most factors indicate they probably will. If, however, people do *not* want to retire, there is reason to presume they will not do so, even if they could afford it.

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<sup>19</sup> Swedish Maritime Administration 2009a: 33

<sup>20</sup> Swedish Employment Service Maritime 2010: 8.

<sup>21</sup> European Commission 2003; 2004.

<sup>22</sup> SENIOR 2005 (2002).

<sup>23</sup> European Foundation 2004; Swedish Social Insurance Agency 2011.

Whether seafarers are *able* refers to the capacity to work, which sooner or later declines with age in various ways and thus puts an end to working life, regardless of personal preferences. Whether seafarers are *allowed* to continue working refers to the extent to which management and colleagues accept older personnel onboard. Whether older seafarers are welcome or unwelcome is probably highly significant to a decision to defer retirement. Taken as a whole, we presume that conditions in the occupation and on the job are key factors in job satisfaction and commitment, as well as to the purely physical capacity to keep working a few additional years. To summarize the relations between work, incentives and older workers, we can say that there are probably advantages to be gained if those who are *willing* and *able* to work a few additional years are also *allowed* to do so, while the notion that older people *should* be forced to work ever longer because they *have to* for private financial reasons is highly questionable.

An imminent labour shortage in the shipping sector cannot be resolved only by motivating people already working in the sector to remain in the occupation. Ongoing and adequate recruitment of younger employees is necessary. For this reason, the Swedish Maritime Administration, at the government's request, appointed a special committee to investigate opportunities to increase recruitment in the sector. The committee's first interim report noted the importance of attitudes towards and within the industry. The report discussed the importance of the appeal of the shipping sector. The committee stressed the importance of deliberately communicating a positive image of the shipping sector with the intention of changing obsolete values. This also encompasses hopes of widening the recruitment base so that the industry better reflects the population; the committee stresses for example the importance of trying to fulfil ambitions to employ more women.<sup>24</sup> In their concluding action plan, the committee also stresses the need for 'profiled study programmes' at the university level to enhance the skills of officers aimed at the land-based operations of the shipping sector. This is presented as one way of retaining employees with maritime experience in the sector even if they leave the seafaring occupation.<sup>25</sup>

Regardless of whether we are talking about the need for new recruitment or the need to retain current employees, it is a good idea to begin with what people in the industry actually think about their work and occupation, which

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<sup>24</sup> Swedish Maritime Administration 2009b.

<sup>25</sup> Ibid.

is also the intention of this study of onboard personnel on Swedish-controlled ships.<sup>26</sup> The study assumes that people once recruited to the seafaring occupation and who want to remain in the occupation must continually take a stance on the specific demands of the job, as well as their life situations as they change over time. This assumption begs the question: to what extent do the specific conditions of the seafaring life govern commitment to work during different life stages? Supported by earlier research, we can presume that commitment is dependent upon what people want in terms of working conditions and what they perceive that they actually get out of their jobs.<sup>27</sup> We may also assume that the physical and social working environment is highly significant and that people need to feel appreciated at work, just as people need to feel they are able to meet the physical and mental demands. One important purpose of this study is to investigate how these types of perceptions and commitment vary during different periods of life at sea.

The reason for the study's focus on various life stages is found in the assumption that we enter – or are compelled to enter – various roles throughout life that affect our relationship to a paid job in various ways.<sup>28</sup> As an example, the shift in roles that is perhaps the most problematic takes place in the transition from the relatively carefree years of youth to the role of parent and provider. Another important shift in life is when the children leave the nest and the need to play the provider role dissipates. Yet another shift occurs when the career-building stage ends and is replaced by preparations for life as a retiree in the near future. All of these shifts are assumed to change the prerequisites for how people perceive and relate to having a paid job and especially if they, like seafarers, are forced to periodically spend a great deal of time away from the home and family.<sup>29</sup> When one brings the significance of age categories to the fore in this way, it is important to remember that comparisons can also reveal interesting generational differences arising from

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<sup>26</sup> Due to the ongoing and massive flagging-out, it is becoming increasingly incorrect to speak of 'Swedish' ships.

<sup>27</sup> Mottaz 1988; Hult 2005.

<sup>28</sup> Riley & Foner 1968: 9.

<sup>29</sup> When these shifts take place, and how much power they exert, naturally varies widely at the individual level and, depending on specific circumstances, the shifts may not occur at all. It should be added that the theory on role shifting was presented in 1968 and that society has changed considerably since then, with new patterns of family formation, for example. The point is that the shifts can still be assumed to exist at the statistical level, that is, as a sort of average tendency in large populations.



younger and older people having grown up in different epochs and having been shaped accordingly.<sup>30</sup>

The general purpose of the study is to identify motivational factors in the seafaring occupation – that is, to answer the question of why seafarers enjoy the occupation and want to remain in it or on the contrary what has gone wrong when commitment falters. A number of survey questions were used to achieve this. First, we used direct questions about retirement preferences and intentions to leave the seafaring occupation. We also used more indirect questions in order to identify various types of commitment. These commitment types are: (i) *employment commitment* (the desire to have a job for reasons beyond pay), (ii) *occupational commitment* (affiliation and identification with the seafaring occupation), and (iii) *organizational commitment* (loyalty and commitment to working for a specific shipping company). The study also requires us to use questions that indicate the extent to which older seafarers feel willing and able to continue working and the extent to which older seafarers are welcomed as members of the crew. In summary, we intend to provide the clearest and most accurate picture possible of how Swedish seafarers, men and women, in various onboard functions and at various ages perceive and relate to their work at sea anno 2010 (Year of the Seafarer).

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<sup>30</sup> A more detailed discussion of age differences and generational differences is provided in the section on organizational commitment (see pages 41-45).



## 2. Swedish seafaring life in 2009-2010

Carl Hult

People's attitudes about their jobs largely reflect the circumstances surrounding the occupation and the historical phases that have made the occupation what it is today. A description of events significant to the development of Swedish seafaring life might begin very long ago and recount how circumstances have changed through the centuries depending upon trade conditions, the balance of power, war and peace and, not least importantly, the ongoing technical development of ships. In short, a detailed account could be made very comprehensive indeed. In order to maintain focus on the purpose of the report, the account in this chapter will be kept rather concise and many interesting details will thus by necessity be omitted.<sup>31</sup>

Few occupations are like that of the seafarer. Working at sea also means being forced to *live* at sea. Unlike most other occupations, seafarers must periodically be at the workplace both during working and non-working hours, twenty-four hours a day. Depending on the trade area, weeks may go by when life is restricted to the onboard milieu.<sup>32</sup> Beyond the railings, the surroundings are mostly water in varying states of rough or calm weather against the backdrop of a more or less discernible horizon and all accompanied by the monotonous drone of the engines and a vibrating vessel body. Naturally, it can be difficult to be this isolated from the rest of the world for long stretches of time. But the perception that one is always heading towards a foreign destination may also involve a sense of adventure and freedom. There seems at any rate to be a romanticized element of freedom and adventure in the general conception of the seafaring life, shaped by sea shanties and tales from the seven seas.

In their book *The Ship as a Social System*, Wilhelm Auber and Dover Earner provide a not entirely romantic description of seafaring life. They go so far as to liken conditions of life onboard to those of a prison term or life in a monastery since the ship can be described as a *total institution*. The authors argue that the ship can be termed a total institution in that it effectively iso-

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<sup>31</sup> For more detailed reading on the seafaring life, we recommend Ihre 2010; Lindström & Malmberg 2010; Rinman 1983a, 1983b; Rinman & Brodefors 1982.

<sup>32</sup> For readers who are unfamiliar with maritime terminology, *trade area* refers to the geographical area within which the ship has its routes and can be roughly divided into Ocean trade, European trade, Near Coastal trade and Swedish Sheltered trade (see Swedish statute SFS 2007:237).

lates seafarers from the outside world and structures life to such an extent that it must supply the every need of those onboard.<sup>33</sup> The ship naturally differs from the prison in that imprisonment is not by choice and from the monastery in that time spent in the monastery is not a paid job and that the institutionalization of seafarers is as a rule clearly periodical. Nonetheless, the ship's tangible structuring of possible activity is periodically comparable to the other two cases.

With regard to the ship, however, we should differentiate between *the conditions of life onboard as they are* and *life onboard as it is perceived*. Any perception of being confined on a ship probably varies considerably along with factors like job satisfaction, social relations with colleagues and the family situation ashore. It is probably also true that any sense of confinement at sea has traditionally been balanced against the opportunity to go ashore in foreign ports and discover the world. The seafarers consulted in connection with this study, however, were often very clear that the increasing time pressure when ships call at port rarely provides an opportunity for shore leave.<sup>34</sup> All of that said, a relatively fresh international study shows that the desire to see the world is a frequently reported reason for choosing a seafaring occupation.<sup>35</sup>

One might perhaps discern a paradox in the description of seafarers as people on the one hand driven by restlessness and a thirst for adventure and on the other as people who live much of their lives in a closed and regimented social system with repetitive job tasks, not much to do in their time off and always on the way towards a destination entirely decided by others. But the precise meaning of freedom and adventure can ultimately be determined only by personal perception. A vital belief that these values exist in an occupation probably also make it easier to accept periods of confinement and boredom. Even if one might imagine that the design of the ship and the conditions of shipping have a strong structuring impact on life onboard, it emerged in the initial interviews of the project that the seafaring life is often perceived as varied.

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<sup>33</sup> Aubert & Arner 1962: 1-24.

<sup>34</sup> See also IMO 2010, Circular Letter 3091/2010, Annex 2:2.

<sup>35</sup> Life at Sea Survey 2007/8:10.

You load. You unload. You walk back and forth. You manage some things more or less well. But you are always checking things off on a list. Still, you learn. No two days are the same. You never end up sitting on a chair all day, every day. You do a lot of different things. There is a lot of variation in this occupation. And depending on where you work, it can be great. You can see a lot, you can experience a lot, and you learn. It changes you as a person. (Voice from interview in 2009)

### *Social groups at sea*

Opportunities to experience the world may have been restricted, but Swedish seafarers today may have more opportunity than before to work with people from other cultures. Since the Temporarily Employed Personnel (TAP) agreement was instituted in the late 1990s, up to half the crew on Swedish-flagged ships may be made up of people from other countries. The main purpose of TAP was to reduce shipping companies' costs by permitting employees from low-wage countries to work on Swedish-flagged ships and thus stop the flagging-out, which was indeed temporarily suspended.<sup>36</sup> Nor does it seem to be the case that multicultural crews entail any major problems for work and job satisfaction onboard, at least not if the officers are Swedish.

I think we Swedes are pretty good at that. We probably have a perspective that facilitates relationships with other cultures; we don't have that, what do you call it? 'Power distance,' I think they call it in foreign lingo...to the same extent others do. (Voice from interview in 2009)

One might very well imagine that leadership is particularly important in a social system as closed as that of a ship. Swedish ships' officers and officers' training have a good international reputation, which is often mentioned in the recruitment discussion.<sup>37</sup> It may be that a Swedish or Scandinavian tradition fosters a comparatively small need for power distance in leaders and managers.<sup>38</sup> Still, the chain of command at sea, even under Swedish

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<sup>36</sup> Swedish Government Report SOU 2005: 11: 62; SBF 2000; SEKO 2005.

<sup>37</sup> Growth Analysis 2010: 101; SBF 2011*b*.

<sup>38</sup> There is an abundance of scientific country comparisons concerning aspects of organizational democracy that point in this direction. See OECD 1999: 178-221; Dobbin & Boychuk 1999; Gooderham et al. 1999; Gallie 2000; Gill & Krieger 2000; Gallie & Paugam 2002: 82.

officers, has historically speaking been very clear as a natural consequence of the special responsibilities that must be assumed by the officers.

After all, according to the Maritime Code, the ship is an autonomous part of the country and the commander represents the government, law and order. It is a small society that has to work, rain or shine, both professionally and socially (Kjell Håkansson, *Med döden i kölvattnet* (2007: 162)

The quotation above was taken from a narrative about the era of sailing ships. Although the commander is still the ship's highest manager and as such assumes great responsibility, the commander's powerful position has changed and been weakened quite a bit over the years.<sup>39</sup> As well, many of the traditional markers of hierarchy, such as separate messes depending on rank and the use of titles, have gradually been eliminated from Swedish ships.<sup>40</sup> Today, more emphasis is put on the importance of cooperation and teamwork and seafarers can tell about a relaxed form of communication that applies to the entire crew. However, although the hierarchy may have flattened out considerably, it is still perceptible.<sup>41</sup>

The biggest difference is, I suppose, when you are the skipper. Then you have a certain distance to the crew and vice versa. The further down in rank you go, the closer you get to the crew. (Voice from interview in 2009)

As in most occupations, there has also existed a more informal hierarchy among the ratings. Here the hierarchy is one of age or seniority, that is, the pecking order governed by age and experience. Although in conversations with seafarers one understands that the system has traditionally played a key role in the transfer of occupational skills, this seems now to be in the process of dissolving.

Sure, it's probably the same there with the hierarchy, although it was not anything oppressive before, but you respected the old-timer, because he had knowledge, then it went downwards until you were young and the youngsters had to swab the decks a little more often. These days, you might have to

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<sup>39</sup> Ihre 2010: 41; Lindström & Malmberg 2010: 51-56.

<sup>40</sup> For a more detailed report of the onboard hierarchy in the early and mid-20<sup>th</sup> century, see Persson (1984) and Aubert & Arner (1962).

<sup>41</sup> See also Eldh 2004: 159.

swab the decks equally and the young people have knowledge and understanding of the modern gadgets and the old-timers understand when a little older knowledge is required. (Voice from interview in 2009)

As implied in the quotation, one reason for the dissolution of age-based authority may be that we are in the midst of a generational change in how we relate to new technology. Younger seafarers may feel pride in having the edge when it comes to new technology, while older seafarers sometimes feel that seamanship is being lost in the younger generation. This tendency can be observed among both officers and ratings.

For example, there might be an older person who wants to send e-mail home and so they come to me for help. We have a wireless network on board that I've had to help people with. The system we use to run the Internet is a little shaky once in a while, so I've had to fix that sometimes...I suppose it feels pretty good that you can be there ... It's mainly a matter of what you're interested in, what you've grown up with. (Voice from interview in 2009)

In my case, since I'm a navigator, well the young ones probably have no interest in navigation as such. They just read the instruments to navigate. They never go out and take the altitude of the sun. And I at any rate thought that was fun, a lot of fun. (Voice from interview in 2009)

Another source of social markers onboard is the division into departments. The departments describe the various functions onboard and can be roughly divided into deck, engineering, and catering. Deck ratings and engineering ratings have been working together for more than a century, starting in the era when sails gave way to steam. This technical change probably had tremendous impact not only on the propulsion of the ship, but also on social life onboard. The need for an ancient category of occupational knowledge disappeared and was replaced by a new one. Deck duty changed from having been a job whose main focus was the propulsion of a ship to a job that nowadays, in addition to loading and unloading in port, mainly involves maintenance work. The new occupational group of technicians who entered the ships was probably met with high expectations from many directions in the shipping sector, but certainly with some suspicion on the part of traditional seafarers of the time. One might suspect that a clear distinction between deck

and engineering was laid down, whereupon both groups closed ranks in a way that one can occasionally still see traces of today.<sup>42</sup>

I believe you always have to have technicians and there have to be mariners on the boat, but it would probably be a good idea if the mariners got a little more technical knowledge and vice versa. In order to improve understanding, I mean. (Voice from interview in 2009)

The catering ratings, whose duties include food service and cleaning onboard, serve in a function that must have always existed in one form or another within more far-flung shipping. Nonetheless, one can find discussions of whether catering ratings can actually be considered *real* seafarers.<sup>43</sup> This questioning may possibly be fed by a situation where the operating departments (deck and engineering) do not regard the catering department as genuinely *seamanlike*, but rather as *feminine*.<sup>44</sup> Catering is represented to a great extent by women and for a very long time was essentially the only function in which women were present onboard, other than telegraph operators.<sup>45</sup> Catering also has a distinct position at sea in that the content of the occupation is in many respects closer to the land-based hotel and restaurant industry than shipping. The circumstances have special consequences because the seafaring occupation is traditionally male-dominated, while hotel and restaurant occupations are more female-dominated. One interesting example is that women onboard can even reinforce the masculinity (and thus seamanship) of the operating departments, provided that the women work in catering and keep away from operation of the ship.<sup>46</sup> Since both the ship's departments and gender distribution per se can be the basis for social cliques, the boundaries can sometimes be especially glaring at sea. The catering departments on passenger ships and cruise ships are generally very large and social interaction is felt to be comparatively abundant while on many cargo ships, the departments are small and social interaction is relatively constricted. On some ships, it can feel lonely to be a woman.

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<sup>42</sup> For a vivid description of life onboard steamships, we recommend *Stimbat* by John E. Persson (1984).

<sup>43</sup> See Landgängen 2010-01-01.

<sup>44</sup> See Eldh 2004: 178.

<sup>45</sup> It can be added that the recruitment of women was resisted for a long time and was thought to be potentially damaging to the good atmosphere onboard. For more information about women at sea, see Kaijser 2005 and Lindström & Malmberg 2010: 65-67.

<sup>46</sup> Eldh 2004: 183.



First of all, I'm the only girl. I like guys and would rather work this way than to have only girls onboard...But why can't we talk about ... boots!!!? ... Bags!!!? ... Damn, I want a girl here! You know, girl stuff ... It's all about oil, engines and movies, and ...oh. There are so many things you can't talk to guys about. (Voice from interview in 2009)

Women are now found – although still not in great numbers – in most onboard functions. Looking at ship officers as a choice of occupation, the marine engineer has been the least attractive to women. The first female marine engineer graduated from the Kalmar Maritime Academy on the 27<sup>th</sup> of May 1977. In 2010, there were 40 women students in the master mariner programme (13.1 percent of the students in the programme) and 9 women in the marine engineering programme (5 percent of marine engineering students) at the same institution.<sup>47</sup> Similar gender distributions have been reported from the maritime programme at Chalmers.<sup>48</sup>

With regard to social cliques at sea it should finally be said that cliques, conflicts and complaints are found in most workplaces. That which sets the ship apart from other workplaces is that situations can probably become more tangible and obvious at sea, where individuals are confined together for long periods of time and where the same social structure spans work and leisure onboard.

If you start not getting along, you can't just go home at the end of the day, you know, and talk it out with somebody – you're stuck there. (Voice from interview in 2009)

### *Terms of employment and working conditions at sea*

Progress over the years has in general brought many improvements. From a historical perspective, modern ships are clean, comfortable and well-adapted to human needs. New conditions for providing tasty and nutritious food, private cabins, an advantageous rotation system and increasingly better opportunities to communicate with home are factors that can now make life at sea easier.<sup>49</sup> The first two ships in Sweden that could boast private cabins

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<sup>47</sup> Kalmar Maritime Academy 2010.

<sup>48</sup> Lighthouse 2010.

<sup>49</sup> IMO 2010, Circular Letter 3091/2010, Annex 2: 2.

for all crew members were launched by the Brodin shipping company in 1951.<sup>50</sup> In 1992, the Swedish Maritime Administration decreed that all onboard crew who live onboard the ship must not only have private quarters but also a hygiene area connected to their quarters, as a minimum standard.<sup>51</sup>

The rotation system's periods of time off are often mentioned by seafarers as one of the most positive aspects of the seafaring life. The so-called 1-1 system has been the most common since 1974. Under this system, a tour of duty onboard (two months, for instance) is followed by an equally long period off. Somewhat varying systems and agreements are in place, depending on factors such as the trade area and the seafarer's position. While it emerged in the interviews that the periods of separation from the home under the rotation system could be perceived as difficult, this generally seems to be offset by the periods of contiguous leave.

I'm the kind of person who, when I'm out, I can work around the clock, but then I want my time off.  
(Voice from interview in 2009)

Job security, pay and other benefits are important aspects of an occupation. Prior to the Seaman's Act of 1973, the commander had the right to hire and fire crew at will. At the time the sailor 'signed on' as onboard crew on a ship essentially for only a single journey from one port to another. Since 1973, seafarers on Swedish ships are employees of the shipping company, which puts the seafaring occupations on an equal footing with occupations in land-based businesses with regard to the Swedish tradition of negotiations between employers and trade unions concerning terms of employment.<sup>52</sup> As to the pay situation for seafarers, it is difficult to mention any generally applicable figures. In special cases, for foreign shipping companies, pay for Swedish ships' officers can be high enough to justify a move abroad to avoid Swedish taxation. But according to the 2011 Swedish collective agreement for foreign service, the higher pay rates for master mariners and chief engineers vary between the considerably more moderate 31,000 to 38,000 Swedish krona per month.<sup>53</sup> In addition, all onboard personnel signed onto the ship are paid, according to Swedish collective agreement, a meal allowance

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<sup>50</sup> Dalnäs 2009: 163.

<sup>51</sup> Swedish Maritime Administration Regulations 1992: 6, § 23.

<sup>52</sup> Thre 2010: 41.

<sup>53</sup> SARF & SFB 2010a; 2010b; 2010c; SBF 2011c SFBF 2010.

of 127 Swedish krona per day while on leave plus a per diem allowance while travelling between home and ship.<sup>54</sup>

#### *Hazards and stressors at sea*

The seafaring life is a potentially hazardous one. In addition to the hazard connected to loading and unloading or carrying out repairs, accidents can be caused by weather, wind and the sea itself or by human, technical and organizational factors. In certain waters, there is also a significant risk of pirate attacks and of facing criminal charges when incidents occur in foreign ports. The risk of criminal charges is greatest for the commander, who can get into serious trouble in certain circumstances – how serious is somewhat dependent on where in the world the ship is located. This may involve being brought up on charges for anything from minor oil spills or that the presence of pain medications onboard are not exactly as declared to the injury or death of stowaway. In short, the commander's burden of responsibility means that he or she may, for reasons beyond control, be forced to leave the ship in handcuffs.<sup>55</sup> The problem is well-known, but seems to be difficult to resolve.

When it comes to piracy, few people have been able to avoid hearing the reports in recent years of attacks and hostage-taking at sea. In 2010 alone, 445 incidents were reported, mainly in Somalia, the Gulf of Aden, the South China Sea, the Red Sea, Bangladesh, Indonesia and Nigeria (listed in order of incident frequency). In 2010, 196 ships were boarded and 1,181 seafarers taken hostage, of whom 13 were injured and 8 killed.<sup>56</sup> Swedish ships were spared any serious incidents during the period.<sup>57</sup> Considering the circumstances, one might presume that enthusiasm concerning the seafaring occupation varies strongly depending on the waters that will be sailed.

Regarding accident risk at sea, a great deal has been invested in onboard safety on Swedish ships since the Estonia disaster of 1994. The Swedish Maritime Administration's sector report (2010; 2011) tells us that eight serious accidents at sea occurred in 2009 with a total of seven injuries on Swedish ships. The corresponding figures for 2010 were 20 serious accidents at

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<sup>54</sup> SBF 2011a; SFBF 2010.

<sup>55</sup> Öving 2011: 3-4.

<sup>56</sup> ICC International Maritime Bureau 2011.

<sup>57</sup> In the final phase of this project (August 2011), reports came in that a Swedish merchant ship had been boarded by pirates off the coast of West Africa. Luckily, the crew came through the incident unscathed (see Wisby Ship Management 2011).

sea, but no injuries.<sup>58</sup> The large increase in serious accidents at sea between the years is primarily due to a new definition, effective 2010, by which it is enough for a ship to have been towed after an accident for it to be classified as serious.<sup>59</sup> The Swedish Transport Agency's report (2009, 2010) shows that 192 occupational accidents resulting in absence due to illness were reported in 2009 and that the corresponding figure for 2010 was 202 reports. No occupational accidents on Swedish merchant ships with a lethal outcome were reported during those two years.<sup>60</sup>

The extent to which efforts to improve safety have actually resulted in safer shipping is difficult to determine, partly because the work began only a short time ago and partly because a single accident of the magnitude of the Estonia disaster would make the statistics skyrocket. What might be somewhat worrying is that occupational accidents and work-related illnesses over the last decade have remained at a relatively high and unchanged level compared to workers nationwide. For all workers in the country, the statistics show a declining trend up to and including 2009.<sup>61</sup>

A side effect of the efforts towards improved safety at sea is that they seem to have resulted in extensive regulations that involve a great deal of paperwork, which officers feel is a burden. Increasing paperwork onboard cannot, however, be blamed on safety programmes alone. Certain administrative tasks were transferred from the land organization out to the ships in the 1980s.<sup>62</sup> In addition, telegraph operators, who had traditionally assisted with paperwork on the bridge, were eliminated from ships in the late 20<sup>th</sup> century, replaced by modern communications systems.<sup>63</sup> By 2000, the officers were left with a growing administrative load; a situation clearly reflected in the initial interviews of the project.

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<sup>58</sup> The statistics here are somewhat vague. According to the Swedish Transport Agency, only two incidents in 2009 were assessed as *serious* accidents (Swedish Transport Agency 2010, part 1: 17; 2010, part 1: 16). Note also that in its report, the Maritime Administration (Swedish Maritime Administration 2010b) refers to *accidents at sea* while the Transport Agency refers to *ship accidents*.

<sup>59</sup> Swedish Maritime Administration 2010b: 89.

<sup>60</sup> Swedish Transport Agency 2010, part 2: 3; 2011, part 2: 3; Swedish Maritime Administration 2010b.

<sup>61</sup> Swedish Transport Agency 2010, part 2: 6.

<sup>62</sup> Lindström & Malmberg 2010: 52-53.

<sup>63</sup> Ibid: 57-61.

Well, I have to say, as one skipper said, that “it’s become so goddamned safe onboard that it has become unsafe”... There should be a single loose-leaf binder. Then you know what’s in it. When you have ten binders, no one has any idea what’s in them. (Voice from interview in 2009)

Binders, paper, stress and severely curtailed crew numbers often come up in conversations with seafarers. A ship with a crew of 10 or 12 can now perform the same task that took 30 people in the 1970s.<sup>64</sup> Many seafarers believe the sense of affiliation and social relations onboard have been negatively affected by the introduction of these minimal crews. The initial interviews also indicate, somewhat surprisingly, that the introduction of private cabins may have had a negative side-effect on perceptions of social life onboard, in that crew tend to spend most of their time off in their cabins.

If you’re on a cargo ship, you feel like there’s never anybody around after five o’clock. Everybody goes into their cabins and shuts their doors. (Voice from interview in 2009)

I think it was a lot better before ... It wasn’t as stressful. I think the stress is one of the big reasons people are so tired. People go into their cabins and you don’t have time to socialize. There’s no time for that anymore. I think it was better in the old days, about 15 years ago. (Voice from interview in 2009)

More work, fewer people onboard ... it’s a lonelier job these days. So, in my position now, I’m almost always alone. Whatever watch you have, you almost always eat alone. When you go off watch, everybody else has already eaten. You sit there alone and eat. You are usually on the bridge alone ... I feel it is a pretty lonely job. (Voice from interview in 2009)

### *Favourable assessments of the seafaring life and occupation*

There are many stories about the seafaring life that testify to an exciting and eventful life; of hardships, exotic places and encounters with interesting people all over the world.<sup>65</sup> The problem with these stories is that the described events mostly took place far in the past. Because conditions for seafarers have changed quite a bit in the last fifty years, one must be cautious

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<sup>64</sup> Jense 1999: 31; Swedish Employment Service Maritime 2010: 9.

<sup>65</sup> See for example Swedish Maritime Museum 1971; 1972; 1973; 1975 and Björklund & Papp 1973; Brunfelter 1988; Engman et al. 1992; Hammarstrand 2000.

about transferring the content of such stories to seafaring life as it is today. What can be said, however, based on the initial interviews of the project is that the long periods of time off, the variety and the sense of freedom are circumstances often mentioned as the positive aspects of the occupation.

It was the variety; coming into port could feel good. Once you'd been in port a few days, when it was hectic and a pain in the butt having people around you all the time, then it felt good to go to sea again. It was good to get out, there was variety all the time and you saw the horizon around you and you saw the Southern Cross and ... looked up at the stars ... and you wondered what the hell all the people ashore are doing, running around the halls with binders and papers ... all the problems just seem petty somehow. (Voice from interview in 2009)

The sense of belonging onboard is also mentioned as something positive, even though – or perhaps specifically because – social life onboard takes place under special conditions.

I think we have a pretty good sense that we're in this together; that's the seafarer's motto, we live in a group, we've learned that you can't choose your workmates, so you make the best of things and it usually works out fine. (Voice from interview in 2009)

Another positive aspect of the seafaring life is the feeling of having gained good skills in a craft. The existence of significant professional pride among Swedish seafarers could also be discerned in the interview responses.

Yes, I'm basically proud of my work. There's a throw line and it's got to be nicely coiled...When I splice a line, the damned splices have to be smooth and tidy. There shouldn't be loose ends all over the place ... Same thing with the painting. (Voice from interview in 2009)

When I worked as a motorman and repairman and you're so in tune with each other when you're taking apart a machine, for example ... It's so noisy you can't talk to each other, but we can always see where the other guy is at various steps, so you hand over a wrench and like that ... then the other guy sees that now he has to go over there, so you get a 24 wrench there ... that things just flow, you know ... and so you run into a problem and you have to sit down and have a cup of coffee and figure something out.. (Voice from interview in 2009)

First of all, it's good and fun cooking – I can be as creative as I want to be on the job. I can do exactly what I want, with no restrictions. (Voice from interview in 2009)

When one ponders what has emerged concerning the positive aspects of the seafaring life, one is struck by how similar assessments could apply to many occupations on shore. The positive aspects that remain as distinctive of the seafaring life in particular then become the sense of freedom and adventure and the long, contiguous time off under the rotation system.

After having confronted several experienced seafarers with more direct questions about the best aspects of the seafaring occupation, a few more nuanced suggestions can be added to the picture. A picture of the positive aspects of the rotation system may for example be that the freedom created by the system gives seafarers the opportunity to focus exclusively on the job while they are onboard and to focus exclusively on whatever they want to do while they are off. The occupation also entails freedom in that seafarers can switch workplaces without retraining or having to relocate. The freedom and the adventure may also be grounded in the opportunity to still an innate restlessness: to cast off from the dock and as part of a limited crew leave the rest of society far behind. The adventure may still have to do with natural scenery and exotic places, but most of all the challenges of the job. Once out to sea, every position has its own area of responsibility which, perhaps much due to the distance to the rest of society, also instils a strong sense of integrity. Although modern technology makes it possible to ask others who are on land for advice, everything ultimately depends on individual crew members doing what is necessary.

To summarize this chapter, it can be said that the seafaring occupation has its advantages and drawbacks, like most occupations. On the one hand, one can argue that the seafarer's living conditions differ in a negative way from the factory worker's, the nurse's, the office worker's and essentially most land-based occupational groups. If office workers, for example, can arrange their work and leisure hours into a conventional circadian rhythm, seafarers must deal with their more protracted intervals between home and the workplace and try to adapt this to a lifestyle that, by definition, falls outside the conventional norm. This unusual lifestyle is also an interesting point of departure for studies of seafaring life. Already in the very title of a report on English seafarers and their family situations – *Lost at Sea and Lost at*

*Home* – we receive a vivid glimpse of some of the problems in a seafaring life.<sup>66</sup>

On the other hand, the special living conditions of seafarers also have their advantages, which can be summed up in the freedom provided by the rotation system, freedom of employment and adventure and integrity on the job. Despite these positive aspects of the occupation, one must nevertheless assume that seafarers who enjoy their work but also have family and friends ashore are at some risk of living not a double life, but rather two half-lives, where one half is always missing. Considering everything that has emerged, we must assume that the emotional relationship to the job and occupation may be entirely different for seafarers than it is for people who work on land and near their homes.

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<sup>66</sup> Thomas 2003.



### 3. *Swedish maritime research*

Margareta Ljung & Carl Hult

That which unites many Swedish researchers who have in recent decades studied seafarers' working conditions, health and well-being and safety on Swedish ships is the use of an organizational and often socio-technical and system theory perspective.<sup>67</sup> Swedish studies have often been inspired by international research, where the name David Moreby frequently recurs. His book, *The Human Element in Shipping* (1975) has had strong influence on social scientists in the field of maritime research. It should also be mentioned that Swedish maritime research in the field has been mainly based on interviews and observations, with only a few studies based on surveys. The following summary covers existing research categorized into three themes: (i) Seafaring life and seafaring culture; (ii) Stress, fatigue, and safety; and (iii) Attitudes towards work.

#### *Seafaring life and seafaring culture*

Seafaring culture, with regard to occupational norms, is an often studied phenomenon in Swedish maritime research. The concept of 'seafaring culture' is central in Christer Eldh's thesis (2004). Eldh's themes have mainly to do with safety issues, but they are encompassed in a wider cultural perspective. Like Kjell-Åke Hansson (1996), Eldh emphasizes the mutable relationship between ships' technology, handling and compliance with onboard safety rules. Hansson argues that good seamanship today has changed due to the new ships' technology that tends to define the working conditions to which the crew must adapt.<sup>68</sup> Eldh (2004) therefore emphasizes the desirable aspects of problematising the traditional view of 'good seamanship' and more clearly defining the skills currently preferred among crew on high-tech ships.<sup>69</sup>

Bengt-Erik Stenmark (2000) argues that seafaring culture has become diffuse and must be re-established through something he terms 'cultural learning.' Stenmark also posits that knowledge about seafaring culture/cultural learning should become an established subject in occupational

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<sup>67</sup> See for example Olofsson 1995; Hansson 1996; Stenmark 2000; Eldh 2004; Lützhöft 2004; Mårtensson 2006; Jense 2000; Lützhöft et al. 2008; Lundh 2010; Hjorth 2008.

<sup>68</sup> Hansson 1996: 71 ff.

<sup>69</sup> Eldh 2004: 25.

training.<sup>70</sup> Göran Jense (2000) also calls attention to the importance of seafaring culture. In particular, he brings up the masculine dominance and hierarchical power structure that has from a historical perspective always existed in shipping.<sup>71</sup> Eldh (2004) finds that Stenmark and Jense have similar perspectives on the concept of seafaring culture – which is that there is a cohesive culture that unites all seafarers. He believes this view is problematic because the term ‘culture’ tends to become static when changes are not integrated into ingrained beliefs about seafaring culture. Eldh points out the culture’s potentially negative impact on social relationships, communication and job satisfaction onboard, and asks himself *when* something is part of the culture and *if* there are people who are not allowed into this community.<sup>72</sup>

Jan Horck studies culture in another sense – as cultural complications in multicultural crews. Horck posits that multicultural settings are not unproblematic because culture-specific beliefs may create confusion about how others behave in situations of potential conflict and since the messages sent by one person are not always the same messages received by others. Horck leaves the question open with regard to the development of the future health and safety environment among multicultural crews.<sup>73</sup>

The Swedish Maritime Museum’s report series also contains publications that touch upon perceptions of multinational crews. Everyday cultural encounters onboard are tracked in a depiction of a round-the-world sailing on the *Isolde* of Singapore, which was flagged out and crewed with Swedish officers and multicultural ratings.<sup>74</sup> The conclusion was that everyday life onboard does not seem to be disrupted by cultural and religious differences. The problems that can arise mainly have to do with cultural differences in beliefs about leadership and authority. The authors, however, find that all parties eventually learn to overcome these culturally separated perspectives.<sup>75</sup> It should also be mentioned that the Maritime Museum’s report series contains several ethnographic descriptions of the seafaring life, such as a

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<sup>70</sup> Stenmark 2000, chapter 6.2: 36 ff.

<sup>71</sup> Jense 2000: 65 f.

<sup>72</sup> Eldh 2004: 27.

<sup>73</sup> Horck 2004.

<sup>74</sup> Du Rietz & Lundgren 2001.

<sup>75</sup> Ibid: 187-188.

description of work and life onboard the icebreaker Oden<sup>76</sup> and an account of working life on a ferry that sails between Sweden and Finland.<sup>77</sup>

Magnus Mårtensson (2006) discusses the distinctive environment of the ship with emphasis on isolation and separation from family and friends for long periods. He calls for more active employee welfare initiatives to reduce the effects of the crew's isolation, which would also improve job satisfaction onboard.<sup>78</sup> Mårtensson also problematizes the issue of recruitment or selection to the seafaring occupation. In order to raise the status of the occupation, especially the status of ratings, he suggests more precise selection instruments in connection with hiring. Selection criteria should for example take into consideration the capacity to withstand the mental strain of isolation. Mårtensson discusses the possibility of more carefully considered recruitment that deliberately looks for extroverted personality types, which, he argues, would improve both communication and cooperation onboard.<sup>79</sup>

### *Stress, fatigue, and safety*

Several publications on fatigue by Swedish and foreign researchers have garnered attention. In Sweden, Lützhöft et al published *Fatigue at sea: A field study in Swedish shipping* (2007). The study compares fatigue levels between two-watch and three-watch systems on a sample of Swedish ships.<sup>80</sup> The measurements, primarily physiological, were taken mainly of bridge officers, a total of 33 persons on 12 ships. The results show that participants on a two-watch system demonstrate greater fatigue than those on a three-watch system. The latter are also more satisfied with their shift and their work situation. Perceptions of stress, however, are the same in both groups of participants. The degree of fatigue is related to the hour of day during the shift. Fatigue is greatest late at night and early in the morning. The study also showed that reaction times are longer after a night shift than during a day shift.<sup>81</sup>

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<sup>76</sup> Brunfelter 1988.

<sup>77</sup> Engman et al. 1992.

<sup>78</sup> Mårtensson 2006: 163.

<sup>79</sup> Ibid: 164.

<sup>80</sup> On a two-watch system, seafarers work six hours on and six hours off (this is also called a 6-6 watch). In a three-watch system, seafarers work four hours on followed by eight hours off (also called a 4-8 watch).

<sup>81</sup> Lützhöft et al. 2007.

Fredrik Hjorth (2008) studies how safety at sea is affected by the work situation onboard small two-navigator ships plying the coastal waters of the Baltic Sea. Hjorth shows that working hours for officers and mates have risen to such a degree that it has resulted in violations of rest period rules, which created a tendency to revise rest period logs after the fact. The crews feel the phenomenon is well-known among inspectors, who choose to look the other way because the issue is too controversial to report. The situation of continuous shift work and long night shifts does not only affect safety at sea, but can also lead to serious health problems for the crew. According to Hjorth, increasing crew numbers would be one way to solve the problem. An alternate solution, with limited impact, would be to transfer certain tasks from ship to shore.<sup>82</sup>

Magnus Mårtensson (2006) asserts that a pressured work situation of fatigue, worry and stress is a tangible reality in modern merchant shipping. He also argues that a change in the actual work in recent years has degraded the job content for most ships' officers. Mårtensson notes that lower commitment and lower satisfaction in task performance has impact on the maintenance of safety levels. Mårtensson also points out that shipping differs from other industries (where fatigue is also found) in that seafarers are confined to their work environment and there is no clear boundary between work and leisure. Other factors that have contributed to increased fatigue are complex work situations arising from technical progress, financial competition and faster turnaround capacity.<sup>83</sup>

In a feasibility study of function-based staffing, Margareta Lützhöft et al (2008) point out how the job has undergone dramatic changes in recent decades. New job functions have been added with no satisfactory documentation of their implications for work onboard. The study provides insights into what these changes have entailed. Increased computerization, working with IT systems and administration and the implementation of new regulations and safety systems have complex consequences on work processes to an extent previously unknown. Parts of the crew spend much of their working hours in front of a computer, with less time available for the 'real' work.<sup>84</sup> This often gives rise to feelings of both stress and frustration. The study also points out the fact that modern ports are often open 24 hours a day. This entails an in-

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<sup>82</sup> Hjorth 2008: 7.

<sup>83</sup> Mårtensson 2006: 147-150.

<sup>84</sup> Lützhöft et al. 2008:17.

tensification of ship turnarounds, which affects opportunities for sleep and rest and is a source of stress in the administrative work.<sup>85</sup>

Monica Lundh (2010) studied working conditions for engineering officers and argues that the job content is not the main cause of feelings of work-related stress, but rather the role conflict.<sup>86</sup> The often contradictory demands put on engineering officers in the performance of their tasks seem to generate conflict. Engineering officers are expected to live up to professional standards while operating the ship with a reduced crew that must still meet profitability requirements. Lundh further argues that many seafarers feel they have inadequate skills and incomplete training for the new tasks assigned to them, mainly in relation to increased computerization and administrative work.<sup>87</sup> It is highly likely, she argues, that rapid technical, organizational and economic developments throughout the shipping industry are the most obvious cause of work-related conflicts among engineering crew.

#### *Work-related attitudes*

There is at present no Swedish shipping study with specific focus on seafarers' motivation in work and occupation. There are, however, two studies that come very close, in that they studied job satisfaction onboard Swedish merchant ships – Werthén (1976) and Olofsson (1995).<sup>88</sup> Hans-Erik Werthén presents a study based on survey material derived from a stratified sample of 86 ships that returned 1,610 responses.<sup>89</sup> The fieldwork was performed in 1971-1972. The study is a milestone in Swedish maritime research oriented towards working life and is repeatedly cited in subsequent research. The most important questions in the study have to do with (i) the impact of technical progress on job satisfaction for various crew categories,<sup>90</sup> (ii) the impact of traditional hierarchical and authoritarian ship organization on work-

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<sup>85</sup> Lützhöft et al. 2008: 17.

<sup>86</sup> Lundh 2010, paper IV: 10-12.

<sup>87</sup> Ibid: 10.

<sup>88</sup> Job satisfaction and work motivation (especially organizational commitment) are strongly correlated, but far from identical phenomena; see the discussion in the next chapter.

<sup>89</sup> Werthén 1976: 41-45.

