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**An Exploratory Analysis of Superyacht Crew Preferences for Wintering
Marinas: The Case of Tarragona**

FINAL MASTER PROJECT

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ABSTRACT

This study treats the wintering marina as a temporary living environment for the professional crew who remain aboard through the off-season, rather than as berthing infrastructure alone. Adopting an exploratory, descriptive approach, it examines the factors shaping crew and captain preferences in wintering-port selection, taking Port Tarraco (Tarragona) as its case against five Mediterranean comparators. It combines a desk-based benchmarking of the marinas with a small survey of active crew and captains (N = 32). The findings suggest that crew and captains share broadly similar priorities – safety foremost – and that Port Tarraco's offer appears, on the whole, sound, with airport access its main relative gap. Given the small sample, the results are read as indicative, inviting larger confirmatory research.

Keywords: yacht crew; wintering marinas; port selection; crew wellbeing; Port Tarraco

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LIST OF ABBREVIATIONS

Abbreviation	Expanded Form
CAP	Captain
CRW	Crew
FSA	Functional Service Area
GHM	Grand Harbour Marina
IMO	International Maritime Organization
IPA	Importance-Performance Analysis
LOA	Length Overall
NSHD	Northern-Southern Harbour District
OMC	Owner/Management Company
PIF	Port Importance Factor
PPF	Port Performance Factor
REG	Red Ensign Group
RSH	Regional Service Hub
STCW	Standards of Training, Certification and Watchkeeping for Seafarers

I. INTRODUCTION

The superyacht sector depends on a workforce it is struggling to keep. A structural and widening shortage of qualified maritime personnel – driven not only by recruitment but by the attrition of experienced crew – has been linked to the human dimension of life at sea, including isolation, weak connectivity and poor living conditions (Badawy, 2025). In yachting, the difficulty is sharpened by a working life in which the vessel is at once workplace and home, shared with colleagues around the clock. During the off-season, when a yacht lies in winter refit without guests aboard, the surrounding port becomes part of that home: the place where crew live ashore for weeks or months. Seen this way, a wintering port is not merely technical infrastructure for berthing and repair, but a temporary living environment whose quality may bear on the people who inhabit it – and, through them, on whether scarce and experienced crew choose to stay.

I.1. Problem Statement and Research Objectives

Despite its plausible bearing on retention, how superyacht crew evaluate and choose a wintering port has attracted little direct study. The relevant scholarship sits in adjacent fields – marina competitiveness, yacht-crew wellbeing, and the liveability of destinations for temporary mobile workers – none of which quite reaches the wintering port as a place to live. This study addresses that gap through an exploratory, single-case analysis. Its aim is to examine the factors professional crew and captains weigh in evaluating a wintering port, and to position one focal case, Port Tarraco (Tarragona, Spain), against a set of Mediterranean comparators in light of those preferences. Four lines of enquiry guide the work: whether crew and captains differ in the importance they attach to port factors (H1); whether captains' own priorities differ from those they perceive owner/management companies to hold (H2); whether any gender-related tendencies are observable (H3); and where Port Tarraco's perceived performance stands relative to the importance crew place on each dimension (H4).

I.2. Scope, Limitations, and Structure of the Thesis

The study is exploratory and descriptive, built on a small, cross-sectional survey of active crew and captains (N = 32) and a desk-based benchmarking of six marinas. Port Tarraco is treated as the single case examined in depth; the five comparator hubs serve as benchmarks rather than as cases of equal analytical weight. Given the modest and uneven sample, the statistical component is read as indicative rather than confirmatory, and the findings throughout are reported as tendencies.

Several practical constraints shaped what could be collected. Active yacht crew are an unusually hard population to reach, and marinas – private operators that prioritise their clients' privacy – were generally reluctant to disclose detailed information or to facilitate access. Primary data collection was, for this reason and because of the economic cost of travelling to the other hubs, concentrated at Port Tarraco, where the wintering fleet was directly accessible; the comparator marinas were accordingly characterised largely from publicly available online sources rather than from on-site fieldwork. These limitations reinforce the study's exploratory framing and are returned to in the conclusions.

II. LITERATURE REVIEW

II.1. Superyacht and Wintering Context

This study concerns vessels of 24 metres or more in load line length – the international threshold at which recreational boating gives way to commercial maritime regulation, and at which crews must hold STCW certification. Although no single agreed definition of a “superyacht” exists, it is this threshold that brings such vessels under the principal maritime codes, including the International Convention on Load Lines (IMO, 1966), the REG Yacht Code, Part A (2024), and, in the United Kingdom, the Merchant Shipping (Vessels in Commercial Use for Sport or Pleasure) Regulations (2025). Defining the population this way fixes attention on professional seafarers rather than amateur sailors: people for whom a yacht is a workplace, and a home during the months a vessel lies in winter refit. Direct scholarship on how such

crews choose where to overwinter is thin, so the review that follows is built from three adjacent fields – marina competitiveness, yacht-crew wellbeing, and the liveability of destinations for temporary mobile workers – held together by a single thread, the maritime labour shortage that now shapes the sector's priorities. The argument running through all three is that a wintering port is not merely technical infrastructure for berthing and repair, but a temporary living environment whose quality bears on the people who inhabit it.

II.2. Maritime Labour Shortage

The shortage gives that argument its urgency. Badawy (2025) documents a structural and widening deficit of licensed officers. The shortfall is projected to exceed 89,510 certified officers by 2026, and potentially to surpass 120,000 by 2030 should training, recruitment and retention not change. Badawy traces its causes beyond cadet numbers and automation to the human dimension, naming isolation, weak connectivity and poor living conditions as drivers of career attrition. The crisis is one of retention as much as recruitment, since training more entrants achieve little if they leave, and younger crew increasingly weigh a maritime career against its quality of life, treating it as a stepping stone rather than a vocation (Badawy, 2025). The same dynamic surfaces inside yachting. Muslu (2021) describes a fast-growing fleet that still needs human crew despite automation, set against a shortage of qualified personnel and a tendency for experienced seafarers to leave for the sake of family and private life. What makes the off-season pertinent is the condition Muslu captures in one phrase: in this profession “your workplace is effectively your home, and you are living with your colleagues 24/7” (Muslu, 2021). If the workplace is already the home, the wintering port – where the vessel rests and the crew live ashore – becomes part of that home, and a plausible lever on whether scarce, experienced people stay.