<sup>90</sup> One problem associated with the study is that the question about the impact of technical progress on job satisfaction is a poor fit with the study's data collection method. The question concerns changes over time and cross-sectional data are insensitive to such changes. In order to observe changes over time, panel data or similar or other time series data which yields indications over a time period of sufficient duration is required (for more information about studies concerning changes over time, see Singer & Willet 2003).

related attitudes and (iii) changes in adjustment at sea.<sup>91</sup> The ‘adjustment’ in the latter question refers to employees’ adjustment to the seafaring occupation.<sup>92</sup>

Werthén’s study shows that when the study was undertaken there was a negative correlation between reported job satisfaction and the age of the ship. This was true among both officers and ratings.<sup>93</sup> Job satisfaction was thus higher onboard relatively recently built ships. In order to get at the effect of technical progress, Werthén takes a somewhat closer look at a small number of ships with a degree of automation that allows them to be run intermittently with an unmanned engine room (high-tech ships). Although the crews on high-tech ships were more likely to feel their work was meaningful, no difference in job satisfaction emerged between crews on these ships and conventional ships. Deck officers on high-tech ships reported that team spirit and sense of community were poorer compared to deck officers on conventional ships. Engineering officers on high-tech ships, however, expressed higher job satisfaction than engineering officers on conventional ships.<sup>94</sup> Greater faith in subordinate personnel was also noted on the high-tech ships.<sup>95</sup> Crew on these ships also reported greater perceived variation of workload and less idleness, which Werthén seems to interpret as meaning that these crews worked under greater stress than crews on conventional ships.<sup>96</sup> It can be added that, regardless of the type of ship, officers distinguished themselves by great emphasis on stress issues and many reported being often or very often forced to work when extremely fatigued.<sup>97</sup> It also emerged that seafarers seem generally to perceive high levels of stress on ships engaged in Near Coastal trade.<sup>98</sup>

Certain results in Werthén’s study are particularly interesting in relation to this study. One is that the relationship between job satisfaction and posi-

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<sup>91</sup> Werthén 1976: 24.

<sup>92</sup> Ibid: 38-40.

<sup>93</sup> Ibid: 94-99.

<sup>94</sup> As the correlation between job satisfaction and the degree of automation on the ship may be a deceptive correlation, Werthén discusses, in a few places, the possible impact of other factors that comes with technical progress (such as engineering officers’ higher level of education) and which might be the actual explanation. However, he never undertakes any proper examination of possible factors’ net effects on job satisfaction.

<sup>95</sup> Werthén 1976: 99-106.

<sup>96</sup> Ibid: 105.

<sup>97</sup> Ibid: 152-155.

<sup>98</sup> Ibid: 110-111.

tion among the seafarers differed from that found in studies of land-based organizations, where higher rank generally entailed higher job satisfaction. No such hierarchical difference in job satisfaction was found among the seafarers in this study. Another interesting result is that job satisfaction increases with age among ratings, while there seems to have been a negative connection between job satisfaction and time at sea for both officers and ratings. However, officers' inclination to leave the occupation declined with advancing age. Among both officers and ratings, the 26-35 age category was the life stage during which the risk of leaving life at sea was greatest.<sup>99</sup>

Werthén's conclusions are mainly favourable towards technical progress and, although at times speculative, they seem fairly plausible. He argues that increased mechanization alters the structure of the work so that better advantage can be taken of human qualities such as logical thinking and flexibility in connection with making judgments. According to Werthén, the prerequisite for perceiving a greater measure of job satisfaction is, however, access to the training and skills development required to do the job. If this is not provided and if the organization is not adapted in relation to the job content and division of labour, the occupational role will be decimated and progress will be perceived as a threat.<sup>100</sup>

The second Swedish attitude survey among seafarers was undertaken by Martin Olofsson (1995) and was thus published nineteen years after Werthén's study. Olofsson's study was based on surveys distributed to 111 cargo ships (Swedish-flagged with reduced crews), resulting in responses from 877 seafarers.<sup>101</sup> Olofsson uses some of the same survey questions used by Werthén in his study.<sup>102</sup> Olofsson reports generally higher mean values for satisfaction with the seafaring life and the occupation than Werthén was able to do.<sup>103</sup> The estimations of ratings concerning the interesting tasks and autonomy of their jobs compared to a job ashore had also improved between the two studies. Olofsson argues that this can be traced to smaller, less hierarchical crews where the work is discussed and worked out more collegial-

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<sup>99</sup> Werthén 1976: 160-163.

<sup>100</sup> Ibid: 173.

<sup>101</sup> Olofsson 1995: 44-55.

<sup>102</sup> One problem with the study, however, is that the results are presented without significance tests and, like Werthén's study, with no control for the effect of alternative explanatory variables. It is also unclear whether the samples of the two studies result in sufficiently comparable random samples.

<sup>103</sup> Olofsson 1995: 69-72.

ly.<sup>104</sup> Overall, chief engineers and second engineers seemed to be least positive in their judgments. Olofsson's explanation of this is that reduced crews and less support from the land-based organization entail high operational responsibility for engineering officers. The implementation of electronic control systems also eliminates opportunities for improvised alternative solutions.<sup>105</sup> Otherwise, the time spent on the same ship among onboard personnel had more than tripled between the studies, and the bond to a particular shipping company had become much stronger. Olofsson interprets this as an effect of reduced crews in that newcomers in small work groups were could become a burden, considering the additional costs for education and training.<sup>106</sup>

In order to further increase job satisfaction and happiness onboard for ratings and younger officers, Olofsson brings up in his closing discussion opportunities for these groups to gradually be given greater responsibility and points out that this had already occurred within many land-based work organizations. He argues that work onboard should be a continuous learning process, instead of being governed by ingrained procedures.<sup>107</sup> Olofsson encourages the Swedish shipping industry to be more open to alternative solutions. The solution cannot be to reduce crews every time costs have to be covered, he asserts. The traditional organization of the ship needs to be changed so that the potential of every individual seafarer comes to light. Efforts should be made to improve working conditions, which would in turn lead to greater satisfaction with the work situation and with life onboard.<sup>108</sup>

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<sup>104</sup> Olofsson 1995: 73-75.

<sup>105</sup> Ibid: 70, 81, 96, 145.

<sup>106</sup> Ibid: 67.

<sup>107</sup> Ibid: 144.

<sup>108</sup> Ibid: 146.



#### **4. Work, motivation, and commitment**

*Carl Hult*

The foregoing chapter on Swedish research on the seafaring occupation and seafaring life made it clear that existing research covers many interesting areas, such as safety at sea, seafaring culture and job satisfaction. The overview also revealed a lack of studies of work-related motivation. Although the phenomena of job satisfaction and motivation co-vary, the terms are far from synonymous. By definition, motivation encompasses a certain measure of dedication, which is not the case with job satisfaction. Useful definitions of motivation may be “the degree to which an individual wants and chooses to engage in certain specified behaviors”,<sup>109</sup> or “that which energizes, directs, and sustains human behaviour”.<sup>110</sup> Job satisfaction is not customarily regarded as an input in a relatively stable behaviour, but rather as an emotional response to a work situation.<sup>111</sup> Schematically, one could see it as that satisfaction is a feeling that comes *to* the individual from the activity, while motivation is an intention which, strengthened by the same feeling, may come *from* the individual to the activity.<sup>112</sup> Accordingly, job satisfaction is regarded in this study as one of several underlying factors in work-related motivation.<sup>113</sup>

##### *Motivation and the value of a paid job*

At first glance, a paid job seems primarily a means of achieving security and decent consumption capacity. But for most of us, a paid job is not only an instrument for attaining the goals external to the actual work activity – it also has potential inherent value. People who have experienced periods of unemployment, know that it is only when you have a job that you feel unquestioned acceptance in all aspects of social life. Nor is it unfamiliar that our jobs contribute to our identity and that our type of occupation denotes our social status on an unspoken but unmistakable social scale. According to

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<sup>109</sup> Steers & Porter 1987: 29.

<sup>110</sup> Steers 1984: 132.

<sup>111</sup> Steers 1984: 428-444.

<sup>112</sup> Satisfaction can also encompass a certain degree of saturation and fulfilment that may have negative effects on future motivation and commitment in certain aspects of an activity. To further complicate matters, strong commitment in an work activity may have negative effect on job satisfaction if ambitions exceed perceptions of what has been achieved with the activity.

<sup>113</sup> Steers 1984: 442; Mottaz 1987; Hult 2005.

social psychologist Marie Jahoda, employment contains an entire set of values that goes beyond pure economic ones. In addition to providing status and identity in the group and society, employment offers structure and regular activity and becomes a meeting point for social relations and meaningful collective efforts.<sup>114</sup> In this way, a paid job has become a significant complement to the more private and often more emotionally charged family relations.

However, it does not seem obvious that we can without further ado find a number of positive qualities in an activity that otherwise usually contains a tangible measure of compulsion and strain. Jahoda argues, however, that even though the categories discussed are only unintended by-products of the structure of employment in the modern world, they nonetheless correspond to a set of deep-seated human needs that have always and everywhere been met in social rituals and religious rites or, as they are here and now, in modern employment.<sup>115</sup> One important reason to why many of us today are able to meet needs at work beyond the financial necessities can probably be traced to a slow change in the view of human beings as a resource; from its former basis upon a potentially ruthless principle through the transition to insight into the importance of participation and exchange in the activity. The most critical changes in the perspective on work and motivation occurred in the aftermath of the Industrial Revolution. From having regarded workers as fundamentally lazy and interested only in money, there was a gradual evolution of the understanding that motivation and behaviour can be affected by several factors, such as social aspects, the design of the work, leadership styles, values and perceptions of the work environment.<sup>116</sup> This understanding also laid the foundation for modern studies of motivation.

#### *Work-related commitment*

So far, the terms *motivation* and *commitment* have been used alternately although there are some conceptual differences. For example, with *commitment* we often refer to important actions or decisions with relatively long-term implications, whereas we may feel *motivated* to do something trivial

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<sup>114</sup> Jahoda 1982.

<sup>115</sup> Jahoda 1982: 59.

<sup>116</sup> Developments in the last century may be described in three phases, from the *Scientific Management Movement* via the *Human Relations Movement* and on to the *Human Resources Movement* of the 1960s (see Steers 1984: 134-137).

with more short-time implications.<sup>117</sup> Although we should view work motivation as the basis of work commitment, we will in the forthcoming adapt our terminology to the research tradition of work-related *commitments*.

The first chapter of this study stated that work-related commitment can be found at various levels. It may involve an emotional connection to the specific job expressed in loyalty and commitment to the day-to-day job, which will be referred to as *organizational commitment*. At a higher level, it may involve an emotional connection to the occupation, which varies with our perceptions of the occupational role and the collegial affiliation with the profession, which will be referred to as *occupational commitment*. On an overriding level, one can also imagine an emotional connection to having a paid job in general, which is connected to the extent to which we as social citizens are encompassed by norms and values related to the value of having a job, which will be referred to as *employment commitment*. These levels or types of commitment will constitute important analytical distinctions in this study of seafarers' commitment to work and employment.

### *Employment commitment*

Employment commitment refers to the personal drive to participate in the labour market: to have a gainful employment, a job to go to.<sup>118</sup> This drive is often described in terms of financial incentives as an effect of expected economic gain in exchange for work effort. However, research has shown that the desire to have a job for reasons other than pay is generally high in the western world and particularly high in the Scandinavian countries.<sup>119</sup> In the foregoing, we have looked at this emotional dimension as a by-product of the structure of modern employment. The description can be further elaborated by looking at the relationship so that the emotional drivers can settle as a superstructure atop the economic drivers, provided that basic financial security exists. The non-financial aspect of employment commitment can then be developed in relation to how individuals perceive their financial situation – that is, the capacity to find non-financial values in work depends upon a certain level of basic financial security.<sup>120</sup>

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<sup>117</sup> See for example Meyer et al. 2004.

<sup>118</sup> The origins of empirical research are in the concept of *Non-Financial Employment Commitment* (Warr 1982).

<sup>119</sup> Hult & Svalfors 2002; Hult 2004; Esser 2005.

<sup>120</sup> See Hult 2004.

Non-financial employment commitment has to do with the individual's tendency to identify and seek out various values at work. The more values individuals find, the stronger their commitment to having a job to go to and, in all likelihood (all other things being equal), the lower become absenteeism statistics and the risk of early retirement.<sup>121</sup> Precisely which values may be perceived in a paid job is, however, unclear. What we know is that a significant part of non-financial employment commitment may be explained by the desire for advancement and, above all, for interesting tasks.<sup>122</sup> In order to arrive at a more detailed picture of the values that may be concealed in these aspects, we can in agreement with Marie Jahoda presume that they involve things like social status and identity, structure and regularity in life and having a meeting point for social relations and meaningful occupation. Although the drivers of employment commitment seem to involve the actual *endeavour* to obtain values, the circumstances of the specific job seem also to have some significance in that perceptions of actually having interesting tasks have been found to strengthen employment commitment.<sup>123</sup>

Earlier research shows that the tendency to find non-financial values in work varies with the individual's status in the labour market. Higher managers and highly educated civil servants are more likely to believe that a paid job has other values in addition to pay. Based on this, we might expect to find this type of commitment especially high among senior officers compared to ratings. On the other hand, it has been shown that the hierarchical pattern of job satisfaction among seafarers does not align with the general pattern in the labour market.<sup>124</sup> Earlier research has also noted a generally higher tendency among women to perceive non-financial values in a paid job.<sup>125</sup> One explanation for the gender difference might be that women's struggle to enter the labour market on equal terms to men has, for some generations, strengthened perceptions of the value of having a paid job – the greater the struggle, the higher the commitment.<sup>126</sup>

Research also shows that the non-financial interest in a paid job declines, naturally enough, as people approaching the age of retirement.<sup>127</sup> In some

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<sup>121</sup> See Hult 2004; Hult & Edlund 2008; Hult & Stattin 2010.

<sup>122</sup> Hult 2004; see also Appendix 1.

<sup>123</sup> Hult 2004; see also Appendix 1.

<sup>124</sup> See Werthén 1976 (in this volume pages 27-29).

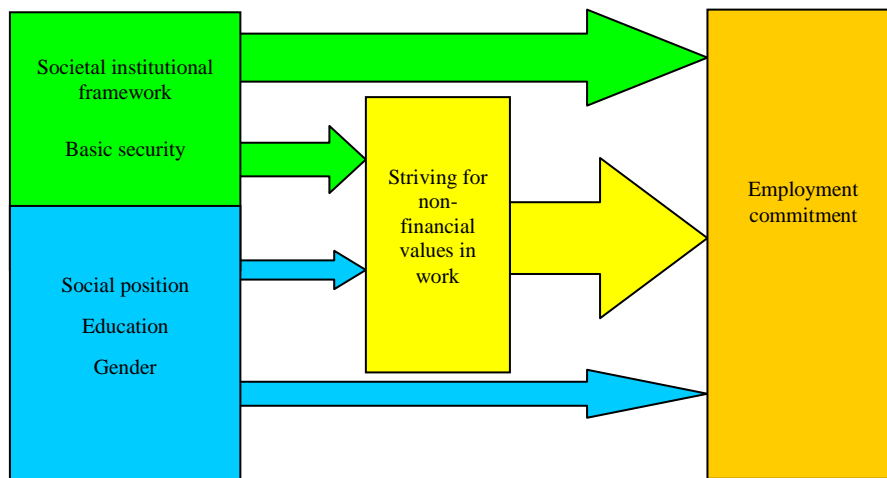
<sup>125</sup> Hult & Svallfors 2002; Hult 2008.

<sup>126</sup> Hult 2008.

<sup>127</sup> Marklund 1993; Hult & Edlund 2008; Hult & Stattin 2010.

cases, researchers have been able to trace self-selection in the age pattern. In these cases, non-financial commitment is relatively high among people in their 30s and lower among those around 40, only to rise again among the 55+ age category. A finding like this suggests the existence of a labour force that as early as age 40 tends to strive towards leaving paid employment in favour of early retirement and that those who still remain in work at 55+ are there because they have, and have probably always had throughout their adult lives, a high level of non-financial employment commitment.<sup>128</sup> We can therefore presume that non-financial employment commitment is significant to the choice to work a few years longer or retire. Figure 1 provides a simplified picture of the factors that govern this commitment.

**Figure 1: Schematic diagram of the factors found to influence non-financial employment commitment.**<sup>129</sup>



It can be added that country-comparative research indicates that perceptions of basic security provided by society underlie a large portion of observed national variations in non-financial employment commitment. In societies where all safety nets are linked to gainful employment, the financial values of a paid job seem to be given greater attention at the expense of

<sup>128</sup> Hult & Edlund 2008.

<sup>129</sup> Hult 2004.

the non-financial values.<sup>130</sup> There are a number of factors at the national level that are assumed to be involved and to influence employment commitment, such as labour market legislation and educational systems, whose design can systematically ignore or communicate awareness of all the values found in work. One might say that the national variant of employment commitment is grounded in social norms and values embedded in institutional frameworks. A nation's institutions and cultural content thus contribute to shaping its citizens' relationship to the labour market.<sup>131</sup> No more than we can presume that non-financial commitment to a paid job has generally existed in all historical epochs can we presume that it is now found everywhere in the world. In a nutshell, this type of commitment is dependent upon social community.

### *Organizational commitment*

If employment commitment has to do with the value of having a job on the purely general level, organizational commitment has to do with loyalty, dedication, and commitment to the specific job.<sup>132</sup> The circumstances surrounding both types of commitment differ in a significant way. Employment commitment is driven mainly by expectations and beliefs about work, while organizational commitment is driven mainly by what people feel they get out of the specific job and how far this aligns with individual expectations.<sup>133</sup> It is also true that the specific organizations (in our case ships and shipping companies) are replaceable units, while the labour market is what it is and can only be changed over the long term, or if someone is in a hurry by simply moving abroad (or as a seafarer, switching flags). Employment commitment is thus governed mainly by culturally conditioned beliefs and values that we acquire over the course of our lives and which can be changed only slowly, while the drivers of loyalty and dedication to the specific job are found more governed by perceptions of the immediate situation and can therefore be changed relatively quickly. In the latter case, commitment is thus driven by the extent to which various aspects of the workplace and the organization correspond to individual expectations.<sup>134</sup> If work-related prefer-

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<sup>130</sup> Hult & Svallfors 2002; Hult 2004.

<sup>131</sup> Hult 2004.

<sup>132</sup> This type of commitment has attracted intense research interest under the term *organizational commitment* among prominent figures including Porter et al. (1974) and Mowday et al. (1979).

<sup>133</sup> Mottaz 1988; Hult 2005.

<sup>134</sup> Ibid.

ences and perceived conditions agree, the individual is expected to express a high level of ambition with regard to dedication and loyalty.<sup>135</sup> In other words, organizational commitment strongly correlates with perceived job satisfaction.

Earlier research has shown that perceived non-financial gains have a stronger impact on loyalty and dedication at work than perceived financial gains.<sup>136</sup> But rather than differentiating between financial and non-financial factors, the distinction in this research tradition is between *internal* and *external* factors. Internal factors are factors which have inherent value and are directly connected to the work itself, while external factors refer to values outside the work activity. Internal factors are rewards one receives *within* the work (such as a sense of well-being and pride from the feeling that one is doing good and important work) and external factors are rewards one receives *for* work performed (pay and other benefits).<sup>137</sup> Based on this perspective, one can assume that it would be difficult for external factors to have a genuine impact on commitment while the work is being performed because they are entirely separate from the work activity. Pay and most other benefits are outside the work activity and bring no joy to it, while internal factors are part of the job and act as a direct connection between the individual and the activity, which makes the feeling of satisfaction with the activity possible.

Work psychologist Frederick Herzberg has described this relationship by saying that if we ask people about the most satisfactory aspects of their jobs, the answers nearly always have to do with factors in the activity itself, such as a sense of skill and capacity or the feeling of working as hard as they can to reverse a crisis situation. This aspect is therefore regarded as a genuine *motivator*. If we ask, on the other hand, about the worst experiences on the job, the answers nearly always have to do with external factors, such as rewards not given or unfair pay structures. These aspects are thus regarded as *demotivators*.<sup>138</sup> Herzberg also calls the latter category *hygiene factors* because they must always be kept at an acceptable level so as not to create dissatisfaction and impaired motivation.<sup>139</sup>

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<sup>135</sup> Mottaz 1988; Hult 2005.

<sup>136</sup> Ibid.

<sup>137</sup> See Hackman and Lawler 1971; Mottaz 1988; Lincoln & Kalleberg 1990: 98.

<sup>138</sup> Herzberg et al. 1993: 70-83.

<sup>139</sup> Ibid: Introduction: xvi.

Taken as a whole, the Herzberg model implies that external factors must be satisfied so that they will not have negative impact on motivation, and that when an acceptable level has been achieved, further increases of pay, for example, have no effect. In this state of equilibrium, it is only the internal factors that account for a long-term positive impact on motivation. This does not mean external factors are less important, but their reach is shorter and they must be constantly monitored to ensure that they do not move towards becoming demotivators. Although this can illustrate the actual principle of the exchange mechanism, the possibility of individual variations must be kept in mind. The extent to which access to internal values is present in the activity while the hygiene aspects have been met depends to a significant extent on subjective perceptions and expectations.<sup>140</sup>

As for non-financial employment commitment, higher managers and highly educated civil servants generally display the strongest loyalty and highest dedication in their work situations. But in this case, the entire difference can be explained by the fact that employees in higher positions more often perceive the work situation as satisfactory and therefore express a higher degree of loyalty and commitment.<sup>141</sup> The greatest positive effect is achieved through the perception of having interesting tasks, but autonomy at work is also highly significant.<sup>142</sup> There do not seem to be any gender differences with regard to this type of commitment, but it has been shown that older people generally express a higher level of job satisfaction,<sup>143</sup> and greater loyalty towards their employers than do younger people.<sup>144</sup> Figure 2 provides a simplified picture of some of the most important factors found in earlier research to have an effect on organizational commitment.

Finally, it can be said that unlike non-financial employment commitment, organizational commitment is not strengthened by basic social security.<sup>145</sup> On the contrary, expanded social security systems seem to work in the opposite direction with regard to commitment to the specific job. This could be interpreted to mean that loyalty to the organization is strengthened when social security systems are weak because in these cases it is more often the

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<sup>140</sup> Mottaz 1988; Hult 2005.

<sup>141</sup> Hult 2005.

<sup>142</sup> Ibid.

<sup>143</sup> Kalleberg & Loscocco 1983.

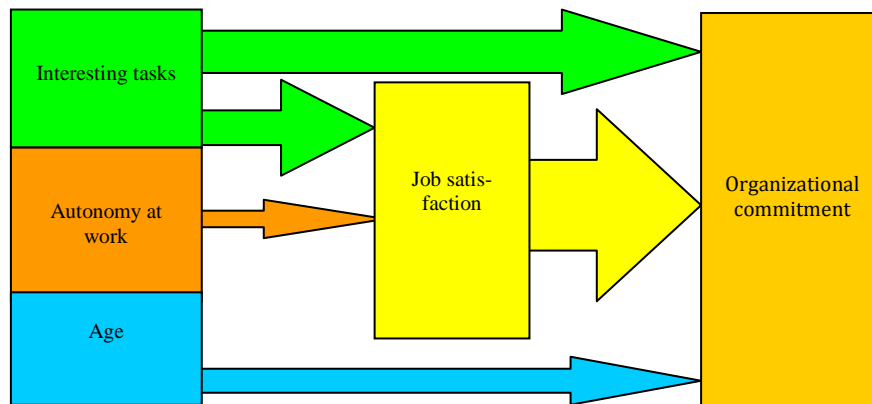
<sup>144</sup> Mathieu & Zajac 1990; Hult & Svallfors 2002.

<sup>145</sup> Hult & Svallfors 2002; Hult 2004.



employer and the specific organization that secure the individual's basic financial security.<sup>146</sup>

Figure 2: Schematic diagram of the factors found to have an effect organizational commitment.<sup>147</sup>



### *Occupational commitment*

If employment commitment and organizational commitment have to do, respectively, with the generalities and the specifics of working life, occupational commitment is found somewhere in between. Like the two first types of commitment, there is naturally a financial impetus behind occupational commitment, particularly when people are choosing among different occupations. But there is also, again like the first two, a more qualitative and emotional driver, which is the aspect that has been given the most attention in earlier research.<sup>148</sup> For example, it is primarily within an occupation that people can develop a sense of status and identity. Earlier research shows that the duration of education, age, and years invested in the occupation have positive effect on occupational commitment.<sup>149</sup> It has also been reported that perceptions of social quality and leadership in the workplace and the work/life balance influence occupational commitment.<sup>150</sup> A positive correla-

<sup>146</sup> Hult 2004.

<sup>147</sup> Partially rewritten version from Hult 2004.

<sup>148</sup> Research on people's occupational commitment was established with uniform use of terminology in the late 1900s; see the account and definitions in Lee et al. 2000.

<sup>149</sup> Nogueras 2006.

<sup>150</sup> Van der Heijden et al. 2009.

tion between occupational commitment and perceived autonomy at work has also been reported,<sup>151</sup> as well as a strong correlation with organizational commitment.<sup>152</sup> In other words, if people have a long, thorough professional education, are motivated in their day-to-day work and happy with their specific jobs, they can be expected to demonstrate a strong emotional relationship to their occupations.

Occupational commitment differs from organizational commitment, however, in that satisfaction with a specific workplace may be low even while identification with the occupation is high. It is hard to imagine that the opposite situation would be particularly common, although it is entirely possible that higher satisfaction with the occupation also strengthens commitment to the specific workplace. It should also be said that it is in general probably easier to switch workplaces and remain in the same occupation than the reverse, which might contribute to a tendency to direct any dissatisfaction towards the job rather than the occupation. Research has in any case shown that strong occupational commitment tends to restrain decisions to leave a job.<sup>153</sup>

With regard to seafarers in particular, one might expect that the sense of occupational community, occupational identity and thus occupational commitment are by tradition considerably more prominent than commitment to the specific organization. Research from the 1960s shows that seafarers identify themselves first and foremost as seafarers, while identification with their specific job and the specific ship is secondary.<sup>154</sup> This may, however, have been a more common phenomenon before the 1973 Seaman's Act was enacted, as seafarers before then worked under considerably looser contracts than is the case today.<sup>155</sup> In addition, it has been suggested that seafarers' bonds to a specific shipping company have been strengthened over the years, perhaps as an effect of crew reductions that made it more difficult to switch ships and become part of a new, cohesive team.<sup>156</sup> One should, however, be

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<sup>151</sup> Giffords 2009.

<sup>152</sup> Lee et al. 2000.

<sup>153</sup> Nogueras 2006; Blau 2009.

<sup>154</sup> Aubert and Arner noted that seafarers found it difficult, in interviews, to focus on a single ship, instead preferring to talk about life onboard ship in general. The authors argued that how seafarers think and relate *generally* to phenomena is similar to how sociologists work (Aubert & Arner 1962).

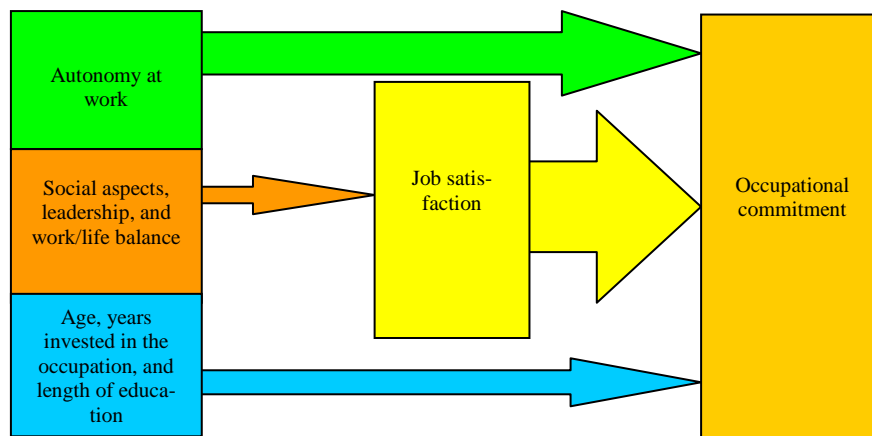
<sup>155</sup> See Ihre 2010: 41.

<sup>156</sup> See Olofsson 1995 (in this volume pages 29-30).

able to expect officers, with their longer educations, to demonstrate stronger occupational commitment than ratings. One can also expect occupational commitment to differ between departments in that deck ratings have higher occupational commitment due to limited occupational alternatives compared to engineering and catering ratings.

Occupational commitment is one of the key indicators in this study because it illustrates seafarers' attitudes towards the seafaring life. Age variation in occupational commitment may indicate the stages in life during which seafarers are particularly receptive to offers of work ashore. In addition to the influential factors already mentioned, we can expect that occupation-specific hygiene factors have strong impact on perceptions of the occupation and thus occupational commitment. In that case, we are talking about things like perceived pay situation, the design of the rotation system, time off, etc. Figure 3 illustrates the factors that have been found to influence occupational commitment.

**Figure 3: Schematic diagram of factors found to influence occupational commitment.**



### *Aging and work*

An important aspect of this study has to do with the issue of people's attitudes towards work at various stages of their lives. Certain age differences in work-related perceptions and attitudes may of course be traced to chronological ageing which, with some individual variation, proceeds in a fixed direc-

tion. This would in such case be a matter of an ongoing maturation process or other more physical changes that might affect how individuals feel about their work. It is, however, problematic to uncritically relate measured differences in perceptions, attitudes and values to chronological ageing. With regard to many work-related attitudes, one could just as easily argue that any age differences were due to the fact that with age, people gradually achieve increasingly better positions at work while making progressively greater personal investments in their work situation and occupation.

Starting from a more manageable perspective, one can, as touched upon in the introduction, regard people's attitudes towards work not necessarily changing chronologically, but rather periodically, because we enter different social roles at different stages in our lives.<sup>157</sup>

When one studies attitudes to work at different, clearly defined life stages, however, there is risk of confusing things that depend on different circumstances during the life course with things that might just as easily be due to generational affiliation. There are strong arguments which indicate that people, in generational terms, develop specific attitudes and values because different generations encounter different opportunities and constraints in society.<sup>158</sup> Although we are open to the idea of generational effects, the theory of changing life roles remains an important point of departure for this study, because the unique conditions of seafarers can be expected to be particularly difficult to combine with certain life stages. The study therefore takes its point of departure in the argument that ageing is a process that to a significant extent entails the changing of goals, redefining of problems, and recasting of expectations.<sup>159</sup>

Four relatively distinct stages can be discerned. The youngest respondents in our material are 19 years old. From that point up to the early 30s, there is a general expectation of relatively temporary terms of employment, often more or less randomly entered into – rather than according to a clear career plan – alternating with periods away from employment to study. This stage is often characterized by searching and focus on social life. This age category may be designated *young adult*. The years between the early 30s and early 40s are the stage when people generally put more energy into a

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<sup>157</sup> Riley et al. 1968: 409-420.

<sup>158</sup> See Inglehart 2000; Inglehart & Welzel 2005; Smola & Sutton 2002.

<sup>159</sup> Riley et al. 1968: 9.

specific job and career. At the same time – and this may cause friction – this is most often a stage that requires people to assume heavy responsibility for home and family. This period may be called the *career and family stage*. During the years between the early 40s and early 50s, the children become gradually more independent and the tensions between work and family may begin to lessen. Opportunities to put more undisturbed focus on work increase in this stage. Let us call this stage *middle age*.

Beginning somewhere in their mid 50s people may, from a certain perspective, find themselves in the most relaxed work situation that adult life allows: their careers are established, the children have moved away from home and their financial situations have stabilized. It is during this stage that thoughts of retirement make their presence increasingly known. This stage may quite simply be called 55+. <sup>160</sup>

Naturally, no categorization of age strata involves razor-sharp demarcations, since the variation in people's actual life courses may be presumed extensive. Keeping this objection in mind, we still assume that the proposed stratifications are adequately defined and adapted to statistically capture significant life stages as tendencies in large populations. Another possible objection turns toward the very existence of systematic role shifts during life because the theory was presented in 1968 and society has changed considerably since then, with for instance new patterns of family formation. As to how things actually stand, we can offer no answers, since this is a purely empirical question. This study, however, has the potential to contribute an answer as to how things stand for Swedish seafarers in 2010.

How then might life stages and role shifts over the life course structure attitudes towards employment, occupation, and the work organization among seafarers? Let us begin with the *young adults*, who are generally expected to have a relatively loose relationship to a specific job. For the seafaring occupation, this probably varies with position and department. One can, on the one hand, expect a looser and relatively temporary relationship to employment and occupation among younger ratings compared to junior officers, who may be assumed to have a more defined career plan, since they have already invested in extensive occupation-specific studies. It is also possible that younger catering ratings have a comparatively weak connection to the work and occupation at sea because they have the option of alternating work

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<sup>160</sup> The categorization is based on a discussion in Riley et al. 1968: 409-420.

at sea with land-based work in the hospitality industry. It is likewise possible that younger engineering ratings have a looser relationship to the seafaring job than younger deck ratings because they are more likely to have qualifications that are also in demand in land-based industry. There is thus reason – for the youngest age category – to assume that occupational commitment and, to a certain extent, organizational commitment are higher among junior officers compared to ratings, and among deck ratings compared to engineering ratings and catering ratings.

During the *career and family stage*, we can expect increasing focus on work and career and that financial aspects will become more important due to investments in and responsibility for the home and family. This stage, in other words, may involve rising conflict between home and work, which for seafarers might cause a decline in occupational commitment. Factors that probably affect occupational commitment in this age category are having children living at home, the rotation system, and opportunities for communication with the home. It is likely that many seafarers quite simply end (or suspend) their seafaring careers during this stage.

If the preceding stage is characterized by tensions between work and family, middle age permits successively increasing focus on work. Seafarers who have not left the occupation by this point have either not had any alternatives or have strong bonds of identity with the occupation. One can expect occupational commitment to be considerably higher in this age category compared to the young adult category. It is, however, possible that seafarers in middle age will begin to feel stress and physical symptoms and consequently less employment commitment in general. Here one can imagine differences between officers and ratings as well as between different departments.

Finally, in the 55+ stage we can expect loyalty and commitment to the organization and identification with the occupation to be at its peak. To a certain extent this is dependent upon the likely self-selection effect, by which those who began yearning to go ashore in their youth have already done so, leaving behind a group of healthy, older seafarers who are satisfied with their jobs and have never seriously considered leaving the occupation.

We have already stated that these expectations are based on the assumption of differences that have effects at various life stages. The assumption of generational effects is based instead on the notion that the attitudes of differ-

ent age categories are grounded in separate epochs. Based on this assumption, critical differences can be expected above all between the youngest group and the oldest, where one can imagine a generational effect in the form of greater interest in modern, computerized technology among the youngest in contrast to nostalgia for the *old seafaring life* among the older category (a difference we have already seen signs of in our initial interviews). Arguments have also been made that there is an ongoing softening of the work ethic due to that the society young people are encountering is increasingly encouraging consumption and emphasising the importance of investing in yourself instead of communicating the inherent value of work and its benefit to society.<sup>161</sup> If there is such a generational effect, personal career and financial gains should be valued most highly by the youngest age category. If, instead, values are governed by the life stage, we can expect these aspects to be valued most highly in the career and family stage. There are thus certain prerequisites for analytically separating generational effects from age-related differences. Otherwise, recurring studies may be needed to determine whether measured differences are dependent upon age or generation.

#### *Aging and work environment*

Although the point of departure for this study is attitudes towards work during all stages of working life, the study will linger a bit on the willingness of the oldest age category to stay in the labour market, the occupation and the job. This chapter has thus far explained various types of work-related commitment and how they might vary during various life stages. It has been argued that occupational commitment is probably the most important type of commitment when it comes to retaining personnel at sea. But specifically in reference to the oldest category of seafarers, who are nearing retirement, it seems plausible that all types of commitment are important to the interest in continuing to work. Aging seafarers may be extremely attached to their occupation yet still choose to retire due to limited job satisfaction on the specific ship. It is known that older people generally demonstrate less inclination to switch workplaces and/or employers than younger people.<sup>162</sup> Similarly, it

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<sup>161</sup> See Cherrington 1977; Cherrington et al. 1979.

<sup>162</sup> Lower mobility in the labour market among older seafarers might be explained by the accumulation of positive experiences and benefits in the organization in relation to tenure of employment. Alternatively, the explanation might be declining self confidence in relation to the labour market (see Lindh 2006: 53-54).

seems plausible that aging seafarers might feel a very strong bond to their occupation and satisfied with their ship, yet attach diminishing value to being available to the labour market, compared to the prospect of spending their remaining years at home.

Personal drivers are not the only determiners of the individual's attitudes towards their work and occupation. The design and the perceived safety of the person's specific working environment are naturally highly important. In a 2006 report, the Swedish Maritime Safety Inspectorate noted that active seafarers in the 60-64 age category were overrepresented in accident statistics and that the frequency of injuries increased with age. The report expressed concerns that increasing vulnerability to injury with age might have greater impact than the injury preventive effect that should potentially accompany age and experience.<sup>163</sup> Year-on-year comparison of the statistics show that the ratio remains, albeit at lesser strength, until 2008. The picture changes dramatically in 2009, when the 20-24 age category demonstrates the highest accident-proneness, a pattern which does not change in 2010.

How this change should be interpreted is open to discussion, but clearly how the statistics are presented is significant because also the age distribution of active seafarers changed radically between 2006 and 2010. The 2006 statistics include 148 seafarers in the 60-64 age category. In 2009, there were 1,020 seafarers in the same age category. Because the statistics have been presented as occupational accidents per 100 active seafarers distributed by age category, the increased number of seafarers in the oldest category has improved the reliability of age group comparison. Statistics of recent years thus show that it is actually seafarers age 20-24 who run the highest risk of being involved in an occupational accident at sea. The difference, however, is modest: in 2010, there were three accidents per 100 seafarers in the 20-24 age category and one accident per 100 among the age categories above 55. Never the less, the question of work environment should always be on top of the agenda, and this study will return to the subject in a separate section by analyzing perceptions of seafarers' perceived situation aboard ship.

#### *Attitudes towards older workers onboard*

Although political ambitions are clear when it comes to extending people's labour market participation and although employees may be willing

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<sup>163</sup> Swedish Maritime Administration 2008a nr 1:5.



and able to work a few additional years, the question remains as to whether or not employers and colleagues welcome employees who have reached the age of retirement. A prerequisite for these political aims to be realized is that the industry actually accepts a higher proportion of older workers.

Labour market participation among older workers in Sweden has been comparatively high from a European perspective.<sup>164</sup> The relatively high representation of older workers is rooted partly in the Swedish labour market policy tradition, which includes regulations that reward age and seniority when there are work shortages and risk of layoffs.<sup>165</sup> But we are now in what can be described as a globalized reality in which country-specific labour market regulations may decline steadily in importance for various industries. Considering the international nature of shipping, one must assume that the industry is far advanced in experience with recruiting the workers they want, from the parts of the world where they are found and under the regulations that are best suited to the industry.<sup>166</sup> In other words, there is nothing to indicate that the shipping industry would over the long run settle for an unwanted age composition among onboard personnel.

There are, naturally, advantages to older workers. One is the already discussed attitudinal relationship to work, such as job satisfaction, loyalty, and commitment that increase with age. These attitudes may also be even stronger among the oldest age categories, since this is where you can expect to find the people who are still working because they want to and enjoy it.<sup>167</sup> Another advantage is the cumulative work experience that may act as a shield against errors of judgment and mistakes as situations arise. But there are also drawbacks to older workers. First, the matter of physical aging that impairs vision and hearing and restricts mobility, speed and physical capacity to work. In addition, the cumulative experience may in some cases be thought to entail constraints, for example in the confrontation with new technology and new procedures. Here, however, we must understand that it is easy to fall into an argument based on prejudices concerning differences between youth and age, and that there is scanty and unreliable evidence of what is actually true. It is also important to say that where resistance to change is found among older individuals, what we are dealing with is a generational

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<sup>164</sup> Tikkanen, 1998; European Foundation 2004.

<sup>165</sup> See Hult & Edlund 2008.

<sup>166</sup> See ILO 2004: 57-94.

<sup>167</sup> See Hult & Edlund 2008.

effect, rather than the inevitable outcome of aging. What should be emphasized is that retaining older workers may be perceived as a drawback because it entails costs for further training corresponding to ongoing progress, when the alternative is to recruit younger workers who have been recently educated in accordance with current skills requirements.

However human capacity to work is actually affected by aging, factors such as speed, mobility and innovative thinking are still and always important ingredients in a work team, especially when a situation arises suddenly. In this light, older colleagues might be regarded not only as a certain obstacle to efficiency at work, but also as a safety risk. Even if no such obvious problems exist, it is also possible that employers might be wary of older seafarers due to the medical demands imposed at sea. We know essentially nothing about how shipping company management, operational management and employees actually feel about these kinds of issues, but providing answers to those questions is one of the aims of this study.

*To what age is it appropriate to continue working at sea?*

We initially referred to the demographic trend of an aging population and future labour shortages and the political response to the same. It is, however, important to note that political ambitions to delay the age of retirement in order to secure the labour supply and reduce pension expenditures are grounded in a wider public interest of a fundamentally economic nature. In a research project such as this, whose aims include studying the conditions for extended working life in one occupational group, one must not neglect the individual perspective. For individuals, prospects of later retirement may be perceived as a curtailment of well-deserved leisure in the final stage of life. A common argument against such a description is that we are expected to live increasingly long lives and remain healthy for longer and therefore should work later on in years. The point of departure for this project, however, is that it is, particularly for older workers, essential that people are *willing, able, and allowed* to keep working. Only when these conditions are met are the fundamental prerequisites in place for older workers to feel job satisfaction and content with their life situations, as well as wholehearted commitment to the job.

The question of how far up in age people *should* remain in a paid job has several dimensions, however, which are particularly clear in relation to seafarers. After many years at sea involving long periods of separation from the

home, it might be thought that seafarers both deserve and need to retire at a relatively early age, perhaps earlier than people in many other occupations. If we instead look at seafaring as a lifestyle, rather than an occupation, it is not difficult to imagine several reasons why it might be difficult and perhaps downright unhealthy to go ashore for good at a particular age. People who have been at sea for their entire adult lives have not had opportunities to build up social networks in the same way as those in land-based occupations. In addition, their life partners ashore, like the seafarers themselves, may have become accustomed over the years to periods of separation and thus arranged their lives and routines accordingly to such an extent that it might be difficult to suddenly adapt happily to new routines.<sup>168</sup> An important point of departure in this study has been that a paid job, within most land-based occupations, offers a close and easily accessible social complement to the complications of family life.<sup>169</sup> There is, however, reason to assume that the relationship between home and workplace may be somewhat different and more complicated, or especially pronounced, in an occupation which, like the seafarer's, demands a special lifestyle.

Data collection and processing are reported in the next chapter, followed by a presentation of the measurements of commitment and the impact of various factors such as personal background, position, trade area and type of ship. The following chapter deals with the extent to which the results arrived at can be explained by satisfaction with various aspects of the job and occupation, followed by a chapter on aging and retirement. Finally, we present a summary, conclusions and recommendations.

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<sup>168</sup> See Thomas 2003.

<sup>169</sup> See Jahoda 1982.



## ***5. Collection and processing of data on seafarers' work-related attitudes***

*Andreas Åsenholm & Carl Hult*

The idea for this project was born in the spring of 2008 in connection with meetings between Jan Snöberg of the Kalmar Maritime Academy (KMA), Christer Bergquist (KMA), and Carl Hult (sociologist at the former Kalmar University, now Linnaeus University). The emerging project idea was based on earlier research on work and aging in Europe. A complete project description with focus on the seafaring occupation was drafted in autumn 2008 and a grant application was submitted to the Swedish Mercantile Marine Foundation at the end of 2008. A seminar group was composed as shown in Table 1.

**Table 1: Seminar Group**

Name	Role	Organization
Carl Hult	Project Leader, Researcher	Kalmar Maritime Academy
Margareta Ljung	Researcher	Kalmar Maritime Academy
Andreas Åsenholm	Project Assistant	Kalmar Maritime Academy
Christer Bergquist <sup>1</sup>	Expert Adviser, Contact Person	Kalmar Maritime Academy
Jan Snöberg	Expert Adviser	Kalmar Maritime Academy
Fredrik Hjorth	Expert Adviser	Kalmar Maritime Academy
Raoul Johansson	Expert Adviser	Kalmar Maritime Academy

<sup>1</sup> Died in December 2010

The function of the seminar group was to act as a forum made up of ship-ping experts and research experts tasked with piloting the project into port in the best possible way. The seminar group was convened immediately after the Swedish Mercantile Marine Foundation had green-lighted funding and thereafter at significant stages, such as before and after the interview phase and in connection with the design of interview materials and the questionnaire.

As an additional resource, a reference group was appointed and tasked with contributing expert knowledge and acting as a sounding board for the

seminar group in relation to current conditions in the shipping industry in general and seafarers' working and living conditions in particular. The group included representatives of labour and management organizations, as well as the Swedish Transport Agency, the Swedish Maritime Administration, and the project's financial backer (Table 2).

*Table 2: Reference Group*

Name	Position	Organization
Christer Nordling	Office Manager	Swedish Mercantile Marine Foundation
Tove Jangland	Health and Safety Expert	Swedish Transport Agency
Christian Lindquist <sup>1</sup>	Inspector	Swedish Maritime Administration
Per A. Sjöberger	Director, Business Arena	Swedish Shipowners' Association
Christer Lindwall <sup>2</sup>	Managing Director	Swedish Maritime Officers' Association
Mikael Huss	Ombudsman	Swedish Merchant Marine Officers' Association
Johan Marzelius	Ombudsman	Swedish Merchant Marine Officers' Association
Kenny Reinhold	Branch Chairman	SEKO Seafarers <sup>170</sup>

<sup>1+2</sup> Retired in 2010

The first reference group meeting was held at KMA on 16 March 2009. The aims and theoretical premises of the project were presented and necessary background information and appropriate sampling methods were discussed. The second reference group meeting was held 5 October 2009, also at KMA, when the draft survey and interim report from the initial interview study were discussed. The third reference group meeting was held 28 October 2010 at the Swedish Mercantile Marine Foundation in Stockholm, where the first preliminary partial results of the survey study were presented.

### *The prestudy*

The aim of the initial interview study was to identify how various factors in the seafaring occupation relate to job satisfaction, general well-being, and

<sup>170</sup> SEKO: Swedish Union of Service and Communications Employees

work-related commitment. The study's primary purpose was to provide a basis for designing the survey. The interview material consisted of 23 interviews with seafarers conducted in spring 2009. The respondents were divided into two groups: 13 individuals age 55+ and 10 younger, of whom the youngest was 21. The sample included 20 men and 3 women. Respondents were recruited through various contacts in the shipping industry. The criteria were that the individuals were or had been employed on merchant ships owned by Swedish shipping companies. Two of the respondents were past the age of retirement. One of them, a master mariner, was still working actively in shipping, while the other, a chief engineer, had left the seafaring life and retired. The ship's main crew categories were roughly represented: deck officers, other deck personnel, chief engineers, other engineering personnel and catering personnel. The sample was distributed as follows:

- Master Mariners/First Officers 55+ (5 men)
- Younger Officers (1 man) (1 woman)
- Able Seamen 54+ (4 men), younger (1 man)
- Chief Engineers 55+ (2 men), younger (1 man)
- Third Engineer, older (1 man)
- Motormen (2 men)
- Officer trainee, engineering, younger (1 man)
- Cooks/Stewards 54+ (1 man), younger (1 woman), (1 man)
- Catering Hostess, younger (1 woman)

The interviews were held on the east coast of Sweden, based in Kalmar, and on the west coast, based in Gothenburg. The interviews were conducted by Carl Hult, Raoul Johansson, and Andreas Åsenholm (east coast) and Margareta Ljung (west coast). The respondents were allowed to choose where the interview would actually take place. As a result, interviews were carried out in the home, at the academy, or onboard ship. Each interview lasted for 60-90 minutes. Tape recorders were used and the interviews were subsequently transcribed by Lina Christiansen, Ellinor Lundqvist and Oliver Griffin Hult.

The interviews were based on a semi-structured interview guide. Partially open-ended questions gave the respondents scope to freely talk about their experiences and perceptions and to give examples from their own lives based on the following themes:

- Commitment, affiliation, and satisfaction in the industry
- Work organization, leadership, teamwork
- Health and safety, risk, stress
- Leisure time and social life
- Aging, retirement, and transition to retirement
- Attitudes towards older seafarers on the job

The study was undertaken in compliance with the Swedish Research Council's research ethics guidelines.<sup>171</sup> Each individual respondent was informed orally and in writing that participation was voluntary, that they were free to withdraw at any time, that the interviews would be used solely for research purposes and that confidentiality was guaranteed. The interview material was analyzed by marking characteristic elements that emerged from the respondents' narratives within each theme. Following an initial interview round with four older, experienced seafarers, minor corrections were made to the interview guide based on the results. Thereafter, the remaining 19 interviews were conducted before the final analysis was carried out.

#### *The survey*

The survey questions were based partly on pre-existing questionnaires from the Swedish version of the ISSP 2005 Work Orientations III study.<sup>172</sup> Most of the questions, however, were adapted to the seafaring occupation and thematically structured according to theory and based on the results of the prestudy. Design of the survey was in progress between June 2009 and February 2010. The process included designing the survey questions and survey layout. Therése Lindén, temporary public affairs officer at the Kalmar Maritime Academy, laid out the survey using Adobe InDesign CS3 (5.0).

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<sup>171</sup> Swedish Research Council (n.d).

<sup>172</sup> See Edlund & Svallfors 2009.



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*Table 3: Survey Group – Survey design and distribution*

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Name	Task	Organization
Carl Hult	Project Leader	Kalmar Maritime Academy
Andreas Åsenholm	Project Assistant	Kalmar Maritime Academy
Peter Notini	Project member – survey design and distribution	Kalmar Maritime Academy
Anna Thörncrantz	Project member – survey distribution	Kalmar Maritime Academy
Therése Lindén	Project member – survey layout	Kalmar Maritime Academy

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Valuable comments on the contents and design of the survey were obtained from the reference group and a number of testers. The testers were recruited among student officers and employees at Kalmar Maritime Academy and active and former seafarers with documented service at sea. All testers had held ratings and officer positions in the deck and engineering departments aboard domestic and foreign-registered ships and had experience with various ship types and trade areas between the years 1950 and 2010. None of the testers represented the catering department, but a few of the testers attached to the operational departments had experience working in catering. The testers were asked to complete the survey and comment on its content and design. The time required to complete the survey was noted and the testers' opinions recorded.

The project assistant and project leader reviewed the test results after each test and the data collection instrument was adjusted as needed. These modifications ranged from correcting typographical errors to rewriting/changing the order of, adding, or deleting questions. After about 50 test versions, the final survey version was ready on 27 February 2010. The survey then extended to 15 pages of questions/statements, space for comments, and a personal letter containing information about the study and applicable principles of research ethics. The final questionnaire contained a total of 132 questions/statements.

In addition to the background information (10 questions) and questions about the person's current/most recent employment at sea (12 questions), the respondents were asked for their:

- views on a paid job in general (11 statements/questions),
- views on a paid job at sea (17 statements/questions)
- perceptions of their current job at sea (45 statements/questions)
- views on the seafaring life (19 statements/questions)
- retirement preferences (7 statements/questions)
- views on the role of retired seafarers in the shipping industry (11 statements/questions)

The survey was dominated by attitude questions expressed as statements on which respondents were asked to take a position by selecting a fixed option on a five-point ordinal scale (Table 4). At the end of the survey, respondents were given the opportunity to share personal opinions and comments regarding the survey questions/statements, design, etc.

*Table 4: Sample attitude measurement*

	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree	Don't know
a) A job is just a way of earning money – no more.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

#### *Sample and survey distribution*

Data were collected via postal surveys during the period of 8 March to 8 September 2010. Andreas Åsenholm, Peter Notini and Anna Thörncrantz carried out the data collection and data registration.

The sample framework consisted of seafarers listed in the Swedish Seafarers' Registry as of 26 February 2010 who had at least one registered signing on onboard a Swedish-controlled ship in the preceding 12 months and at least 3 months at sea during the preceding 18-month period. An important point of departure resides in the special situation of onboard personnel, who are required to live at the workplace and being periodically separated from home and family. In order to ensure a sample including a sufficient number of seafarers in this particular situation, it was decided to exclude a number of categories from the sample framework. The excluded categories were of such a nature where the duty/leave ratio was judged similar to the ratio that normally applies in land-based jobs. On this basis, individuals were excluded who were as of 26 February 2010 working on ships engaged in Swedish Sheltered trade<sup>173</sup> and/or were registered on the following vessel types:

- Unregistered vessels
- Road ferries
- Factory ships
- Passenger vessels (max 12 persons)
- Fishing vessels
- Barges (vessels with no propulsion engines)

A few registered seafarers who were younger than 18 as of 26 February 2010 were also excluded. The final sample framework was made up of registered seafarers 18 years of age or older who were during March 2010 signed on to a Swedish-controlled ship. In total, 10,517 individuals (2,201 women and 8,316 men) met these selection criteria for the sample framework.

In order to avoid constraints on statistical power, the objective was a final material containing about 1,000 respondents. With this goal in mind and awareness of rising 'survey fatigue' among people, as well as the suspicion that seafarers might be difficult to reach, we anticipated a need for a gross sample of nearly 3,000 individuals.

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<sup>173</sup> Swedish Sheltered trade refers to: "Scheduled trade within Sweden and outside the coasts, but no more than one nautical mile from a port or other place where the vessel can reach safe haven, as well as trade in Kalmarsund and domestic trade in Öresund." (Swedish Ordinance 2007: 237, ch. 1 s. 3).

As women are strongly underrepresented among deck and engineering personnel, the first step was to draw all women from these departments into the sample in order to ensure some representation of these women in the final material. Thereafter, we performed an unrestricted random sample of 24 percent of catering personnel within the sample framework (both men and women) and 24 percent of deck and engineering personnel for the men. Johan Bagge at the Swedish Transport Agency, Seafarers' Registry, assisted with the sampling procedure. Sample lists and pre-printed address labels arrived on 4 March 2010. The final sample was made up of 2,842 seafarers, corresponding to 27 percent of the population (Table 6).

A total of 2,842 surveys were printed between 2 and 4 March. The surveys were assigned identification numbers from 1 to 2,842 to enable identification of any non-responders and the sending of reminders. The postal mailings were prepared in parallel with survey distribution during the period of 8-12 March 2010. A postage-paid reply envelope was included in every parcel. As of 12 March 2010, all 2,842 surveys had been sent to the addressees registered in the Seafarers' Registry and the first completed surveys were received back on 10 March. All work involved in the mailing was done by Andreas Åsenholm and Peter Notini (KMA).

The first postal surveys for which the addressees were unknown were returned on 18 March. Addresses were traced using two online directory services, *hitta.se* and *ratsit.se*, after which 458 surveys were sent out again during the period of 18 March to 10 June 2010. A total of 349 addressees were untraceable. Anna Thörnkrantz and Andreas Åsenholm (KMA) performed the traces.

Up until 9 June 2010, 1,096 responses were received, corresponding to 39 percent of the 2,842 surveys. During the same period, 1,397 reminders had been sent. In addition to a new survey, every reminder included a request to return the completed survey and a postage-paid reply envelope. The first completed surveys sent in response to the reminder were returned on 10 June 2010.

*Table 5: Survey mailings*

From	To		(n)	(%)
2010-03-08	2010-06-09	replies received	1096	38.6
2010-03-08	2010-06-09	returned – addressee unknown	349	12.3
2010-06-02	2010-06-10	reminder	1397	49.1
<i>Total</i>			<i>2842</i>	<i>100</i>

Of the reminders, 67 surveys were once again returned as ‘addressee unknown’. A total of 416 cases were confirmed where the addressee could not be reached. In 36 cases, respondents returned blank surveys, including 16 returned in response to the reminder. Some respondents stated their reasons for choosing not to participate, such as:

- do not want to participate
- am retired
- cannot read the text due to poor vision
- have stopped sailing
- am an unpaid crew member on a heritage ship

According to information received, some respondents had moved abroad or to an unknown location.

During the period of 8 March to 8 September 2010, 1,343 replies were received, corresponding to a response rate slightly above 55 percent. After non-useable surveys were culled, 1,309 surveys remained, which constituted 53.9 percent of the sample (Table 6).

*Table 6: Response rate for the survey*

	(n)	(%)
Population	10517	100
Gross selection	2842	27.0 of the population
Unreachable (unknown address)	416	14.6 of the gross sample
Net selection	2426	85.4 of the gross sample
Replies received	1343	55.4 of the net sample
Unsatisfactorily completed (blank or incomplete)	34	2.5 of replies received
Valid survey responses	1309	53.9 of the net sample

Survey responses were registered on an ongoing basis during the period of 8 March to 8 September 2010. Every survey received was date-stamped and the responses input into the statistical program *SPSS*. To enable identification of erroneous inputs, all survey responses were compiled in frequency tables. The frequencies were reviewed and errors detected were marked, compared to the paper surveys, and corrected. Four major reviews of the registered material were performed between April and September 2010. The errors detected were attributable to omission of the stated response option or input errors (Table 7).

*Table 7: Verification of response registrations*

Verifica- tion round	Date	Number of registered surveys when verification was performed	Number of errors detected and eliminated during verification
1	Apr 2010	1006	85
2	May 2010	1043	15
3	Jun 2010	1178	12
4	Sep 2010	1309	05*

\* All errors eliminated.

## Representativity

The representativity of the material received in relation to the population and the 2,842 seafarers included in the sample is reported in Tables 8-16. Comparison of the proportions of men and women in the sample and among respondents shows that the proportion of women increases from population to sample, which is due to women in operational departments having been allocated directly into the gross sample. However, the final difference between sample and respondents is negligible (see Table 8). Nor were there any important deviation notable in the age composition. The proportion of respondents age 55+ is slightly larger than in the sample, but the difference is modest. One explanation might be that older individuals may be more interested in a survey about work than are younger people (Table 9).

**Table 8: Gender distribution in the population, sample and among respondents**

Gender	Population (n = 10517) (%)	Sample (n = 2842) (%)	Respondents (n = 1309) (%)	Dif pop-sam (%)	Dif sam-resp (%)
Female	20.9	25.3	23.1	-4.4	2.2
Male	79.1	74.7	76.9	4.4	-2.2
<i>Total</i>	<i>100</i>	<i>100</i>	<i>100</i>		

**Table 9: Age distribution**

Age category	Population (n=10517) (%)	Sample (n= 2842) (%)	Respondents (n= 1309) (%)	Dif pop-sam (%)	Dif sam-resp (%)
≤ 30	20.1	24.8	20.5	-4.7	4.3
31-42	26.2	23.6	24.8	2.6	-1.2
43-54	28.5	25.4	24.3	3.1	1.1
55+	25.1	26.2	30.5	-1.1	-4.3
<i>Total</i>	<i>100</i>	<i>100</i>	<i>100</i>		

Table 10 shows that our study mainly involves Swedish seafarers. The table also shows that most seafarers of foreign nationality were dropped at the sample stage, while the proportional ratio is essentially unchanged between the sample and answering respondents (Table 10).

*Table 10: Citizenship*

Citizenship	Population (n=10517) (%)	Sample (n = 2842) (%)	Respondents (n = 1309) (%)	Dif pop-sam (%)	Dif sam-resp (%)
Swedish	76.1	95.1	96.7	-19	-1.6
Other	22.9	4.9	3.3	18	1.6
Unspecified	0.9	0	0	0.9	0
<i>Total</i>	<i>100</i>	<i>100</i>	<i>100</i>		

Table 11 shows that the majority of the seafarers work in one of the ship's operational departments. Almost half of both the sample and answering respondents belong to the navigation/deck department, while 25 percent work in the engineering department. For catering personnel, however, the proportion declines significantly from the population and sample to respondents (Table 11). One possible explanation is that the job content for many ratings positions within the department are perceived to be far removed from a seafaring occupation, making a survey about working at sea less interesting (see also Table 13).

*Table 11: Distribution of seafarers by departmental affiliation*

Department	Population (n= 10517 ) (%)	Sample (n= 2842 ) (%)	Respondents (n= 1306) (%)	Dif. pop-sam (%)	Dif. sam-resp (%)
Deck	41.4	46.4	49.1	-5	-2.7
Engineering	22.7	22.4	25.8	0.3	-3.4
Catering	35.3	31.2	25.1	4.1	6.1
<i>Total</i>	<i>100</i>	<i>100</i>	<i>100</i>		



Tables 12 and 13 show the proportional differences between population, sample and answering respondents separately for officers and ratings. Here it becomes clear that the greatest difference is found among catering ratings.

*Table 12: Distribution of officers by departmental affiliation*

Departmental affiliation	Population (n=4034) (%)	Sample (n=1143) (%)	Respondents (n=706) (%)	Dif pop-sam (%)	Dif sam-resp (%)
Officers					
Deck	50.7	53.9	51.7	-3.2	2.2
Engineering	34.8	32.5	32.2	2.3	0.3
Catering	14.5	13.6	16.1	0.9	-2.5
<i>Total</i>	<i>100</i>	<i>100</i>	<i>100</i>		

*Table 13: Distribution of ratings by departmental affiliation*

Departmental affiliation	Population (n=6483) (%)	Sample (n=1708) (%)	Respondents (n=600) (%)	Dif pop-sam (%)	Dif sam-resp (%)
Ratings					
Deck	35.8	41.4	46	-5.6	-4.6
Engineering	15.2	15.5	18.3	-0.3	-2.8
Catering	48.2	43.1	35.7	5.1	7.4
Other	0.8	0	0	0.8	0
<i>Total</i>	<i>100</i>	<i>100</i>	<i>100</i>		

Table 14 shows that all 2,842 seafarers were registered onboard Swedish-flagged ships when the sample was made. Among the 1,309 seafarers who returned a completed survey, almost 5 percent reported that they are serving on foreign-registered ships. The discrepancy can probably be explained by that the respondents had in the meantime switched ships or ships had been flagged out subsequent to registration (Table 14).

*Table 14: Flag state*

Flag	Population (n =10517) (%)	Sample (n =2842) (%)	Respondents (n = 1309) (%)	Dif pop-sam (%)	Dif sam-resp (%)
Swedish	100	100	95.4	0	4.6
Other	0	0	4.6	0	-4.6
<i>Total</i>	<i>100</i>	<i>100</i>	<i>100</i>		

Table 15 shows that the greatest difference in ship type is found among passenger ships. The difference is modest, however, and coincides with the analysis possible for the difference among catering ratings. We have seen that the greatest difference recorded between sample and respondents is found in the catering ratings category. The conclusion that can be drawn from this (and from the difference shown in Table 15) is that there are several personnel functions onboard passenger ships for which employees may not primarily identify themselves as seafarers, but rather as kiosk or retail staff. It is possible that personnel in these functions were somewhat less inclined to answer a survey directed at seafarers. It should, however, be emphasized that the difference is nevertheless so minor that it cannot be expected to have any major impact on the results.

*Table 15: Distribution of seafarers by ship type*

Ship	Population (n= 10517) (%)	Sample (n= 2803) (%)	Respondents (n=1272) (%)	Dif pop-sam (%)	Dif sam-resp (%)
Tanker ship <sup>a</sup>	13.6	12.4	14.1	1.2	-1.7
Dry cargo ship <sup>b</sup>	23.7	23.5	23.2	0.2	0.3
Passenger ship <sup>c</sup>	54.9	56.3	51.4	-1.4	4.9
Other <sup>d</sup>	5.7	7.8	11.3	-2.1	-3.5
Unclear classification	2	0	0	2	0
<i>Total</i>	<i>100</i>	<i>100</i>	<i>100</i>		

<sup>a</sup>Tanker ship = oil, gas, chemical, and product tanker ships, combination tanker and dry cargo ships and other tankers

<sup>b</sup>Dry cargo ship = refrigerated and frozen, container, automobile, ro-ro, and bulkers

<sup>c</sup>Passenger ship= passenger, cruise, ro-pax and other passenger ships

<sup>d</sup>Other = tugs and tow vessels, offshore, icebreakers and other vessels

Table 16 shows relatively large differences in Near Coastal trade, Swedish Sheltered trade and European trade. The greatest differences between the sample and respondents are found in Near Coastal and Swedish Sheltered trade. Near Coastal trade was not included in the sample performed in early March 2010. One possible explanation for the differences would be that some respondents have assessed the ship's trade area differently to the Transport Agency classification. The question of trade area is, to a greater extent than the other questions in the survey, a knowledge area where the boundaries between the areas of Swedish Sheltered trade, Near Coastal trade and certain parts of European trade may be unclear to many. Another possible explanation for the differences would be that the registry data in certain cases refer to trade areas other than those in which the respondents were working when the survey was performed. The decline in the proportion of Near Coastal and European trade, in any case, indicates that most of the differences in the direction of Swedish Sheltered trade originate from these trade areas.

One possible solution regarding the differences in trade area would be to go back to the sample and correct the respondent information that differs from registry information. We chose not to do so, however, for three reasons: (i) the outcome of such a correction would be difficult to assess since

so many seafarers would in practice have had ample time to switch trade areas during the course of our survey round; (ii) going in and correcting information provided in a survey borders on the unethical; and (iii), since this study aims to take departure in seafarers' own perspectives, it is at least as interesting to use seafarers' reported perceptions of service in relation to the home country as it would be to use registry information. It thus becomes the *perceived* trade area that will be analyzed in relation to perceptions and commitment in work and occupation that will be analyzed in this study. Registry information, on the other hand, has been used in a small number of cases where no information about the trade area was provided.

*Table 16: Distribution of seafarers by trade area*

Trade area	Population (n= 10517) (%)	Sample (n= 2847) (%)	Respondents (n=1294) (%)	Dif pop-sam (%)	Dif sam-resp (%)
Swedish Sheltered	0	0	7.6	0	-7.6
Near Coastal	63.6*	65.9	49.1	-2.3	16.8
European	18.5**	19.0	24.8	-0.5	-5.8
Ocean	17.9	15.1	17.3	2.8	-2.2
Information not provided	0.01***	0	1.2	0.01	-1.2
<i>Total</i>	<i>100</i>	<i>100</i>	<i>100</i>		

\*17 cases were classified as Near-Coastal Class I, \*\*two cases as North Sea trade, \*\*\* in one case no trade area information was provided

#### *Distributions in the collected material*

Now that we have determined that our collected material can essentially be termed representative of our sample and thus for seafarers on Swedish-controlled ships, of whom an overwhelming majority work under a rotation system, we will move on to examining the distribution of age, gender, department and position in the collected material. Table 17 shows a cross-tabulation of age categories and gender. Here, we can note a reverse age distribution between men and women. Among the men, the age proportion rises with each rising age category, while the age proportion declines for

women in the same age direction. One might suspect here that the reverse ratio is due to women leaving the seafaring life when they start families to a greater extent than men. As shown in Tables 20-21, however, the explanation is instead that women are increasingly pursuing this traditionally male-dominated occupation, which is why we find most of the women in the youngest age categories.

*Table 17. Age category and gender*

	% within gender	
	Women	Men
Age category		
$\leq 30$	31.0	17.3
31-42	25.4	24.6
43-54	22.1	25.0
55+	21.5	33.2
(n)	303	1006

What is the distribution of men and women among departments and positions onboard? Table 18 clearly shows that most women working onboard are found in the catering department and that women have the least representation in the engineering department. We find the largest group of men in the deck department and the smallest in catering.

*Table 18. Department and gender*

	% within gender	
	Women	Men
Department		
Deck	33.3	53.8
Engineering	6.9	31.5
Catering	59.7	14.7
(n)	303	1006

Table 19 shows the distribution by gender and position. Because there are few senior officers in the catering department, all catering officers were combined into a single category. All others, from the convenience shop clerk to conference hostess and cook, are in the ‘catering ratings’ category.<sup>174</sup> The ratings categories are generally large and the catering category is by far the broadest. This categorization, however, is the best possible under the circumstances, as categories that are too small become statistically unwieldy. The table shows that most women are found among catering ratings followed in descending order by deck ratings and catering officers. The same table shows that most men are found among senior deck officers followed in descending order by deck ratings and senior engineering officers. The proportion of women in the engineering department is miniscule.

*Table 19. Position and gender*

Position	% within gender	
	Women	Men
Senior deck officer	3.3	22.7
Senior engineering officer	2.6	16.5
Catering officer	17.5	6.1
Junior deck officer	8.9	10.0
Junior engineering officer	1.7	4.9
Deck ratings	21.1	21.1
Engineering ratings	2.6	10.2
Catering ratings	42.2	8.6
(n)	303	1003

<sup>174</sup> Positions are coded as follows: Master mariners, first officers = senior deck officers. Chief engineer, second engineer, electro-technical engineer = senior engineering officers. Other officers are categorised as junior officers in their respective departments. Because there are few senior officers in the catering department, all catering officers were grouped in a single category = catering officers.

Let us take a closer look at age distribution within the various positions. Table 20 shows that most senior officers in all categories are found in the three oldest age categories and the oldest age category is by far the largest among senior officers. This age distribution makes perfect sense, considering that a career takes time. By equivalent logic, most of the junior officers in the deck and engineering departments are in the younger age categories. The relatively large proportions of deck and engineering ratings in the youngest age category are also noteworthy. Catering ratings deviate from the overall pattern of position and age representation, where we find a clearly rising proportion for every age category. This is a bit surprising at first glance, considering how we have seen that the largest proportion of female onboard personnel work in this particular position category (see Table 19) while we have noted that the number of women onboard personnel generally declines as age categories rise (see Table 17). This contradiction is explained in Table 21.

<i>Table 20. Position and age category</i>					
Position	% age distribution within position				(n)
	≤ 30	31-42	43-54	55+	
Senior deck officer	4.6	30.3	28.6	36.6	238
Junior engineering officer	5.2	22.0	22.0	50.9	173
Catering officer	8.3	22.2	41.7	27.8	114
Junior deck officer	31.5	40.2	15.7	12.6	127
Junior engineering officer	35.2	27.8	13.0	24.1	54
Deck ratings	41.7	15.6	18.8	23.9	276
Engineering ratings	33.6	21.8	21.8	22.7	110
Catering ratings	11.7	25.0	30.5	32.8	214
(n) Total					1306

Table 21 shows the ratio between position and age distribution for women only. Here we can see that female officers and catering ratings show the same tendency – a rising proportion as the age category rises – as the men shown in Table 17. In other words, only women in operational positions

account for the pattern of a declining proportion with a rising age category, as shown in Table 17. This becomes clear upon comparison of the percentages for age categories at the bottom of Table 21.

Thus, it is not the case that the decline with age in the proportion of women onboard personnel is due to any tendency among women, unlike men, to leave the seafaring life relatively early on. It is instead the case that work onboard can be divided into traditionally male-dominated areas (deck and engineering) and traditionally female-dominated areas (restaurants, sales, housekeeping, and other service). In the latter area, women demonstrate the same age structure as the men because they have been working in this category for a long time. Primarily younger women are found in the first area because recruitment of women in these onboard functions has historically been limited. Tables 19 and 21 indicate that there are so few women in some positions that we must be cautious about undertaking detailed analyses of gender differences with rigorously degraded categorisations.

*Table 21. Position and age category – women only*

	% age distribution within position				(n)
	≤ 30	31-42	43-54	55+	
Position (women)					
Senior deck officer	0	50.0	40.0	10.0	10
Senior engineering officer	12.5	75.0	12.5	.0	8
Catering officer	11.9	19.0	35.7	33.3	53
Junior deck officer	48.1	37.0	7.4	7.4	27
Junior engineering officer	80.0	20.0	.0	.0	5
Deck ratings	70.3	23.4	6.3	.0	64
Engineering ratings	75.0	12.5	.0	12.5	8
Catering ratings	14.4	22.3	29.5	33.8	128
(n) Total					303
Women distributed by age category %	31.0	25.4	22.1	21.5	



### *Interviews with human resources managers at Swedish shipping companies*

The aim of this study is to examine seafarers' attitudes towards their work and occupation during various periods in life. The study also intends to examine the extent to which older seafarers are *willing*, *able*, and *allowed* to continue working a few years longer at sea than they have to under the current pension system. The main thrust is expressed well by the survey's indicators concerning seafarers' attitudes towards and perceptions about work and occupation. There is, however, one important detail that the survey cannot answer, and that is employers' views concerning older onboard personnel. To fill that gap, we performed an interview study involving human resources managers from a selection of Swedish shipping companies. The sample framework covered Swedish-controlled shipping companies and management companies which at the time of the study was undertaken:

- employed Swedish personnel onboard ships  $\geq 500$ GT operating in Near Coastal, European or Ocean trade,
- and were on the list maintained by the Shipping Education Institute (*Sjöfartens Utbildnings Institut/SUI*) as of September 2011,<sup>175</sup>
- or were found in *Sjöfartens Bok* [The Shipping Book] dated 23 September 2011 and published by the Swedish Shipping Gazette<sup>176</sup>

We contacted human resources departments at a total of 33 shipping companies during the period of September–November 2011. Some contacts were made informally at career days at the Maritime Academy on 6 and 7 April 2011. Formal contacts were made via e-mails to which information about the aim and contents of the study was attached along with the interview guide. About two weeks after the first query, we sent reminders to the companies that had not replied. A total of 11 companies responded, six of which expressed interest in participating and five of which declined. The other 22 companies, one of which had gone out of business, never responded to the query. The result meant that six interviews were conducted with five employers' representatives and one ship's officer with experience of onboard management. Five of the informants worked for their companies' land or-

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<sup>175</sup> SUI is mandated to allocate onboard training places to students from Sweden's two maritime academies and, space permitting, students at maritime secondary schools. See the SUI website: <http://www.sjofart.org/>

<sup>176</sup> Swedish Shipping Gazette 2011.

ganizations and one informant was a ship's officer who worked in onboard management. All informants held managerial positions. All interviews were conducted by Andreas Åsenholm (KMA). Two interviews were held at KMA and four were held by phone. The study was undertaken in compliance with the Swedish Research Council's research ethics guidelines.<sup>177</sup> The duration of the six interviews was 20 to 45 minutes. All informants consented to the registration of the interview by means of digital recording.

The interviews were conducted in conversational form based on a semi-structured guide, wherein human resources managers were given scope to freely relate their experiences and future plans with regard to older seafarers. The questions asked referred to policy and practice concerning older workers. 'Older' referred to persons age 61+, who according to current pension rules are within the age category where full or semi-retirement is possible. The themes of the conversations were:

1. Applied human resources policy/practice regarding onboard functions for older seafarers (61+)
2. The employer's view on onboard functions that may be considered suitable/unsuitable for older seafarers (61+) and retired personnel
3. The employer's views on age-related factors that may be significant to service by older seafarers (61+)
4. Fitness testing of older seafarers
5. Alternative functions within the company that take the circumstances of older workers into consideration
6. Future changes in human resources policy/practice with regard to onboard functions for older seafarers (61+)

Each interview was listened to once and the key points within each theme were noted and augmented with the interviewer's remarks. The interviewer also compiled a *Contact Summary Form*.<sup>178</sup> Recordings, interview notes and the contact summaries were discussed regularly with the project leader, who compiled the analysis. The interviews were analyzed by marking characteristic elements that emerged in the narratives.

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<sup>177</sup> Swedish Research Council (n.d).

<sup>178</sup> See Miles & Huberman 1994:53.

## **6. Seafarers' commitment to work and occupation**

*Carl Hult*

The results of the study with regard to work-related commitment in relation to background and situation within the occupation will be reported in this chapter in several steps. The first section discusses the instruments used to measure the three types of commitment that have been outlined in previous chapters. The answers to the survey questions designed to measure commitment are presented and examined and an index for each type of commitment is constructed. Section two examines how the types of commitment vary with gender, age and position. The third section studies the effects of different aspects of time in work and occupation. Section four focuses on family situation, section five on the nationality of crew and flag, section six on ships and trade areas and section seven on rotation and watch systems. Each section opens with a brief summary of results in that section.

### *Commitment, indicators and index construction*

Results in brief: Occupational commitment has the strongest predictive capacity concerning the choice to remain in the seafaring occupation (followed by organizational commitment). Employment commitment has no effect on this choice but is a good predictor of the likelihood of continuing to work after reaching the age of retirement.

International research usually uses work-related attitudes to indicate organizational commitment and such is the case in this study. The terms *commitment* and *attitude* are sometimes used synonymously in the sense that commitment is regarded as a particular type of attitude (although attitude is not always the same thing as commitment). As already presented this study focuses on three types of commitment: (i) non-financial employment commitment (henceforth also called simply employment commitment), (ii) organizational commitment, and (iii) occupational commitment. Since attitudes of this type are often complex and composed of multiple aspects, the survey contains several isolated indicators in order to capture the presumed scope of the attitudes. The indicators originate from survey questions presented as statements with which respondents were asked to agree or disagree. The statements are as follows:

1. A job is just a way of earning money – no more.
2. I would enjoy having a paid job even if I did not need the money.

3. The seafaring occupation is just a way of earning money – no more.
4. There are qualities to the seafaring occupation that I would miss in another occupation.
5. The seafaring occupation is part of my identity.
6. The seafaring occupation is not just a job, it is a lifestyle.
7. I feel proud of my occupation as a seafarer.
8. I would prefer to remain in the seafaring occupation even if I were offered a job with higher pay on land.
9. I am willing to work harder than I have to in order to help the shipping company/management company I work for succeed.
10. I am proud to be working for my shipping company/management company.
11. I would turn down another job that offered quite a bit more pay in order to stay with this shipping company/management company.

Table 22 shows the extent to which seafarers agree or strongly agree with each statement. The figure column at the far left shows the proportional percentage for all onboard employees. The next column to the right shows the proportion for women and the proportion for men is shown one step further to the right. The three columns at the far right show, by way of comparison, the corresponding figures for the Swedish general population.<sup>179</sup> The statements at the far left are categorized by the commitment type to which each statement theoretically relates. Statements 1 and 2 are assumed to indicate employment commitment (the degree of non-financial and emotional value of having a paid job), statements 3-8 are assumed to indicate seafarers' occupational commitment (the degree of emotional connection to the occupation), and statements 9-11 are assumed to indicate seafarers' organizational commitment (the degree of loyalty and dedication to the specific shipping company). Statements 1 and 2 are identical to the indicators used in several international surveys.<sup>180</sup> Statements 9-11 stem from the same source, but have been revised to refer to a shipping company rather than the respondent's work organization. Statements 3-8 have theoretical connections to earlier research on occupational commitment but were all specifically developed for the seafaring occupation and this study.

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<sup>179</sup> Edlund & Svallfors 2009.

<sup>180</sup> ISSP Research Group (2005).

**Table 22: Attitudes towards work for male and female onboard personnel compared to the general Swedish population**

	<i>Seafarers 2010</i> <i>Agree/Strongly Agree %</i>			<i>Population 2005</i> <i>Agree/Strongly Agree %</i>		
	<i>All</i>	<i>Wom en</i>	<i>Men</i>	<i>All</i>	<i>Wom en</i>	<i>Men</i>
<i>Employment commitment</i>						
1. A job is just a way of earning money - no more	20.0	12.6	23.3	16.4	12.0	20.7
2. I would enjoy having a paid job even if I did not need the money	60.4	67.5	58.3	71.2	76.7	66.0
<i>Occupational commitment</i>						
3. The seafaring occupation is just a way of earning money – no more	10.1	6.1	11.3	-	-	-
4. There are qualities to the seafaring occupation that I would miss in another occupation	89.4	88.1	89.8	-	-	-
5. The seafaring occupation is part of my identity	73.7	68.9	75.2	-	-	-
6. The seafaring occupation is not just a job, it is a lifestyle	79.3	85.2	77.6	-	-	-
7. I feel proud of my occupation as a seafarer	76.3	75.3	76.6	-	-	-
8. I would prefer to remain in the seafaring occupation even if I were offered a job with higher pay on land	43.3	41.7	43.8	-	-	-
<i>Organizational commitment</i>						
9. I am willing to work harder than I have to in order to help the shipping company/management company I work for succeed	43.2	46.0	42.4	42.9	37.4	48.3
10. I am proud to be working for my shipping company/management company (organization)	46.3	51.2	44.8	58.0	56.3	59.6
11. I would turn down another job that offered quite a bit more pay in order to stay with this shipping company/management company	14.6	15.0	14.5	12.3	12.3	12.2
<i>(n) in average<sup>181</sup></i>	<i>1260</i>	<i>287</i>	<i>974</i>	<i>800</i>	<i>388</i>	<i>411</i>

<sup>181</sup> (n)=Number of respondents who answered the questions. A minor proportion who did not answer or answered 'don't know' have thus been eliminated from the calculation.

In Table 22, we can discern that employment commitment was slightly higher among the working Swedish population in 2005 compared to onboard personnel in 2010. Since the data were collected at different times, however, we cannot draw any certain conclusions from this. The result might equally well reflect a general change in social attitudes since 2005 as that seafarers' attitudes deviate from the rest of the working population. The table does show, however, that the gender pattern remains the same. Women have a clearly higher tendency to see non-financial values in having a paid job. Note that the statements are written in opposite directions, so that a low proportion in agreement with statement 1 reflects high employment commitment while the reverse is true with regard to statement 2.

If we look at organizational commitment (statements 9-11), we see that the differences between the general population in 2005 and onboard personnel in 2010 are not consistent in direction and nor are the gender differences. Interestingly, female onboard personnel are considerably more willing to work hard for their shipping company/management company than are male onboard personnel while the gender pattern was the reverse for the population in 2005 when they reported their attitudes towards their work organizations. The table also shows that occupational commitment is clearly the strongest commitment type among seafarers (statements 3-8) and that there is no consistent gender pattern here. Statement 3 is reversed so that a low proportion of agreement entails high occupational commitment.

The categorization of commitment types shown in Table 22 is only theoretical. The genuine existence of the categories among the respondents must therefore be investigated. Factor analysis, also called dimensional analysis, is a common way to do this. A factor analysis maps the pattern of latent factors underlying a number of selected indicators. The analysis does not show what these factors are, but it determines which of the selected indicators have common underlying patterns in the material. One could say that the factor analysis draws a conceptual map that shows how various indicators coincide as aspects of wider conceptual dimensions among survey respondents. The analysis was performed entirely by the statistical software, with no human intervention beyond selecting the indicators to be analyzed. The

analysis shows how many dimensions would be meaningful and the strength of association of the included indicators for each factor.<sup>182</sup>

Table 23 presents the results of such an analysis. Indicators 1-11 correspond to the reported statements. Table 23 shows that the indicators diverge into three dimensions (see the three columns of the table). The figures show the strength of each indicator's association with the respective dimension, which may vary between 0 and 1. All values above 0.4 are shown in bold type. We can note that the indicators' highest values are essentially grouped according to the dimensions we have theoretically adopted as employment commitment, occupational commitment and organizational commitment.<sup>183</sup>

There are two observations that should be made regarding the factor analysis. The first is that indicator 8 reflects relatively high values for both occupational commitment and organizational commitment. The other is that indicator 3 (theoretically defined as associated with occupational commitment) reflects high value only in the employment commitment dimension. All told, this shows that occupational commitment intersects with both organizational commitment and employment commitment. In itself, this is completely consistent with the assumption that occupational commitment lies at an intermediate level. Regarding indicator 8, we can thus accept the overlap, considering that the value is highest in the theoretically right dimension. We cannot, however, use indicator 3, which explicitly refers to the occupation but shows a high value only in the employment commitment dimension. One explanation for this overlap might be that the statement has a clear non-financial message that thus coincides with the indicators for employment commitment.

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<sup>182</sup> For a more detailed explanation of factor analysis, see Djurfeldt & Barmark (2009: 69-102).

<sup>183</sup> The exact type of dimensions cannot be determined mathematically, only that the dimensions exist separately. The type of dimension has to derive from the contents of each dimension's statements.