II.3. Marina Competitiveness: From Berths to a Liveable Destination

The competitiveness literature supplies a model and a method and, less obviously, supports the living-environment claim from the supply side. Dwyer and Kim's (2003) framework is the anchor, separating a destination's endowed resources from the created and supporting ones it can develop – infrastructure, services, accessibility, hospitality and management. More telling is its demand side, where competitiveness rests on fit: “Actual visitation will depend on the match between tourist preferences and perceived destination product offerings” (Dwyer & Kim, 2003, p. 379). A port competes only so far as its offer matches what users want, which is why crew preferences, not berth counts, are the object of study. Empirical work on nautical tourism sharpens the point. Horak et al. (2006) show natural endowment alone cannot sustain competitiveness; created resources – capacity, facilities, service quality and hospitality – set destinations apart. Ozer Sari et al. (2016) recast the “destination resort marina” as far more than a parking place – a setting whose facilities, security, location and English-language communication shape whether yachtsmen are satisfied, return and recommend, each also a condition of daily life for crew wintering abroad.

How a port should be assessed, and against whom, comes from benchmarking. Jankovic and Vlasic (2018) compare a marina against a competitive set of at least three rivals sharing key attributes – underwriting this study's pairing of Port Tarraco with five Mediterranean hubs – and frame marinas as lodging businesses, the berth standing to a yacht as a room to a hotel guest. Vlasic et al. (2019) extend this to economics: berths, like rooms, are perishable inventory at high fixed cost, so a premium position must rest on service quality and added offerings, not price – making crew liveability a driver of competitiveness. The plainest supply-side support comes from Kovacic and Silveira (2018), who treat wintering as a competitive objective and define the nautical port as infrastructures “having ashore the necessary supports to the boats and their crews, and framed by a hotel and residential complex” (p. 283). A competitiveness source thus already conceives the marina as accommodation for people, not only a facility for vessels.

Together, these works expose the unit on which marina and destination meet. Competitiveness cannot stop at the quay, since those aboard depend on the surrounding city or hub for provisioning, transport, services and social life. Hence each port is assessed through its functional service area – the region within practical commuting distance that sustains a marina's operational and lifestyle needs, as defined in the methodology – not by municipal boundary. The relevant offer thus reaches from berth into destination, a competitive strategy in itself.

II.4. Yacht Crew Wellbeing: The Vessel as a Confined Home

If competitiveness explains why a port should supply a liveable environment, the wellbeing literature explains why crew need one – the premise being that a vessel is inhabited around the clock. Brooks and Greenberg's (2022) systematic review casts seafarers as uniquely isolated, “in the workplace during both working and non-working hours with only their colleagues for company” (p. 1). From sixty-three studies they identify the conditions governing wellbeing aboard – habitability, recreation, connectivity, social cohesion, shore leave and time at sea – almost item for item what a wintering port can also provide.

Yachting intensifies the picture. Wyatt (2023) documents a darker side to luxury service, where crew are housed in small, windowless cabins, work punishing hours, and cannot separate work from home. As one account puts it, “some crew members have reported the shower is the only space for privacy” (p. 444), with the closed culture bound up with fatigue, burnout and harassment. Sendilmen Danaci and Kececi (2024) studied yacht crew while excluding captains, the population this study surveys separately. They locate the root not in the work but in the setting: “Working and living in a socially restricted area are the primary causes of seafarers' burnout” (p. 392). This licenses treatment of a wintering port as a determinant of wellbeing, not as neutral infrastructure. What the environment supplies it can also withhold. Yorulmaz and Sevinc Basol (2024) find the workplace's safety and ethical climate predicts crew psychological wellbeing (sample almost three-quarters deck staff). Oldenburg et al. (2013) catalogue sea-life stressors – among them “Noise, ship movement,

vibration and heat in the workplace” (p. 1) – and note on-board leisure recovery is little studied, an argument for respite ashore. Danaci and Yazir (2022), on yacht masters in a comparable hub, tie minimum crewing to long hours and fatigue and find satisfaction resting more on the on-board environment than the operating company, the off-season being the crew's recovery window.

The pillar closes a loop the shortage thread leaves open. The environment crew inhabit affects wellbeing, diminished wellbeing erodes retention, and retention, as Badawy (2025) argues, is where the shortage is won or lost, since “isolation, limited connectivity, and poor living conditions significantly affect career retention” (p. 118). The vessel is a confined home from which the shore is the only escape, so the quality of that shore is entangled with the sector's central problem rather than incidental to it.

II.5. Destination Liveability for Temporary Mobile Workers

Yacht crew are not the only workers who live for a season in a place chosen for them rather than by them, and two literatures supply the theory the maritime sources lack. The first studies extreme environments. Through person–environment fit, Jaksic et al. (2019) show in Antarctic winter crews that adjustment – mood, job satisfaction – depends on the match between personal needs and the location inhabited. Isolation harms only when separation from one's usual network is felt as loneliness; connectivity, the obvious remedy, must be balanced rather than maximised. The “winter-over” – a bounded spell of confined living one cannot readily leave – closely parallels crew wintering.

The second concerns voluntary mobility. Woldoff and Litchfield (2021), on digital nomads, show that workers freed from a fixed location become deliberate about place, choosing on pull factors grouped as natural and cultural appeal, practicality and cost, and community – mapping with little strain onto the factor groups here: on-site facilities, sociocultural and city life, and location and logistics. Tellingly, their subjects demonstrate “the continuing significance of place even among transient, digital workers” (p. 100), warranting treatment of a seasonally rotating population as nonetheless place-dependent. Their reading

of coworking spaces as social infrastructure that builds community and offsets loneliness recasts a marina's crew lounges and events as the mechanisms that make a transient setting liveable.

II.6. Synthesis and the Research Gap

Read as one argument, the three pillars trace a single chain: a wintering port is a temporary living environment; its quality shapes crew wellbeing; wellbeing shapes retention; and retention is the lever on a deck-led labour shortage. All three converge on the wintering port as a place to live, operationalised through the factors crew weigh.

The gap is as clear as the convergence: no study examines how superyacht crew choose a wintering port. The competitiveness work is largely supply-side and seldom speaks to the crew in these settings; the wellbeing work stops at the vessel; and the mobile-worker theory sits in sectors far from the marina. Carrying them across those boundaries – ship, polar station and nomad hub to wintering port – is the move this thesis makes, one the sources support but none performs.

That move warrants caution as much as confidence. Each source is bound to its own context – Turkish, Croatian, Portuguese, Antarctic, Balinese or commercial-shipping samples, none set in Tarragona – so findings transfer by analogy, not identity. The nomad parallel holds for liveability needs, not motivation, since crew mobility is occupational; the polar setting, lacking a surrounding town, isolates the very destination factors central here. These limits define the inquiry rather than weaken it, pointing to an exploratory study of a single Mediterranean case – Port Tarraco – assessed against its competitive set and read through the preferences of crew who would overwinter there.

III. METHODOLOGY

This chapter explains how the study was carried out. It sets out the overall research design, defines the geographic units used to characterise each port, states the lines of enquiry that guide the analysis, and describes the survey instruments, the sampling and screening procedure, and the analytical approach. Throughout, the procedures are reported in a way that reflects the exploratory nature of the study and the modest size of the sample.

III.1. Research Design

This study adopts an exploratory and descriptive research design, supported by a limited set of non-parametric statistical tests. It is best described as a single-case study: Port Tarraco (Tarragona, Spain) is the focal case, examined in some depth, while five further Mediterranean wintering hubs are used as comparative benchmarks rather than as parallel cases of equal analytical weight. The approach is cross-sectional, meaning that data were gathered at a single period in time – between February and the end of April 2026 – rather than tracked over a longer period. It is predominantly quantitative, drawing on structured survey responses, although the small and uneven sample means that the statistical component is treated as exploratory rather than confirmatory.

The choice of an exploratory and descriptive orientation reflects the nature of the research problem. The literature on how professional yacht crew evaluate wintering ports as places to live, rather than as purely technical facilities, remains limited. In these conditions, the aim is to describe patterns, surface tendencies, and identify questions worth pursuing, rather than to test established theory with a high degree of certainty. The comparative benchmarking element – positioning Port Tarraco against established hubs on a set of objective indicators – is developed in Chapter IV and provides the external context against which the primary, perception-based findings are later interpreted. These objective indicators are compiled mainly from public, desk-based sources, together with the researcher's direct observations made during site visits to the marinas.

III.2. Operational Definitions

Wintering: As no single established academic definition of yacht wintering appears to exist, the term is given a working definition for this study. Wintering is understood as the period during which a yacht remains in a port out of season, without guests on board, for provisioning, maintenance, or simply awaiting its next period of use. The definition is framed by operational function rather than by a fixed calendar period, reflecting the varied seasonal patterns of the sector.

Superyacht: The study focuses on the superyacht sector. Although no single agreed definition exists, a superyacht is taken here, in line with the principal maritime codes, to be a recreational vessel with a length overall (LOA) of 24 metres or more. This threshold is the point at which the main regulatory instruments apply, including the International Convention on Load Lines (IMO, 1966), the REG Yacht Code, Part A (2024), and, in the United Kingdom, the Merchant Shipping (Vessels in Commercial Use for Sport or Pleasure) Regulations (2025). The study population is accordingly limited to professionals working aboard vessels at or above this length.

Because a wintering port serves as a temporary living environment for crew, in addition to functioning as a berth, the surrounding area must be defined consistently across the six cases. Two functional units are used for this purpose, defined by everyday function rather than by municipal boundaries.

Functional Service Area (FSA): The FSA is the urban area within everyday reach of the berth that supplies crew with their daily needs, such as provisioning, transport, and leisure. It represents the immediate living environment of wintering crew and is the primary geographic unit used throughout the analysis.

Regional Service Hub (RSH): The RSH is the nearest higher-order centre that meets operational and logistical demands the FSA cannot. A centre is treated as an RSH where it lies within approximately 90 minutes by road, offers a year-round international airport for crew

rotations and specialised parts, and has sufficient commercial scale to support maritime supply and provisioning. The RSH may coincide with the FSA, may be a separate larger city within reach, or may be absent where no nearby centre qualifies. The two units are applied to each case in Chapter IV.

Crew, captains, and seafarers: A consistent distinction is maintained between two populations. Crew refers to non-command professional crew, drawn from the vessel's four operational departments, Deck, Interior, Engineering, and Galley, while captain refers to the vessel's master. Where the two groups are referred to collectively, the term seafarers is used, consistent with its broad use in maritime regulation to denote any person working on board in any capacity (International Labour Organization, 2006).

III.3. Research Hypotheses

Four lines of enquiry guide the analysis. The first two take the form of hypotheses, the third is treated as an exploratory question, and the fourth is framed as a hypothesis but examined descriptively. Throughout, the wording is deliberately cautious, reflecting the exploratory nature of the study and the modest sample size.

III.3.1. Crew-Captain Priority Differences (H1)

There is a difference between yacht crew and captains in the importance they attach to wintering-port factors. The hypothesis is stated in non-directional terms: it anticipates that the two groups may weigh port factors differently, without specifying in advance which factors each group will rate more highly.

III.3.2. Captain vs Perceived OMC Priorities (H2)

There is a difference between the importance captains attach to wintering-port factors for themselves and the importance they perceive that owner/management companies (OMCs) attach to those same factors. Because OMCs were not surveyed directly, this comparison concerns captains' perceptions of OMC priorities, and not the priorities of OMCs themselves.

III.3.3. Gender-related Tendencies (H3)

Rather than a formal hypothesis, this line of enquiry asks an open question: are there observable gender-related tendencies in how port factors are prioritised? Given the small and unbalanced gender distribution within the sample, this question is approached descriptively, and any tendencies noted are treated as exploratory observations only.

III.3.4. Port Tarraco Importance-Performance Gap (H4)

There are gaps between the importance that crew and captains attach to port factors and Port Tarraco's perceived performance on those same factors. This hypothesis is examined through Importance–Performance Analysis and is read descriptively, seeking to identify where the marina appears to perform broadly in line with, above, or below the importance crew place on a given dimension.

III.4. Survey Instruments

Primary data were collected through two purpose-built online questionnaires, administered via Google Forms: one for non-command crew and one for captains. Both instruments used five-point scales and shared a common core, so that responses could be compared across the two groups. Before distribution, the instruments were piloted with three participants. Based on their feedback, the questionnaires were shortened and simplified, and the attention checks were refined.