Table 23: Attitude dimensions for onboard personnel – Factor Analysis

	<u>1</u>	<u>2</u>	<u>3</u>
	<i>Occupational commitment</i>	<i>Organizational commitment</i>	<i>Employment commitment</i>
1. A job is just a way of earning money - no more	0.03	0.05	<b>0.86</b>
2. I would enjoy having a paid job even if I did not need the money	0.06	0.26	<b>0.61</b>
3. The seafaring occupation is just a way of earning money – no more	0.32	0.03	<b>0.73</b>
4. There are qualities to the seafaring occupation that I would miss in another occupation	<b>0.62</b>	0.01	0.23
5. The seafaring occupation is part of my identity	<b>0.86</b>	0.13	0.02
6. The seafaring occupation is not just a job, it is a lifestyle	<b>0.80</b>	0.12	0.04
7. I feel proud of my occupation as a seafarer	<b>0.74</b>	0.28	0.17
8. I would prefer to remain in the seafaring occupation even if I were offered a job with higher pay on land	<b>0.56</b>	<b>0.48</b>	0.10
9. I am willing to work harder than I have to in order to help the shipping company/management company I work for succeed	0.13	<b>0.76</b>	0.20
10. I am proud to be working for my shipping company/management company	0.10	<b>0.83</b>	0.07
11. I would turn down another job that offered quite a bit more pay in order to stay with this shipping company/management company	0.18	<b>0.77</b>	0.05
<i>Each dimension's explanatory importance in relation to the sum of the variance.</i>	<i>36%</i>	<i>13.3%</i>	<i>12.6%</i>

Principal components analysis (varimax rotation). Factor loadings (>0.4 in bold).



Thus, two indicators remain for employment commitment, five for occupational commitment, and three for organizational commitment. All indicators were recoded so that 0 denotes the option that entails the lowest commitment and 4 the highest. All indicators thus go in the same direction and are summed up in the next step within each dimension to three separate indices. To facilitate interpretation of the results, each index is then divided by its maximum values and multiplied by 100. Each index is thus permitted to vary between 0 and 100. Table 24 shows the mean value for each index, while the standard deviation shows the average deviation from the mean values. The high mean value and the low standard deviation for occupational commitment shows that seafarers are relatively united in their high commitment to and identification with the seafaring occupation. Cronbach's Alpha is an additional reliability test of the internal correlation among the indicators in each index – the higher the value (between 0 and 1), the more reliable the index. The occupational commitment index and the organizational commitment index are obviously very stable, but the employment commitment index demonstrates somewhat lower stability.<sup>184</sup> The values that applied to the general population in 2005 are shown in parentheses where available.

**Table 24: Work attitudes index – Onboard personnel in 2010 (values for the Swedish general population in 2005 shown in parentheses)**

	<i>Employment commitment</i>		<i>Occupational commitment</i>	<i>Organizational commitment</i>	
Mean value (0-100)	61.9	(66.8)	71.7	50.3	(50.9)
Standard deviation	21.78	(21.79)	16.78	20.81	(18.96)
Cronbach's Alpha	0.50	(0.62)	0.82	0.73	(0.67)

Values in parentheses are the figures for the general population in 2005.

Before we proceed, we should take a closer look at the relevance of the commitment variables. The aim of this study is to gain a picture of seafarers' commitment to the seafaring occupation and the shipping companies for which they work. We want to know the levels of commitment during various stages of life. We also want to know how far seafarers might consider extending their working lives a few years longer than required under current

<sup>184</sup> This index usually demonstrates somewhat lower stability. As a frame of reference for the numbers, it can be stated that the highest possible value (1.0) is reached in practice only if exact duplicates of the same indicators are tested together.

pension rules. It seems likely that strong occupational commitment and strong organizational commitment to the work organization by which the seafarers are employed would entail high probability that these seafarers do not intend to leave the occupation. But it does not seem equally apparent that strong employment commitment necessarily means that seafarers want to continue working at sea – the situation could in fact be the reverse. When one considers the labour market in general, the seafaring occupation does not appear to be an occupation that is particularly representative of the entire labour market. It may be that high employment commitment indicates that seafarers would prefer an ‘ordinary’ occupation in the sense of being a part of the community and having daily routines conventionally divided between work and home.

The survey includes a question that reads: *All things considered, how likely is it that you will end your seafaring life during the next two years to pursue a job on land?* In Table 25, the three commitment variables are tested in a logistic regression which in relation to the change in each commitment type calculates the odds ratios that the options *not very likely* or *not at all likely* will be given as the answer to the question above. It should be noted that plans to leave the seafaring occupation do not always indicate lack of commitment. For various reasons, people may find themselves in situations that require them to leave an occupation involuntarily which they would never have left under other circumstances. But we should still expect a statistically clear connection. Table 25 also contains five statements from the survey that deal with whether seafarers might, under various circumstances, consider working a few years longer than required under current pension rules. These indicators are also used to test the commitment variables based on the probability of agreement or strong agreement with the statements. The probability of indicating an intention to remain in the occupation is stated as a proportional change per positive position change for each commitment type.

Table 25 confirms what could be expected.<sup>185</sup> Occupational commitment has the strongest capacity to predict the likelihood of *not* wanting to leave

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<sup>185</sup> Statistical significance is denoted in bold type and asterisks. Three asterisks indicate a significance level of 0.1 percent or lower risk that the result depends on coincidence, two asterisks indicate risk above 0.1 percent and up to and including 1 percent, one asterisk indicates risk above 1 percent and up to and including 5 percent. Significance entails permission to generalise a result, found in a sample, to the population from which the sample was drawn, provided that the sample is representative of the population.

the seafaring occupation for a job on land. The odds of wanting to remain in the occupation increase an average of 4 percent for each positive position change in the commitment variable. It is also apparent that the effect of employment commitment lacks any significance to the choice between remaining at sea or taking a job ashore. However, as shown, employment commitment is a good predictor of the likelihood of working a few years longer than required under current pension rules. This implies that the choice to keep working even after reaching the age of retirement depends to an important degree upon the extent to which seafarers find non-financial value in having a paid job.

**Table 25: Odds ratios stated as the proportional probability development to remain in work per positive position change in each commitment variable on a scale of 0-100**

	<i>Employment commitment</i>	<i>Occupational com- mitment</i>	<i>Organiza- tional com- mitment</i>
<i>Probability trend of selecting the options not very likely or not at all likely to...</i>			
End the seafaring life during the <u>next two years</u> to pursue a job on land	-0.6%	<b>4.0%***</b>	<b>2.1%***</b>
<i>Probability trend of agreeing or strongly agreeing that I can imagine...</i>			
continuing to work with my present tasks for a few years longer than I have to under current pension rules	<b>2.2%***</b>	<b>3.0%***</b>	<b>3.0%***</b>
working a few years longer than I have to if I were given a more flexible rotation system	<b>1.4%***</b>	<b>1.9%***</b>	<b>1.0%**</b>
working a few years longer than I have to if I were allowed to work in a position I enjoy	<b>2.5%***</b>	<b>2.3%***</b>	<b>1.3%***</b>
working a few years longer than I have to if I were able to work on type of ship I enjoy	<b>2.0%***</b>	<b>2.4%***</b>	<b>1.3%***</b>
working a few years longer than I have to if I were allowed to work in a trade area I enjoy	<b>1.9%***</b>	<b>2.0%***</b>	<b>1.3%***</b>
working a few years longer than I have to if my tasks were adapted to my personal circumstances	<b>1.8%***</b>	<b>1.7%***</b>	<b>1.3%***</b>
Significance levels: bold and *** = 0.001 level, ** = 0.01 level, * = 0.05 level, bold only = 0.1 level.			

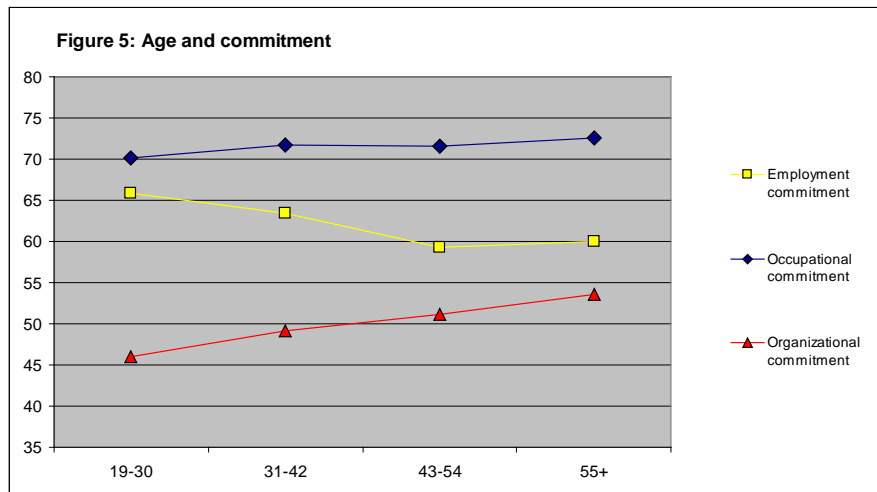
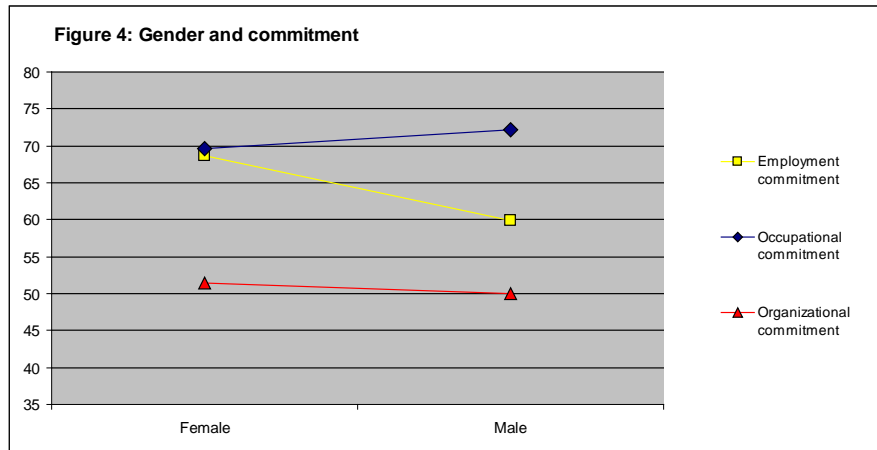
Table 25 thus shows that all three commitment types are relevant to our purpose. Occupational commitment primarily indicates the likelihood of remaining in the seafaring occupation until retirement, but is also important for the willingness to extend the working life. Organizational commitment is primarily important for the likelihood to show dedication on behalf of the present tasks within the shipping company, but is also important for the willingness to stay in the occupation. Employment commitment is only important for the willingness to work a few years longer than required. We will return later to the questions about leaving the seafaring occupation and extending working life. Next, we will look at how the three commitment types vary depending on background and situation in the seafaring occupation.

#### *Gender, age and position*

Results in brief: Employment commitment declines with age and is strongest among women and catering officers. Occupational commitment increases with age and is strongest among deck and engineering ratings. Organizational commitment increases with age, is strongest among catering officers and is clearly weakest among junior engineering officers.

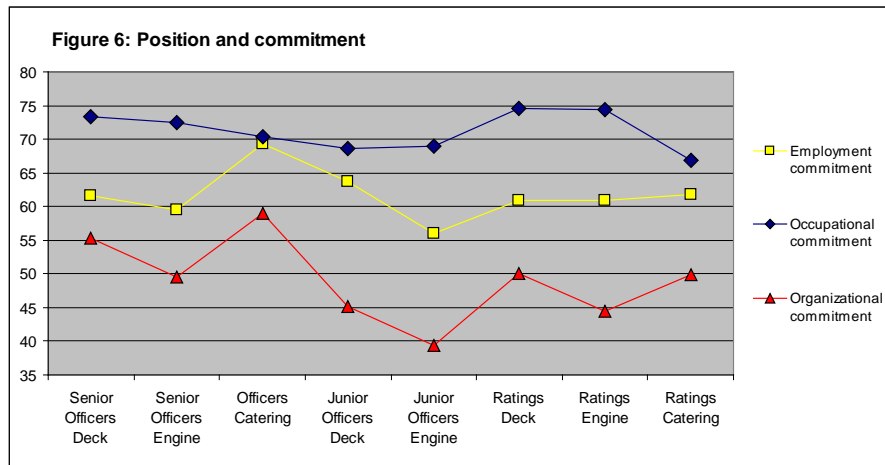
Figure 4 shows the mean values for men and women in each commitment index with regard to employment, occupation and organization. The largest gender difference is found in employment commitment, where women indicate markedly higher commitment than men. Occupational commitment, on the other hand, is slightly higher among men, while organizational commitment is relatively equivalent between the genders. Occupational commitment is the strongest commitment type for men, followed by employment commitment. Organizational commitment is the weakest commitment type for both genders.

Figure 5 shows the corresponding mean values distributed among the four age categories. There is a weak increase in occupational commitment (the consistently strongest commitment type) between the two youngest categories and between the two oldest. The increase is non-existent between the ages of 31 and 54. We find a considerably stronger and pronounced linear increase with age in organizational commitment (the weakest commitment type). Employment commitment declines with age up to the 43-54 age category and increases slightly thereafter.



In relation to position and commitment (Figure 6), relatively large variations in mean values are notable. Occupational commitment is clearly the strongest commitment type for all seafarers except catering officers, for whom employment commitment reach a similar level. Catering officers demonstrate a comparatively cohesive picture of the mean values and indicate higher levels than all other positions, except for occupational commitment. It is also interesting that deck ratings and engineering ratings indicate

the highest occupational commitment and that junior engineering officers indicate by far the lowest organizational commitment.<sup>186</sup>



Although the figures above provide a preliminary glance at the state of work-related commitment among onboard personnel, the account lacks clarity in respect of particular effects on commitment of gender, age and position. The differences shown depend to a certain extent on the effects of other variables that are unspecified in the figures. If we take Figure 4 as an example, we can expect a lack of clarity because men and women's attitudes towards work are not based on gender alone, but also age and position. We know that gender is unevenly distributed in both age and position and that age is unevenly distributed in position (see Tables 17-20). For the same reason, there is a corresponding lack of clarity in Figures 5 and 6. In order to deal with this, analysis is required where the results are adjusted to arrive at the *net effects* of the variables.<sup>187</sup>

<sup>186</sup> Master mariners, first officers = senior deck officers. Chief engineers, second engineers, electro-technical engineers = senior engineering officers. Other officers are categorised as junior officers in their respective departments. Because there are few senior officers in the catering department, all catering officers were grouped in a single category = catering officers.

<sup>187</sup> For this purpose, we use multiple linear regression, Ordinary Least Squares (OLS) estimation for the remainder of this Chapter (see Djurfeldt & Barmark 2009: 53-67, 105-124).

Figure 7 shows the net effects of the variables above on employment commitment in the mean difference between men and women, in the mean differences between the 19-30 age category and the other age categories, and in the mean differences between catering ratings and the other positions. There is a horizontal 0 line in the middle of the chart that represents the mean values for the comparison groups (men, 19-30 age category and catering ratings). The bars represent the reported categories' differences in relation to each of the comparison groups. Bars that ascend from the 0 line show a difference in a positive direction, while bars that descend from the line show a difference in a negative direction. White bars indicate that the difference is statistically *significant*, while shaded bars indicate that the difference is *not significant*.<sup>188</sup>

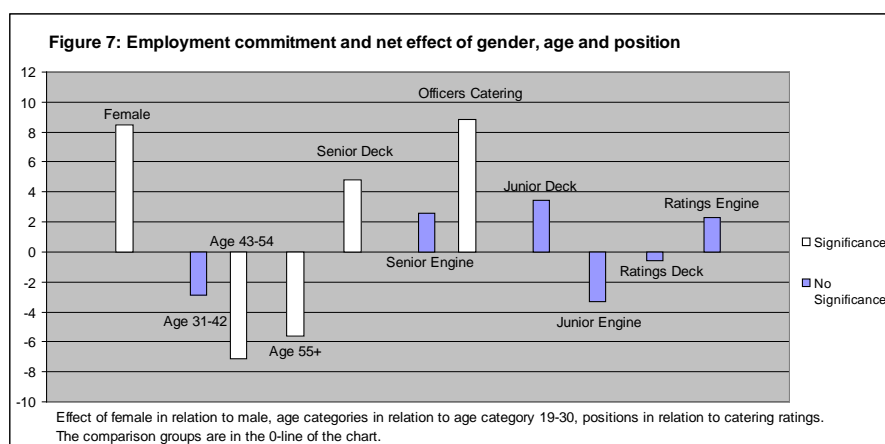
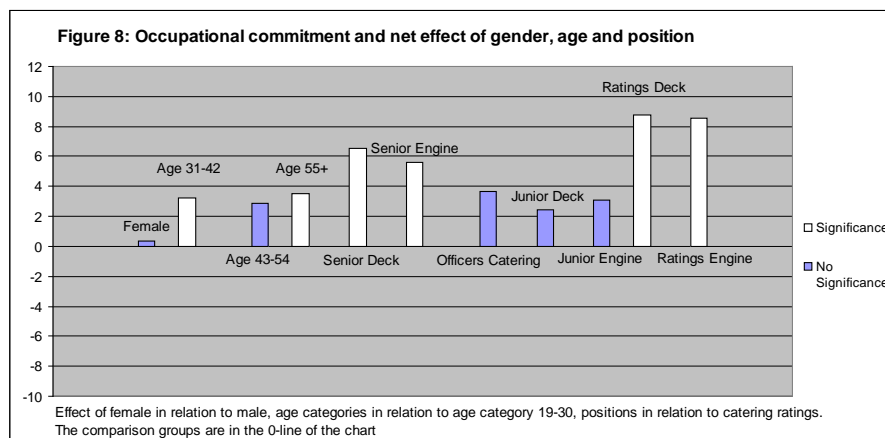


Figure 7 shows that there are five significant effects on employment commitment: the positive effect of being woman; the negative effects of belonging to one of the two older age categories (declining somewhat in strength at 55+); and the positive effects of holding the position of senior deck officer or catering officer. The catering officer thus remains as the position that demonstrates the highest employment commitment even after adjustment. The sum of the information found in Figure 8 is thus that employ-

<sup>188</sup> Significance entails permission to generalise a result, found in a random sample, to the population from which the sample was drawn, provided that the sample is representative of the population. The highest acceptable risk is set at 5 percent.

ment commitment among seafarers is clearly the strongest among younger, female catering officers. Concerning age and gender, the result is consistent with earlier research. In respect of the catering officer position, there may be several reasons for the stronger non-financial commitment to having a paid job. It could be due to that the position offers greater opportunities for social interaction on the job. But since employment commitment refers to the perceived value of having a job in general, the explanation for catering officers' strong connection to the paid job might also be that the profession has a larger labour market that also extends across various land-based sectors.

Figure 8 reports the net effects on occupational commitment according to the same principles as the foregoing. Figure 8 shows that all differences in effect are in a positive direction and that six are statistically significant. The significant effects are associated with the 31-42 and 55+ age categories, senior deck and engineering officers, and deck and engineering ratings. Interestingly, catering officers also demonstrate relatively weak occupational commitment. This result is entirely consistent with the earlier assumption that onboard personnel in this position feel that they have a considerably larger labour market than that offered within the seafaring occupation.

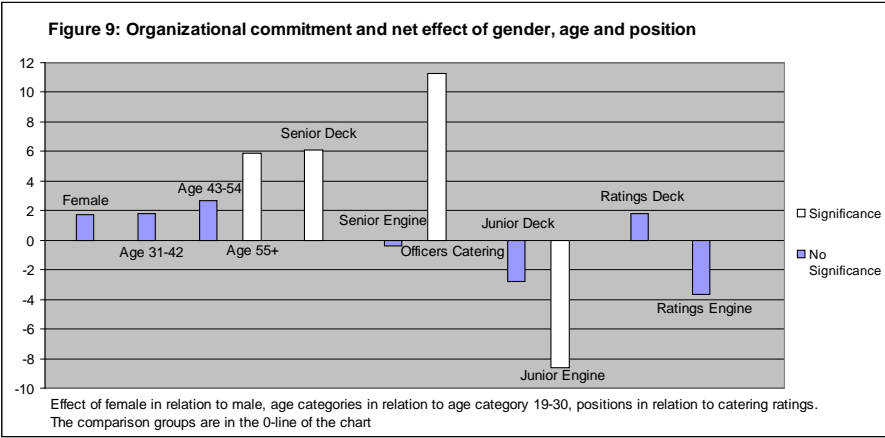


Taken as a whole, the information provided by Figure 8 is that the strongest occupational commitment is found among deck and engineering ratings. These are, of course, traditional seafaring occupations, but one might have expected an even stronger emotional connection to the occupation



among senior deck and engineering officers. Such is not the case. We can also note a possibly age-related selection effect, in that the 43-54 age category declines in occupational commitment compared to the next younger and next older groups.

Figure 9 shows that the higher levels of organizational commitment are found in the 55+ age category among senior deck officers and particularly among catering officers. We also see that commitment is by far the lowest among junior engineering officers. Based on earlier research, one might have expected senior engineering and deck officers to have demonstrated equivalent figures to catering officers, followed in descending hierarchical order by junior officers, since higher positions normally coincide with greater job satisfaction. This, however, clearly does not apply to the crew hierarchy at sea.<sup>189</sup>



Analyzing differences between age categories was an important part of this study. It is entirely possible that circumstances that upon study of the material as a whole do not demonstrate significant effect upon commitment may still have significant effects for certain age categories. It may also be that variables which have thus far shown significant effects are utterly meaningless to certain age categories. Table 26 reports the distribution of net ef-

<sup>189</sup> See also Werthén 1976 (in this volume pages 27-29), who arrives at similar results regarding job satisfaction.

fects across age categories with regard to employment commitment. The table is based upon the same principle as Figures 7-9, although the effects are now shown in figures, rather than as a bar chart, for reasons of space. The four columns of the table represent the four age categories. The mean values for the comparison groups, men and catering ratings, are shown on the top row. The next row down shows the net effect of female gender in relation to the mean value for men. The next row shows the effects of position in relation to catering ratings. Positive figures show a difference in a positive direction and figures with a minus sign show a difference in a negative direction. Significance is denoted in bold type. Three asterisks denote the strongest significance and one asterisk the weakest. Numbers shown in bold with no asterisks indicate that the effect is close to the lowest significant level.

Table 26 shows that women demonstrate higher employment commitment than men in all age categories, but the gender difference is significant only in the younger groups and particularly so in the 31-42 age category. Catering officers show higher motivation in all age categories than the comparison category of catering ratings, but statistical significance is found only in the 43-54 age category. That the results are not significant in more age categories is largely dependent upon the fact that the number of respondents thins out upon division into age categories. One interesting discovery is that senior engineering officers also show significantly higher commitment in the 31-42 age category. This could not be detected before the material was divided into age categories because the negative effects of the other age categories cancelled out the positive effect for the isolated age category. In sum, one can in Table 26 suspect a tendency towards more distinct group differences in employment commitment in the 31-42 age category and that group differences are essentially non-existent among seafarers age 55+.

**Table 26: Employment commitment by gender and position distributed across age categories**

	<b>19-30</b>	<b>31-42</b>	<b>43-54</b>	<b>55+</b>
Mean values for the comparison groups, men for gender and catering ratings for position	62.32	55.18	55.66	59.48
Women ( <i>compared to the mean value for men</i> )	<b>7.61**</b>	<b>11.89***</b>	<b>7.61</b>	3.26
<i>The following positions are compared to the mean value for catering ratings</i>				
Senior deck officers	5.86	6.67	4.98	1.04
Senior engineering officers	-3.44	<b>10.79*</b>	-0.93	-1.75
Catering officers	7.36	<b>8.99</b>	<b>10.72*</b>	6.54
Junior deck officers	0.21	7.19	3.15	2.61
Junior engineering officers	-2.74	-9.60	2.67	-1.79
Deck ratings	1.20	4.78	-5.28	-2.52
Engineering ratings	1.27	6.82	-1.11	-1.81
<i>Explained variance (%)<sup>190</sup></i>	<i>5.1</i>	<i>8.0</i>	<i>6.8</i>	<i>2.2</i>
<i>Number of respondents</i>	<i>259</i>	<i>313</i>	<i>308</i>	<i>379</i>

Adjusted differences between women and the comparison group men, and between positions and the comparison group catering ratings.

Significance levels: Bold and \*\*\* = 0.001 level, \*\* = 0.01 level, \* = 0.05 level, bold only = 0.1 level.

Table 27 follows the same principles as the preceding table and shows distribution of net effects across age categories for seafarers' occupational commitment. With regard to position, we see that the pattern agrees with the earlier analysis. We find the strongest positive effect on occupational commitment among deck and engineering ratings. Senior deck and engineering officers also show significantly higher commitment than the comparison group of catering ratings, but only in the 43-54 age category. We also see that women in the 43-54 age category demonstrate significantly higher occupational commitment than men. In the earlier analysis, this was cancelled

<sup>190</sup> The proportion of the input variation in employment commitment that is explained for each age category by the variables of gender and position.

out by women in the 55+ age category, who display significantly lower occupational commitment than men. Overall, Table 27 shows that significant group differences in occupational commitment are somewhat more scattered across the age categories than was the case for employment commitment.

*Table 27: Occupational commitment by gender and position distributed across age categories*

	<b>19-30</b>	<b>31-42</b>	<b>43-54</b>	<b>55+</b>
Mean values for the comparison groups, men for gender and catering ratings for position	63.35	67.19	63.87	69.73
Women ( <i>compared to the mean value for men</i> )	-2.80	1.76	<b>8.73**</b>	<b>-7.77*</b>
<i>The following positions are compared to the mean value for catering ratings</i>				
Senior deck officers	7.11	4.15	<b>8.65*</b>	5.75
Senior engineering officers	0.75	<b>6.27</b>	<b>10.85**</b>	2.14
Catering officers	9.11	0.89	2.52	7.53
Junior deck officers	6.33	1.01	2.65	0.67
Junior engineering officers	4.77	1.96	6.13	0.69
Deck ratings	<b>9.77*</b>	<b>11.07**</b>	<b>7.77*</b>	<b>7.81*</b>
Engineering ratings	<b>10.49*</b>	<b>9.31*</b>	<b>11.38*</b>	3.74
<i>Explained variance (%)</i>	<i>5.1</i>	<i>5.4</i>	<i>4.7</i>	<i>6.4</i>
<i>Number of respondents</i>	<i>222</i>	<i>279</i>	<i>276</i>	<i>351</i>

Adjusted differences between women and the comparison group men, and between positions and the comparison group catering ratings.

Significance levels: Bold and \*\*\* = 0.001 level, \*\* = 0.01 level, \* = 0.05 level, bold only = 0.1 level.

Table 28 shows the distribution of net effects across age categories in respect of seafarers' organizational commitment, that is, the degree of loyalty to and engagement with the shipping company they work for. Here, as for occupational commitment, we see that women, compared to men, express significantly higher commitment in the 43-54 age category. We also see that

senior deck officers in the 19-30 age category demonstrate very high commitment, which declines thereafter. The significance of the result may be unexpected considering that the group includes fewer senior officers than the other age categories. As expected, catering officers show very strong organizational commitment, but with significance only in the 31-42 and 55+age categories. In general, belonging to the engineering department entails a negative effect on organizational commitment. This is particularly clear among junior engineering officers in the 31-42 age category, where commitment is very low. The largest group differences are found in the 31-42 age category.

**Table 28: Organizational commitment by gender and position distributed across age categories**

	<b>19-30</b>	<b>31-42</b>	<b>43-54</b>	<b>55+</b>
Means for the comparison groups, men, and for position, catering ratings	39.23	51.29	46.92	51.88
Women ( <i>compared to the mean for men</i> )	1.91	-0.03	<b>9.16*</b>	-1.48
<i>The following positions were compared to the mean for catering ratings</i>				
Senior Deck officers	<b>19.87*</b>	0.64	<b>7.64</b>	5.93
Senior Engineering Officers	0.98	-3.24	4.43	-1.88
Catering Officers	9.50	<b>11.42*</b>	6.58	<b>10.04*</b>
Junior Deck officers	6.66	<b>-7.18</b>	-6.98	-0.24
Junior Engineering Officers	-3.08	<b>-14.97*</b>	-2.48	-6.42
Deck Ratings	7.72	-1.93	0.25	4.88
Engineering Ratings	5.92	<b>-9.22</b>	-4.33	-5.13
<i>Explained variance (%)</i>	<i>5.0</i>	<i>7.9</i>	<i>7.4</i>	<i>4.3</i>
<i>Number of respondents</i>	<i>231</i>	<i>287</i>	<i>268</i>	<i>341</i>

Adjusted differences between women and the comparison group men, and between positions and the comparison group catering ratings.

Significance levels: Bold and \*\*\* = 0.001 level, \*\* = 0.01 level, \* = 0.05 level, bold only = 0.1 level.

### *Time in work and occupation*

Results in brief: Years at sea and years in the position have a negative effect on employment commitment. Years at sea have a positive effect on occupational commitment. Years on the same ship, however, have a strong negative effect on occupational commitment for the youngest age category. Years with a shipping company and years at sea have positive effect on organizational commitment.

The survey asked questions about how long seafarers had worked at sea, how long they had worked in their present positions, how long they had served on their present ships, and how long they had worked for their shipping companies. The time accumulated in a certain occupation or work situation can theoretically have both negative and positive effects on work-related attitudes. Over time, people can get tired of what they are doing and want to do something new, but time can also create increasingly stronger bonds to the occupation and work situation. Since all of these variables have to do with time in the seafaring occupation in one way or another, one can expect possible effects on commitment to intersect to a certain extent. Let us therefore start directly with a presentation of the adjusted effects.<sup>191</sup>

The report follows the same principles as before. The figures show positive effects that ascend from the 0 line and negative effects that descend. White bars indicate statistical significance. In this case, the bars show the average effect for one year. The chart's 0 line thus represents the average position at one year's less time at sea, in the position, on the ship, and with the shipping company. Because the effects presented in the chart refer to an average value change per year, the effects are also small – but even small effects become significant if the change is sufficiently stable over time.<sup>192</sup>

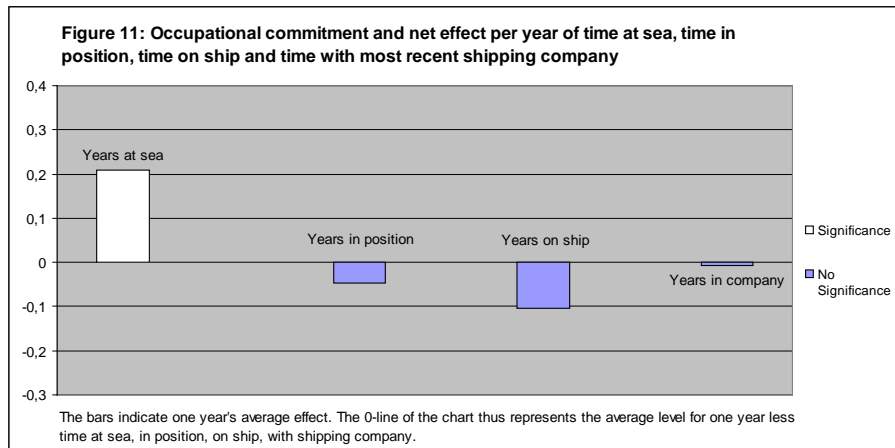
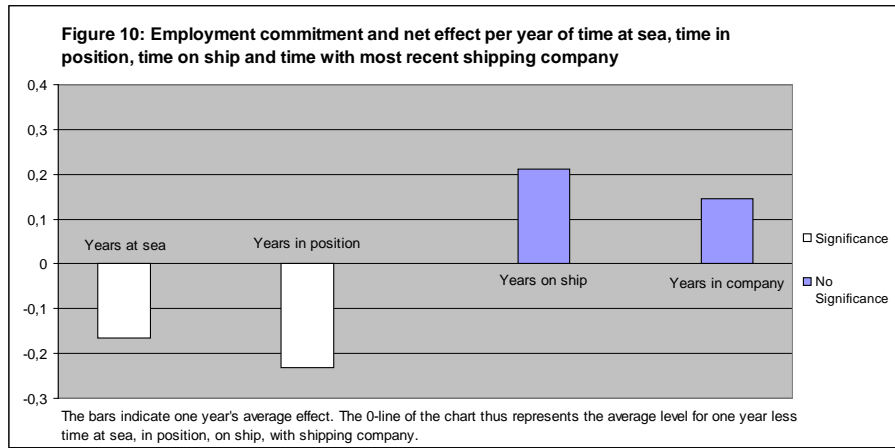
Figure 10 shows how employment commitment is affected by occupation-related time. There are two significant effects. Both are negative and apply to years at sea and years in the position. This implies that the longer seafarers have worked at sea and the longer they have been in the same position, the lower their tendency to find non-financial values in having a paid

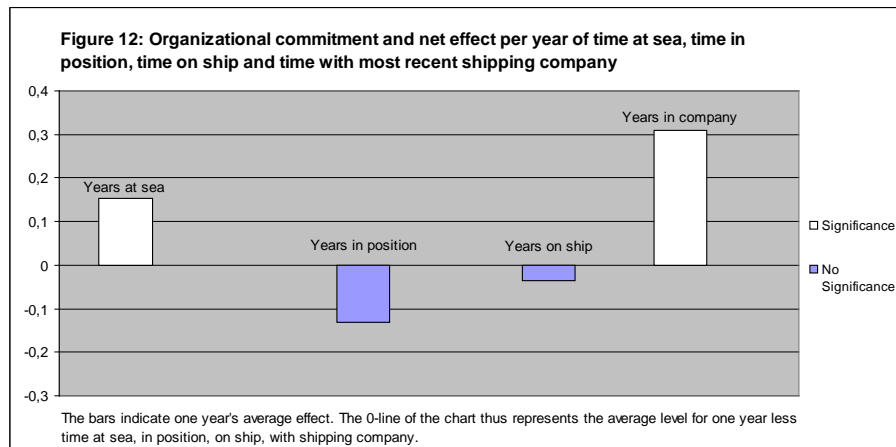
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<sup>191</sup> One often wants to avoid the occurrence of independent variables that are too highly correlated in a multivariate model, since this multicollinearity means that the variables deprive effect from each other. In this case, however, there may be a point to it, because we then discover which of the time variables have the greatest impact on commitment.

<sup>192</sup> As mentioned, random samples are not amenable to analyzing changes over time. But in this case, we know which time ranges the respondents have reported and we can on this basis compare levels of commitment in relation to the reported time range and derive a mean value for attitude difference per year.

job. Figure 11 shows the net effects of the time variables on occupational commitment. Here, there is only one significant effect – years at sea – which shows that the longer seafarers have worked at sea, the stronger their occupational commitment. In respect of organizational commitment (Figure 12) we find two significant effects, years at sea and years with the shipping company, which both indicate that the more time seafarers have invested, the greater is their loyalty and commitment to the shipping company they work for.





The question is how the above effects of time are distributed across the age categories. As age is also a time variable, we must assume that the longest time ranges for time at sea and time in position will be found in the oldest age category, while time on the ship and with the shipping company should be somewhat more independent of age. Clearly however, all time ranges are allowed to vary by more than 10 years in all age categories. Table 29 shows that all significant effects on employment commitment are found in the 43-54 age category. Beyond the negative effects of time at sea and in the position, we see a positive effect of time with the shipping company, which in this age category strengthens the seafarers' employment commitment.

Table 30 shows the distribution of effects on occupational commitment across age categories. The effects in this case are clearly more scattered among the age categories and the positive effect of time at sea is found in the 31-42 and 55+ categories. Interestingly, a surprisingly strong negative effect of time on the ship is notable in the 19-30 age category. During a period of 10 years, this entails a minus effect of 34.6 for the youngest seafarers, which must be considered a dramatic decline on a scale of 0-100.



**Table 29: Employment commitment and net effect per year of time at sea, time in the position, time on the ship and time with the most recent shipping company, distributed across age categories**

	<b>19-30</b>	<b>31-42</b>	<b>43-54</b>	<b>55+</b>
Baseline for invested time is 0.	68.45	63.81	68.38	58.46
Time at sea (net effect per year)	0.02	0.04	<b>-0.49**</b>	0.05
Time in the position (net effect per year)	-0.99	<b>-0.60</b>	<b>-0.40*</b>	-0.14
Time on the ship (net effect per year)	0.92	<b>0.83</b>	0.25	0.17
Time with the shipping company (net effect per year)	-0.68	-0.07	<b>0.42*</b>	0.06
<i>Explained variance (%)</i>	<i>1.8</i>	<i>1.8</i>	<i>8.7</i>	<i>0.9</i>
<i>Number of respondents</i>	<i>246</i>	<i>304</i>	<i>287</i>	<i>361</i>

Adjusted effects per year at sea, in the position, on the ship, with the shipping company.

Significance levels: Bold and \*\*\* = 0.001 level, \*\* = 0.01 level, \* = 0.05 level, bold only = 0.1 level.

**Table 30: Occupational commitment and net effect per year of time at sea, time in the position, time on the ship and time with the most recent shipping company, distributed across age categories**

	<b>19-30</b>	<b>31-42</b>	<b>43-54</b>	<b>55+</b>
Baseline for invested time is 0.	71.94	66.94	67.81	58.98
Time at sea (net effect per year)	0.42	<b>0.57**</b>	0.23	<b>0.41***</b>
Time in the position (net effect per year)	-0.05	0.03	-0.18	0.02
Time on the ship (net effect per year)	<b>-3.46***</b>	-0.24	0.23	-0.08
Time with the shipping company (net effect per year)	1.01	-0.22	-0.06	0.00
<i>Explained variance (%)</i>	<i>9.1</i>	<i>4.3</i>	<i>1.4</i>	<i>7.9</i>
<i>Number of respondents</i>	<i>211</i>	<i>272</i>	<i>260</i>	<i>335</i>

Adjusted effects per year at sea, in the position, on the ship, with the shipping company.

Significance levels: Bold and \*\*\* = 0.001 level, \*\* = 0.01 level, \* = 0.05 level, bold only = 0.1 level.

Table 31 shows that the positive effect on organizational commitment of time at sea can be traced primarily to the youngest and oldest categories and that the effect is significant only in the latter case. It is also clear that the positive effect of time with the shipping company is found in all age categories, but with significance only in the 43-54 age category. The table also reveals another significant and negative effect in the youngest age category. This applies to time in the position, which has a negative effect on organizational and occupational commitment.

*Table 31: Organizational commitment and net effect per year of time at sea, time in the position, time on the ship and time with the most recent shipping company, distributed across age categories*

	<b>19-30</b>	<b>31-42</b>	<b>43-54</b>	<b>55+</b>
Baseline for invested time is 0.	45.00	46.47	51.80	42.72
Time at sea (net effect per year)	<b>1.00</b>	0.02	-0.14	<b>0.25*</b>
Time in the position (net effect per year)	<b>-1.67*</b>	-0.09	-0.23	-0.05
Time on the ship (net effect per year)	-1.49	-0.10	0.13	-0.05
Time with the shipping company (net effect per year)	1.34	<b>0.54</b>	<b>0.37*</b>	<b>0.22</b>
<i>Explained variance (%)</i>	<i>4.8</i>	<i>1.6</i>	<i>3.4</i>	<i>4.0</i>
<i>Number of respondents</i>	<i>220</i>	<i>281</i>	<i>253</i>	<i>327</i>

Adjusted effects per year at sea, in the position, on the ship, with the shipping company.

Significance levels: Bold and \*\*\* = 0.001 level, \*\* = 0.01 level, \* = 0.05 level, bold only = 0.1 level.

As a whole, Tables 29-31 show that for occupational commitment and organizational commitment, time on the ship and time in the position mainly affect the youngest category. The effects are negative and may be explained by unmet expectations of work and career. Time in the position also had a negative effect on employment commitment in the 43-54 age category, along with time at sea. Time at sea, however, has a positive effect on occupational commitment and organizational commitment, with the strongest significance in the oldest group. This may be interpreted to mean that over time a self-selected group has emerged with a strong emotional connection to the seafar-

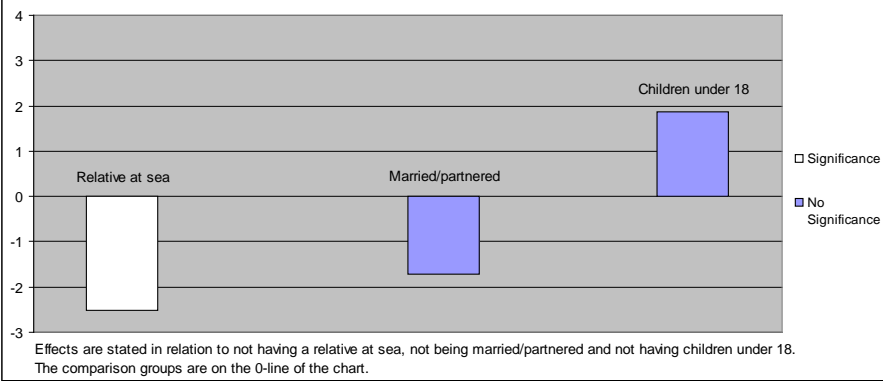
ing life and the greatest loyalty and commitment to the occupation and the shipping company. We also see that time with the shipping company has a positive effect on organizational commitment.

### *Family situation*

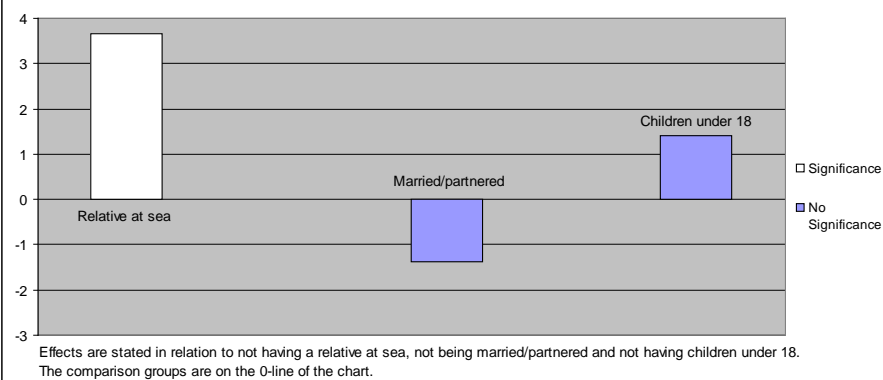
Results in brief: Having relatives at sea has a negative effect on employment commitment, a strong positive effect on occupational commitment, but no effect at all on organizational commitment. Having minor children in the household has mainly positive effects, which are particularly strong for organizational commitment in the youngest category.