Table 1 Survey Structure

Component	Crew survey	Captain survey
Participant information and consent	✓	✓
Background questions	✓	✓
Port Importance Factors (PIF) - 26 items	✓	✓
Open-ended PIF suggestions (optional)	✓	✓
Perceived OMC priorities - 26 items	–	✓
Port Performance Factors (PPF) - 7 parameters × 6 ports	✓	✓

Background questions: Both questionnaires collected a small set of background details. Crew were asked about their primary on-board role and their length of experience as crew;

captains were asked about their length of experience as a captain. All respondents reported the approximate size (length overall, LOA) of their current vessel, their gender, and how long they had personally wintered in each of the six ports. Attention checks were embedded in both instruments to support data screening, as described in Section III.5.

Importance: Importance was measured using the Port Importance Factor (PIF) set: twenty-six factors rated on a five-point scale and organised into three thematic blocks. The full item list, grouped by block, together with the response scale, is provided in Annex 1. Both instruments also included an optional open-text item inviting respondents to name any factor not listed; the few responses received are reported in Section V.4.3.

Performance: Performance was measured using the Port Performance Factor (PPF) set: a condensed set of seven parameters, used rather than a repetition of all twenty-six factors in order to limit respondent fatigue. Each parameter was rated on the same five-point scale (see Annex 1). The seven parameters are listed in Table 2.

Table 2 Port Performance Factors (PPF)

Code	Factor Label	Performance parameter
PPF1	Internet Access	On-site, free and high-quality internet access
PPF2	Range of Recreation	Range of Recreational/Social Crew Facilities
PPF3	Crew Facilities	Availability and Quality of crew facilities (lounge/gym)
PPF4	Safety & Security	Personal safety & security
PPF5	Quality Dining/Bars	Quality of local restaurants/bars
PPF6	Affordability	Affordable local cost of living
PPF7	Airport Proximity	Proximity to an international airport

The meaning of a performance rating depends on the respondent's relationship to the port in question. The screening question recorded how long each respondent had personally wintered in each of the six ports. Ratings from respondents who had wintered or lived at a port are treated as measures of that port's performance. Ratings from those who had not wintered there are treated as measures of its image, that is, the perception held in the absence of direct wintering experience. This distinction allows the same set of parameters to capture both experienced performance and externally held image, depending on the respondent.

The captain instrument: The captain questionnaire contained an additional block. After rating the PIF factors for themselves, captains completed the Owner/Management Company Perspective OMC block, in which they re-rated the same factors according to the importance they perceived OMCs to attach to them. This dual-perspective design provided the paired data used to examine H2.

Aggregation for the Importance–Performance Analysis: Because importance was measured with twenty-six factors and performance with seven broader parameters, the importance factors are mapped onto the seven performance dimensions, as shown in Table 3. Only factors with a direct performance counterpart are mapped; the remaining factors, which have no corresponding performance parameter, are retained for the group comparisons (H1 and H2) but are not used in the Importance–Performance Analysis.

Table 3 Umbrella mapping of importance factors onto performance dimensions

Performance dimension (PPF)	Importance factors mapped (PIF)
PPF1 – Internet access	PIF1
PPF2 – Range of recreation / social facilities	PIF4, PIF5, PIF6, PIF14, PIF18
PPF3 – Crew facilities (lounge / gym)	PIF2, PIF3, PIF9
PPF4 – Personal safety and security	PIF7, PIF8, PIF10
PPF5 – Quality of local restaurants / bars	PIF13, PIF16
PPF6 – Affordable local cost of living	PIF11
PPF7 – Proximity to an international airport	PIF25

III.5. Sampling, Data Collection, and Screening

III.5.1. Sampling and Data Collection

The study used a combination of purposive, convenience, and snowball sampling. Sampling was purposive in that it targeted only active superyacht crew and captains, so that responses came from professionals with directly relevant experience. It was a convenience sample in that data collection was anchored at Port Tarraco, where the wintering fleet was directly accessible to the researcher. Snowball sampling was then used to extend the sample: initial respondents and industry contacts were encouraged to pass the questionnaire on within their professional networks. In practice, the questionnaires were distributed through

professional WhatsApp groups and through QR codes displayed at Port Tarraco, including at a bar frequented by seafarers. Two of the eight captain questionnaires were completed in the presence of the researcher.

The concentration of recruitment at Port Tarraco reflects practical access. Direct contact with the wintering fleet there was feasible, whereas comparable access to crew at the other hubs was not, and marinas were generally reluctant to share data or to facilitate collection. This is consistent with the study's single-case focus on Port Tarraco, with the remaining hubs serving as benchmarks.

III.5.2. Screening

The criteria and thresholds applied are set out in Annex 2. For screening, the importance and OMC-perspective blocks each comprised the 26 factors plus three embedded attention checks (29 items), while the performance block comprised the seven parameters rated across the six ports (42 items) and contained no attention checks.

The initial dataset comprised 40 responses. Each response was screened for careless responding (Dunn, Heggestad, Shanock, & Theilgard, 2018; Meade & Craig, 2012) using three indicators: embedded attention checks, long-string runs of identical consecutive answers, and very low intra-individual variance in a respondent's answers. A response was excluded if it failed any one of them. The outcome is summarised in Table 4, with the exclusions confined to the crew group; no captain responses required removal.

Table 4 Summary of data screening

Participant group	Initial responses	Excluded	Final sample (n)
Yacht crew	32	8	24
Yacht captains	8	0	8
Total	40	8	32

Because two of the eight captain questionnaires were completed with the researcher present, anonymity was slightly lower for that group than for the crew, who responded entirely independently online. This is noted here for transparency; the researcher-present mode was

used to support completion of the longer captain instrument and to allow brief clarification of the dual-perspective block.

III.6. Data Analysis Strategy

III.6.1. Choice of tests

The sample is small ($N = 32$) and uneven (24 crew and 8 captains), and the questionnaire items use five-point Likert scales, which yield ordinal rather than continuous data. For these reasons, non-parametric tests are more appropriate than parametric alternatives such as t-tests (Pallant, 2020). It should also be acknowledged that the accessible population is itself small. The number of seafarers present at Port Tarraco is estimated at around 220 on an average day across the year, rising to a seasonal peak of roughly 500 as vessels arrive to overwinter from late summer onwards. Against a population of this order, the analytic sample of 32 captures a meaningful share of those who could realistically be reached – which supports the descriptive value of the findings – but it remains too small overall, and especially within the captain subgroup, to support statistically robust or generalisable conclusions. The statistical tests are accordingly treated as exploratory, used to identify possible patterns and indicative differences rather than to confirm effects, and the results are reported with corresponding caution.