In the introduction, the particular conditions of the seafaring life were discussed with emphasis on periods of separation from the home. One can imagine that these recurring separations from the home may feel harder for seafarers who have a spouse or partner compared to those who are single, and particularly difficult if they have young children at home. Further, one can imagine that situations that might be perceived as hardships might also entail lower occupational and organizational commitment among seafarers. There are also family circumstances which may strengthen occupational and organizational commitment. One such circumstance is to have a close relative who works at sea and acts as a source of inspiration. Figures 13-15 report the effects of these factors according to the same principles as before. Figures 13 and 14 show that the only family variable that has significant effect on employment commitment and occupational commitment is having a close relative at sea. The effect on employment commitment is negative and the effect on occupational commitment is positive. In Figure 15, showing organizational commitment, there are no significant effects at all.

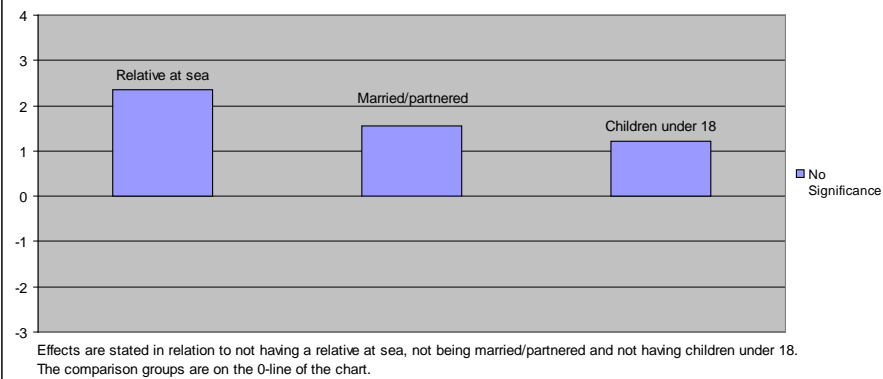
**Figure 13: Employment commitment and net effect of having a close relative at sea, having children under 18, and of being married/partnered**



**Figure 14: Occupational commitment and net effect of having a close relative at sea, having children under 18, and of being married/partnered**



**Figure 15: Organizational commitment and net effect of having a close relative at sea, having children under 18, and of being married/partnered**



Tables 32-34 present the effects of family situation distributed across age categories. Table 32 shows that all significant effects on employment commitment are found in the 43-54 age category. Having a relative at sea and being married/partnered are negative, and having children under the age of 18 is positive for employment commitment.

*Table 32: Employment commitment and the net effects of having a close relative at sea, being married/partnered and having children under 18, across age categories*

	<b>19-30</b>	<b>31-42</b>	<b>43-54</b>	<b>55+</b>
Mean values for the comparison group, with no relatives at sea, not married/partnered, and no children under 18 in the household	68.31	62.39	62.57	59.95
Having a relative at sea (compared with not having one)	-1.85	-1.73	<b>-6.35*</b>	-0.26
Being married/partnered (compared to being single)	-3.15	3.42	<b>-6.16*</b>	0.61
Having children under 18 in the household (compared to none)	1.80	-0.80	<b>9.05***</b>	-3.02
<i>Explained variance (%)</i>	<i>0.9</i>	<i>0.5</i>	<i>5.4</i>	<i>0.2</i>
<i>Number of respondents</i>	<i>253</i>	<i>311</i>	<i>301</i>	<i>368</i>

Adjusted effects per year at sea, in the position, on the ship, with the shipping company.

Significance levels: Bold and \*\*\* = 0.001 level, \*\* = 0.01 level, \* = 0.05 level, bold only = 0.1 level.

Table 33 shows that the effect on occupational commitment of having other seafarers in the family is generally positive in all age categories but significant only for the 31-42 age category. There are otherwise no significant effects. It is interesting and somewhat surprising, however, that having children in the household has a positive effect on occupational commitment in most age categories, not least in the youngest category. Being married/partnered has mainly negative but unexpectedly weak effect. Table 34 shows organizational commitment, where only two significant effects can be noted. The first is the positive effect of being married/partnered in the oldest category. The second is the positive effect of having minor children in the youngest age category.

Overall, Tables 32-34 show that having seafarers in the family generally has a positive effect on occupational commitment. The effect is clearest in the two youngest age categories, which understandably indicates that older relatives inspire occupational identification among younger seafarers. Otherwise, the results show that family situation has surprisingly little effect on occupational and organizational commitment among seafarers and when it does the effects are in unexpected directions.

*Table 33: Occupational commitment and the net effects of having a close relative at sea, being married/partnered, and having children under 18, across age categories*

	<b>19-30</b>	<b>31-42</b>	<b>43-54</b>	<b>55+</b>
Mean values for the comparison group, with no relatives at sea, not married/partnered, and no children under 18 in the household	69,74	69,19	70,71	71,38
Having a relative at sea (compared with not having one)	<b>3,79</b>	<b>7,31***</b>	2,23	1,12
Being married/partnered (compared to being single)	<b>-4,29</b>	-3,31	-3,11	1,91
Having children under 18 in the household (compared to none)	<b>6,58</b>	2,76	<b>4,06</b>	-4,60
<i>Explained variance (%)</i>	<i>4,0</i>	<i>5,9</i>	<i>2,1</i>	<i>1,1</i>
<i>Number of respondents</i>	<i>216</i>	<i>277</i>	<i>269</i>	<i>341</i>

Adjusted effects per year at sea, in the position, on the ship, with the shipping company.

Significance levels: Bold and \*\*\* = 0.001 level, \*\* = 0.01 level, \* = 0.05 level, bold only = 0.1 level.

**Table 34: Organizational commitment and the net effects of having a close relative at sea, being married/partnered and having children under 18, across age categories**

	<b>19-30</b>	<b>31-42</b>	<b>43-54</b>	<b>55+</b>
Mean values for the comparison group, with no relatives at sea, not married/partnered, and no children under 18 in the household	45,18	46,08	49,08	50,90
Having a relative at sea (compared with not having one)	4,33	3,02	0,96	0,18
Being married/partnered (compared to being single)	-4,47	2,17	-1,24	<b>4,93*</b>
Having children under 18 in the household (compared to none)	<b>11,77*</b>	0,38	<b>4,90</b>	-5,03
<i>Explained variance (%)</i>	4,5	0,9	1,4	1,7
<i>Number of respondents</i>	225	285	262	332

Adjusted effects per year at sea, in the position, on the ship, with the shipping company.

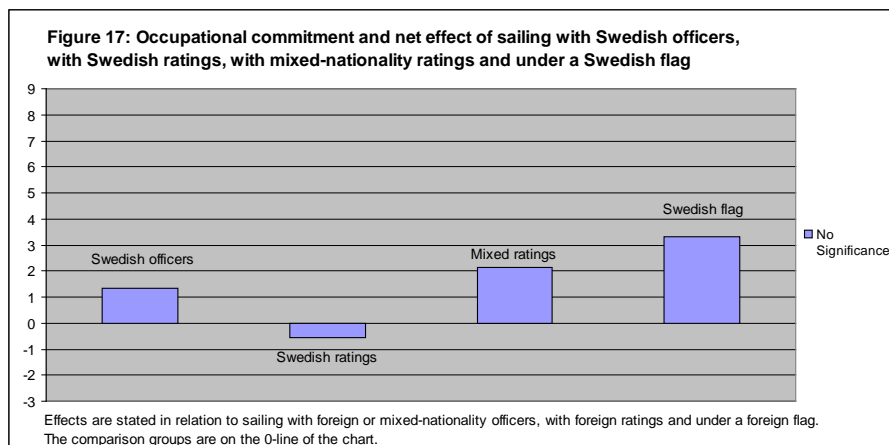
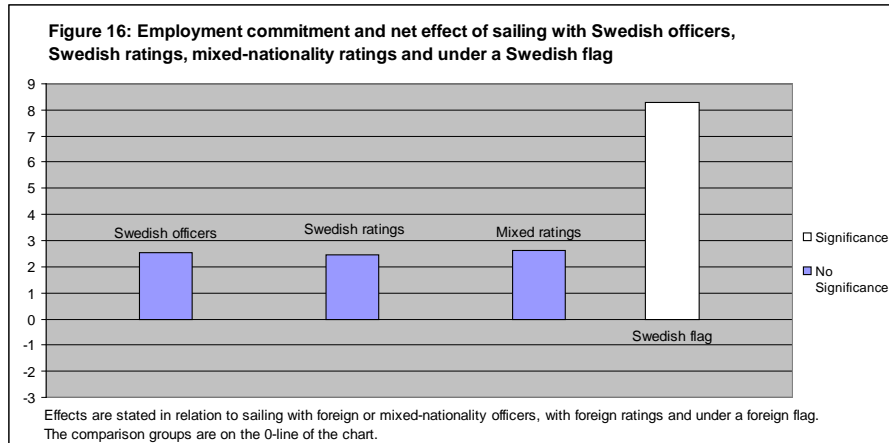
Significance levels: Bold and \*\*\* = 0.001 level, \*\* = 0.01 level, \* = 0.05 level, bold only = 0.1 level.

### *Nationality of crew and flag*

Results in brief: Sailing under a Swedish flag has strong positive effect on employment commitment and strong positive effect on organizational commitment, but only in the oldest category. Sailing with Swedish officers and Swedish or mixed-nationality ratings (compared to foreign officers/ratings) has significant positive effect only on employment commitment.

As discussed in the introduction, there is a strong international element to shipping. Accordingly, factors including nationally/culturally mixed crews might have effects on work-related perceptions. It has been pointed out, for instance, that Swedish officers appears to be popular among ratings. Another phenomenon touched upon earlier and which may have consequences on seafarers' perceptions of their jobs and occupation is the ship's flag state. Much due to the current trend towards flagging out, our sample from the Swedish Seafarers' Registry included about a hundred respondents who were sailing under a non-Swedish flag at the time. This gives us an opportunity to also study any effect that flagging-out may have on commitment.

Figures 16-18 present the effects of the aforementioned nationality variables. Figure 16 shows that the effects of working with Swedish officers, compared to foreign officers or officers of mixed nationality and with a Swedish or mixed-nationality crew, compared to a foreign crew, and under a Swedish flag are positive for employment commitment – but significantly so only with regard to the strong positive effect of sailing under a Swedish flag.





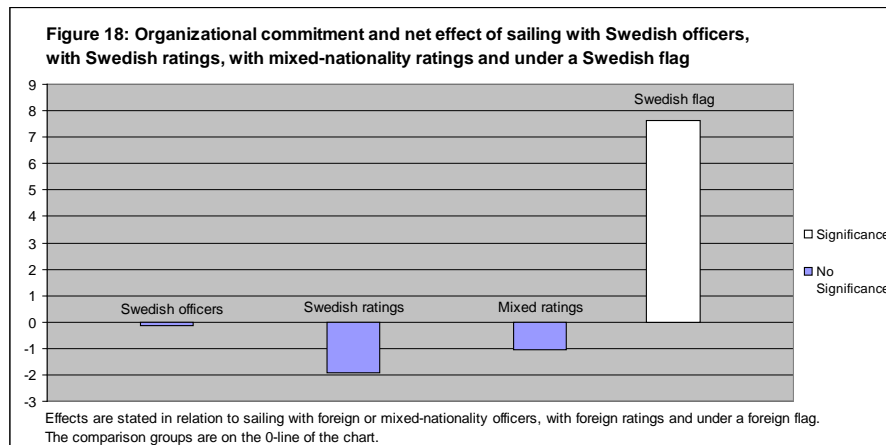


Figure 17 shows us that on every point, nationality lacks significant effect on occupational commitment. Figure 18, however, shows that organizational commitment is affected by flagging-out in the same direction and to the same power and significance as for employment commitment. No effect other than flag state show significant effect. Overall, we can determine that the tendency to see non-financial values in the paid job and to express loyalty and commitment to the work organization are considerably higher among seafarers on Swedish-flagged ships. The question is how do the results look when we break down the material into age categories?

Table 35 shows that sailing with ships' officers of Swedish nationality has a significant positive effect on employment commitment for the youngest category. For the 43-54 age category, we find substantial positive effect of sailing with Swedish or mixed-nationality ratings, compared to ratings of foreign nationality. In the 55+ age category, the important factor is the flag, in that a Swedish flag is associated with high employment commitment.

*Table 35: Employment commitment and the net effect of the nationality of officers, ratings and flag, distributed across age categories*

	<b>19-30</b>	<b>31-42</b>	<b>43-54</b>	<b>55+</b>
Mean values for the comparison group, who sail with foreign or mixed-nationality officers, with a foreign crew and under a foreign flag	55.40	54.05	38.60	41.71
Sailing with Swedish officers (compared to foreign or mixed-nationality)	<b>9.84**</b>	0.43	4.16	0.14
Sailing with Swedish ratings (compared to foreign)	-1.88	1.61	<b>17.92*</b>	0.50
Sailing with mixed-nationality ratings (compared to foreign)	2.58	-0.41	<b>18.20**</b>	1.20
Sailing under a Swedish flag (compared to foreign)	4.38	8.82	0.69	<b>18.00**</b>
<i>Explained variance (%)</i>	<i>4.4</i>	<i>1.6</i>	<i>3.8</i>	<i>2.0</i>
<i>Number of respondents</i>	<i>254</i>	<i>303</i>	<i>300</i>	<i>354</i>

Significance levels: bold and \*\*\* = 0.001 level, \*\* = 0.01 level, \* = 0.05 level, bold only = 0.1 level.

Table 36 shows us that occupational commitment is not affected by the nationality variables to the same extent. The 55+ age category is a marked exception, however, where a large positive effect is shown for sailing under a Swedish flag. Clearly, older seafarers demonstrate less interest in the seafaring life if they sail on flagged-out ships.

*Table 36: Occupational commitment and the net effect of the nationality of officers, ratings and flag, distributed across age categories*

	<b>19-30</b>	<b>31-42</b>	<b>43-54</b>	<b>55+</b>
Mean values for the comparison group, who sail with foreign or mixed-nationality officers, with a foreign crew, and under a foreign flag	70.00	69.82	70.01	52.41
Sailing with Swedish officers (compared to foreign or mixed-nationality)	3.74	0.51	-1.03	2.42
Sailing with Swedish ratings (compared to foreign)	-9.17	-1.10	0.06	4.04
Sailing with mixed-nationality ratings (compared to foreign)	-4.59	2.45	1.70	5.59
Sailing under a Swedish flag (compared to foreign)	4.75	1.03	1.51	<b>14.26**</b>
<i>Explained variance (%)</i>	<i>1.5</i>	<i>1.0</i>	<i>0.4</i>	<i>3.2</i>
<i>Number of respondents</i>	<i>216</i>	<i>270</i>	<i>269</i>	<i>330</i>

Significance levels: bold and \*\*\* = 0.001 level, \*\* = 0.01 level, \* = 0.05 level, bold only = 0.1 level.

Table 37 shows that nationality has no significant effect on organizational commitment in any of the age categories. Closest to reaching significance is the negative effect of sailing with Swedish officers for the 43-54 age category. In one case, however, the generally low significance is misleading. If we look at the effects of a Swedish flag, we see that they are relatively high in all age categories. This means that the strong effect we noted for the entire sample (see Figure 18) is now spread across the age categories, whereupon the significance is lost due to too few cases in the categories. What Table 37 shows is thus that the negative effect of flagging-out in the case of organizational commitment is independent of age. The results show that seafarers generally express lower commitment and loyalty to the shipping company if they sail under a foreign flag, compared to a Swedish flag.

**Table 37: Organizational commitment and the net effect of the nationality of officers, ratings and flag, distributed across age categories**

	<b>19-30</b>	<b>31-42</b>	<b>43-54</b>	<b>55+</b>
Mean values for the comparison group, who sail with foreign or mixed-nationality officers, with a foreign crew, and under a foreign flag	42,79	45,21	47,04	39,716
Sailing with Swedish officers (compared to foreign or mixed-nationality)	2,92	-1,88	<b>-7,07</b>	4,30
Sailing with Swedish ratings (compared to foreign)	-11,71	-3,91	4,92	0,68
Sailing with mixed-nationality ratings (compared to foreign)	-7,71	-0,66	1,56	-0,15
Sailing under a Swedish flag (compared to foreign)	11,08	7,62	6,16	10,22
<i>Explained variance (%)</i>	<i>1,6</i>	<i>1,5</i>	<i>1,8</i>	<i>2,0</i>
<i>Number of respondents</i>	<i>225</i>	<i>277</i>	<i>261</i>	<i>318</i>

Significance levels: bold and \*\*\* = 0.001 level, \*\* = 0.01 level, \* = 0.05 level, bold only = 0.1 level.

### *Ship and trade area*

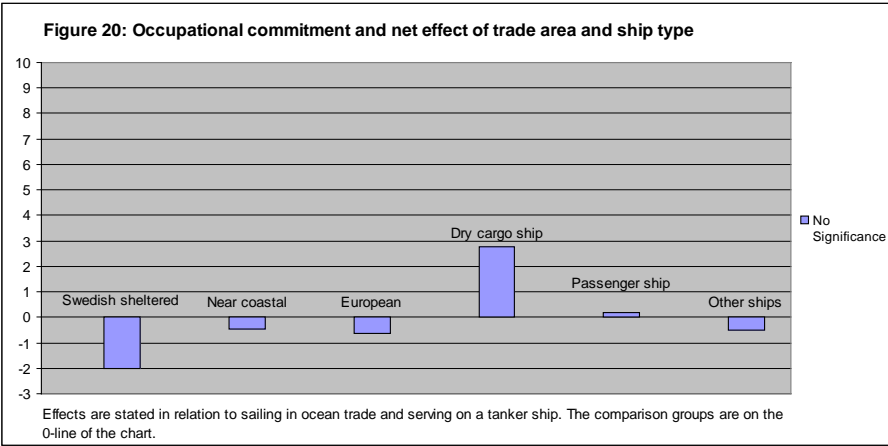
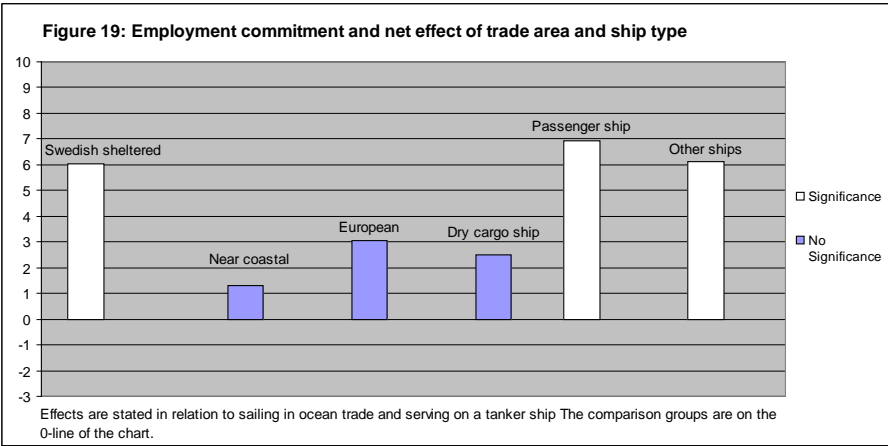
Results in brief: Serving in or near Sweden and on passenger ships entails high employment commitment (compared to sailing in Ocean trade and on tankers). No effects can be noted on occupational commitment or organizational commitment.

Figures 19-21 show how the type of ship and trade area affect commitment among seafarers.<sup>193</sup> Ship type can be categorized in various ways. Here, they have been sorted into the categories of dry cargo ships, passenger ships, tankers and other ships. Tankers are the comparison category. The type of ship can be important to seafarers in various ways and based on highly personal experiences and preferences. Since the trade area refers to the geographical area in which the ship sails, the variable may be significant in that the job may take seafarers varying distances from home. The trade area

<sup>193</sup> Note that what we are analyzing here is the importance of the *perceived* trade area (see pages 65-66).

is here organized into the categories of Swedish Sheltered trade, Near Coastal trade, European trade and Ocean trade. Ocean trade is the comparison category.

What we can see in Figures 19-21 is that the only significant effect of ship type and trade area is on employment commitment. Swedish Sheltered trade, passenger ships and other ships entail higher employment commitment compared to Ocean trade and tankers. Table 38 shows how the results are distributed across age categories.



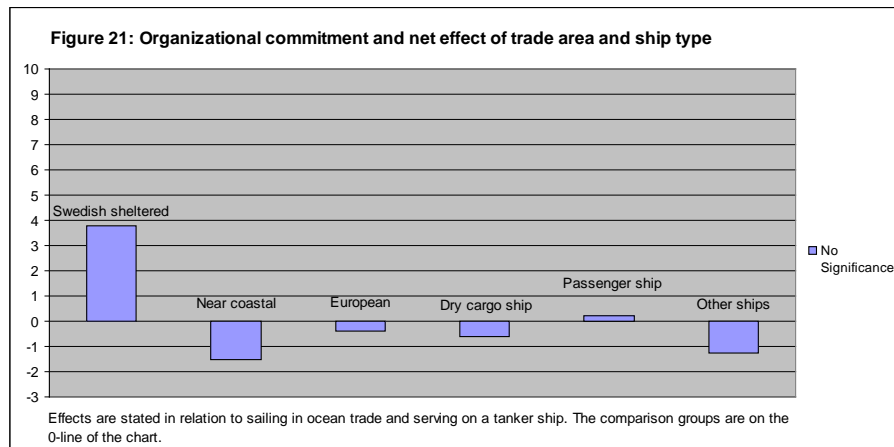


Table 38 shows that it is in the youngest age category where the higher employment commitment is found for those who serve on passenger ships or other ships. The result may be interpreted to mean that it is easier for younger seafarers to find non-financial values in the paid job if they serve on passenger ships or other ships, compared to tankers, which may reflect differences in social interaction between these types of ships. Table 38 also reveal that it is in the 31-42 age category where employment commitment is higher among seafarers in Swedish Sheltered trade and European trade. The explanation for why seafarers in this age category are more likely to see non-financial values in the job if they do not sail in Ocean trade might have to do with the distance from home and that this age category often coincides with more intensive family life.

*Table 38: Employment commitment and net effects of trade area and ship type, distributed across age categories*

	<b>19-30</b>	<b>31-42</b>	<b>43-54</b>	<b>55+</b>
Mean values for the comparison group, who sail in Ocean trade and onboard tankers	62.64	51.81	51.72	52.61
Sailing in Swedish Sheltered trade (compared to Ocean trade)	-1.59	<b>12.51*</b>	5.76	7.32
Sailing in Near Coastal trade (compared to Ocean trade)	-7.92	<b>8.16</b>	5.16	2.50
Sailing in European trade (compared to Ocean trade)	-2.83	<b>11.93**</b>	4.70	1.29
Serving on dry cargo ships (compared to tankers)	2.55	4.39	-3.10	<b>6.38</b>
Serving on passenger ships (compared to tankers)	<b>12.25**</b>	4.23	6.36	5.71
Serving on other ships (compared to tanker)	<b>11.93**</b>	6.03	-1.30	6.18
<i>Explained variance (%)</i>	6.2	3.9	5.3	1.9
<i>Number of respondents</i>	257	310	307	377

Significance levels: bold and \*\*\* = 0.001 level, \*\* = 0.01 level, \* = 0.05 level, bold only = 0.1 level.

As neither occupational commitment nor organizational commitment show any tendency, distributed across age categories, to be affected by ship type or trade area, no tables is presented for these commitment types. Instead, we will move on to studying the importance of rotation systems and watch systems.

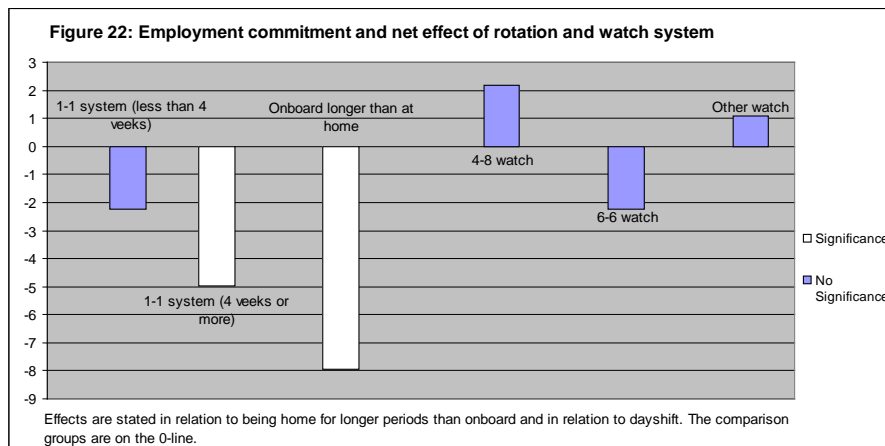
#### *Rotation systems and watch systems*

Results in brief: A rotation system with four weeks or more onboard, or more time onboard than at home, results in lower employment commitment compared to being home for a longer period than time onboard. Having a 4-8 watch (compared to dayshift) results in lower occupational commitment and lower organizational commitment for the 43-54 age category.

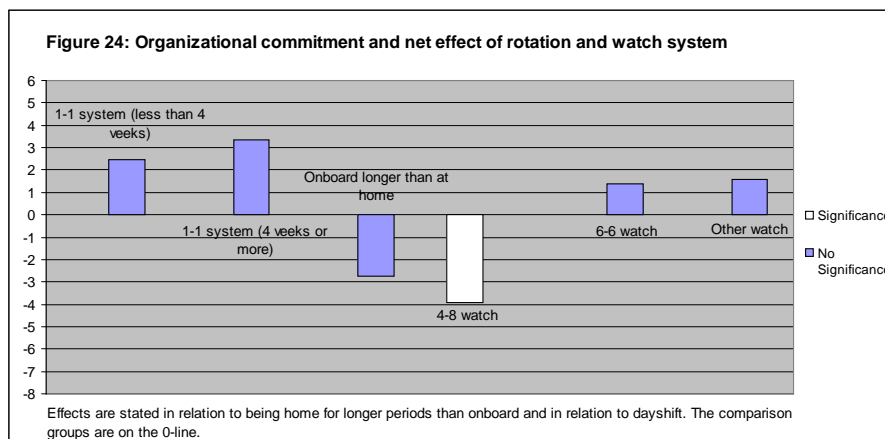
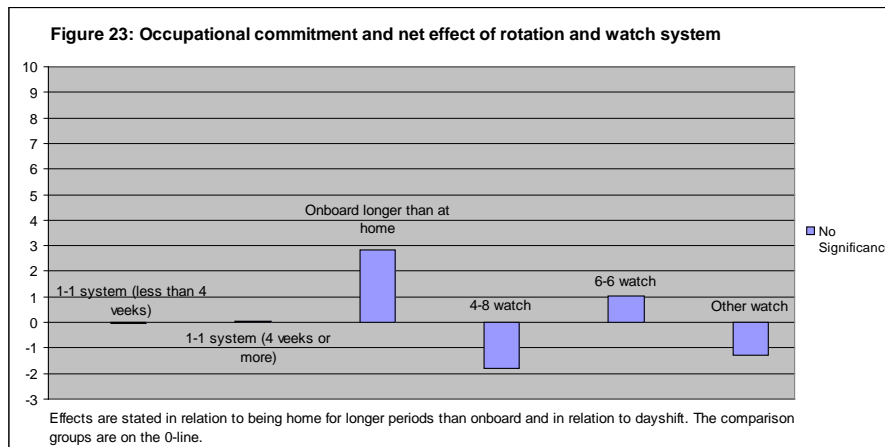
The rotation system is often presented as the most positive aspect of the seafaring occupation. In the introduction to this report, it emerged that the positive aspects of the rotation system may be both the longer periods of

time off and the perceived freedom of having life divided into periods of focus on work and focus on leisure. There is thus reason to suspect that the design of the rotation system is significant to seafarers' attitudes towards their work and occupation. Likewise, the design of the watch system may affect attitudes towards work because the system determines the seafarers' circadian rhythm and opportunities for uninterrupted rest. The rotation system is here arranged in the categories of: 1-1, less than four weeks; 1-1, four weeks or more; longer periods at home than onboard; and longer periods onboard than at home. (The comparison category is longer periods at home than onboard.) The watch system has been arranged in the categories of: 4-8 watch; 6-6 watch, dayshift; and other watch (the comparison category is dayshift).

Figures 22-24 display how the various commitment types are affected by the design of the rotation and watch systems. It emerges there that only two commitment types are significantly affected. There is a negative effect on employment commitment which is increasing with time spent onboard in relation to time spent at home (Figure 22). The other is organizational commitment, where there is a negative effect for a 4-8 watch system compared to dayshift (Figure 24).







Tables 39-41 show the situation distributed across age categories. Table 39 shows that the negative effect of rotation system design on employment commitment is distributed across the three older age categories. The two age categories in the middle are affected negatively by the 1-1 system of four weeks or more, while a system that entails longer periods onboard than at home has a strongly negative effect in the 55+ category. The latter case may be interpreted in two ways. Either the older seafarers' perceptions of alternative values in the job are affected negatively by long periods at sea, or it may be that a particular group of older seafarers want to serve long periods on the job because they, more than others, tend to regard a paid job as mainly a way

to earn money. The table also shows that the 6-6 watch has a negative effect on employment commitment in the 43-54 age category.

*Table 39: Employment commitment and net effects of rotation system and watch system, distributed across age categories*

	<b>19-30</b>	<b>31-42</b>	<b>43-54</b>	<b>55+</b>
Mean values for the comparison group, who work dayshift and have longer periods at home than onboard	65.20	67.25	64.80	61.61
1-1 rotation, less than 4 weeks (compared to having longer periods at home than onboard)	1.01	-6.27	-1.21	-0.73
1-1 rotation, 4 weeks or more (compared to having longer periods on home than onboard)	-0.05	<b>-8.17*</b>	<b>-9.03*</b>	-1.53
Onboard longer than at home (compared to having longer periods at home than onboard)	-0.91	-2.60	5.89	<b>-18.41**</b>
4-8 watch (compared to dayshift)	1.09	5.33	-2.14	-4.234
6-6 watch (compared to dayshift)	-0.52	0.00	<b>-9.26*</b>	-2.06
Other watch (compared to dayshift)	1.57	3.62	-3.15	2.60
<i>Explained variance (%)</i>	<i>0.2</i>	<i>2.5</i>	<i>3.9</i>	<i>3.3</i>
<i>Number of respondents</i>	<i>257</i>	<i>309</i>	<i>303</i>	<i>374</i>

Significance levels: bold and \*\*\* = 0.001 level, \*\* = 0.01 level, \* = 0.05 level, bold only = 0.1 level.

Table 40 shows that only the 4-8 watch has significant effect on occupational commitment. This applies to the 43-54 age category, who show a decline in occupational commitment with this watch system. In Table 41, we see that, as for occupational commitment, the same watch system has effect in the same age category, in the same direction and to a similar extent with regard to organizational commitment.

*Table 40: Occupational commitment and net effects of rotation system and watch system, distributed across age categories*

	<b>19-30</b>	<b>31-42</b>	<b>43-54</b>	<b>55+</b>
Mean values for the comparison group, who work dayshift and have longer periods at home than onboard	65,11	73,58	72,13	73,40
1-1 rotation, less than 4 weeks (compared to having longer periods at home than onboard)	4,49	-1,20	-1,33	1,030
1-1 rotation, 4 weeks or more (compared to having longer periods on home than onboard)	4,67	-1,03	3,81	-3,03
Onboard longer than at home (compared to having longer periods at home than onboard)	<b>11,54</b>	7,36	3,82	-2,26
4-8 watch (compared to dayshift)	0,98	-0,45	<b>-10,11**</b>	0,66
6-6 watch (compared to dayshift)	2,53	-0,42	1,13	1,71
Other watch (compared to dayshift)	-0,27	-2,88	-1,86	0,05
<i>Explained variance (%)</i>	<i>1,8</i>	<i>1,0</i>	<i>3,7</i>	<i>1,3</i>
<i>Number of respondents</i>	<i>218</i>	<i>275</i>	<i>272</i>	<i>347</i>

Significance levels: bold and \*\*\* = 0.001 level, \*\* = 0.01 level, \* = 0.05 level, bold only = 0.1 level.

*Table 41: Organizational commitment and net effects of rotation system and watch system, distributed across age categories*

	<b>19-30</b>	<b>31-42</b>	<b>43-54</b>	<b>55+</b>
Mean values for the comparison group, who work dayshift and have longer periods at home than onboard	41.09	46.10	48.45	52.47
1-1 rotation, less than 4 weeks (compared to having longer periods at home than onboard)	3.37	3.75	4.21	0.49
1-1 rotation, 4 weeks or more (compared to having longer periods on home than onboard)	4.46	4.62	4.47	0.44
Onboard longer than at home (compared to having longer periods at home than onboard)	1.50	-10.70	7.70	-6.83
4-8 watch (compared to dayshift)	1.26	-1.35	<b>-13.76**</b>	-0.72
6-6 watch (compared to dayshift)	1.94	0.31	1.62	4.50
Other watch (compared to dayshift)	4.19	1.12	-0.11	1.60
<i>Explained variance (%)</i>	<i>0.7</i>	<i>1.4</i>	<i>4.0</i>	<i>0.9</i>
<i>Number of respondents</i>	<i>228</i>	<i>284</i>	<i>264</i>	<i>338</i>

Significance levels: bold and \*\*\* = 0.001 level, \*\* = 0.01 level, \* = 0.05 level, bold only = 0.1 level.

### *Summary of seafarers' commitment to work and occupation*

The study of seafarers' commitment to work and occupational has shown that there are a number of factors of general importance to work-related commitment, but there are also factors that have an effect only within certain age categories. Let us begin by summarising the factors that have significant effect independent of age.

Women display a positive effect on employment commitment. This was expected based on earlier research findings. Having the position of catering officer also entails generally high employment commitment. As employment commitment indicates the tendency to see non-financial values in having a paid job, one might assume that to an important degree what female seafarers value is the social value of the work community, independently of their position, and that the same holds true for catering officers, independently of gender. The assumption can be said to be reinforced by the fact that employment commitment has generally been shown to be strongest on passenger ships and weakest on tankers. However, since employment commitment refers to the perceived value of having a paid job in general, catering officers' strong emotional commitment to having a paid job might also be explained by the circumstance that the occupation has a large labour market that extends into various sectors on land as well. The connection to land and home seems to reinforce this type of commitment. Working in Swedish Sheltered trade and having longer periods of time off have been shown to be factors that generally coincide with higher employment commitment, compared to sailing in Ocean trade or having longer duty periods. In addition, a Swedish flag has a strong positive effect on this commitment type independently of age. The emotional connection to the paid job seems thus to be linked to proximity to the seafarers' home country and feelings of social connection and a sense of being a meaningful part of a larger social context.<sup>194</sup>

Not unexpectedly, the study has shown that occupational commitment is generally stimulated by time at sea: the longer the time at sea, the stronger the identification with the seafaring occupation. What might be somewhat surprising, on the other hand, is that deck ratings and engineering ratings

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<sup>194</sup> It is likely that several of the factors listed in this case capture the same thing – proximity to unwritten social norms and values (see the description of employment commitment on pages 32-36).

account for the highest occupational commitment among all onboard positions. One might have expected that ships' officers' investments in longer professional educations would have resulted in the strongest connection to the seafaring occupation.

The study has also shown that organizational commitment is generally stimulated by time with the shipping company; the longer seafarers have been with their shipping companies, the higher their loyalty and commitment to the work organization. The positive effect of time with the shipping company can be interpreted to mean that it takes time to work one's way into, adjust to and value the community of an organization. But the results may also be understood to mean that those who have remained with a shipping company for a long time have stayed because they are happy with the organization, while those who were unhappy have moved to another shipping company. Holding the position of catering officer generally entails the strongest loyalty and commitment of all crew categories. Sailing under a Swedish flag, independent of age, has a positive effect on loyalty and commitment to the shipping company. The results for catering officers and flag are similar to those which emerged in respect of employment commitment.

Which factors can be said to have discrete effects on commitment depending on age category? Before the analysis was performed, we expected *young adults* (19-30) to demonstrate a comparatively loose relationship to the occupation and the job with the specific shipping company and that this would vary with position and department. We expected occupational commitment and, to a certain extent, organizational commitment to be higher in this age category among junior officers, compared to ratings, and among deck personnel, compared to engineering and catering personnel.

The study has shown that *young adults* (19-30) do in fact demonstrate a looser relationship to the seafaring occupation and the work organization than the oldest age category. But, with regard to occupational commitment, there are no signs that a career plan with respect to investments in master mariner studies entails a stronger connection to the occupation. Instead, we have seen that deck and engineering ratings demonstrate the highest occupational commitment. In respect of organizational commitment, however, the youngest senior deck officers express higher loyalty and stronger commitment than the other positions in this age category. No corresponding pattern with regard to positions is found among the older age categories. The results may thus very well reflect positive emotional states consequent upon rapid

career advances. There are also results that may suggest disappointment among the youngest seafarers. This becomes clear in that time in the position has some negative effect on organizational commitment and that time on a ship has a powerful negative effect on occupational commitment. The results can be interpreted to mean that having been passed over for promotion has a negative effect on loyalty and commitment to the shipping company, while the effect of routinely staying a long time on the same ship during youth has a negative effect on seafarers' identification with the seafaring occupation.

As might have been expected, having a close relative at sea strengthens occupational commitment for the two youngest age categories. This means that older seafarers may constitute a source of inspiration for younger generations. Somewhat unexpectedly, on the other hand, family situation otherwise has negligible effect on organizational and occupational commitment among the younger groups. The only significant factor for the younger groups is having young children at home, which has a positive effect on organizational commitment. The result may be interpreted as a 'provider effect' that drives ambitions higher and strengthens loyalty and commitment to the work organization.

In respect of employment commitment, the youngest categories show the highest values. This may be interpreted to mean that younger seafarers enter the occupation with strong expectations for the job, which extend far beyond the financial expectations. The youngest category also distinguish themselves in that when they work on tankers or under officers of non-Swedish nationality, they demonstrate significantly lower likelihood to find non-financial values in the paid job.

During the *career and family stage* (age 31-42), we predicted an increasing conflict between home/family life and work at sea, which was assumed to entail a decline in occupational commitment. Some of the factors expected to affect occupational commitment in this age category were family situation, trade area and the design of the rotation system.

Thus far, nothing has been found in the results corresponding to these assumptions. The only family-related effect on occupational commitment noted is, as mentioned, the positive effect of having a close relative at sea. Specifically in relation to this stage of life, junior deck and engineering officers and engineering ratings demonstrate the lowest organizational commitment of all position categories. The results may be interpreted as a reaction to be-

ing passed over for promotion, which can be assumed to trigger escalating frustration, particularly during the career and family stage.

Like in most age categories, women and catering officers distinguish themselves with high employment commitment during the career and family stage. This age category differs from the others, however, in that senior engineering officers also demonstrate high commitment. This is also the only age category where sailing in Ocean trade has a significant negative effect. Having a rotation system with longer periods onboard than at home comes with a negative effect on the tendency to see non-financial values in having a paid job. The latter results may be interpreted to mean that long periods onboard and long-distance journeys from home entail a less emotional and more instrumental relationship to the job.

During the stage designated *middle age* (43-54), we expected increasing focus on the job. We assumed that occupational commitment would be higher in this age category compared to the one before. This assumption proved to disagree with reality. On the contrary, commitment to the seafaring occupation is lower in the 43-54 age category compared to the younger age category. That which distinguishes the middle age category is that it is the stage in life when women and senior deck and engineering officers demonstrate comparatively high levels of occupational commitment. The age category is also the only one in which a 4-8 watch system has negative effect on occupational commitment. The effects on organizational commitment are similar to the effects on occupational commitment in this age category. Women express higher loyalty and commitment to the work organization than men, while the 4-8 watch has a negative effect on commitment.

In respect of employment commitment, the 43-54 age category is distinguished by a negative effect of time at sea and time in the position, while time with the shipping company has a positive effect on the likelihood of seeing non-financial values in the paid job. Likewise, having a close relative at sea and being married/partnered have a negative effect while having children has a positive effect. Employment commitment in this age category is also affected negatively by working with ratings of non-Swedish nationality, while a rotation system with longer periods at home than onboard and day-shift work have a positive effect.

Regarding the oldest age category, the 55+ stage, we assumed that loyalty and commitment to the shipping company and identification with the oc-



cupation would be at the highest level. These expectations align with the results. Both occupational commitment and organizational commitment are affected in a positive direction by time at sea. Organizational commitment is also affected positively by being married/partnered and negatively by sailing under a non-Swedish flag. This age category is the only one for which sailing under a foreign flag has a significant and negative effect on occupational commitment. As no nationality variable shows any effect on the other age categories in respect of occupational commitment, the results suggest that the oldest age category is particularly sensitive to flagging-out. Otherwise, occupational commitment in this age category is affected positively by time at sea and negatively by being woman. If, finally, we look at employment commitment for the 55+ group, the results show that sailing under a Swedish flag and a rotation system that permits more time at home than onboard have positive effect on the likelihood of seeing non-financial values in the job.

In the lead-up to this study, we assumed that the special conditions of the seafaring life with regard to the recurring separations from home and family would have varying effect on organizational and occupational commitment depending upon shifting roles throughout the life course. The study has thus far, however, not been able to show any systematic occurrence of periodical variations to indicate this. Variations between age categories in attitudes towards work and occupation are found, of course, but thus far the results indicate that such differences depend mainly upon the seafarers' situation in the occupation with regard to position, ship type, trade area, invested time in the activity, etc. Certainly, the oldest seafarers express the strongest connection to the seafaring occupation, which aligns with the initial assumption. However, other assumptions, such as that investments in professional education would have a positive effect and that starting a family would have a negative effect on occupational commitment were not confirmed. The greatest family-related effect was that of having seafarers in the family, which was shown to be positive for occupational commitment. In summary, the study has thus far shown that occupational commitment to the seafaring occupation is mainly affected by factors that, in one way or another, arise from factors inherent in the occupation.