III.6.2. Tests applied

Two tests are used for the comparisons that are formally examined. The Mann–Whitney U test compares two independent groups and is applied to the comparison between crew and captains (H1). The Wilcoxon signed-rank test compares paired responses provided by the same individuals and is applied to the comparison between captains' own ratings and the ratings they give from the perceived perspective of OMCs (H2). For the gender question (H3), no formal test is applied: the gender sub-sample is too small and unbalanced for meaningful testing, so any patterns are described as tendencies rather than tested. A significance level of

$\alpha = .05$ is used as a reference point for the tests that are reported. The analytical approach for each line of enquiry is summarised in Table 5.

Table 5 Analytical approach by line of enquiry

Comparison	Statistical Test
H1. Crew-Captain Priority Differences	Mann–Whitney U
H2. Captain vs Perceived OMC Priorities	Wilcoxon Signed-Rank
H3. Gender-related Tendencies	Descriptive / exploratory (no formal test)
H4. Port Tarraco Importance-Performance Gap	Importance–Performance Analysis (IPA) (descriptive)

Importance–Performance Analysis (H4): The fourth line of enquiry uses Importance–Performance Analysis (IPA), which plots importance and performance on the same chart so they can be read jointly (Martilla & James, 1977). It draws on performance ratings only, namely the responses of those who had wintered at Port Tarraco ($n = 27$). The instrument also captured image-based ratings from respondents without wintering experience, but these are too sparse for the focal case to support reliable comparison, so image-based comparisons are not pursued here. The image data are retained for transparency and future research.

The importance scores are first aggregated to the seven performance dimensions using the umbrella mapping in Table 3. For each dimension, the importance coordinate is the mean importance of its constituent factors across all 32 respondents, and the performance coordinate is the mean Port Tarraco rating from those who wintered there. The axes are divided at the grand means of the seven importance and seven performance scores, yielding four quadrants that indicate, in turn, dimensions to maintain, possible over-provision, lower-priority areas, and dimensions that may warrant attention. Consistent with the exploratory framing, the plot is read descriptively, locating Port Tarraco's relative strengths and gaps rather than testing for statistical significance.

Software: The data were organised, and the descriptive analyses, gap scores, and the Importance–Performance plot were produced, in Google Sheets and Microsoft Excel. The

calculations were computed on Social Science Statistics by using online calculator (Mann-Whitney U Test Calculator; Wilcoxon Signed-Rank Test Calculator).

IV. CASE STUDY PRESENTATION: PORT TARRACO

IV.1. The Mediterranean Wintering Market and the Comparison Set

This chapter presents Port Tarraco as the case and benchmarks it against five other Mediterranean wintering marinas, using objective desk data only; the survey findings follow in Chapter V. It is organised around three themes – the marina as a facility, its transport and connectivity, and the surrounding area as a place to live – each supported by a table. The present subsection introduces the comparison set and compares the marinas as facilities.

The five selected marinas are Marina Port Vell (Barcelona, Spain), Port Vauban (Antibes, France), Grand Harbour Marina (Birgu, Malta), Porto Montenegro (Tivat, Montenegro) and Yalıkavak Marina, on the Bodrum Peninsula (Türkiye). They were chosen to cover the main Mediterranean wintering areas and a range of urban settings. As Chapter III explains, the study looks at one case, Port Tarraco; the five marinas are used only for comparison, not studied on their own. The Functional Service Area (FSA) and Regional Service Hub (RSH) used in the tables that follow are defined in Chapter III. Table 6 compares the six marinas as berthing facilities.

Table 6 The marina: berthing capacity and vessel size

Metric	Port Tarraco	Marina Port Vell	Port Vauban	Grand Harbour Marina	Porto Montenegro	Yalıkavak Marina
Total berths	32	73	1,500	270	481	620
Max. LOA (m)	140	190	170	135	250	140
Berths (≥ 24 m)	32	61	57	26	145	226 ¹

Note. Compiled by the author; full sources are given in the References.

¹ Yalıkavak Marina's count of superyacht berths (≥ 24 m): personal communication with the marina, May 2026.

The set occupies opposite ends of the capacity range. Port Vauban is the largest, with about 1,500 berths, of which only 57 take superyachts of 24 m or more; Port Tarraco is the smallest, with 32 berths, yet all 32 are superyacht berths – the only marina in the set given over entirely to the segment. Yalıkavak Marina holds the most superyacht berths outright, at 226. Maximum length runs from 250 m at Porto Montenegro to 135 m at Grand Harbour Marina, with Port Tarraco and Yalıkavak Marina identical at 140 m. Port Tarraco therefore competes through specialisation rather than scale, and its closest references are Marina Port Vell and Port Vauban, western-Mediterranean marinas of similar orientation.

The marinas also differ in how far they are closed to the public, a point on which the researcher's site observations are informative. Port Tarraco is separated from the public quayside by a glass fence, so its berths are not publicly accessible, and Marina Port Vell is likewise fenced and closed to entry. At Port Vauban the controlled area does not cover the whole marina, and many superyacht berths fall outside it, in the publicly accessible section; Grand Harbour Marina is open, without a perimeter fence. No information was found on public access at Porto Montenegro or Yalıkavak Marina. Where the perimeter is closed, as at Port Tarraco, it may also reduce the need for a crew member to keep watch at the stern against public access – a modest saving in the wintering routine, though not one this study measures.

Berth numbers tell only part of the story. The port reports capacity for around 500 crew and a mean daily presence of roughly 220 across the year², an indication of the size of the temporary community that a small but fully specialised marina sustains. The next subsection turns from the facility to how it is reached.

² Port Tarraco's crew capacity and mean daily crew: Port Tarraco, personal communication, May 2026.

IV.2. Transport, Connectivity and Airport Accessibility

This subsection compares how the marinas are reached – their regional position and the road, air and public-transport links that serve them – and locates Port Tarraco within that picture. Table 7 reports the connectivity indicators.

Table 7 Transport and connectivity

Metric	Port Tarraco	Marina Port Vell	Port Vauban	Grand Harbour Marina	Porto Montenegro	Yalıkavak Marina
RSH	Barcelona	Barcelona	Nice	NSHD	N/A	N/A
RSH distance (km)	95	0	20	0	N/A	N/A
Airport, by car (km)	85	16	14	9	4	53
Airport, by car (min)	70	30	30	20	5	60
Airport, public transport	Bus, 65 min	Metro, 50 min	Train, 35 min	Bus, 50 min	N/A	N/A

Note. RSH = Regional Service Hub. 'N/A' indicates that there is no separate regional service hub.