We will return to this in the concluding discussion, but a few more pieces of the puzzle must first be put in place. Next, we will study the extent to which the most important results in this chapter may be explained by seafarers' satisfaction with various aspects of their jobs and occupation.



## 7. The significance of job satisfaction in the seafaring occupation

Carl Hult

In the preceding chapter, we studied how commitments to employment, a paid job, the occupation and to the work organization vary depending upon seafarers' backgrounds and situations in the seafaring occupation. The question is, what factors might underlie the variation that has emerged? As a point of departure, we can assume that the higher one's job satisfaction, the stronger will be one's work-related commitment. The survey asked seafarers: *Overall, how satisfied are you with your job at sea?* The measure can be called general job satisfaction, since it does not take various aspects of the job into account. Table 42 shows the proportion who reported that they were fairly satisfied, very satisfied, or completely satisfied. The column at the far left shows the proportion for all seafarers, followed by the proportions for each age category. The column at the far right shows the proportion for a sample of the Swedish population in 2005, who answered the same way to an equivalent question about their jobs.

Table 42: General job satisfaction

	Seafarers 2010					Swedish population 2005
	All	19-30	31-42	43-54	55+	All
Proportion fairly, very, or completely satisfied with their jobs %	88.5	85.6	90.7	88.3	88.9	79.6
(n)	1295	263	322	315	395	871

Table 42 clearly shows that seafarers are very satisfied with their jobs at sea. A full 88.5 percent report that they are fairly, very, or completely satisfied with their jobs. This should be compared to the general population in 2005, where the corresponding figure was 79.6 percent. Table 43 shows that job satisfaction correlates strongly with commitment to work and occupation.<sup>195</sup> Of the various commitment types, one can expect job satisfaction to do best in predicting organizational commitment since it is in the day-to-day

<sup>195</sup> Multiple linear regression, ordinary least squares (OLS). From now this will be stated in the table footer when applied

job that satisfaction with activities can arise, which is also confirmed. The strength in correlation declines the further away from the day-to-day job we move – that is, from organizational commitment to occupational commitment and further to employment commitment (Table 43).

*Table 43: General job satisfaction and commitment*

	<i>Employment com- mitment</i>	<i>Occupational commitment</i>	<i>Organizational commitment</i>
General job satisfaction (effect on commitment per position change on the scale 0-6)	<b>4.17***</b>	<b>7.17***</b>	<b>9.95***</b>
<i>Proportion of explained variance (%)</i>	3.6	18.5	22.8
<i>Number of respondents</i>	1249	1121	1122

OLS-regression. Significance levels: bold and \*\*\* = 0.001 level, \*\* = 0.01 level, \* = 0.05 level.

Although the correlation between general job satisfaction and commitment is relatively strong, it is unclear how this blunt indication of satisfaction should be understood. The measurement provides no information of what about their jobs respondents are thinking when they estimate their job satisfaction.<sup>196</sup> We can glean considerably more information if we instead focus on various aspects of the job and assume that satisfaction with a certain aspect is determined by the extent to which the aspect is perceived to exist in the job in relation to how highly it is valued.

#### *Seafarers' valuations and perceptions of job aspects*

Results in brief: Good social relationships, a good rotation system, job security, interesting tasks, and opportunities for skills development are the job-related aspects that seafarers value most highly. Long, contiguous periods of time off and high income are relatively far down on the list. Seafarers in the youngest category value (more than the older ones) career opportunities, interesting tasks, skills development, social relationships and shore leave while in port. Seafarers in the oldest category value (more than the younger ones), carefully considered gender composition and ethnic composition, being able to contribute to society, good relations with the land organization, as well as a good ship type, trade area and crew size. The aspects can be statistically reduced to six key dimensions: (i) job content, (ii) social composition, (iii) social relationships, (iv) social security structure, (v) pay, home, and leisure and (vi) operating conditions.

<sup>196</sup> See the discussion of commitment and job satisfaction in chapter 4.

The survey asked several questions about the importance of various aspects of the job. For each of these aspects, Table 44 shows the proportion who reported that the aspect is important or very important. The table is arranged with the most highly valued aspect at the top followed by other aspects in descending order of assigned value. The table shows that good relations among colleagues in the seafarers' own department are generally held to be the most important aspect, followed by a good rotation system, good relations between officers and ratings, and job security. Crew composition in terms of age, gender, and ethnicity seems to be the least important aspect.

It is obvious in Table 44 that while the importance of a good rotation system comes in second, the importance of long, contiguous time off is ranked only somewhere in the middle. This might be considered somewhat odd, since the long periods of time off under the rotation system were specifically presented as the best aspect of the seafaring occupation in our initial interviews. The ranking, however, says nothing about which aspects contribute the greatest commitment-generating job satisfaction. The ranking only shows the order in which the aspects were valued. Everything that is perceived as important in a job does not necessarily affect work-related commitment, while aspects assigned lower priority may prove to have significant effect. In order to elicit the satisfaction effects of the aspects, the valuation of each aspect must be related to the extent to which the aspect is perceived to be satisfied by the job. As an example, the extent to which a seafarer feels that *long, contiguous time off on land* is important must be matched to the extent to which the seafarer agrees with the statement *my rotation system gives me good opportunities for contiguous time off on land*.

**Table 44: Aspects of seafarers' jobs according to perceived importance. Proportion who answered important or very important**

<i>How important is/are...</i>	<i>%</i>
good relationships between colleagues in your department?	97.2
a good rotation system?	95.1
good relations between officers and ratings?	94.4
job security?	92.8
interesting tasks?	92.7
a job where you can develop your skills?	92.6
good relations between colleagues in other departments?	91.6
good cooperation with the land organization?	90.7
good opportunities to communicate with home?	87.5
a good watch system?	86.7
a job where you can work autonomously?	85.0
good crew size?	84.7
long contiguous time off on land?	84.5
high income?	84.1
ample time to rest onboard?	82.8
leadership?	81.6
a good ship type?	74.9
a trade union that protects its members' interests?	72.6
good career opportunities?	66.9
a good trade area?	63.8
a job that contributes to society?	55.8
good opportunities for shore leave when you are off duty in port?	55.8
carefully considered age composition onboard?	40.7
carefully considered gender composition onboard?	36.8
carefully considered ethnic composition onboard?	35.0

The figures indicate the proportions of those who answered each question. A small proportion who answered *don't know* or did not answer the question are thus not included in the calculation.

Before we compare the valuations and perceptions of the aspects, we must perform a factor analysis of the valuations in order to reduce the list to a smaller number of dimensions of related aspects.<sup>197</sup> The results of the factor analysis are shown in Table 45, where it emerges that 24 initial aspects can be sorted into six dimensions (see the six columns of the table). Dimension associations are denoted in bold type. Dimension 1 contains career opportunity, interesting tasks, autonomy and skills development. As all of this, in one way or another, has to do with job function and what is found in the work activity, this dimension can be called *job content*. It can be noted that leadership also denotes a certain association in this dimension, but the hit is stronger in dimension 4. Likewise, career opportunity has one hit in dimension 5, although with its stronger indication it is calculated into the first dimension. Crew composition in terms of gender, age and ethnicity is found in dimension 2. This dimension may appropriately be termed *social composition*. Dimension 3 covers relations between officers and ratings and within and between departments. This dimension can be called *social relations*.

Based in Table 45, we can further see that dimension 4 contains job security, social contribution, leadership, unions and cooperation with the land organization. This dimension can be interpreted as having to do with participation and social security in a general context. Let us call this dimension *social security structure*. Dimension 5 covers income, rest time onboard, time off on land, shore leave in port and opportunities to communicate with home. This is perhaps the dimension that contains the aspects that can best be traced back to what are termed *hygiene factors*, or *external factors*, that is, gains and benefits that lie outside the work activity itself (see pages 36-39). For the sake of simplicity, let us call this dimension *pay, home and leisure*. Finally, dimension 6 contains ship type, trade area, watch system, and crew size. This dimension can be called *operating conditions*.

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<sup>197</sup> The factor analysis is necessary in part to reduce the number of variables and in part to avoid multicollinearity in preparation for forthcoming statistical models, that is, to obtain a manageable number of index variables and to minimise the occurrence of independent variables that are too highly correlated. See also pages 76-77 for more information about factor analysis.

Table 45: Explanatory dimensions for onboard personnel – Factor analysis

	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>
	<i>Job content</i>	<i>Social composi- tion</i>	<i>Social rela- tions</i>	<i>Social secur- ity struc- ture</i>	<i>Pay, home and leisure</i>	<i>Operat- ing con- ditions</i>
Job security	0.01	-0.04	0.10	<b>0.67</b>	0.23	0.10
Income	0.26	-0.10	-0.16	0.17	<b>0.58</b>	0.03
Career opportunity	<b>0.61</b>	0.09	-0.06	-0.01	<b>0.41</b>	-0.04
Interesting tasks	<b>0.75</b>	0.08	0.19	0.03	0.07	0.05
Autonomy	<b>0.65</b>	0.06	0.06	0.06	0.02	0.14
Skills development	<b>0.78</b>	0.05	0.14	0.08	0.07	0.10
Social contribution	0.38	0.33	0.05	<b>0.40</b>	-0.09	0.23
Leadership	<b>0.46</b>	0.12	0.08	<b>0.49</b>	-0.01	0.01
Union	-0.01	0.14	0.11	<b>0.76</b>	0.19	0.03
Ship type	0.12	0.16	0.03	0.11	0.03	<b>0.76</b>
Trade area	0.12	0.08	0.07	-0.07	0.11	<b>0.78</b>
Watch system	0.04	0.09	0.15	0.30	0.28	<b>0.51</b>
Crew size	0.06	0.23	0.12	0.31	0.14	<b>0.45</b>
Gender composition onboard	0.11	<b>0.81</b>	0.11	0.13	0.07	0.13
Age composition onboard	0.10	<b>0.84</b>	0.11	0.07	0.14	0.12
Ethnic composition onboard	0.07	<b>0.79</b>	0.03	0.10	0.03	0.14
Cooperation with the land organization	0.19	0.19	0.23	<b>0.41</b>	0.12	0.11
Relations officers/ratings	0.12	0.11	<b>0.79</b>	0.20	0.09	0.07
Relations in own department	0.13	0.07	<b>0.83</b>	0.11	0.08	0.08
Relations between departments	0.09	0.07	<b>0.83</b>	0.10	0.09	0.11
Rest time onboard	0.02	0.12	0.20	0.37	<b>0.47</b>	0.25
Time off on land	-0.03	0.01	0.06	0.25	<b>0.67</b>	0.11
Shore leave in port	0.04	0.23	0.18	-0.04	<b>0.50</b>	0.22
Opportunities to communicate with home	0.11	0.10	0.16	0.08	<b>0.62</b>	0.03
<i>Explanatory power of each dimension</i>	24.2	7.6	7.5	7.0	5.1	4.5

Principal components analysis (varimax rotation). Factor loadings (>0.4 in bold).

Tables 46-51 show the extent to which aspects in each dimension are valued in relation to the extent they are perceived as satisfied, distributed across age categories. The valuations and perceptions may vary between 0 and 4, where 0 means that the aspect is valued as *not at all important* or that the respondent *strongly disagrees* that the aspect is satisfied, while 4 means that the aspect is valued as *very important* or the respondent *strongly agrees* that the aspect is satisfied. The tables show the mean values on a scale of 0-4. The highest mean value for each aspect based on age category is marked in



bold. The internal correlation for each dimension, Cronbach's Alpha, is stated at the bottom of the table.

Table 46 shows that job content is important to seafarers, with mean valuations near or above 3 on the scale of 0-4. Seafarers do not, however, perceive the job content dimension to be satisfied to the same extent. Job content is usually included in what are called *internal* factors, or *satisfiers*, which normally do not translate to a significant minus effect on commitment if the perception is moderately lower than the valuation. But if there is a sufficiently large discrepancy between the valuation and perception of career opportunity, for instance, this may of course develop into dissatisfaction. Otherwise, the pattern is as expected, with valuations/expectations often higher among younger seafarers, the best perceived career opportunity in the 31-42 age category and perceptions of actually having interesting tasks that increase with age.

Table 46: Job content onboard

	<i>Importance of the aspect (mean value on a scale of 0-4)</i>				<i>How well the aspect is satisfied (mean value on a scale of 0-4)</i>			
	<b>19-30</b>	<b>31-42</b>	<b>43-54</b>	<b>55+</b>	<b>19-30</b>	<b>31-42</b>	<b>43-54</b>	<b>55+</b>
Good career opportunity	<b>2.99</b>	2.84	2.71	2.57	2.15	<b>2.24</b>	2.08	1.99
Interesting tasks	<b>3.49</b>	3.48	3.31	3.29	2.71	2.88	2.89	<b>2.93</b>
Autonomy	2.98	3.27	<b>3.28</b>	3.26	2.85	<b>3.07</b>	2.98	3.00
Skills development	<b>3.47</b>	3.38	3.33	3.24	2.59	2.61	<b>2.68</b>	2.59
<i>Cronbach's Alpha</i>	70				75			

Valuation and perception of aspects (mean value on a scale of 0-4).

The pattern is a little different when it comes to social composition onboard (Table 47). Here, the valuation of the aspects is consistently lower than perceptions of how well they are satisfied. This entails a relatively small risk that social composition onboard could generally impair job satisfaction. We may, however, find exceptions for certain categories in certain situations.

Table 47: Social composition onboard

	<i>Importance of the aspect (mean value on a scale of 0-4)</i>				<i>How well the aspect is satisfied (mean value on a scale of 0-4)</i>			
	<b>19-30</b>	<b>31-42</b>	<b>43-54</b>	<b>55+</b>	<b>19-30</b>	<b>31-42</b>	<b>43-54</b>	<b>55+</b>
Carefully considered gender composition	1.95	2.02	2.22	<b>2.23</b>	2.42	2.40	2.42	<b>2.51</b>
Carefully considered age composition	2.14	2.10	<b>2.37</b>	2.27	<b>2.65</b>	2.60	2.61	2.58
Carefully considered ethnic composition	1.86	2.01	2.15	<b>2.21</b>	2.47	2.54	2.51	<b>2.56</b>
<i>Cronbach's Alpha</i>	81				71			

Valuation and perception of aspects (mean value on a scale of 0-4).

Table 48 shows that social relations are important and most important among the youngest seafarers (as expected), while the perception of actually having good relations, at least with respect to good relations between officers and ratings and within departments onboard, increase with age.

Table 48: Social relations onboard

	<i>Importance of the aspect (mean value on a scale of 0-4)</i>				<i>How well the aspect is satisfied (mean value on a scale of 0-4)</i>			
	<b>19-30</b>	<b>31-42</b>	<b>43-54</b>	<b>55+</b>	<b>19-30</b>	<b>31-42</b>	<b>43-54</b>	<b>55+</b>
Good relations between officers and ratings	<b>3.58</b>	3.43	3.48	3.44	3.05	3.11	3.12	<b>3.27</b>
Good relations within own department	<b>3.73</b>	3.60	3.58	3.57	3.36	3.43	3.42	<b>3.45</b>
Good relations between departments	<b>3.41</b>	3.27	3.33	3.34	2.94	<b>3.41</b>	3.09	3.24
<i>Cronbach's Alpha</i>	82				75			

Valuation and perception of aspects (mean value on a scale of 0-4).

Table 49 shows that the aspects in the social security structure dimension are important. The characteristic feature of the social structure dimension is the one with age increasing perception that the job satisfies the aspects. The

valuation of the aspects is also highest in the two oldest age categories. The aspects are generally valued more highly in relation to the extent to which they are perceived as satisfied.

*Table 49: Social security structure*

	<i>Importance of the aspect (mean value on a scale of 0-4)</i>				<i>How well the aspect is satisfied (mean value on a scale of 0-4)</i>			
	<b>19-30</b>	<b>31-42</b>	<b>43-54</b>	<b>55+</b>	<b>19-30</b>	<b>31-42</b>	<b>43-54</b>	<b>55+</b>
Job security	3.43	3.42	<b>3.51</b>	3.50	2.36	2.70	2.74	<b>2.76</b>
Social contribution	2.35	2.45	2.68	<b>2.80</b>	2.29	2.37	2.51	<b>2.78</b>
Good leadership	3.15	3.20	<b>3.21</b>	3.12	2.55	2.57	2.62	<b>2.75</b>
A union that looks out for members' interests	2.78	2.81	<b>3.13</b>	3.06	1.94	1.97	2.21	<b>2.27</b>
Good relations with the land organization	3.12	3.22	3.30	<b>3.32</b>	2.09	2.12	2.18	<b>2.37</b>
<i>Cronbach's Alpha</i>	65				59			

Valuation and perception of aspects (mean value on a scale of 0-4).

Pay, home and leisure are also important aspects, as shown in Table 50. The least important aspect seems to be shore leave in port, which may be an indication that seafarers are forced to accept increasingly briefer port calls. Here we can note that this aspect is valued most highly by the youngest seafarers and seafarers in this category also seem to be given opportunities to go ashore. As this dimension consists of aspects that may be considered of the kind called *external* or *hygiene* factors, dissatisfaction and impaired commitment can be expected when their valuations exceed the extent to which they are perceived as satisfied.

Finally, Table 51 reports the dimension we call operating conditions. What distinguishes this dimension is that ship type and trade area become increasingly important with age and that the perception of how well these aspects are satisfied exceeds the valuation for all age categories. On the other hand, there is still something to be desired when it comes to watch system and crew size. Crew size is also assigned increasing importance with age.

**Table 50: Pay, home and leisure**

	<i>Importance of the aspect (mean value on a scale of 0-4)</i>				<i>How well the aspect is satisfied (mean value on a scale of 0-4)</i>			
	<b>19-30</b>	<b>31-42</b>	<b>43-54</b>	<b>55+</b>	<b>19-30</b>	<b>31-42</b>	<b>43-54</b>	<b>55+</b>
High income	2.98	3.02	<b>3.11</b>	3.04	1.77	<b>2.17</b>	2.16	<b>2.17</b>
Ample time to rest onboard	3.13	3.04	<b>3.15</b>	3.14	2.20	2.16	2.28	<b>2.29</b>
Long contiguous time off on land	3.10	3.23	<b>3.31</b>	3.11	2.89	<b>3.07</b>	3.06	2.99
Opportunities for shore leave in port	<b>2.69</b>	2.58	2.62	2.41	<b>2.16</b>	1.98	2.10	1.86
Good opportunities to communicate with home	3.29	<b>3.39</b>	3.30	3.29	2.84	<b>2.91</b>	<b>2.91</b>	3.03
<i>Cronbach's Alpha</i>	61				53			

Valuation and perception of aspects (mean value on a scale of 0-4).

**Table 51: Operating conditions**

	<i>Importance of the aspect (mean value on a scale of 0-4)</i>				<i>How well the aspect is satisfied (mean value on a scale of 0-4)</i>			
	<b>19-30</b>	<b>31-42</b>	<b>43-54</b>	<b>55+</b>	<b>19-30</b>	<b>31-42</b>	<b>43-54</b>	<b>55+</b>
Good ship type	2.74	2.84	2.98	<b>3.01</b>	2.82	3.06	<b>3.10</b>	3.06
Good trade area	2.55	2.67	2.71	<b>2.80</b>	2.62	<b>3.03</b>	3.00	3.02
Good watch system	<b>3.28</b>	3.19	3.24	3.13	2.68	<b>2.83</b>	2.77	2.79
Good crew size	3.08	3.12	3.23	<b>3.29</b>	<b>2.58</b>	2.38	2.30	2.39
<i>Cronbach's Alpha</i>	65				67			

Valuation and perception of aspects (mean value on a scale of 0-4).).

### *Valuations, perceptions, and explanatory variables*

Results in brief: The six dimensions from the preceding section are used to explain indicated differences in work-related commitment. The dimensions have low explanatory power for employment commitment. A large part of the detected differences in occupational commitment and organizational commitment are explained, however, primarily by job content and social security structure. The dimension *pay, home and leisure* are distinguished by that a high valuation of its aspects has a significant negative effect on all commitment types.

The next step is to test the extent to which the various dimensions of valuations and perceptions can explain the differences in commitment that have emerged. All indicators must be summed up in each dimension to arrive at six separate indices containing the valuation of the aspects and six indices containing how well the aspects are perceived to be satisfied. We have *four* aspects for the job content dimension, *three* for social composition, *three* for social relations, *five* for social security structure, *five* for pay, home and leisure, and *four* for operating conditions. As the individual aspects can vary between 0-4, the dimensions with the most aspects will vary between 0-20 after the merger. For this reason, the other indices are divided by their maximum values and multiplied by 20 to facilitate comparison and interpretation of the results. The procedure results in 12 explanatory variables that are allowed to vary between 0 and 20, from 0 *not important* (valuations) or *not satisfied* (perceptions) to 20, very important (valuations) and *completely satisfied* (perceptions).

Table 52 reports the effects of the explanatory variables on the three types of commitment. The explanatory variables' effects indicate the extent of change in commitment (on a scale of 0-100) for each step's change in a positive direction within the explanatory variables (scale of 0-20). A minus sign in front of the figures indicates that the effect on commitment is negative. As before, significance levels for the effects of included variables are denoted in bold type and with asterisks (see table footer).

By studying the proportion of explained variance, we can see that the explanatory variables have the highest explanatory value for organizational commitment and the lowest for employment commitment. As the explanatory variables have to do with valuations and perceptions in the job situation, one can also expect the explanatory value to rise markedly the closer one gets to the commitment to the actual job activity, from the labour market via the occupation to working for the specific organization. We can see that the perception of having good *job content* has the greatest explanatory power for

occupational commitment and the perception of working within a good *social security system* has the greatest explanatory power with regard to organizational commitment. It should be added, however, that perceived job content and operating conditions, for instance, contribute to explaining organizational commitment. Likewise, perceived social relations and the valuation of the security structure contribute to explaining occupational commitment. Other explanatory patterns may also emerge depending upon which groups are studied.

In respect of employment commitment, it is obvious that it is the valuations that explain the most and not what seafarers perceive that they get out of the various aspects. The aspect whose valuation has the greatest effect on employment commitment is pay, home and leisure, and the effect is negative. The result is relatively logical, in that the more highly pay is valued in a job, the less scope there is to value the non-financial aspects of having a job. There is also a certain logic to be found in that high valuation of aspects that lie outside the job itself, such as home and leisure, may steal focus from other potential values within work and employment.

When we look at the effects of the explanatory variables horizontally across the columns in Table 52, we see that the valuation of pay, home and leisure is the only explanatory variable that has significant effect on all three commitment types. This is entirely consistent with the assumption that the variable contains hygiene factors, that is, factors where the degree to which the aspects are desired is at risk of causing greater dissatisfaction than the satisfaction that perceptions of having access to them might bring. If we look at the extent to which seafarers perceive good conditions with regard to pay, home and leisure, we find a significant and positive effect only on occupational commitment. But this effect is no higher than the negative effect of valuing the aspects. These tendencies regarding the various commitment types differ only marginally among the age categories (see Appendix 1). The clearest differences can be noted for occupational commitment, where the pay, home and leisure dimension has the greatest effect in the youngest category, while there is no effect at all on occupational commitment for the two oldest categories (Appendix 1, Table B).

Table 52: Valuations, perceptions and commitment

	<i>Employment commitment</i>	<i>Occupational commitment</i>	<i>Organizational commitment</i>
<i>Valuation of aspects (0-20)</i>			
Job content important	<b>1.26***</b>	0.10	0.05
Social composition important	<b>0.47**</b>	0.05	<b>0.48***</b>
Social relations important	<b>1.15***</b>	<b>0.62**</b>	0.20
Social security structure important	0.41	<b>0.84**</b>	0.21
Pay, home and leisure important	<b>-1.86***</b>	<b>-0.54*</b>	<b>-1.34***</b>
Operating conditions important	-0.27	0.17	<b>0.70**</b>
<i>Perception of aspects (0-20)</i>			
Have good job content	0.53	<b>1.40***</b>	<b>0.75**</b>
Have good social composition	0.16	-0.03	<b>0.40</b>
Have good social relations	-0.00	<b>0.74***</b>	<b>0.38</b>
Have good social security structure	-0.53	-0.18	<b>1.89***</b>
Have good pay, home and leisure	-0.12	<b>0.53*</b>	0.09
Have good operating conditions	<b>0.93***</b>	-0.08	<b>0.85***</b>
<i>Explained variance (%)</i>	<i>12.3</i>	<i>20.8</i>	<i>33.0</i>
<i>Number of respondents</i>	<i>897</i>	<i>829</i>	<i>826</i>

OLS-regression. Significance levels: bold and \*\*\* = 0.001 level, \*\* = 0.01 level, \* = 0.05 level, bold only = 0.1 level.

Based in Table 52, the effect of the explanatory variables may be summarized as follows:

*Employment commitment:* Seafarers who value good social relations onboard, good job content and carefully considered social composition onboard also express high employment commitment. Commitment is further strengthened if they also perceive that they have good operating conditions. Valuing high income, long periods of time off, shore leave in port and good opportunities to communicate with home, however, puts a considerable damper on this type of commitment.

*Occupational commitment:* Seafarers who perceive that they have good job content and good social relations onboard also express high commitment

to the seafaring occupation. Occupational commitment is further strengthened when they value a good social security structure and good social relations onboard. Perceptions of having a high income, long periods of time off, shore leave in port and good opportunities to communicate with home strengthen occupational commitment, although this may be cancelled out if these aspects are simultaneously valued too highly. Valuing high income, long periods of time off, shore leave in port and good opportunities to communicate with home lowers commitment unless the negative effect is balanced out by simultaneously perceiving these aspects to be well satisfied. This condition is clearest, however, in the youngest age category. From age 43 and up, the valuation of pay, home and leisure lacks significance (Appendix 1, Table B).

*Organizational commitment:* Seafarers who perceive that they work within a good social security structure, with good job content, and under good operating conditions also express high commitment to the shipping company. Organizational commitment is further strengthened if they also value good operating conditions and carefully considered social composition onboard. Valuing high income, long periods of time off, shore leave in port and good opportunities to communicate with home, on the other hand, lowers commitment.

Tables 53-57 report how well the explanatory variables explain the most important differences in commitment that have emerged in this study. Two steps are presented for each commitment type. Step I shows what the differences look like before the explanatory variables are added. Step II shows what happens once they have been added. The differences in commitment that have previously emerged are explained to the extent they are absorbed by added variables and thus decline between Step I and Step II. Significance levels for the effects of the included variables are denoted in bold and with asterisks (see table footer). A minus sign in front of the figures indicates that the effect on commitment is negative. The effects of the explanatory variables indicate the extent of change in commitment (on a scale of 0-100) for each step's change in a positive direction within each explanatory value (scale of 0-20).<sup>198</sup>

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<sup>198</sup> For reasons of space, we do not report the values for comparison groups, only for coefficients.



Table 53 shows the significant differences observed for gender, age category and job function, and what happens to the differences in commitment that have emerged when we add the explanatory variables. In respect of employment commitment, the changes in differences (from Step I to Step II) are obviously fairly insignificant. This is to be expected, since employment commitment is driven mainly by ideas and values concerning having a paid job and not as much by the relationship between expectations and perceptions in the day-to-day work activity. In respect of occupational commitment, the age differences are explained entirely by the explanatory variables; that is, with advancing age seafarers become increasingly satisfied, particularly with the *job content*. However, less of the differences in onboard position are explained.<sup>199</sup> The higher occupational commitment among senior deck officers, deck ratings and engineering ratings thus seems not to depend upon the degree of satisfaction with the circumstances, but rather upon socialization in the occupation. Interestingly, the positive effect for junior deck officers increases and becomes significant in Step II. This indicates that the comparison group, catering ratings, are affected more by the explanatory dimensions than are junior deck officers.

One of the most distinct changes in Table 53 is that the very high organizational commitment for catering officers declines substantially in Step II. This means that the high commitment of catering officers can be explained by in particular a perceived good *social security structure*. The significant age difference in organizational commitment is also explained entirely by the explanatory variables.

Since employment commitment is driven primarily by ideas and values related to having a paid job and society and to a lesser extent by perceptions about the day-to-day work, the continued analysis will concentrate on occupational commitment and organizational commitment. The explanatory results are presented in models for individual variables which were shown in the preceding chapter to have effect. Each such model contains only the explanatory dimension which, upon review, proved to have the greatest effect on the respective earlier result.

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<sup>199</sup> The explanatory dimension most significant to position and commitment is, not especially surprisingly, job content. Job content, however, does not explain the hierarchical differences. Nor can the question of why deck and engineering ratings demonstrate higher occupational commitment than their senior officers be answered by the hypothesis that officers are burdened by a heavy administrative load (not shown in Tables).

Table 53: Explanatory variables and emerged differences in commitment

	<i>Employment com- mitment</i>		<i>Occupational com- mitment</i>		<i>Organizational com- mitment</i>	
	I	II	I	II	I	II
Female ( <i>comp. male</i> )	<b>8.47***</b>	<b>7.67***</b>	-	-	-	-
Age category 31-42, ( <i>comp. 19-30</i> )	-2.87	-1.37	<b>3.15*</b>	2.61	1.56	-1.09
Age category 43-54, ( <i>comp. 19-30</i> )	<b>-7.11***</b>	<b>-5.09*</b>	<b>2.80</b>	0.71	2.34	-0.36
Age category 55+, ( <i>comp. 19-30</i> )	<b>-5.59**</b>	<b>-4.70*</b>	<b>3.43*</b>	2.35	<b>5.55**</b>	0.01
<i>Onboard positions comp. catering ratings</i>						
Senior deck officers	<b>4.80*</b>	<b>5.47*</b>	<b>6.32***</b>	<b>5.52**</b>	<b>5.15*</b>	-1.24
Senior engineering officers	2.60	2.57	<b>5.41**</b>	<b>3.55</b>	-1.29	<b>-5.91*</b>
Catering officers	<b>8.87***</b>	<b>5.21</b>	<b>3.59</b>	0.45	<b>9.04***</b>	2.36
Junior deck officers	3.42	<b>5.26</b>	2.30	<b>4.53*</b>	<b>-3.53</b>	<b>-5.09*</b>
Junior engineering officers	-3.30	-2.10	2.93	2.93	<b>-9.56**</b>	<b>-11.89***</b>
Deck ratings	0.58	-0.30	<b>8.61***</b>	<b>7.58***</b>	1.08	-2.47
Engineering ratings	2.33	4.37	<b>8.35***</b>	<b>7.27**</b>	<b>-4.60</b>	<b>-7.25**</b>
<i>Valuation of aspects (0-20)</i>						
Job content important	-	<b>0.96**</b>	-	0.14	-	0.16
Social composition important	-	<b>0.45**</b>	-	0.10	-	<b>0.38*</b>
Social relations important	-	<b>1.04***</b>	-	<b>0.65**</b>	-	0.21
Social security structure important	-	<b>0.60</b>	-	<b>0.90***</b>	-	0.00
Pay, home and leisure important	-	<b>-1.80***</b>	-	<b>-0.59*</b>	-	<b>-1.17***</b>
Operating conditions important	-	-0.26	-	0.16	-	<b>0.59*</b>
<i>Perceptions of aspects (0-20)</i>						
Have good job content	-	<b>0.48</b>	-	<b>1.35***</b>	-	<b>0.88***</b>
Have good social composition	-	0.11	-	0.06	-	0.34
Have good social relations	-	0.12	-	<b>0.67***</b>	-	0.36
Have good social security structure	-	-0.38	-	-0.30	-	<b>1.89***</b>
Have good pay, home, leisure	-	0.02	-	<b>0.60**</b>	-	0.15
Have good operating conditions	-	<b>0.81**</b>	-	0.00	-	<b>0.73***</b>
<i>Explained variance (%)</i>	5.6	16.2	3.3	23.5	5.9	35.5
<i>Number of respondents</i>	1259	894	1128	827	1127	824

OLS-regression. Significance levels: bold and \*\*\* = 0.001 level, \*\* = 0.01 level, \* = 0.05 level, bold only = 0.1 level.

In Table 54, we study the most important remaining results found for seafarers generally regarding occupational commitment and organizational commitment. At the top (Model 1), we study the effect of flag state. Sailing under a Swedish flag proved to have significant and positive effect on organizational commitment. *Social composition* is the explanatory dimension that has the greatest effect on this result. When we move from Step I to Step II, we can confirm that the effect difference with regard to flag declines and the significance is eliminated. The result implies that it is first and foremost the perception of poorer social composition onboard flagged-out ships that generally causes impaired organizational commitment among seafarers.

Model 2 (Table 54) examines the positive effect that has been shown of years at sea on occupational commitment among seafarers. It is obvious that the effect change is negligible when we add the explanatory variables (Step II). *Social security structure* is the explanatory dimension that has the greatest, albeit limited, effect on the earlier result. This implies, which may be obvious, that the longer seafarers have been at sea, the more comfortable they become with the prevailing structure. The same can be said regarding years with the shipping company (Model 3), which in the preceding chapter was shown to have a strong positive effect on organizational commitment. Years with the shipping company still has a significant and positive effect in Step II, but with *social security structure* as the strongest explanatory dimension.

Notably, having seafarers in the family (Model 4), which was shown to be important to occupational commitment, maintains the significant and positive effect upon introduction of the strongest explanatory dimension, which is in this case *job content*. The effect of having good job content can here be interpreted mainly as confirmation that seafarers who have, inspired by having relatives at sea, developed high commitment to the seafaring occupation still perceive satisfactory job content in their occupation as seafarers. Overall, one can say that the positive effects of years at sea, years with the shipping company, and having relatives at sea are mainly effects of socialization in the occupation and the work organization, respectively.

Table 54: Commitment and main explanatory dimension

	Occupational commitment		Organizational commitment	
	I	II	I	II
Model 1: Flag state				
Swedish flag	-	-	<b>7.16*</b>	4.27
Social composition important (0-20)	-	-	-	<b>0.54***</b>
Have good social composition (0-20)	-	-	-	<b>1.84***</b>
Explained variance (%)	-	-	0.6	9.7
Number of respondents	-	-	1121	1063
Model 2: Years at sea				
Years at sea	<b>0.17***</b>	<b>0.10**</b>	-	-
Social security structure important (0-20)	-	<b>0.93***</b>	-	-
Have good social security structure(0-20)	-	<b>1.19***</b>	-	-
Explained variance (%)	2.0	10.2	-	-
Number of respondents	1095	915	-	-
Model 3: Years with shipping company				
Years with shipping company	-	-	<b>0.35***</b>	<b>0.18**</b>
Social security structure important (0-20)	-	-	-	0.29
Have good social security structure(0-20)	-	-	-	<b>3.13***</b>
Explained variance (%)	-	-	2,8	25.5
Number of respondents	-	-	1114	927
Model 4: Relatives at sea				
Relatives at sea	<b>3.56***</b>	<b>2.93**</b>	-	-
Job content important(0-20)	-	<b>0.43*</b>	-	-
Have good job content (0-20)	-	<b>1.65***</b>	-	-
Explained variance (%)	1.1	14.0	-	-
Number of respondents	1108	1061	-	-

OLS-regression. Significance levels: bold and \*\*\* = 0.001 level, \*\* = 0.01 level, \* = 0.05 level, bold only = 0.1 level.

Table 55 examines the most important results that have emerged for the youngest age category (19-30). There are three main discoveries worthy of closer examination in this age category. One such discovery has to do with senior deck officers, among whom the youngest are the only age category to demonstrate markedly higher organizational commitment compared to other onboard positions. Another discovery was that having children in the household entails increased organizational commitment for the youngest age category. A third discovery concerning the youngest category was that time on the ship had a negative effect on occupational commitment: the longer seafarers have been on the same ship, the lower their occupational commitment. All three results are examined in Table 55. Only the explanatory dimension that demonstrates the greatest explanatory power for each result is used in the table models.

Table 55 shows that the high organizational commitment that has emerged for younger senior deck officers can be explained entirely by perceived *job content* (Model 1, Steps I-II). The result implies that a rapid career path in the organization with new and interesting tasks, autonomy and the opportunity to develop skills stimulates commitment. In this model, it also becomes clear that perceived job content is very important to commitment among engineering personnel, since all technical positions take on a significant minus effect in Step II.

Model 2 (Table 55) examines the positive effect of having children at home on organizational commitment among younger seafarers. The effect is not entirely eliminated even if the perception of working within a good *social security system* explains quite a bit. While the result does not give us a good explanation, it does indicate that the perception of a secure work organization is particularly important when young seafarers start families.

Model 3 (Table 55) shows that the negative effect of time on the ship on occupational commitment is difficult to explain statistically. *Job content* is the variable with the highest explanatory power, which means that the perceived value of job content declines somewhat with every year that young seafarers remain on the same ship. The effect of time on the ship does not, however, decline in significance when the explanatory variable is added to the model.

Table 55: Commitment and main explanatory dimension, 19-30 age category

	Occupational commitment		Organizational commitment	
	I	II	I	II
Model 1: Senior deck officers, 19-30 age category				
Senior deck officers	-	-	<b>18.56*</b>	0,66
Senior engineering officers	-	-	-0,05	<b>-18,39*</b>
Catering officers	-	-	9,47	0,75
Junior deck officers	-	-	5,93	-6,95
Junior engineering officers	-	-	-3,96	<b>-18.70**</b>
Deck ratings	-	-	7,11	-3,56
Engineering ratings	-	-	4,95	<b>-13.06*</b>
Job content important (0-20)	-	-	-	0.54
Have good job content (0-20)	-	-	-	<b>2.54***</b>
Explained variance (%)	-	-	4,9	20,5
Number of respondents	-	-	231	218
Model 2: Have children in the household, 19-30 age category				
Have children	-	-	<b>11.33*</b>	<b>8.64</b>
Social security structure important (0-20)	-	-	-	-.199
Have good social security structure (0-20)	-	-	-	<b>3.11***</b>
Explained variance (%)	-	-	2,4	21,0
Number of respondents	-	-	226	169
Model 3: Time on ship, 19-30 age category				
Years on ship	<b>-2.21***</b>	<b>-1.99***</b>	-	-
Job content important(0-20)	-	.207	-	-
Have good job content (0-20)	-	<b>1.42***</b>	-	-
Explained variance (%)	6,5	17,8	-	-
Number of respondents	220	210	-	-

OLS-regression. Significance levels: bold and \*\*\* = 0.001 level, \*\* = 0.01 level, \* = 0.05 level, bold only = 0.1 level.

In Table 56, we test the emerged differences in organizational commitment and occupational commitment based on the type of watch system for the 43-54 age category. It has been shown that both occupational and organizational commitment are significantly weakest for seafarers on a 4-8 watch system. It is hard to find a logical explanation for this. Certainly, one can imagine that working according to a normal circadian rhythm would in the long run be most favourable and thus more likely to instil commitment than a shift system. But why should the 6-6 system promote commitment so much more than the 4-8 system?

*Table 56: Commitment and main explanatory dimension, 43-54 age category*

	<i>Occupational commitment</i>		<i>Organizational commitment</i>	
	I	II	I	II
<i>Model 1. Watch, 43-54 age category</i>				
4-8 watch (comp. dayshift)	<b>-8.29*</b>	-3.30	<b>-12.86**</b>	<b>-7.73*</b>
6-6 watch (comp. dayshift)	0.18	-1.06	1.18	2.20
Other watch (comp. dayshift)	-2.73	-1.46	-0.17	-0.32
Social security structure important (0-20)	-	<b>1.48***</b>	-	-0.27
Have good social security structure(0-20)	-	<b>1.69***</b>	-	<b>3.47***</b>
<i>Explained variance (%)</i>	2,0	17,2	3,4	34,4
<i>Number of respondents</i>	272	228	264	227

OLS-regression. Significance levels: bold and \*\*\* = 0.001 level, \*\* = 0.01 level, \* = 0.05 level, bold only = 0.1 level.

As shown in Table 56, the *social security structure* has the greatest explanatory power on difference due to watch system. The explanation is particularly clear in relation to occupational commitment, since both the valuation and perception of a good social security structure contribute to eroding the significant effect of a 4-8 watch system. In respect of organizational commitment, only the actual perception of having a good social security structure has an effect, although this does not manage to entirely explain the observed differences.

We have seen that flagging-out has certain negative effects on seafarers' organizational commitment and that this can be explained by the social com-

position of crews. It seems, however, that occupational commitment among seafarers is relatively unaffected by the flag state with one exception: the oldest category. Seafarers age 55+ are the only age category to demonstrate markedly higher occupational commitment under a Swedish flag, compared to sailing under a foreign flag. Table 57 shows that virtually the entire effect can be explained by the valuation and perception of a good social security structure. Seafarers in the oldest category are thus more committed to the seafaring occupation if they sail under a Swedish flag because they perceive better leadership and better relations with the land organization, and because they also have a strong Swedish union, better job security, and they can feel they are contributing to society.

*Table 57: Commitment and main explanatory dimension, 55+ age category*

	<i>Occupational commitment</i>	
	I	II
Model 1. <i>Swedish flag, 55+ age category</i>		
Sailing under a Swedish flag ( <i>comp. with foreign</i> )	<b>15.86**</b>	9.49
Social security structure important (0-20)		<b>1.12**</b>
Have good social security structure(0-20)		<b>1.70***</b>
<i>Explained variance (%)</i>	2,1	16,2
<i>Number of respondents</i>	350	298

OLS-regression. Significance levels: bold and \*\*\* = 0.001 level, \*\* = 0.01 level, \* = 0.05 level, bold only = 0.1 level.

It may be added that the perception of having a better union under a Swedish flag does not apply only to the oldest age category, even though it is only there that the perception affects occupational commitment. Table 58 shows that less than 12 percent of those who sail under a non-Swedish flag can agree that they have a good union. This means that the comparatively low satisfaction with the union<sup>200</sup> depends to a certain extent upon its negligible influence for seafarers who sail under a non-Swedish flag.

<sup>200</sup> Compare Table 49, page 129.