Connectivity is where Port Tarraco stands apart. Its airport is by far the most distant – Barcelona–El Prat, about 85 km and 70 minutes by road – against 4 km and 5 minutes for Porto Montenegro and 30 minutes or less elsewhere. Its regional hub, Barcelona, is again a separate city 95 km away, whereas the others are their own hub or have none. Reus Airport is closer but not year-round international, so Barcelona generally counts for rotations and parts; Reus does, however, serve the United Kingdom and Ireland, suiting British and Irish crew in particular. Local transport is more favourable than the airport figure suggests. Urban travel relies on buses, with no urban rail, but the interurban station, about 0.75 km from the port, gives direct mainline access towards Barcelona. The limitation is therefore specific – distance to a year-round international airport – not connectivity in general. On paper, air access is Port Tarraco's one clear relative weakness, yet whether it weighs on those who winter there cannot be settled from desk data – a question Chapter V takes up through crew and captain ratings.

IV.3. The surrounding area: setting, safety and cost of living

This subsection compares the surrounding area as a place to live through the winter – its scale, its perceived safety and its cost of living – the dimension on which the lived-environment focus of the thesis bears most directly. Table 8 reports the setting indicators.

Table 8 The surrounding area: setting, safety and cost of living

Metric	Port Tarraco	Marina Port Vell	Port Vauban	Grand Harbour Marina	Porto Montenegro	Yalıkavak Marina
FSA	Tarragona	Barcelona	Antibes	NSHD	Tivat	Bodrum
FSA population	143,260	3,398,219	76,612	243,306	10,894	80,000
FSA area (km ²)	58.82	636	26.48	50.19	4.92	27
Density (ppl/km ²)	2,436	5,343	2,893	4,848	2,214	2,963
Safety index (Numbeo)	66	48	79	57	69	74
Cost of living index (Numbeo)	53	61	69	57	45	47

Note. FSA = Functional Service Area. Safety and Cost of living figures are rounded, perception-based Numbeo indices (cost of living excludes rent); the Maltese safety figure is Malta's national index, and the Antibes cost figure is estimated from Nice. Populations use differing territorial bases and indicate scale only. Full sources in the References.

In scale, the settings differ by two orders of magnitude. Barcelona is the largest and densest (about 3.4 million residents) and Tivat the smallest, at roughly 11,000; Port Tarraco lies in the middle band, Tarragona being a mid-sized city of around 143,000 with a UNESCO World Heritage core – comparable in scale to Antibes and Bodrum.

On the perceived indices, two points stand out for the case. Tarragona records a higher safety index than Barcelona (66 against 48), so the focal setting is perceived as safer than the metropolitan comparator that also serves as its regional hub. Its cost of living sits in the lower-middle of the set (53, against 69 for Antibes and 45 for Tivat), placing it among the more affordable western-Mediterranean options. Both indices are perception-based and are read here only as descriptive context; the relationship between cost of living and crew-rated affordability is taken up in Chapter V.

Taken together, the three themes describe Port Tarraco as a small, superyacht marina set in a mid-sized, comparatively safe and affordable city, well connected by rail but distant by air from a year-round international airport. The profile is favourable on most counts and weaker on one. The analysis that follows tests this objective picture against the perceptions of those who use the port.

V. EMPIRICAL RESULTS AND EXPLORATORY ANALYSIS

This chapter presents the exploratory analyses addressing the four hypotheses set out in Chapter III, moving from the crew–captain comparison through to the Port Tarraco importance–performance gap. Because the sample is small and uneven, the results are reported descriptively and read as indicative tendencies rather than as confirmed effects.

The analytic sample, established after the screening described in III.5.2, comprises 32 respondents – 24 crew and 8 captains. Their full demographic and professional profile is given in Annex 3, and their personal wintering experience across the six ports in Annex 3; only the sampling features that each hypothesis draws upon are noted here.

The crew–captain comparison (H1) sets the 24 crew against the 8 captains as two independent groups, both of whom rated all 26 importance factors. The captain analysis (H2) is paired within the same 8 captains, comparing their own importance ratings with the ratings they gave from the perceived perspective of OMCs. The gender question (H3) is examined within the crew alone, setting 6 women against 18 men; because all eight captains are men, they are excluded so that gender is not confounded with command rank. Even within the crew the split stays small and unbalanced, so the comparison is treated as exploratory rather than statistical. The Port Tarraco gap (H4) takes its importance coordinates from all 32 respondents but its performance ratings only from the 27 who had wintered there, 24 of them for 30 days or more; experience at the comparator ports is thinner (Annex 3), so those readings are treated with greater caution. Each line of enquiry is examined in turn below.

V.1. Crew-Captain Priority Differences (H1)

H1 asked whether crew and captains attach different importance to wintering-port factors. Each of the 26 Port Importance Factors (PIF) was compared between the 24 crew and the 8 captains using a Mann–Whitney U test. Given the small captain subgroup, the comparison is treated as exploratory and reported descriptively alongside the test statistics.

V.1.1. Descriptive findings

The two groups converge most clearly at the top of their priorities. Both rank the three safety items highest – Yacht Security (crew $M = 4.54$; captains $M = 4.88$), Marina Personal Safety (4.50; 4.88) and City Personal Safety (4.33; 4.63) – so that personal and asset security forms a shared apex for crew and captains alike. Across most remaining items the two rank orders track each other closely, with only a handful of factors separating the groups by more than half a scale point.

Where the means do diverge, a soft pattern is visible. Captains tend to rate external connectivity and access to the surrounding town slightly more highly: the widest gaps are for Local English ($\Delta = +0.83$), Internet Access (+0.79), Town Proximity (+0.58) and Airport Proximity (+0.59), together with Crew Lounge (+0.67) and Career Services Proximity (+0.62). As the data in Table 9 suggest, crew give greater weight to Outdoor Recreation, rating Recreational Facilities (+0.79 above captains) and Outdoor Recreation (+0.63) more highly. The lowest-rated items also differ modestly: crew place the Crew Lounge ($M = 2.83$) and Career Services Proximity (2.88) at the foot of their list, whereas captains rate Recreational Facilities lowest (2.88). The full comparison is reported in Annex 4.

Table 9 Crew–captain importance

Port Importance Factor (PIF)	Crew Mean (n = 24)	Captain Mean (n = 8)	(Δ)
Consensus Highest Priorities			
Yacht Security	4.54	4.88	+0.34
Marina Personal Safety	4.50	4.88	+0.38
City Personal Safety	4.33	4.63	+0.30

Widest divergence (two largest gaps in each direction)			
Local English	2.92	3.75	+0.83
Internet Access	3.08	3.88	+0.79
Recreational Facilities	3.67	2.88	-0.79
Outdoor Recreation	3.88	3.25	-0.63
Consensus Lowest Priorities			
Recreational Facilities	3.67	2.88	-0.79
Crew Lounge	2.83	3.50	+0.67

Note. Gap (Δ = *captains* – *crew*) (n = 24 crew, 8 captains)

Recreational Facilities is the only factor to appear twice in Table 9 – once among the widest divergences and once as a group's lowest-rated factor – marking it as notable on two dimensions at once. Crew rate it moderately important ($M = 3.67$), whereas for captains it is the lowest-ranked of all twenty-six factors ($M = 2.88$); the gap (-0.79) ties with Internet Access as the joint second-widest.

The two tied gaps run in opposite directions – captains favouring connectivity, crew on-site recreation – which mirrors the broader contrast the data suggest. A tentative reading is that crew, living aboard through the refit season, may treat recreation as part of what makes a port liveable, while captains appear to view it as discretionary; this sits with the study's proposition that a wintering port serves as a temporary living environment for crew.

V.1.2. Inferential test (Mann–Whitney U)

None of the 26 comparisons reaches statistical significance at $\alpha = .05$. The smallest two-tailed value is for Local English ($U = 60.0$, $z = -1.57$, $p = .117$), followed by Internet Access ($p = .157$) and Outdoor Recreation ($p = .177$); all other factors return higher values. Effect sizes are small throughout ($r \leq .28$), with seven factors falling in the .20–.28 band and the remainder below. The items carrying the largest – though still small – effects are the same factors that show the widest mean gaps: Local English ($r = .28$), Internet Access (.25), Outdoor Recreation

(.24), Town Proximity (.23) and Recreational Facilities (.22). The difference for Recreational Facilities factor is also not statistically supported ($U = 67.5$, $p = .215$, $r = .22$) and rests on only eight captains, so it indicates a descriptive tendency rather than a confirmed divergence.

V.1.3. Discussion

In this sample, the data do not provide statistical support for H1: crew and captains appear broadly aligned in the importance they attach to wintering-port factors, and the differences that surface are mostly small. The tendencies that do appear partly reflect a contrast between logistical and recreational priorities – captains leaning a little towards connectivity and town access, crew a little towards on-site and Outdoor Recreation – but the pattern is not clean, since captains also rate crew-facing items such as the Crew Lounge and Career Services Proximity more highly. A simple role-based divide is therefore not supported. These observations warrant caution: with only eight captains, statistical power is very low, so the non-significant gaps are better read as descriptive tendencies that might merit testing in a larger sample than as evidence that the two groups are equivalent.

V.2. Captain vs Perceived OMC Priorities (H2)

H2 asked whether captains attach different importance to wintering-port factors for themselves than they perceive owner/management companies (OMCs) attach to the same factors. Each of the eight captains therefore rated all 26 Port Importance Factors (PIF) twice – once from their own standpoint and once from the perceived OMC standpoint – and the two readings were compared pairwise.

V.2.1. Descriptive findings

The two perspectives align most closely at the top of the priority list. The safety-and-connectivity apex is essentially shared. Yacht Security (self $M = 4.88$ vs perceived OMC $M = 4.75$), Marina Personal Safety (4.88 vs 4.75), City Personal Safety (4.63 vs 4.75) and Airport Proximity (4.38 vs 4.63) all sit among the highest-rated factors under both perspectives,

separated by no more than a quarter of a scale point ($|\Delta| \leq 0.25$). Indoor Leisure shows no gap at all (3.25 vs 3.25; $\Delta = 0.00$). Across the remaining items the two readings track each other fairly closely; the divergences that do appear, set out in Table 10, are modest and concentrated in a handful of factors.

Table 10 Captains' own versus perceived OMC priorities

Port Importance Factor (PIF)	Captain self (n = 8)	Perceived OMC (n = 8)	(Gap) Δ	r
Highest alignment				
Indoor Leisure	3.25	3.25	0	0
Yacht Security	4.88	4.75	0.13	0
Marina Personal Safety	4.88	4.75	0.13	0
Widest divergence – captain self > perceived OMC				
City Crew Events	3.75	2.75	1	0.42
Local Language Opportunity	3.5	2.5	1	0.41
Marina Crew Events	3.75	2.88	0.88	0.4
Widest divergence – perceived OMC > captain self				
Major City Proximity	3.25	4	-0.75	-.49
Local English	3.75	4.13	-0.38	-.24
Recreational Facilities	2.88	3.25	-0.38	-.17

Note. Gap (Δ = captain self - perceived OMC); a positive value indicates captains rate the factor higher for themselves than they attribute to OMCs. r is the Wilcoxon signed-rank effect size. None of the differences is statistically significant at $\alpha = .05$ (two-tailed); the full set is reported in Annex 4.

As Table 10 indicates, the wider gaps form two groups pointing in opposite directions. Where captains rate a factor above what they attribute to OMCs, the items are crew-facing and bear directly on social and physical wellbeing. They include organised social activity (City Crew Events, $\Delta = +1.00$; Marina Crew Events, $\Delta = +0.88$) and scope for local integration (Local Language Opportunity, $\Delta = +1.00$). Just below the cut shown here are on-site amenities such as Internet Access and Fitness Centre (both $\Delta = +0.63$; see Annex 4). The single factor running clearly the other way is Major City Proximity ($\Delta = -0.75$), on which captains perceive that OMCs place greater weight than they themselves do; Local English and Recreational Facilities show smaller gaps in the same direction (both $\Delta = -0.38$). The effect sizes attached to these gaps (final column) are no more than moderate, the largest by some margin sitting with Major City Proximity ($r = -.49$). Whether any of this is more than descriptive is tested next.