Table 58: **Union and flag**

The union for the occupational group which I belong to looks out for its members' interests.	Sail under a Swedish flag	Sail under a non-Swedish flag
Agree/Strongly agree %	<b>35.8***</b>	11,7
<i>Number of respondents</i>	<i>1225</i>	<i>60</i>

Chi-Square. Significance levels: bold and \*\*\* = 0.001 level, \*\* = 0.01 level, \* = 0.05 level.

*The importance of valuations, perceptions and job satisfaction in summary*

In this chapter, we have seen that general job satisfaction was high among Swedish seafarers in 2010 – higher than recorded for the general Swedish population in 2005. We have also seen that general job satisfaction has a strong positive correlation with commitment. The strongest correlation is with organizational commitment followed in descending order by occupational commitment and employment commitment. This correlation pattern was expected because job satisfaction mainly reflects perceptions in the day-to-day activity, which we gradually leave further behind when we move from the specific organization out to the occupation and further out to the labour market. The big problem with general job satisfaction, however, is that the measurement is unable to provide information about which aspects of the job are the source of the effect of job satisfaction on commitment.

Upon ranking of several occupation and job-related aspects, it emerged that good relations among colleagues in seafarers' own departments was generally held to be the most important aspect, followed by a good rotation system, good relations between officers and ratings and job security. Crew composition in terms of age, gender and ethnicity was ranked least important. Although the importance of a good rotation system comes in second, the ranked importance of long, contiguous time off did not appear until somewhere in the middle of all aspects. It has also emerged that the youngest category, to a greater extent than older seafarers, value career opportunity, interesting tasks, skills development, social relations and opportunities for shore leave in port. The oldest category value more highly carefully considered gender and ethnic composition, making a social contribution, good rela-

tions with the land organization and a good ship type, trade area and crew size.

In the search for explanations for the results that emerged in respect of work-related commitment, a number of explanatory variables based on how the various aspects were valued and the extent to which they were perceived as satisfied were constructed. It became clear that the strongest positive effects on occupational commitment are found in the perception of having good job content and on organizational commitment in the perception of having a good social security system. The results may be interpreted to mean that the social security system is associated primarily with the shipping company for which the seafarers work, while job content is associated first and foremost with the activities of the occupation. It should be added that operating conditions, social relations and the social composition of the crew contribute to explaining commitment for various categories and in various contexts. The analysis also showed that employment commitment is affected less by perceptions of the job activity and more by values related to job content and social relations.

One important discovery in this chapter has to do with the explanatory dimension of pay, home and leisure whose included aspects may be classified as *hygiene factors*, or *demotivators*, that is, factors where the degree to which the aspects are desirable is at risk of causing greater dissatisfaction than the satisfaction that perceptions of having access to them may bring. The valuation of pay, home and leisure proved to be the only explanatory variable to have a significant negative effect on all three commitment types. We have also found that the extent to which seafarers perceive good conditions in respect of pay, home and leisure demonstrates a significant and positive effect only on occupational commitment. It also became apparent that the effect is not higher than the negative effect of valuing these aspects. These tendencies regarding the various commitment types differ only marginally among the age categories. The clearest differences were recorded for occupational commitment where the pay, home and leisure dimension has strong effect in the youngest category, while occupational commitment among the oldest categories was not affected.

Although the results differ somewhat between the age categories, the overall results indicate that pay, opportunities to communicate with home, rest time onboard, shore leave in port and contiguous time off on land are aspects that lie outside the work activity itself and therefore, regardless of

how these aspects are allocated, have limited capacity to strengthen work-related commitment. The aspects are of course normally desired for reasons outside the work activity and may through that path become sources of discontent with negative consequences on work-related attitudes.

The analysis further showed that the observed age differences in occupational commitment and organizational commitment depend in both cases upon the fact that seafarers' satisfaction with job content increases with age. The very high organizational commitment among catering officers, however, is explained by perceptions within the position of primarily a good social security structure. The generally positive effect on organizational commitment of sailing under a Swedish flag proved to be primarily due to perceptions concerning the social composition onboard flagged-out ships.

Certain measured differences in commitment seem, however, not to depend much on the degree of satisfaction with circumstances on the job, but rather upon socialization in the occupation. This applies to the higher occupational commitment among senior deck officers, deck ratings and engineering ratings, the positive effect on occupational commitment of years at sea, the positive effect on organizational commitment of years with the shipping company, and the positive effect on occupational commitment of having seafarers in the family.

Certainly, seafarers' perceptions of the social security structure managed to dampen some of the effect of years at sea and years with the shipping company, while perceptions of job content reduced some of the positive effect of having seafarers in the family. But in these cases, it is inappropriate to attach oneself to the idea that a causal connection exists. The results should instead be interpreted to mean that seafarers become more satisfied with seafaring life and the work organization the longer they have worked at sea and for the same shipping company. Similarly, having seafarers in the family may entail both a driving force to enter the seafaring occupation and sustained strong perception of satisfactory job content as a seafarer.

Effects that proved to be dependent upon age category were also tested. The comparatively high organizational commitment shown for senior deck officers in the youngest age category (19-30) proved to be explained entirely by perceived job content. The result indicates that the youngest senior officers, who have risen rapidly in their careers, are inspired by the newly acquired job content. Another result for the youngest group is the positive ef-

fect on organizational commitment of having children in the home. The effect coincides to a high extent with the perception of working within a good social security system, which indicates that perceptions of a secure work organization are particularly important to young seafarers as they start families. Yet another result for the youngest age category is the negative effect on occupational commitment of time on the ship. The result is difficult to explain statistically, but perceived job content is part of the explanation, which means that the perceived value of job content declines somewhat with each year young seafarers stay on the same ship. The remaining part of the effect might possibly be explained by that the central belief about the adventure and freedom of the seafaring life is somewhat put to shame if young seafarers walk the same deck for too long.

With regard to the 43-54 age category, differences in occupational and organizational commitment were noted depending on the type of watch system, in that commitment is significantly lowest among seafarers on a 4-8 watch system. Quite a bit of the difference proved dependent upon the valuation and perception of the social security structure. The result does not entirely dispel the questions, but there is clearly something about the 4-8 system that causes a sense of impaired job security, leadership, land organization, union and society.

It has emerged for the 55+ age category that this is the only age category that demonstrates significantly higher occupational commitment under a Swedish flag compared to a foreign flag. The analysis in this chapter showed that essentially the entire effect can be explained by the valuation and perception of the social security structure. The oldest category of seafarers are thus more committed to the seafaring occupation if they sail under a Swedish flag because they perceive better leadership and better relations with the land organization and that they also have a strong Swedish union, better job security and feel they can contribute to society. It also emerged that the perception of having a better union under a Swedish flag does not apply only to the oldest age category, although it is only in this category that the perception has an effect on occupational commitment.

To what extent has this chapter been able to answer the initial study hypothesis that the special conditions of the seafaring life, with regard to recurring separation from the home and family, would have varying effects on occupational and organizational commitment depending on shifting roles over the life course? The preceding chapter could not prove any systematic

occurrence of this type of variation, other than that the youngest seafarers express a weak connection to the seafaring occupation and the oldest seafarers the strongest. After this chapter, we can add another detail. It has proven that the explanatory dimension of *pay, home and leisure* has significant effect on occupational commitment in the two youngest categories, while there is no effect at all on occupational commitment in the two oldest categories. The result shows that the attitudes of younger groups (age 19-42) are more likely than those of older seafarers to be affected by factors outside their actual work activities. This may be interpreted to mean that the specific conditions of the seafaring life with regard to recurring separation from friends and family has an indirect influence on occupational commitment, at least for younger seafarers, who seem to have greater focus on rotation systems and opportunities to communicate with home. This in turn may lead to lower occupational commitment if expectations concerning these aspects exceed that which is offered.



## 8. Seafarers' attitudes and perceptions towards age and retirement

Carl Hult

The rationale behind this chapter lies in the current demographic trend with an ageing population and political aims to generally extend people's working lives. The questions that follow upon these aims are: (i) To what extent are seafarers *willing* to work a few years longer than they have to under current pension rules? (ii) To what extent are older seafarers *able* to work a few years longer? and (iii) To what extent are seafarers *allowed* to work a few years longer? The first and second questions are obviously directed at older seafarers, since the relevance of the questions and the possibility of identifying with their implications must be assumed to increase with age and be strongest in the 55+ age category. In most cases, however, results will be reported for all age categories. The third question is directed at all age categories because it is the total crew and the land organization which determine the extent to which older seafarers are welcomed onboard.

The point of departure of this study is that people must be *willing*, *able*, and *allowed* to extend their working lives for these political aims to be realized with anything approaching a positive outcome. Although the matter of delaying the age of retirement can be settled legislatively, it is difficult to imagine that anyone with interest in the shipping industry would gain from a future in which older personnel stay onboard only because they have to.

### *The extent to which seafarers are willing*

Results in brief: The perceived appropriate age of retirement among seafarers age 55+ is 63. Between 20 percent and almost 36 percent of the same category would be willing to consider working a few years longer than they have to if their tasks were adapted to their personal circumstances. Between 40 and 56 percent would consider making themselves available in a pool of retired seafarers as a complement to the regular rotation system.

Being willing to work is to be motivated to work and we have already seen that commitment is sufficiently strong in the 55+ group to find seafarers who would under certain circumstances probably be willing to work a few additional years. But even if work-related commitment is strong among older seafarers and the right conditions were in place in the occupation and on the job, the matter of extended working life is brought to a head in face of the specified option to go ashore permanently with retirement pay. We will attempt here to assess the conditions for the outcome in a choice situation of

this kind using a number of indicators related to seafarers' attitudes towards work and retirement.

An initial question has to do with what age the seafarers themselves consider an appropriate age of retirement. As the ageing process tends to make itself felt, relatively far down in the age categories, in the form of joint and muscle pain related to physical strain, one might expect the perceived appropriate age of retirement to vary with the degree of physical job content. One way of controlling for this is to categorize the answers by both age category and hierarchical position, that is, among senior officers, junior officers and ratings. This division, from senior officers to ratings, can be assumed to describe a rising incidence of physical work.<sup>201</sup> The results, expressed in mean values, concerning the perceived appropriate age of retirement distributed across age categories and hierarchical positions are reported in Table 59.

Table 59 shows that the results do not directly correlate with the assumption that ratings would prefer a lower age of retirement than officers, in view of the greater incidence of physical work lower in the hierarchy. The pattern is instead surprisingly similar across all hierarchical levels. It is also interesting that at every hierarchical level, the oldest category states the highest appropriate age of retirement. Perhaps somewhat hastily, the result could be interpreted as reflecting generational differences in work ethic, rather than as dependent upon age differences. To a certain extent, it may be true that seafarers in the oldest category have a stronger relationship to their work than do seafarers in the youngest category. This is not dependent upon generation, however, but rather upon the gradual selection effect by which those who are still at sea at an advanced age are there because they like the work, which is to an extent consistent with the positive effect noted of *years at sea* on occupational commitment. Moreover, it is only the oldest category who can be expected to answer the question asked based on a carefully considered balancing of the perceived value of having a job compared to the value of life in a near future as a retiree.<sup>202</sup>

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<sup>201</sup> Because few senior catering officers, we have thus far used a category that included all catering officers. At this point, we can divide the officer more finely. The senior officers category now includes only head catering officers.

<sup>202</sup> Quite a few respondents declined to answer this question – at the most, more than 27 percent of the youngest ratings. This may be an effect of that the question did not provide the *don't know* option and that the question may be perceived as difficult to assess.



**Table 59: Mean values for appropriate age of retirement, distributed across hierarchical job positions and age categories**

	<i>Senior officers</i>				<i>Junior officers</i>				<i>Ratings</i>			
	<i>19-30</i>	<i>31-42</i>	<i>43-54</i>	<i>55+</i>	<i>19-30</i>	<i>31-42</i>	<i>43-54</i>	<i>55+</i>	<i>19-30</i>	<i>31-42</i>	<i>43-54</i>	<i>55+</i>
Appropriate retirement age?	61.8	60.8	60.9	<b>63.3</b> ***	60.6	60.8	61.8	<b>63.2</b> ***	62.9	61.5	61.7	<b>63.3</b> ***

Anova: Significance levels: bold and \*\*\* = 0.001 level, \*\* = 0.01 level, \* = 0.05 level. The highest value for age categories within a hierarchical level is marked in bold.

Now that we know that seafarers in the oldest category believe the appropriate age of retirement is 63, we want to know the extent to which seafarers are willing to work a few years longer than they have to under current pension rules. Table 60 reports the proportions who agree or strongly agree that they would be willing to work, with their present tasks, for a few years longer than required under current pension rules. The proportion of *don't know* answers is also reported.<sup>203</sup> The results are presented by age category for seafarers at the left and for the Swedish population to the right in the table.

In Table 60, we can see that the oldest category of seafarers seem to be more willing to work a few additional years, doing the tasks they are presently doing, compared to the equivalent age category in the general Swedish population 2005. Among seafarers, it is also the oldest category who demonstrates the highest level of agreement. Among the general population, the situation is the reverse and it is instead the youngest category who demonstrates the highest proportion of agreement. Here it may be worthwhile repeating that we cannot possibly arrive at any notion of the likelihood of a correlation between the attitudes of the youngest category on this issue and their future behaviour at an age relevant to retirement. We can also see that a larger proportion of the youngest category answered *don't know*, a difference that is particularly clear among seafarers.

<sup>203</sup> In most of the material, non-answers seldom occur and should be treated as internal non-response, since it is impossible to draw any conclusion about what non-answers mean when the *don't know* option is included. However, in this case the *don't know* option can be considered a relevant position and should therefore be included in the calculations.

**Table 60: Proportion who agree that they would be willing to work a few years longer than they have to under current pension rules – proportion of agreement in %**

	<i>Seafarers 2010</i>				<i>Swedish population 2005</i>			
<i>If allowed to continue with present tasks</i>	<i>19-30</i>	<i>31-42</i>	<i>43-54</i>	<i>55+</i>	<i>19-30</i>	<i>31-42</i>	<i>43-54</i>	<i>55+</i>
Proportion who agree or strongly agree in %	17.9	13.5	13.9	<b>26.9</b> ***	<b>22.5</b>	15.4	10.0	20.2
Proportion who answered <i>don't know</i> in %	17.4	9.3	6.3	4.3	9.4	7.7	2.7	7.3

Chi-Square. Significance level for seafarers 2010: bold and \*\*\* = 0.001 level, \*\* = 0.01 level, \* = 0.05 level. The highest value for age categories is marked in bold.

It should be noted that under the current Swedish pension system, the earliest age that retirement benefits can be claimed is 61, while people have the right to work until 67, or even later if their employer agrees. But since pensions are lower if one retires at the earliest age, we must assume that many people will have to work until at least age 65, perhaps longer. It should also be mentioned that the transition to the new system takes effect successively by age strata, up to those born in 1953, and our respondents will thus retire under different conditions.<sup>204</sup> Due to this complexity in the system, the results in Table 60 cannot tell us to what age, within the aforementioned range, people would be willing to work. We can only confirm that there is relatively good willingness among seafarers in 2010 to work a few additional years than required compared to the general Swedish population in 2005.

It may be the case that seafarers might be more willing to work a few additional years under certain circumstances. It is plausible that a greater number would be willing to stay a few years longer provided that they were given a more flexible rotation system, that they were allowed to work in a position they enjoy, that they were allowed to work on a ship type they like and in a trade area they enjoy, or if their tasks were adapted to their personal circumstances. Seafarers' answers to these questions are presented in Table 61, along with the same question presented in the preceding table. The results are presented distributed across hierarchical positions and age categories.

<sup>204</sup> Swedish Social Insurance Agency 2011; Swedish Pensions Agency 2011a, 2011b.

ries. The *don't know* option was again included in the calculations, although not shown for reasons of space.<sup>205</sup>

**Table 61: I would be willing to work a few additional years longer than I have to under current pension rules – proportion of agreement in %**

	<i>Senior officers</i>				<i>Junior officers</i>				<i>Ratings</i>			
<i>Proportion who agree or strongly agree if...</i>	<i>19-30</i>	<i>31-42</i>	<i>43-54</i>	<i>55+</i>	<i>19-30</i>	<i>31-42</i>	<i>43-54</i>	<i>55+</i>	<i>19-30</i>	<i>31-42</i>	<i>43-54</i>	<i>55+</i>
allowed to continue working with present tasks	14.3	9.6	13.4	<b>29.5</b> ***	14.5	14.3	16.1	<b>17.0</b>	20.0	16.8	13.4	<b>27.5</b> ***
given a more flexible rotation system	<b>33.3</b>	26.3	22.3	22.4	<b>33.9</b> *	29.8	19.6	18.9	<b>33.3</b> **	25.7	20.1	22.8
allowed to work in a position I enjoy	<b>52.4</b> **	22.1	27.7	32.5	<b>46.8</b> **	39.3	28.6	24.5	<b>58.5</b> ***	40.7	29.1	32.2
allowed to work on a ship type I like	<b>38.1</b> *	16.7	22.3	30.7	<b>35.5</b>	28.6	25.0	22.6	<b>55.2</b> ***	35.4	31.3	32.4
allowed to work in a trade area I enjoy	23.8	14.9	21.4	<b>31.9</b> **	<b>33.9</b>	29.8	23.2	28.3	<b>48.9</b> ***	30.1	29.9	30.9
tasks were adapted to my circumstances	<b>38.1</b> *	21.1	22.3	32.7	<b>32.3</b>	36.9	29.1	20.8	<b>51.9</b> **	42.9	35.1	35.8

Chi-Square. Significance levels: bold and \*\*\* = 0.001 level, \*\* = 0.01 level, \* = 0.05 level. The highest value for age categories within a hierarchical level is marked in bold.

Table 61 shows that older seafarers represent the largest proportion who would be willing to work a few years longer if they were allowed to continue doing their present tasks. This is probably due to that seafarers who are still in the occupation at an advanced age are already working under conditions they are fairly satisfied with, while the job content still leaves something to

<sup>205</sup> The *don't know* option is henceforth included in all calculations, but is shown only in cases where the option is deemed relevant.

be desired for many younger seafarers. The most significant age differences are found among senior officers and ratings. The table also shows that for all age categories the factors that are generally most important to willingness to work longer are being allowed to work in a position they enjoy and that tasks are adapted to personal circumstances. In summary, we can see that almost 30 percent of the oldest age category of senior officers and ratings would be willing to work a few years longer than they have to under current pension rules. The proportion is considerably lower among junior officers in the corresponding age category.

One important question that remains is how the willingness to work is affected by how work participation is organized. Table 62 shows that a significant proportion of seafarers in the oldest age category would be willing to participate in a pool of retired seafarers as a complement to the regular rotation system. This applies to more than 40 percent of the oldest senior and junior officers. Many of the senior officers would also be willing to perform tasks that the regular ships' crew was unwilling or unable to perform. The least attractive prospect is to be included in a regular rotation system.

<i>Table 62: Appropriate organization of work after retirement – proportion of agreement in %</i>												
	<i>Senior officers</i>				<i>Junior officers</i>				<i>Ratings</i>			
	<i>19-30</i>	<i>31-42</i>	<i>43-54</i>	<i>55+</i>	<i>19-30</i>	<i>31-42</i>	<i>43-54</i>	<i>55+</i>	<i>19-30</i>	<i>31-42</i>	<i>43-54</i>	<i>55+</i>
<i>As a retired seafarer, I would be willing to...</i>												
perform tasks that the regular ships' crew is unable or unwilling to do	27.3	22.2	35.1	<b>45.3</b> ***	25.4	<b>29.4</b>	26.8	19.3	<b>30.1</b> *	27.5	22.7	29.9
participate in a pool of retired seafarers as a complement to the regular rotation system	45.5	25.6	37.2	<b>55.9</b> ***	29.9	38.8	28.6	<b>43.9</b>	34.7	31.7	28.4	<b>39.5</b> **
participate in a regular rotation system	<b>18.2</b> **	6.0	8.0	17.9	9.0	9.4	<b>17.9</b>	15.8	14.2	9.2	12.8	<b>19.7</b> ***

Chi-Square. Significance levels: bold and \*\*\* = 0.001 level, \*\* = 0.01 level, \* = 0.05 level. The highest value for age categories within a hierarchical level is marked in bold.

In summary, we can say that the perceived appropriate age of retirement for the most relevant group, seafarers age 55+, is 63, and that between 20 percent and almost 36 percent of the same category would be willing to work a few years longer than they have to if their tasks were adapted to their personal circumstances, and that between 40 percent and 56 percent would be willing to participate in a pool of retired seafarers as a complement to the regular rotation system.

#### *The extent to which seafarers are able*

Results in brief: The age pattern is partially contrary to expectations. Among senior officers, the youngest category perceive the most strain in connection with the job. Among junior officers and ratings, however, the pattern is closer to that which was expected, with complaints and symptoms increasing with age. Negative experiences related to separation from family and friends are found primarily in the two youngest age categories. More than 80 percent of the seafarers in the 55+ age category who would be willing to work a few years longer than they have to are also found among those who rarely or never indicate problematic experiences on the job.

Thus far, we have determined that there is relatively good willingness among older seafarers to work if needed even after retirement. But being *willing* is not synonymous with being *able*, once age has begun to take its toll. One way of discovering the extent to which we should expect seafarers to be able to work when they are more advanced in years is to study how they, in various hierarchical positions and at various ages, perceive the physical and psychosocial consequences of their work. A number of questions in the survey were designed to this end. The results are shown in Table 63.

Table 63 provides a somewhat unexpected picture of how the consequences of the job are perceived, distributed across hierarchical positions and age categories. Clearly, the tendency to report negative experiences on the job is often greatest among the youngest age categories, and most clearly so among senior officers. Almost 46 percent of the youngest senior officers feel that they are always or often exhausted after a shift. The result should also be compared to the oldest category of senior officers, where about 27 percent report that they always or often feel exhausted. The significance, however, is on the lowest level. Slightly more than 18 percent of the youngest senior officers also experience pain in muscles and joints related to the job. However, in relation to negative experiences on the job, a shift towards the older categories can be noted if we move from senior officers via junior officers and further to ratings, that is, in a direction towards an expected

greater element of physical work. We can further notice a linear progression in indications of joint and muscle pain for both junior officers and ratings, as the age categories rise, and that almost 45 percent of ratings in the 55+ group experience the problem.

Table 63: Negative experiences on the job – proportion often or always in %

	Senior officers				Junior officers				Ratings			
How often...	19-30	31-42	43-54	55+	19-30	31-42	43-54	55+	19-30	31-42	43-54	55+
are you exhausted after a shift?	<b>45.5</b> *	37.1	40.9	26.7	34.3	44.7	<b>50.0</b>	38.6	<b>46.9</b>	41.3	44.0	40.9
do you feel fatigued by noise and vibration?	13.6	<b>23.9</b>	25.2	22.9	<b>28.4</b>	25.9	27.6	24.1	26.0	30.6	<b>35.5</b>	33.3
are you required to perform physically strenuous work?	<b>31.8</b> ***	12.0	13.9	4.5	<b>31.3</b>	20.0	17.2	19.0	58.8	<b>69.4</b> ***	53.9	46.2
do you experience joint and muscle pain related to the job?	<b>18.2</b>	8.5	13.0	12.2	7.5	12.9	24.1	<b>24.1</b> *	20.9	33.1	43.3	<b>44.7</b> ***
do you experience stress on the job?	<b>40.9</b>	41.9	39.1	27.2	23.9	25.9	31.0	<b>34.5</b>	28.8	<b>45.5</b> **	44.7	38.4
do you work under dangerous working conditions?	<b>27.3</b>	17.9	21.9	15.2	19.4	<b>21.2</b>	13.8	12.1	<b>26.0</b>	19.8	26.4	20.9
do you experience fatigue from lack of sleep?	31.8	<b>37.1</b>	32.2	23.3	25.4	<b>41.2</b>	39.7	29.3	25.4	28.1	<b>32.6</b>	23.9

Chi-Square. Significance levels: bold and \*\*\* = 0.001 level, \*\* = 0.01 level, \* = 0.05 level. The highest value for age categories within a hierarchical level is marked in bold.

How should the results shown in Table 63 be interpreted? The tendency of the younger age categories to indicate exhaustion after a shift coincides with that the younger categories are also more likely than the older categories to report that they are required to perform physically strenuous work. This could be interpreted as an indication of an informal, spontaneous division of labour, by which the younger seafarers perform the more strenuous duties onboard. It could also be interpreted as meaning that the older seafarers have, over the years, managed to develop more efficient and energy-saving methods. But none of this can explain why youngest categories report the highest incidence of exhaustion and joint and muscle pain among senior officers. Certainly, this category also reports a higher incidence of strenuous work. One possible explanation could be that seafarers who have successfully advanced to the rank of senior officer at such a young age feel a need to push themselves on the job to prove themselves worthy of the advancement. As an example, we have seen that organizational commitment is highest among the youngest senior officers (see Table 28). It should also be emphasized that the high perceived exhaustion among the youngest senior officers may very well be caused by mainly psychological strain because responsibility is perceived to be particularly stressful in youth. We also see that the high indications of negative experiences among the youngest category of senior officers include highly perceived stress on the job.

Under circumstances that lead to stress and other negative experiences on the job, it is always important that people can turn to management and colleagues for support. Table 64 reports how seafarers perceive the support they receive on the job, distributed across hierarchical levels and age categories. The table indicates that support from immediate superiors and colleagues is generally perceived as good. Between about 60 percent and 90 percent report that support from immediate superiors is fairly good or very good. Here it may be assumed that seafarers can find it difficult to always make a sharp distinction between colleagues and superiors since the initial interviews of the project indicated that the crew is often perceived to be a single team.

With regard to support from the land organization, however, we can conclude that this is generally perceived as comparatively low. Between, about, 27 and 68 percent report that they perceive this support as fairly or very good. Support is perceived as best among the senior officers. Finally, we can note that among junior officers and ratings, most types of support are perceived as best by the oldest age category, while support, in particular, from

the land organization and immediate superiors is perceived as highest among the youngest category of senior officers.

*Table 64: Perceptions of social support in job performance – proportion fairly good or very good in %*

	<i>Senior officers</i>				<i>Junior officers</i>				<i>Ratings</i>			
<i>How do you perceive...</i>	<i>19-30</i>	<i>31-42</i>	<i>43-54</i>	<i>55+</i>	<i>19-30</i>	<i>31-42</i>	<i>43-54</i>	<i>55+</i>	<i>19-30</i>	<i>31-42</i>	<i>43-54</i>	<i>55+</i>
support from the land organization regarding performance of the job?	<b>68.2</b> *	43.6	42.6	51.1	26.9	34.1	41.4	<b>43.1</b> **	27.3	28.1	28.2	<b>43.7</b> **
support from your immediate superiors regarding performance of the job?	<b>90.5</b>	68.4	62.8	59.9	76.1	<b>83.5</b>	75.9	79.3	64.8	60.3	59.6	<b>67.3</b>
support from colleagues regarding performance of the job?	<b>86.4</b>	86.3	83.5	84.4	77.6	83.5	84.5	<b>91.4</b>	79.0	83.3	82.4	<b>85.5</b>

Chi-Square. Significance levels: bold and \*\*\* = 0.001 level, \*\* = 0.01 level, \* = 0.05 level. The highest value for age categories within a hierarchical level is marked in bold.

The work itself is not the only aspect of the seafaring occupation that can be strenuous. The long and intensive tours of duty and being away from home, family and friends can be perceived as a hardship in and of itself. It is possible that some seafarers may also feel that periods at home are difficult because they miss the fellowship and accustomed routines of onboard life. Table 65 reports how seafarers perceive these periodic changes, distributed across hierarchical positions and age categories. At the top, we see that between 31 and 50 percent of seafarers experience emotional fatigue upon homecoming after a tour of duty. Perceptions of emotional fatigue upon homecoming are found primarily among the youngest senior officers, which underlines earlier results regarding this category's job-related perceptions. However, the age difference lack statistical significance.



Table 65: Perceptions of the changes entailed in the rotation system – proportion often or always in %

	Senior officers				Junior officers				Ratings			
How often...	19-30	31-42	43-54	55+	19-30	31-42	43-54	55+	19-30	31-42	43-54	55+
emotionally fatigued upon homecoming after duty?	<b>50.0</b>	45.3	42.6	31.1	<b>46.3</b>	47.1	46.6	37.9	36.7	<b>40.5</b>	37.6	37.3
positively motivated back on ship after leave on land?	54.5	<b>66.7</b>	<b>66.7</b>	61.7	44.8	56.5	60.3	<b>74.1</b>	57.1	<b>62.8</b>	53.2	57.0
rested after leave on land?	81.8	77.8	81.7	<b>82.8</b>	70.1	77.6	65.5	<b>82.8</b>	73.4	72.7	69.5	<b>74.2</b>
bored after a few weeks of leave?	<b>18.2</b>	12.0	7.8	7.8	<b>16.4</b>	9.4	13.8	10.3	<b>29.4</b>	23.1	14.9	11.4
does your absence from land interfere with relationships with friends?	31.8	<b>49.6</b>	36.5	31.8	43.3	<b>45.9</b>	43.1	34.5	<b>47.2</b>	43.8	35.2	26.6
does your absence from land interfere with relationships with family?	36.4	<b>53.0</b>	34.8	24.9	43.3	<b>47.1</b>	41.4	31.0	40.3	<b>44.6</b>	40.1	23.6
do events related to friends affect your job motivation onboard?	9.1	<b>12.8</b>	10.4	6.6	<b>23.9</b>	17.6	12.1	6.9	<b>18.8</b>	16.5	9.9	6.3
do events related to family affect your job motivation onboard?	13.6	<b>17.9</b>	12.2	6.1	<b>28.4</b>	27.1	24.1	8.6	19.9	<b>24.0</b>	14.8	6.3

Chi-Square. Significance levels: bold and \*\*\* = 0.001 level, \*\* = 0.01 level, \* = 0.05 level. The highest value for age categories within a hierarchical level is marked in bold.

Table 65 also shows that most seafarers feel rejuvenated by leave. Between nearly 45 percent and 74 percent report that they often or always feel

positively motivated when they sign onto a ship after leave and between just above 65 percent and nearly 83 percent of seafarers report that they feel rested with no significant age differences. We also see that a small proportion feel bored after a few weeks of leave. The highest proportion who feel bored are found among the youngest seafarers and the lowest proportion among the oldest. The age difference is significant only among ratings. The table shows that between about 26 percent and 53 percent often or always feel that absence from land interferes with relationships to friends and family. The lowest proportions are found in the oldest age category at every hierarchical level. Finally, we can determine that between 6 percent and just above 28 percent feel that events related to friends and family affect their motivation onboard. Such effects were reported most often by the two youngest categories at every hierarchical level.

One important question remains. Are the seafarers who based on their work-related perceptions can be expected to be able to work a few years longer than they have to also the same individuals who would be willing to do so? For this question, we are interested only in seafarers for whom retirement is imminent – the 55+ age category.

**Table 66: The 55+ age category and agreement between being *willing* and expectations of being *able* to work at an advanced age – proportion in %**

	Seafarers 55+ who are often or always positively motivated to sign onboard ship after periods of leave on land	Seafarers 55+ who rarely or never experience joint and muscle pain in connection with the job
Proportion of those who agree or strongly agree that they would be willing to work a few years longer than they have to if allowed to continue with their present tasks...	81.6	82.8

Table 66 shows that more than 80 percent of the oldest seafarers who would be willing to work a few additional years often or always feel positively motivated when they sign onboard a ship after leave, and that a slightly higher proportion of the same category rarely or never experience joint and muscle pain. The agreement between willingness and ability seems, in other words, to be relatively good.

### *The extent to which seafarers are allowed*

Results in brief: The attitudes of younger and older seafarers towards each other reveal generation-segregated perceptions of differences in occupation-related characteristics and behaviours depending upon generational affiliation. A majority of seafarers in all age categories are favourable towards sailing with officers who have reached the age of retirement and to a slightly lesser extent with ratings who have reached the age of retirement. An overwhelming majority prefer to sail with crews of mixed age. Between 31 percent and 63 percent of the seafarers think retired seafarers can contribute as a voluntary resource for crews or in a pool as a complement to the regular rotation system. The shipping companies value the experience of older seafarers. There is, however, a certain consensus from the management perspective that 67 should be an upper limit for onboard duty.

In the foregoing, we have been able to see that there is a proportion of older seafarers who seem to be both willing and able to continue working a few years longer than they have to under current pension rules. But the question is to what extent they are *allowed* to do so and whether they can in such case feel welcome onboard. The reception is likely to be a deciding factor when they face the choice of whether or not to work a few additional years. Whether older seafarers feel welcome or not can be traced to several factors connected to everything from employer policy to overt age-related discrimination or certain cautiousness within the organization and work team. We will attempt here to touch upon several of these aspects and begin by giving a sample of how younger seafarers think about older seafarers and vice versa.

Table 67 shows that an overwhelming majority in all age categories can agree that *older seafarers contribute professional expertise that younger seafarers lack*. Although the consensus across age categories is apparent, it is interesting to note that the proportion of agreement with this statement increases linearly with age category; that is, the older the seafarers are, the more likely they are to agree that older seafarers have greater professional expertise. A similarly significant pattern emerges in regard to positions on the statement that *having more older seafarers onboard would improve safety*. Here, the proportion in agreement is generally lower, while the age differences are greater. Less than 8 percent of the youngest category compared to slightly more than 30 percent of the oldest do agree.

What might have been expected is that the age pattern is exactly the opposite in relation to positions on the statement that *much of older seafarers' knowledge is out of date* and as to whether *younger seafarers contribute a modern perspective that older seafarers lack*, and the statement that *having more older seafarers onboard would interfere with technical progress*. In all

of these cases, we can note a linear decrease with age in the proportion who agree with the statements. Of these statements, we can generally note the highest level of agreement with the statement that younger seafarers contribute a modern perspective. At the bottom of Table 67, there are two statements inspired by the initial interviews concerning perceptions of younger seafarers. The first statement claims that *you are either suited to the occupation or you are not* and that there is not much that can be done about this. The second statement asserts that *most young people will end up leaving the seafaring life long before the age of retirement*. As expected, the statements garner the greatest agreement among the oldest category of seafarers, but we can also note comparatively high consensus. Between slightly more than 50 percent and almost 70 percent agree with the statements overall.

**Table 67: Attitudes about older seafarers and younger seafarers – proportion who agree or strongly agree in %**

	19-30	31-42	43-54	55+
Older seafarers contribute practical professional expertise that younger seafarers lack	82.8	84.5	87.3	<b>93.5***</b>
Having more older seafarers onboard would improve safety	7.9	11.1	21.9	<b>30.1***</b>
Much of older seafarers' knowledge is out of date	<b>18.0</b>	17.0	14.6	11.4
Younger seafarers contribute a modern perspective on the occupation that older seafarers lack	<b>55.1***</b>	38.4	34.5	38.5
Having more older seafarers onboard would interfere with technical progress	<b>24.3***</b>	21.1	13.0	9.8
You are either suited to the seafaring occupation or you are not. No education in the world can change that.	57.7	64.1	67.7	<b>69.7</b>
Most young people who start working at sea today will leave the seafaring life long before the age of retirement	57.3	64.0	59.7	<b>66.9</b>

Chi-Square. Significance levels: bold and \*\*\* = 0.001 level, \*\* = 0.01 level, \* = 0.05 level. The highest value for age categories within a hierarchical level is marked in bold.

The results shown in Table 67 probably express, more than anywhere else in this study, generational differences rather than age differences. This does not in any way have to do with a situation of conflict between older and younger seafarers, but rather with generation-segregated notions about differences in occupation-related characteristics and behaviours that we can assume depend on generational affiliation. It should be added that generation-segregated notions of this kind should not be understood to apply only to seafarers, but rather as an indication of how younger and older people regard each other generally in contemporary society.

Two results in Table 67, however, may apply to seafarers somewhat more than to other occupational groups: the position on the statement that you are either suited to the seafaring occupation or you are not, and on the statement that most young people will leave the seafaring occupation long before the age of retirement. The questions are connected insofar as the choice to leave while young probably has to do with whether or not the individual is suited to the occupation, or expressed from the perspective of younger people: whether or not the occupation aligns with young people's personal preferences. As said, relatively high numbers agree with both statements. Judging by Table 68, there is also something to this.

**Table 68: Proportion who think it is likely they will leave the seafaring life in the next two years, in %**

	<i>19-30</i>	<i>31-42</i>	<i>43-54</i>	<i>55+</i>
Likely %	<b>21.1***</b>	17.7	10.1	14.1
Don't know %	3.8	3.7	5.7	5.9
<i>Number of respondents</i>	<i>265</i>	<i>322</i>	<i>316</i>	<i>389</i>

Chi-Square. Significance levels: bold and \*\*\* = 0.001 level, \*\* = 0.01 level, \* = 0.05 level. The highest value for age categories within a hierarchical level is marked in bold.

As shown in Table 68, it is in the youngest category that we find the significantly highest proportion of seafarers who believe it is likely they will leave the occupation within a few years. The age difference should be regarded as rather natural, since the first few years in most occupations must be seen as a trial period to a certain extent and because over the years people tend, for several reasons, to work themselves permanently into an occupation. The same logic is also found in the age trend we have seen in occupa-

tional commitment and the positive effect of years at sea. That the proportion who believe it is likely they are headed back to shore increases somewhat in the oldest category can be explained by that many in this category are near, and some beyond, the age of retirement.

The purpose of this section is to find out to what extent older seafarers are welcome onboard. In the survey, seafarers were asked to take a position on whether they would be willing to sail with crew members who have reached the age of retirement. The question was divided so that respondents had to take separate positions concerning different onboard functions. The seafarers' judgments are presented in Table 69, distributed across hierarchical levels and age categories. The table shows that in most cases, more than 50 percent of seafarers are favourable towards sailing with people who have reached the age of retirement. The most favourable are mostly found in age category 55+. Ratings are an exception, where there are also very small differences between age categories concerning attitudes towards sailing with older deck and engineering officers. It should be added that no age differences reach significance.

Table 69 shows that there is no immediate resistance to crew members who have reached the age of retirement. But the result also shows that between 17 percent and 54 percent, depending upon the specific hierarchical level, age category and onboard function in question, do not explicitly agree that they have nothing against the idea.

**Table 69: Willing to sail with seafarers at the age of retirement – proportion who agree or strongly agree in %**

	<i>Senior officers</i>				<i>Junior officers</i>				<i>Ratings</i>			
<i>I have nothing against sailing with...</i>	<i>19-30</i>	<i>31-42</i>	<i>43-54</i>	<i>55+</i>	<i>19-30</i>	<i>31-42</i>	<i>43-54</i>	<i>55+</i>	<i>19-30</i>	<i>31-42</i>	<i>43-54</i>	<i>55+</i>
deck officers who have reached the age of retirement	68.2	60.7	67.0	<b>73.6</b>	62.1	70.6	64.3	<b>82.8</b>	66.1	<b>69.2</b>	58.9	68.8
engineering officers who have reached the age of retirement	68.2	62.4	62.6	<b>72.5</b>	57.6	71.8	64.3	<b>81.0</b>	66.7	<b>69.2</b>	58.2	68.8
catering officers who have reached the age of retirement	59.1	54.7	59.1	<b>65.2</b>	59.1	58.8	58.9	<b>81.0</b>	57.4	63.3	54.6	<b>64.3</b>
deck ratings who have reached the age of retirement	50.0	50.4	51.3	<b>58.4</b>	57.6	56.5	57.1	<b>74.1</b>	55.1	58.3	52.5	<b>68.2</b>
catering ratings who have reached the age of retirement	45.5	48.7	54.4	<b>59.6</b>	54.5	55.3	53.6	<b>75.9</b>	55.4	55.0	52.5	<b>62.8</b>
engineering ratings who have reached the age of retirement	54.5	49.6	54.4	<b>61.2</b>	56.1	61.2	60.7	<b>75.9</b>	61.0	59.2	51.1	<b>65.0</b>

Chi-Square. Significance levels: bold and \*\*\* = 0.001 level, \*\* = 0.01 level, \* = 0.05 level. The highest value for age categories within a hierarchical level is marked in bold.

In the survey, it was also asked about the preferred age composition for ships' officers and ratings. The preferred age composition for ships' officers is shown in Table 70 and for ratings in Table 71. Table 70 shows that most seafarers, at all hierarchical levels and in all age categories, prefer to sail with officers of mixed age composition. Very few prefer to sail with younger officers, which might be part of the explanation behind why the youngest senior officers reported a comparatively difficult work situation. Table 71

shows that most also prefer a mixed age composition among ratings. The tables also show that in both cases, a not negligible proportion – somewhat dependent upon hierarchical level and age category – think that age composition is unimportant.

*Table 70: Preferred age composition among ships' officers – proportion in %*

	<i>Senior officers</i>				<i>Junior officers</i>				<i>Ratings</i>			
<i>I prefer to sail with...</i>	<i>19-30</i>	<i>31-42</i>	<i>43-54</i>	<i>55+</i>	<i>19-30</i>	<i>31-42</i>	<i>43-54</i>	<i>55+</i>	<i>19-30</i>	<i>31-42</i>	<i>43-54</i>	<i>55+</i>
older officers	13.6	8.5	3.5	5.0	20.9	19.0	10.3	8.8	20.9	16.5	14.1	14.4
younger officers	4.5	-	3.5	9.4	1.5	-	1.7	1.8	2.8	0.8	2.1	3.3
officers about the same age	18.2	19.7	19.1	9.4	13.4	16.7	10.3	14.0	6.2	10.7	21.8	9.8
officers of mixed age composition	<b>63.6</b>	<b>63.2</b>	<b>56.5</b>	<b>69.6</b>	<b>52.2</b>	<b>53.6</b>	<b>63.8</b>	<b>59.6</b>	<b>57.1</b>	<b>58.7</b>	<b>46.5</b>	<b>59.5</b>
does not matter	-	8.5	16.5	6.6	11.9	10.7	13.8	15.8	13.0	11.6	14.1	11.8
Don't know	-	-	-	-	-	-	-	-	-	1.7	1.4	1.3

*Table 71: Preferred age composition among ratings – proportion in %*

	<i>Senior officers</i>				<i>Junior officers</i>				<i>Ratings</i>			
<i>I prefer to sail with...</i>	<i>19-30</i>	<i>31-42</i>	<i>43-54</i>	<i>55+</i>	<i>19-30</i>	<i>31-42</i>	<i>43-54</i>	<i>55+</i>	<i>19-30</i>	<i>31-42</i>	<i>43-54</i>	<i>55+</i>
older ratings	13.6	2.6	0.9	1.7	3.0	2.4	1.7	1.7	2.8	2.5	4.3	5.1
younger ratings	4.5	5.1	14.8	15.7	9.0	9.5	3.4	12.1	4.0	1.7	2.8	5.1
ratings about the same age	13.6	13.7	1.7	5.1	10.4	9.5	10.3	6.9	18.6	19.8	17.0	10.3
ratings of mixed age composition	<b>68.2</b>	<b>68.4</b>	<b>66.1</b>	<b>69.7</b>	<b>65.7</b>	<b>66.7</b>	<b>65.5</b>	<b>56.9</b>	<b>61.6</b>	<b>62.8</b>	<b>64.5</b>	<b>67.9</b>
does not matter	-	10.3	14.8	7.9	11.9	11.9	19.0	22.4	13.0	12.4	10.6	10.3
Don't know	-	-	1.7	-	-	-	-	-	-	0.8	0.7	1.3



Finally, in Table 72 we can note that between about 31 percent and 63 percent of the seafarers think that retired seafarers can contribute as a voluntary resource for crews or in a pool as a complement to the regular rotation system.

*Table 72: How can retired seafarers contribute onboard – proportion who agree in %*

	<i>Senior officers</i>				<i>Junior officers</i>				<i>Ratings</i>			
<i>Retired seafarers can contribute to operations in the form of...</i>	<i>19-30</i>	<i>31-42</i>	<i>43-54</i>	<i>55+</i>	<i>19-30</i>	<i>31-42</i>	<i>43-54</i>	<i>55+</i>	<i>19-30</i>	<i>31-42</i>	<i>43-54</i>	<i>55+</i>
a voluntary extra resource for ships' crews	45.5	42.7	47.8	<b>62.9</b> *	35.8	47.1	39.3	<b>41.1</b>	33.9	44.2	34.8	<b>53.5</b> **
a voluntary pool as a complement to the regular rotation system	45.5	35.9	47.8	<b>59.8</b> ***	32.8	44.7	41.1	<b>40.4</b>	30.5	39.2	31.9	<b>50.3</b> **

Chi-Square. Significance levels: bold and \*\*\* = 0.001 level, \*\* = 0.01 level, \* = 0.05 level. The highest value for age categories within a hierarchical level is marked in bold

Up to this point, focus has been on seafarers' attitudes towards sailing with people who are approaching or have reached the age of retirement. In order to arrive at an accurate picture of the extent to which older seafarers can feel genuinely welcome onboard, we must also say something about employers' positions on the matter. To investigate this, we conducted a number of interviews with shipping companies of varying sizes and segments.

As the median age among seafarers has increased significantly in recent years,<sup>206</sup> and because 2010 began with an attempt by employers to cancel ships' officers' pension agreements in respect of the option to retire at 60,<sup>207</sup> we can assume that the shipping companies are at least not afraid of having older personnel onboard. The interviews with shipping company representatives and officers with experience of onboard management also shows that

<sup>206</sup> Swedish Employment Service Maritime 2010: 8.

<sup>207</sup> SARF 2010a; 2010b; 2010c.

employers do in fact value the experience of older seafarers, but at the same time, they clearly have a cautious attitude towards older personnel. The following quotation provides a picture of how employers and human resources managers reason with respect to older seafarers and their experience.

The ones who are the best at jumping from ship to ship are the older seafarers, due to their overall experience, and because they might want to slow down a bit for a couple of years before they fully retire. (Shipping company representative)

They are extremely knowledgeable and if you look at specialist positions like engineers ... they are very, very highly valued. (Shipping company representative)

The shipping company tries to encourage older seafarers to become mentors for first officers ... newly appointed master mariners ... policy for the past couple of years. You don't have to do everything in the simulator, you can actually do it live when you have an experienced skipper standing next to you. (Shipping company representative)

Working on a rotation system works better for older seafarers than for the younger ones. They've built their lives around it, which new officers haven't. The wives at home have their lives arranged according to 1-1, which younger partners at home do not ... they haven't gotten used to it yet, haven't hit their stride. (Shipping company representative)

It's a little harder for older seafarers to keep up with technical progress. On the other hand, you'll never find a young person who has taken apart an alarm clock to find out why it doesn't work anymore. They've never had a moped, they've never had an old car that they've worked on, but they are incredibly quick when it comes to computers. To make a very broad generalization .... older seafarers are more skilled because they can do things with their hands that the young ones don't know how to do. (Shipping company representative)

Representatives of the shipping companies often express particular interest in the experience of older senior officers. There seems to be an assumption among some that the more physical work done by ratings can be burdensome for older personnel. Others do not want to make that distinction, saying instead that ageing is related to the individual and not to the job function.

A master mariner, with all his experience, he can be older. A chief with his experience, he can be older. Ratings ... the upper age limit is 60 ... they don't have the strength for it. (Shipping company representative)

I can't say that an officer would last longer than a motorman, for example. Every job takes its particular toll. If you've been a master mariner your entire life, that is where you age. It might be that when you've been in the same position too long, that it has caused repetitive strain injuries. It's hard to compare ... Officers ... less physical injuries, but there may be other things, they have night duty, shift work ... You age in the position you are in ... Most people usually retire at 65–67. (Shipping company representative)

Two able seamen, one 61 and one 62 ... They are both fully duty-capable, but have chosen to work part time, so they share one position, working every other shift in the low season. Then in the summer when we have a lot to do, they both work full time. Then they go back to part time in the autumn. This is a way of adapting, which we probably would not have gone along with if they were a couple of 25-year-olds. (Shipping company representative)

How do the shipping companies want to use older seafarers onboard? This varies, but older seafarers can step in and cover during holiday periods, while regular personnel are on training courses, parental leave, or want to take time off for other reasons. Older officers can also be a supportive resource for first officers or recently appointed master mariners in the areas where experience-based knowledge is required, if the personal chemistry is right. There is however something of a cautious attitude when it comes to older onboard personnel, as well as some consensus that 67 is the upper age limit for onboard duty.

The biggest danger: When senior officers retire and don't sail for a year, it is really hard to come back. You need to keep them going on a relatively regular basis, because otherwise they lose it, lose confidence, and so the starting stretch before they are up and running again is a little longer. (Shipping company representative)

We try to make sure they don't stay home too long. Plan them into the future so that they have it in their heads that they'll be out and sailing again. That way, they don't let things go, they keep on their toes. (Shipping company representative)

You have to leave the day you turn 67 ... for safety reasons. (Shipping company representative)

They can decide for themselves up to 67 ... after that, we actually say goodbye and thank them for their service to the shipping company. We have a lot of people, younger people, who want to get into this business, so we have to think a little bit about regeneration, too. (Onboard management)

Willingness to change is important. It's harder to go out to sea the older you get, because then you're not as amenable to change and a lot has happened since the last time you were out. (Shipping company representative)

It's not just about getting older, it's that you've been in the same position a long time and then something has to be changed and your whole world falls apart. (Shipping company representative)

Sometimes when we have a few too many older seafarers onboard at the same time, of course we get a little concerned about maintaining 'fast rescue' certificates, and sometimes about BA firefighting ... in terms of age, you might think that they actually shouldn't be BA firefighters. (Onboard management)

The cautiousness concerning older personnel is particularly pronounced in relation to new hires. Explicit procedures for fitness testing in relation to hiring older seafarers do not seem to be common, but the shipping companies prefer people they already know. Sometimes, it is also important in connection with new hires to know how the applicant's previous service relates to the Swedish pension system.

Junior officers 61+ are unsuitable. And have to ask: why aren't they master mariners or chief engineers by that age? (Shipping company representative)

Where they have been in the past is important. If there is no motivation to learn new systems, that is a greater barrier. A young person doesn't have such fixed ideas about how things should be done. It's not age-related, it's individual-related ... The capacity to adapt to new working conditions. You can't come from an old tub onto one of our ships, which have the latest equipment, and not be interested in learning how to use it. (Shipping company representative)

When they have been outside the borders of Sweden and have worked somewhere else and if they haven't paid into the Swedish pension system, the Swedish company that hires the person becomes liable and

has to pay in the pension contributions the person hasn't paid. The shipping company has to do that. That can become a very costly recruitment, so it is not as interesting. (Shipping company representative)

Health is another issue given special attention in relation to older personnel.

It has to do with health ... The state of your health in relation to the position. (Shipping company representative)

For all onboard personnel age 55 and up, we have extended company physicals every other year in addition to the Seafarers' Health Certificate. The shipping company gains by preventing long-term illness. (Shipping company representative)

If the sickness statistics rise, if you see poor conditions onboard, then we order an extra inspection. (Shipping company representative)

Some people can handle going on watch after 61, but there are some concerns that arise. The body protests. Some of our employees have been forced to quit on medical advice. (Onboard management)

The shipping companies avoid actively encouraging or discouraging personnel who have reached the minimum age of retirement to work a few additional years. They want to leave that decision up to the individuals. There also seems to be relatively few in the seafaring occupation who actually hang on to the age of 67. Among those who choose to keep working, there is often an apparent correlation between good health on the one hand and interest, commitment and satisfaction with the seafaring occupation on the other, which are also characteristics that have a positive ripple effect on the crew.

The people who have worked until 67 have had extremely good core fitness and an active job that has made them able keep up, and it is very easy to count those who have kept on until 67. (Onboard management)

The ones who have stayed on, most of them think staying onboard is stimulating, that they have a relationship, a shared history with the company; almost all of them have been there since the company was formed, have actually been promoted from

lower positions to higher ones, they know they are happy and have a place here ... that they have stimulating tasks ... actually creates a very good atmosphere ... And they really know a great deal about the ships; they are very good at what they do, they know the history of almost every bolt there is on the boat ... To put it simply, these are people who really enjoy their jobs. (Onboard management)

The most important thing is to have the right mix of young people, middle aged people and some who are a little older, so you get the best out of everyone. The older ones have a somewhat calming effect on the youngsters, while the youngsters liven up the ones who are a little older. (Shipping company representative)

### *In summary: Attitudes towards age and retirement*

Three questions were explored in this chapter: (i) To what extent are seafarers *willing* to work a few years longer than they have to under current pension rules? (ii) To what extent are older seafarers *able* to work a few years longer? and (iii) To what extent are seafarers *allowed* to work a few years longer?

The results have shown that the perceived appropriate age of retirement among seafarers age 55+ is 63, and that more than 33 percent of the same category would be willing to work a few years longer than they have to if their tasks were adapted to their personal circumstances and that almost 38 percent would be willing to participate in a pool of retired seafarers as a complement to the regular rotation system. More than 80 percent of the seafarers in the 55+ age category who would be willing to work a few years longer than they have to are also found among those who seldom or never indicate problematic experiences on the job. The alignment of the willingness and ability of older seafarers is in other words relatively good. The largest proportion of seafarers who believe it is likely they will leave the seafaring occupation within the next two years is found in the youngest age category.

Among senior officers, negative experiences in relation to the job such as exhaustion and perceptions of physically arduous work are reported most often, somewhat unexpectedly, by the youngest category. The pattern among junior officers and ratings is more expected, with physical complaints in-

creasing with age. Negative experiences related to separation from family and friends are also found primarily in the two youngest age categories.

One explanation for the tendency among the youngest senior officers to indicate negative experiences on the job could be that people who have managed to advance to the position of senior officer at such a young age might feel the need to push themselves on the job to prove themselves worthy of the advancement. This explanation is also supported by the discovery that the youngest category of senior deck officers express very strong organizational commitment. It can be added that the high perceived exhaustion among the youngest senior officers might very well be caused by mainly psychological strain dependent upon that the position of responsibility is perceived as particularly arduous in youth. A strong contributory factor to such a perception might be, according to that which emerged in this chapter, that very few seafarers prefer to sail with younger senior officers.

An overwhelming majority of the seafarers report that support from colleagues and their immediate superiors is good. In respect of support from the land organization, however, we can note that this is generally perceived as comparatively low. The support is perceived as best among the senior officers. Among junior officers and ratings, most types of support are perceived as highest in the oldest age category, while support from the land organization and immediate superiors is perceived as highest among the youngest category of senior officers. This implies that even if the youngest senior officers feel vulnerable at work, they still perceive relatively good support from management. It is possible, however, to turn the whole thing upside down and say that the youngest senior officers feel vulnerable at work, despite the perceived support.

How younger seafarers think about older seafarers and vice versa reveals some generationally divided notions concerning differences in occupation-related characteristics and behaviours. It should be added that generation-segregated notions of this kind should not be understood as applying only to seafarers, but rather as an example of the general attitudes of younger and older people towards each other in modern society. A majority in all age categories are favourable towards sailing with officers who have reached the age of retirement and to a slightly lesser extent with ratings who have reached the age of retirement. But the results can also be expressed as that between 17 percent and 54 percent do not explicitly report a favourable attitude in this regard. A substantial portion of the seafarers believe that retired

seafarers can contribute as a voluntary resource for crews or in a pool as a complement to the regular rotation system.

The interviews with shipping company representatives have shown that employers' generally value the experience of older seafarers, but there is at the same time a pronounced cautiousness in relation to older personnel. The shipping companies are primarily interested in the experience of older senior officers. Opinions are divided concerning whether fitness in relation to age should be assessed individually or based on job function. There is, however, a certain consensus that 67 is the appropriate upper age limit for onboard duty. The understanding is also that there are few people left in the seafaring occupation who are this old. The shipping companies seem to entirely avoid influencing personnel who have reached the minimum age of retirement concerning any decision to work a few additional years. Those who nevertheless decide to keep working usually are in good health and are interested in, committed to and enjoy the seafaring occupation, which is perceived as good for the entire operation. When it comes to new hires of older personnel, the shipping companies seem to have no defined procedures for fitness-testing, but they prefer people who are already known to them.

Has this final results chapter been able to contribute anything to dispelling the questions surrounding the study's initial assumptions that the special conditions of the seafaring life with regard to recurring separation from home and family would have varying effects on occupational commitment and organizational commitment depending upon shifting roles in various life stages? In the foregoing chapters, we have noted that family circumstances lack any direct effect on occupational commitment, but that attitudes towards the seafaring occupation are more likely to be affected by factors outside the work itself among the younger categories than among older seafarers. Additional observations may be added as a result of this chapter. Seafarers in the two youngest age categories are more likely than older seafarers to report that absence from land often interferes with relationships with family, and that events related to family often make them less motivated onboard.

In summary, it can be said that the oldest category seems to find the seafaring life unproblematic. Older seafarers have adjusted well to the rotation system and indicate no serious problems with extended periods of separation from home and family. This conclusion is supported by the interviews with shipping company representatives. Combined with the results discussed in preceding chapters, this indicates a self-selected group of relatively healthy



and strongly committed older seafarers. There is a need, however, for more human resources policy attention to younger ships' officers, a subject we will return to in the next chapter.



## ***9. Discussion and recommendations concerning seafarers' perceptions and attitudes to work and occupation***

*Carl Hult & Margareta Ljung*

The aim of this study of Swedish seafarers in the *Year of the Seafarer 2010* was to study attitudes and perceptions related to work and the seafaring occupation. The rationale was the industry's needs to recruit new personnel and improve retention of onboard personnel in the occupation. Considering that seafarers' attitudes about having a paid job, family life, and leisure may be expected to vary throughout life, considerable focus was put on how work-related attitudes vary across different age categories. As there is also a political ambition to extend people's working lives, one chapter focused in particular on work- and occupation-related attitudes and perceptions among the oldest age category. The age categorization used throughout was *young adult* (19-30), *career and family stage* (31-42), *middle age* (43-54), and 55+.

Ahead of the study, we assumed that people take on, or have forced upon them, various roles which affect their attitudes towards work in a variety of ways, and in the case of seafarers, especially their attitudes towards the seafaring occupation. The most problematic role shift for seafarers was assumed to be the transition from youth to the role of parent and provider, which meant that occupational commitment could be expected to be at its lowest ebb during the career and family stage. The question is how the study results relate to this initial hypothesis. Is there any evidence that seafarers' commitment to work vary depending upon changing life roles?

The study has shown that while variations between age categories in attitudes towards work and occupation certainly exist, most indications are that such differences depend mainly on seafarers' occupational situation with respect to the position they hold, the trade area in which they serve, how many years they have invested in the job, etc. The youngest seafarers demonstrate the weakest connection to the seafaring occupation and the oldest seafarers the strongest. The assumption that starting a family would inherently have a negative effect on occupational commitment was not supported by this study.

### *Seafarers' commitment to work*

The attitudes investigated in this study are employment commitment, occupational commitment and organizational commitment. *Employment com-*

*mitment* refers to seafarers' personal motivations for employment beyond financial gain. Examples of such values include social status and identity, structure and regularity in life, social community and meaningful activities. For the purposes of this study, employment commitment is thus defined as a non-financial, more emotional connection to the paid job. Commitment of this kind is assumed to be highly germane to the choice of whether to retire as soon as possible or keep working a few additional years. *Occupational commitment* refers to the seafarers' emotional connection to the seafaring occupation and seafaring life. Occupational commitment is assumed to be critical to the intention to stay in the same occupation. *Organizational commitment* refers to seafarers' loyalty and commitment to working for the specific shipping company.

According to earlier studies, *employment commitment*, the tendency to see values in the paid job beyond the money, seems to be grounded in a wider social value system. The results of this study clearly go in the same direction. Employment commitment has been shown to be considerably stronger among seafarers who serve in or near Swedish waters.<sup>208</sup> We have also seen that the rotation system is significant in that the more time seafarers spend onboard, the lower their employment commitment becomes. This commitment type was also found to be significantly lower among seafarers who sail under a non-Swedish flag. It should be added that the aforementioned factors intersect in that service in Ocean trade, long-term tours of duty onboard, and serving under a non-Swedish flag can often be expected to coincide. Taken as a whole, however, a pattern still emerges that indicates that the more seafarers are cut off from society, the weaker becomes their tendency to find non-financial values in the paid job.

*Occupational commitment*, that is, seafarers' emotional relationship to the seafaring occupation and seafaring life, involves the identity-creating qualities of the occupation and the extent to which people prefer the seafaring occupation to other occupations. Deck and engineering ratings demonstrate the highest occupational commitment and catering ratings the lowest. Occupational commitment has also been shown to increase with age and years at sea, but is reinforced among the youngest categories by having close rela-

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<sup>208</sup> Note that Swedish sheltered trade, by virtue of the sample framework of the study, is not fully represented in this study and that the extent to which those who reported that they sail in Swedish Sheltered trade actually do so unclear (see pages 65-66). What we can say about this group is therefore that they *perceive* themselves as working in or near Sweden.

tives who work at sea. However, occupational commitment in the youngest age category weakens markedly as time employed on the same ship increases. In the oldest category, commitment to the seafaring occupation is palpably impaired by sailing under a non-Swedish flag. As already touched upon, it proved somewhat unexpectedly that having minor children in the household and being married/partnered have insignificant effect on commitment to the seafaring occupation.

*Organizational commitment* refers, as said, to loyalty and commitment to the specific shipping company. The highest organizational commitment is found among catering officers and the lowest among junior engineering officers. Commitment to the specific shipping company increases with age and years at sea, and, naturally enough, with time invested in one and the same shipping company. A marked increase in commitment was noted in the youngest age category in connection with rapid promotion to senior deck officer, while time in the position, which can be interpreted as being passed over for promotion, has a significant negative effect. It also proved that flagging-out has a significant negative effect on commitment to the shipping company, independently of age.

#### *The significance of job satisfaction*

One of the points of departure for this study was that the individual's occupational and organizational commitment can be explained to a significant extent by the individual's job satisfaction. Job satisfaction can be measured in various ways. One is to measure general job satisfaction – the extent to which people are satisfied with their jobs overall. Another is to measure the extent to which the individual perceives various aspects of the job as valuable and the extent to which the same aspects are perceived as satisfied. In respect to seafarers, this study has shown that general job satisfaction is high among Swedish seafarers in 2010 and higher than for the general Swedish population in a survey carried out in 2005. This is good news, of course, but in order to trace the sources of differences in commitment in a way that captures the subtleties, the study has put more emphasis on job satisfaction as a function of valuations and perceptions of job-related aspects.

Regarding *valuation* of aspects, the study has shown that good social relations, a good rotation system, job security, interesting tasks and opportunities for skills development are the job-related aspects that seafarers value most highly. Long, contiguous time off and high income appear relatively

low on the list. It has emerged that the youngest category value career opportunities, interesting tasks, skills development, social relations and opportunities for shore leave in port to a higher extent than do older seafarers. The oldest category, on the other hand, value carefully considered gender composition and ethnic composition onboard, making a contribution to society, good relations with the land organization, a good ship type, trade area and crew size more highly than younger seafarers do.

When valuations and perceptions of aspects were tested against work-related commitment, it proved that a large part of the measured differences in occupational commitment and organizational commitment could be explained by job content and social security structure, above all. The perception of having good job content generally has the greatest explanatory power for occupational commitment, while the perceived social security structure is generally the best explanation for differences in organizational commitment. This implies that the attractiveness of the seafaring occupation is primarily affected by the job content of the occupation, and that the attractiveness of a shipping company is affected primarily by the organization's social security structure.

Aspects as pay, ample time to rest on board, long contiguous time off, possibility of shore leave in port, and good opportunities to communicate with home, proved significant and positive only for occupational commitment.<sup>209</sup> These aspects are also distinguished by that high valuation has a significant negative effect on all commitment types. This combination of effects suggests that we are dealing with *dissatisfiers* in situations when the aspects are not perceived as satisfied to an extent that corresponds to expectations. Such aspects have limited power to increase organizational commitment because they are located outside the actual job activity. Nevertheless, these aspects may be strongly desired, with negative consequences upon work-related attitudes.

The effect of valuations and perceptions was also tested on differences in commitment that had been detected specifically within *age categories*. Comparatively high organizational commitment had been indicated for senior deck officers in the *youngest age category* (19-30). It proved that this

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<sup>209</sup> In addition to income, the dimension includes ample time to rest on board, long contiguous time off on land, the possibility of shore leave in port and good opportunities to communicate with home.

effect can be explained entirely by perceived job content, which suggests that the youngest senior officers, who have advanced rapidly in their careers, are inspired and motivated by their newly acquired job content. Another result for the youngest age category is that the negative effect on occupational commitment of years of service on the same ship can be partially explained by perceived job content, which implies that the perceived value of job content declines somewhat with each year that young seafarers remain on the same ship. The remainder of the effect might be explained by that serving on the same ship too long during youth conflicts with the very idea of the adventure and freedom of the seafaring life.

Regarding the *oldest category* (55+), it emerged that this is the only age category that demonstrates lower occupational commitment when sailing under a non-Swedish flag. It proved that essentially the entire effect can be explained by valuation and perception of the social security structure. This implies that the oldest category of seafarers are more committed to the seafaring occupation if they sail under a Swedish flag due to their perceptions of leadership, relations with the land organization, the union, job security and contribution to society. It also emerged that this perception concerning the union and flag situation does not apply only to the oldest age category, although it is only there that the perception affects occupational commitment.

For the *middle age* (43-54) category, there is one observation that is difficult to slot into the overall context. Differences in both occupational commitment and organizational commitment were noted in this category depending upon the type of watch system. Commitment is significantly lowest among seafarers working under a 4-8 watch system. It is difficult to find a good explanation for this, although a good part of the difference proved to depend upon valuations and perceptions of the social security structure. This does not do much to erase the question marks, but clearly there is something about the 4-8 system that makes seafarers feel less secure about their jobs, leadership, land organization, union and society.

#### *Attitudes towards age and retirement and age related perceptions in the seafaring occupation*

The study has shown that the perceived appropriate age of retirement for seafarers among the 55+ age category is 63. Depending upon hierarchical position, a substantial portion of the same age category also reported that they would be willing to work a few years longer than they have to if their

tasks were adapted to their personal circumstances. Even more would be willing to participate in a pool of retired seafarers as a complement to the regular rotation system. The highest proportions were among senior officers and the lowest among ratings.

Concerning negative experiences of working at sea, it proved that the age pattern is to an extent the opposite of what might be expected. Among senior officers, those who most often experience strain in connection with the job are found in the youngest category. Negative experiences related to separation from the home are also found primarily in the two youngest age categories. It is also in the youngest age category (19-30) that we found the highest proportion who believe it is likely they will leave the seafaring life in the next two years. The situation looks considerably better in the oldest category. More than 80 percent of the seafarers in the 55+ age category who would be willing to work a few years longer than they have to are also found among those who report that they seldom or never experience problems on the job.

The study has shown that the attitudes of younger seafarers towards older seafarers and vice versa indicate certain generation-segregated notions concerning generational differences. A majority in all age categories, however, are favourable towards sailing with officers who have reached the age of retirement and to a slightly lesser extent with ratings who have reached the age of retirement. But the result can also be expressed in a way that between 17 percent and 54 percent (depending upon age category and hierarchical position) do not take an explicitly favourable position on this issue. It should be added that an overwhelming majority prefer to sail with crews of mixed age composition. A substantial proportion of the seafarers believe that retired seafarers can contribute as a voluntary resource for crews or in a pool as a complement to the regular rotation system.

The interviews with shipping company representatives showed that employers generally value the experience of older seafarers, especially older senior officers. At the same time, there is clearly some cautiousness concerning older personnel, especially in connection with new hires, when it is particularly important to know the backgrounds of older persons. Opinions are divided concerning whether fitness in relation to age should be assessed individually or based on job function. There is, however, some consensus that 67 is the upper limit for onboard duty. The shipping companies seem to prefer to avoid influencing personnel who have reached the minimum age of



retirement in relation to any decision to work a few years longer. Those who choose to keep working are often in good health and are very interested in and committed to the seafaring occupation, which is perceived as good for the entire operation.

In summary, it can be said that older seafarers are appreciated by their employers, with some emphasis on senior officers, and that the seafarers themselves seem to find the seafaring life unproblematic; they have adjusted well to the rotation system and indicate no problems with extended periods of separation from the home. Overall, the seafarers in the 55+ age category who are *willing* to continue working at sea are usually those who are also *able* to do so. In addition, it is this specific category of older seafarers, with their experience and commitment, that employers perceive as being able to make a special contribution to the organization.

#### *Special observations and recommendations*

The seafaring occupation seems to play a strong role in identity creation, depending primarily upon the perceived job content of the occupation. Occupational commitment grows stronger over the years and with invested time at sea. Seafarers who have the opportunity to be inspired by older seafarers in the family demonstrate especially high commitment even in their youth. In respect of seafarers' loyalty and commitment to their specific shipping companies, this corresponds to the levels observed in samples of organizational commitment among the general Swedish population. General job satisfaction is higher than the average for the Swedish population. Although *outflow* from the occupation may be high, there is, in other words, no reason to regard today's seafarers as more likely to move from job to job *within* the occupation than is the case in land-based occupations.

There are, however, observations in this study that demand a closer examination. These observations can be limited to five areas, which have to do partly with the results that apply generally to seafarers, that is, independently of age category, and partly with the results that apply within specific age categories. The observations are reported below, starting with the general results. A summary of recommendations is provided following each report.

*Observation 1, general result:* The study has shown that employment commitment, that is, the tendency to see alternative values in having a paid job, declines among seafarers with the extent to which they are cut off from

society. The consequences of this are limited. Seafarers set high value on the job content of the seafaring occupation, which the study has shown also strengthens occupational commitment, although this seems to occur at the expense of the capacity to see alternative values in having a paid job in general. This circumstance would be entirely unproblematic for the sector if it were not for the fact that employment commitment is highly significant to the choice to retire or work a few additional years.

It is difficult to influence the tendency to see alternative values in having a paid job because this has to do with fundamental values. Belonging to an occupation involves becoming socialized into a system of norms and values upheld by an occupation-specific mode of communication. We have also seen several examples of how the power of socialization is relatively tangible among seafarers. Despite modern technology, one can surmise that the conditions for regular influences from a surrounding value system in society are more limited in the seafaring occupation than in many other occupations. It might be possible to influence these values in education and training and to uphold them in further education by putting greater focus on the values that are actually embedded in the job content of the occupation.

**Recommendations concerning Observation 1:** In connection with education, recruitment and further education, focus should be on the job content of the occupation, on the interesting tasks and autonomy, on career opportunity, personal leadership development and the status and responsibility embedded in the occupation.

*Observation 2, general result:* One important observation significant to human resources policy is the effects on commitment of the pay, home and leisure dimension. Aspects such as pay, time off and opportunities to communicate with home are naturally important to the individual. The problem is that the individual's perceptions of how the supply of these aspects is allocated may lead to dissatisfaction and impaired commitment, particularly with regard to commitment and loyalty to the specific shipping company. Dissatisfaction of this kind can be activated, for example, when individuals compared their allocation of valued aspects with the allocation to other comparable individuals or groups. To avoid this, the logic behind pay-setting should be crystal clear and easy to justify on the basis of skills, seniority, etc. With respect to the allocation of opportunities to communicate with home and having time off, it is often considerably more difficult to justify differ-

ences between groups or individuals within the same organization. Such differences should thus be avoided. Yet another important detail that may affect the perceived balance between allocation and expectation is the focus put on these types of aspects in, for example, recruiting campaigns. Here, we would like to reemphasize the importance of promoting the job content of the occupation and not accentuating the long periods of time off as a reason for choosing the seafaring occupation. The periods of time off should be presented as compensation and not as an attractive aspect of the occupation.

**Recommendations concerning Observation 2:** *Shipping companies* should maintain a clear pay-setting logic that is easy to justify on the basis of skills and seniority, etc. Differences between groups or individuals in the same organization with regard to allocation of opportunities to communicate with home and having time off should be avoided.

The long periods of contiguous time off should not be emphasized in recruiting campaigns as the positive aspect of the seafaring occupation. Here again, we recommend that focus be put on the job content of the occupation, on the interesting tasks and autonomy, on career opportunities, personal leadership development and the status and responsibility embedded in the occupation.

*Observation 3, general result:* One observation that demands further discussion has to do with the negative effect on organizational commitment of sailing under a non-Swedish flag. This effect was explained by the perceived social composition onboard flagged-out ships. Social composition covers gender composition, age composition and ethnic composition. Exactly what the problem is with the composition is unclear, however, and we strongly recommend follow-up studies. The results indicate a need to repeat this study in order to control developments, combined with participatory observations onboard ship in order to gain a better understanding of the sources of the problems.

**Recommendations concerning Observation 3:** *Researchers* should be afforded opportunity to engage in participatory observations onboard flagged-out ships. We also recommend repetition of parts of this study in order to gain understanding of changes over time.

*Observation 4, older seafarers:* The relationship between the extent to which older seafarers are willing, able, and allowed to work a few years longer than required under current pension rules demands closer examina-

tion. There are three details in particular that should be brought to the fore. The first is that older seafarers with strong occupational and organizational commitment should be offered the opportunity to continue working at sea for a few additional years, as part of a pool of relief staff and mentors, for example. There is reason to suspect that suddenly ending a long working life might actually be deleterious to the health of people who are strongly committed to work. This may apply especially to seafarers who, due to their occupation, have not been able to maintain a social network on land. The second is that human resources managers should nevertheless pay attention to how the entire crew perceives the age composition onboard. Not all seafarers are explicitly favourable towards sailing with people who have reached the age of retirement. The third is that if we want to ensure that they can keep Swedish ships' officers in the 55+ age category onboard, even on ships sailing under a foreign flag, employers and unions should make a joint effort to review the social security structure on offer.

**Recommendations concerning Observation 4:** *Shipping companies* should try to offer older seafarers the opportunity to continue working at sea for a few additional years, as part of a pool of relief staff and mentors, for example. However, human resources managers should pay constant attention to crew perceptions of the age composition onboard. Employers and unions should jointly review the social security structure offered to older seafarers on flagged-out ships.

*Observation 5, younger seafarers:* One very important observation of a more complex nature has to do with younger seafarers. We have seen that occupational commitment among the youngest category of seafarers (19-30) is negatively affected by years on the same ship, and that years in the same position have a negative effect on organizational commitment in the same category. Negative experiences related to separation from family and friends are found primarily in the two youngest age categories (19-42). We also find the highest proportion who feel vulnerable in connection with the job among the youngest senior officers. We can add to this that a substantial proportion of younger seafarers believe it is likely that they will leave the seafaring occupation in the next few years. That younger seafarers may be unsure about their choice of occupation is understandable, considering the first years a trial period. The same logic is found in the age differences we have seen in occupational commitment and in the positive effect of years at sea. But this does not mean that the described situation should be left unattended.

The results show that there are strong reasons that younger personnel should be offered opportunities to work on different ships during their early years in the occupation, to the extent this is possible. There are also results that indicate that shipping companies should try to avoid situations in which recently graduated seafarers get stuck in their entry-level positions year after year. A clear career plan should be drafted upon recruitment. At the same time, it is important to emphasize that the results of the study suggest that shipping companies should be careful about rapid promotion to the rank of senior officer. In this respect, it would be appropriate to use older master mariners who are interested in working a few additional years after retirement as mentors for younger officers. With regard to the negative experiences of younger seafarers in connection with absence from family and friends, the need for good communication opportunities onboard is obvious, as well as opportunities for rapid relief in connection with special events in the home. But since the conditions of the seafaring life are, in many ways, what they are, attention should be paid to this problem from the outset in connection with recruitment, education and young seafarers' initial encounters with the seafaring life.

In a first step, master mariner programmes should, as far as possible, ensure that they graduate master mariners who are genuinely interested in the seafaring occupation. Here, one could imagine for example a clear recruiting track directed at the seaman schools, and providing clear information as to what being a seafarer is all about. In a second step, the shipping companies should act to ensure that young seafarers' first encounter with their work environment is the most positive experience possible. It is likely that how students are treated during their onboard training will have strong effect on their future commitment to the occupation. This will involve adequate guidance and encouragement in the work, as well as how students are received and treated by the crew as a whole. To gain clarity concerning these circumstances, we recommend a series of participatory observations in connection with onboard education and training.

It should be added that it is unclear to what extent younger seafarers' often more negative experiences in the occupation can be traced back to age and to what extent this might involve a social trend. If we are dealing with a trend in which the conditions of the seafaring life are becoming less appealing to people, we can expect a successive spread of the problem upwards in the age categories, thus making it progressively more difficult to retain sea-

farers in the occupation. The only way to find out where the matter stands is to regularly repeat a limited part of this study in order to gain understanding of changes over time.

**Recommendations concerning younger seafarers, Observation 5:** *Shipping companies* should try to offer younger personnel varied service in the early years and draft career plans as soon as possible after hiring. Younger senior officers should be offered support from older mentors. Here, we recommend a pool of older seafarers who can also act as relief personnel in connection with special events. The shipping companies should act to ensure that guidance and social treatment and reception during onboard training facilitate the best possible experience.

*Master mariner programmes* should have a distinct recruiting track aimed at the seaman schools and clear information as to what being a seafarer is all about.

*Researchers* should be afforded the opportunity to engage in participatory observations in connection with onboard training and education. We also recommend repetitions of parts of this study to gain understanding of changes over time.

### *Finally*

This study has shown that the seafaring occupation plays a strong role in identity creation, that general job satisfaction is high and that the job content is highly valued and significant to occupational commitment. There are, however, some areas of concern. The study has observed a number of human resources policy challenges for Swedish shipping. What most of these have in common is that the solution lies in good cooperation among different parties. With regard to younger seafarers, the challenges should be recognized and attended to by both educators and employers so that entry into the occupation is as favourable as possible. With regard to older seafarers and perceptions of the social security structure in connection with flagging-out, that which is required above all is coordinated involvement and good cooperation between employers and unions.

The results also show a need for more in-depth studies, particularly concerning the attitudinal consequences of flagging-out. We now know that the cause of the generally lower organizational commitment to the specific shipping company among seafarers sailing on flagged-out ships is seafarers' perceptions of the social composition of the crew and that lower occupational commitment among older seafarers on flagged-out ships is caused by perceptions of the social security structure as inadequate. We do not, however,

know *exactly what* about the social composition or *what* about the social security structure is the cause. Greater understanding of underlying conditions and mechanisms is needed to clarify this. This is a challenge for future maritime research.

Finally, we would like to express the hope that even if the *Year of the Seafarer 2010* might not have turned out to be the year all seafarers would have wished, that we will perhaps eventually be able to look back upon the year as the starting point for greater interest in how seafarers' perception of their work situation affects their commitment to work and occupation.





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# Appendix 1

Table A shows employment commitment and the effect of valuations and perceptions, distributed across age categories. Perceptions of pay, home and leisure are insignificant to commitment, while high valuation of the aspects has a negative effect in all age categories.

**Table A: Valuations, perceptions and employment commitment, distributed across age categories**

	19-30	31-42	43-54	55+
<i>Valuation of aspects(0-20)</i>				
Job content important	0.78	<b>1.79**</b>	0.93	0.74
Social composition important	<b>0.68</b>	0.14	<b>1.06**</b>	0.36
Social relations important	0.55	<b>1.43*</b>	0.91	<b>1.38*</b>
Social security structure important	0.36	-0.24	<b>1.51*</b>	0.25
Pay, home and leisure important	<b>-2.00**</b>	<b>-1.92**</b>	<b>-1.56*</b>	<b>-2.10***</b>
Operating conditions important	-0.43	-0.37	-0.68	0.60
<i>Having the aspects (0-20)</i>				
Have good job content	-0.14	0.59	-0.16	<b>1.64*</b>
Have good social composition	0.65	-0.54	0.26	0.24
Have good social relations	-0.09	-0.31	0.06	0.17
Have good social security structure	0.28	-0.88	0.37	-0.48
Have good pay, home and leisure	-0.31	0.16	-0.74	0.04
Have good operating conditions	<b>1.11*</b>	<b>1.60**</b>	0.51	0.09
<i>Explained variance (%)</i>	<i>14.6</i>	<i>18.1</i>	<i>13.9</i>	<i>15.8</i>
<i>Number of respondents</i>	<i>166</i>	<i>240</i>	<i>226</i>	<i>265</i>

OLS-regression. Adjusted differences between women and the comparison group, men, and between positions and the comparison group, catering ratings.

Significance levels: bold and \*\*\* = 0.001 level, \*\* = 0.01 level, \* = 0.05 level, bold only = 0.1 level.

Table B shows occupational commitment and the effect of valuations and perceptions, distributed across age categories. The perception of pay, home and leisure has a positive and significant effect on commitment among the two youngest age categories, but lacks significance among the two oldest. The valuation of the aspect has a minus sign in all age categories, but the negative effect is only significant in the youngest category.

*Table B: Valuations, perceptions and occupational commitment, distributed across age categories*

	19-30	31-42	43-54	55+
<i>Valuation of aspects (0-20)</i>				
Job content important	0.20	0.58	0.07	-0.37
Social composition important	<b>-0.60*</b>	0.21	-0.09	<b>0.48</b>
Social relations important	<b>0.88</b>	0.70	<b>0.88*</b>	0.45
Social security structure important	0.19	0.73	<b>1.12*</b>	<b>0.94*</b>
Pay, home and leisure important	<b>-1.25*</b>	-0.19	-0.28	-0.42
Operating conditions important	0.83	<b>-0.83</b>	0.62	0.35
<i>Having the aspects (0-20)</i>				
Have good job content	<b>1.03*</b>	<b>1.05*</b>	<b>0.89</b>	<b>2.57***</b>
Have good social composition	0.36	-0.17	0.09	-0.16
Have good social relations	-0.01	-0.02	<b>1.66***</b>	<b>0.93*</b>
Have good social security structure	-0.52	-0.28	0.49	-0.41
Have good pay, home and leisure	<b>1.27**</b>	<b>1.12**</b>	-0.64	0.02
Have good operating conditions	-0.51	-0.13	0.04	0.02
<i>Explained variance (%)</i>	26.5	16.7	29.6	33.3
<i>Number of respondents</i>	155	218	205	251

OLS-regression. Significance levels: bold and \*\*\* = 0.001 level, \*\* = 0.01 level, \* = 0.05 level, bold only = 0.1 level.



Table C shows organizational commitment and the effect of valuations and perceptions, distributed across age categories. The perception of pay, home and leisure has negative and significant effect on commitment in the 43-42 age category, but lacks effect in the other age categories. Valuation of the aspect has a minus sign in all age categories and is significant in all except the 31-42 category.

*Table C: Valuations, perceptions and organizational commitment, distributed across age categories*

	19-30	31-42	43-54	55+
<i>Valuation of aspects (0-20)</i>				
Job content important	0.60	-0.48	0.12	0.21
Social composition important	0.02	0.34	0.36	<b>0.88**</b>
Social relations important	0.20	0.09	<b>0.77</b>	-0.10
Social security structure important	-0.05	<b>1.09</b>	-0.30	-0.27
Pay, home and leisure important	<b>-1.54*</b>	-0.85	<b>-1.24*</b>	<b>-1.58**</b>
Operating conditions important	0.63	0.89	0.50	<b>0.87</b>
<i>Having the aspects (0-20)</i>				
Have good job content	0.30	<b>1.15*</b>	0.34	<b>1.16*</b>
Have good social composition	<b>1.20*</b>	0.36	<b>0.92*</b>	-0.36
Have good social relations	-0.77	0.57	0.42	0.69
Have good social security structure	<b>2.15**</b>	<b>0.93</b>	<b>3.00***</b>	<b>1.78***</b>
Have good pay, home and leisure	0.34	0.78	<b>-1.64***</b>	0.49
Have good operating conditions	0.68	0.26	0.92	<b>1.32**</b>
<i>Proportion of explained variance (%)</i>	28.3	25.6	43.9	46.3
<i>Number of respondents</i>	154	224	203	245

OLS-regression. Significance levels: bold and \*\*\* = 0.001 level, \*\* = 0.01 level, \* = 0.05 level, bold only = 0.1 level.