V.2.2. Inferential Test (Wilcoxon Signed-Rank)

None of the 26 paired comparisons reaches statistical significance at $\alpha = .05$ (two-tailed). The smallest value is for Major City Proximity ($T = 0.00$, $p = .063$, $r = -.49$) – the only factor approaching the threshold – followed by Local Language Opportunity ($T = 4.00$, $p = .109$, $r = .41$), then Fitness Centre and City Crew Events (both $p = .125$; $r = .43$ and $.42$). Effect sizes are small-to-moderate throughout, but with no comparison supported and a subgroup of only eight captains they are better understood as the magnitude of the descriptive gaps than as confirmed effects. The full per-item results appear in Annex 4.

V.2.3. Discussion

In this sample, the data do not provide statistical support for H2. Captains' own priorities and the priorities they attribute to OMCs appear broadly aligned – most clearly across the shared safety-and-connectivity apex – and the gaps that surface are modest and unconfirmed. A soft, wellbeing-centred pattern is nonetheless visible: captains tend to rate crew-facing items – organised social activity (Δ up to $+1.00$), opportunities for local integration ($+1.00$), and on-site amenities such as the gym and internet ($+0.63$ each) – a little above what they attribute to OMCs. Read tentatively, this is consistent with the study's proposition that captains, attentive to the wintering port as a temporary living environment, give some weight to crew social and physical wellbeing that they do not necessarily perceive in management priorities.

The clearest counterpoint is Major City Proximity, the only factor on which the perceived OMC rating clearly exceeds the captains' own (perceived OMC $M = 4.00$ vs captains' own $M = 3.25$; $\Delta = -0.75$) and the strongest divergence in the set ($r = -.49$, and nearest to significance at $p = .063$). Here captains perceive that OMCs prioritise proximity to a major city more highly than they do themselves – a plausibly commercial and logistical emphasis (guest and owner access, provisioning, connectivity) set against the captains' more operational, crew-centred lens. Even this signal, however, is not statistically supported and rests on only eight captains; with statistical power this low, it and the remaining gaps are best read as descriptive tendencies

that might warrant testing in a larger sample, rather than as evidence of either real divergence or genuine equivalence.

V.3. Gender-related Tendencies: Exploratory Analysis (H3)

H3 asks, as an open question, whether women and men prioritise wintering-port factors differently. The comparison is confined to the crew, the only group containing both – 6 women against 18 men – since all eight captains are men and pooling them would confound gender with command rank (the crew–captain contrast belongs to H1). As set out in Chapter III, no significance test is applied: with only six women the sub-sample is too small and unbalanced for inferential analysis, so every pattern below is a descriptive tendency, not a tested difference. Full per-factor means and medians are in Annex 4.

Across the 26 factors the two groups agree far more than they differ. Gaps are mostly small, and at the safety apex they all but vanish – City Personal Safety shows none (both $M = 4.33$) and Yacht Security barely any (women $M = 4.50$; men $M = 4.56$). Only eight factors separate the groups by half a point or more ($|\Delta| \geq 0.50$); Table 11 gives the two widest in each direction, a positive gap meaning women rated it higher.

Table 11 Importance by gender

Port Importance Factor (PIF)	Women Mean (n = 6)	Men Mean (n = 18)	Gap (Δ)
Women rate higher			
Crew Lounge	3.67	2.56	+1.11
Fitness Centre	4.50	3.67	+0.83
Men rate higher			
Nightlife Scene	3.00	3.67	-0.67
Local Language Opportunity	2.67	3.33	-0.67

Note. (crew only; Δ = women – men).

The widest gaps form a loose pattern, not a sharp divide. Women lean towards the on-site and local – the Crew Lounge (+1.11, the single widest gap), the Fitness Centre (+0.83) and ease of reaching town in Easy Town Access (+0.83) and Public Transport Proximity (+0.78). Men lean the other way, towards the social and outward-facing – Nightlife Scene (-0.67), Local Language Opportunity (-0.67) and longer-range links in Airport Proximity and Public Transport

Access (both -0.61). The medians track the means on several – Fitness Centre (5.0 vs 4.0) and Airport Proximity (3.0 vs 4.0) – but on the Crew Lounge the median gap is narrower ($+0.50$), so a few high women's ratings inflate that mean. Untested and resting on six women, where one respondent moves a mean by about 0.17 of a point, these gaps reflect the shape of a small sample more than any property of gender.

Overall the two groups appear broadly aligned, the only recurring thread being one of degree: women weight the parts of a port tied to daily life on site and easy local movement a little more, men its social scene and longer-distance links. The thread is soft and partly mixed – women also rate Welcoming Community ($+0.39$) slightly higher, men English-Speaking Staff (-0.33) – and rests on too few women to carry weight, so it marks a direction for a larger study rather than a finding. One factor, though, stands out enough to merit a closer look.

That factor is the Crew Lounge. Its $+1.11$ gap is the widest of any, and the clearest point of divergence: the lounge, showers and laundry block is men's lowest-rated factor of all 26 ($M = 2.56$) yet sits mid-table for women ($M = 3.67$). Within the thesis's framing of the wintering port as a temporary living environment, a plausible reading is that dedicated private facilities – somewhere to wash, train and decompress off the vessel – register as more central to women's sense of a liveable port, a tendency echoed more softly by the Fitness Centre ($+0.83$). For a port such as Tarraco this flags crew-welfare provision as the dimension on which women's stated priorities run furthest ahead of men's – worth revisiting on a more balanced sample before drawing design conclusions.

V.4. Port Tarraco Importance-Performance Gap (H4)

H4 asked whether gaps exist between the importance crew and captains attach to wintering-port factors and Port Tarraco's perceived performance on those same dimensions. As set out in III.6, the question is examined through Importance–Performance Analysis (IPA) and read descriptively rather than tested. The twenty-six importance factors are aggregated to the seven performance dimensions using the umbrella mapping (Table 3): the importance coordinate for each dimension is the mean rating across all 32 respondents, and the

performance coordinate is the mean rating given by the 27 respondents who had wintered at Port Tarraco, with image-based ratings from non-winterers excluded (III.6). Captains are retained on the importance side here – unlike the gender comparison in V.3 – because the IPA pools the port's users rather than contrasting subgroups, so the command-rank consideration that applies to H3 does not arise; H1 also found crew and captains broadly aligned in the importance they attach to port factors. The two axes are divided at the grand mean of the seven importance scores (3.72) and the grand mean of the seven performance scores (3.43), positioning each dimension relative to the others in the data rather than against the scale midpoint.

V.4.1. Descriptive Findings

Table 12 sets out the seven performance dimensions, with their importance and performance coordinates, the gap between the two, and the quadrant each falls into, ranked from the widest gap downwards.

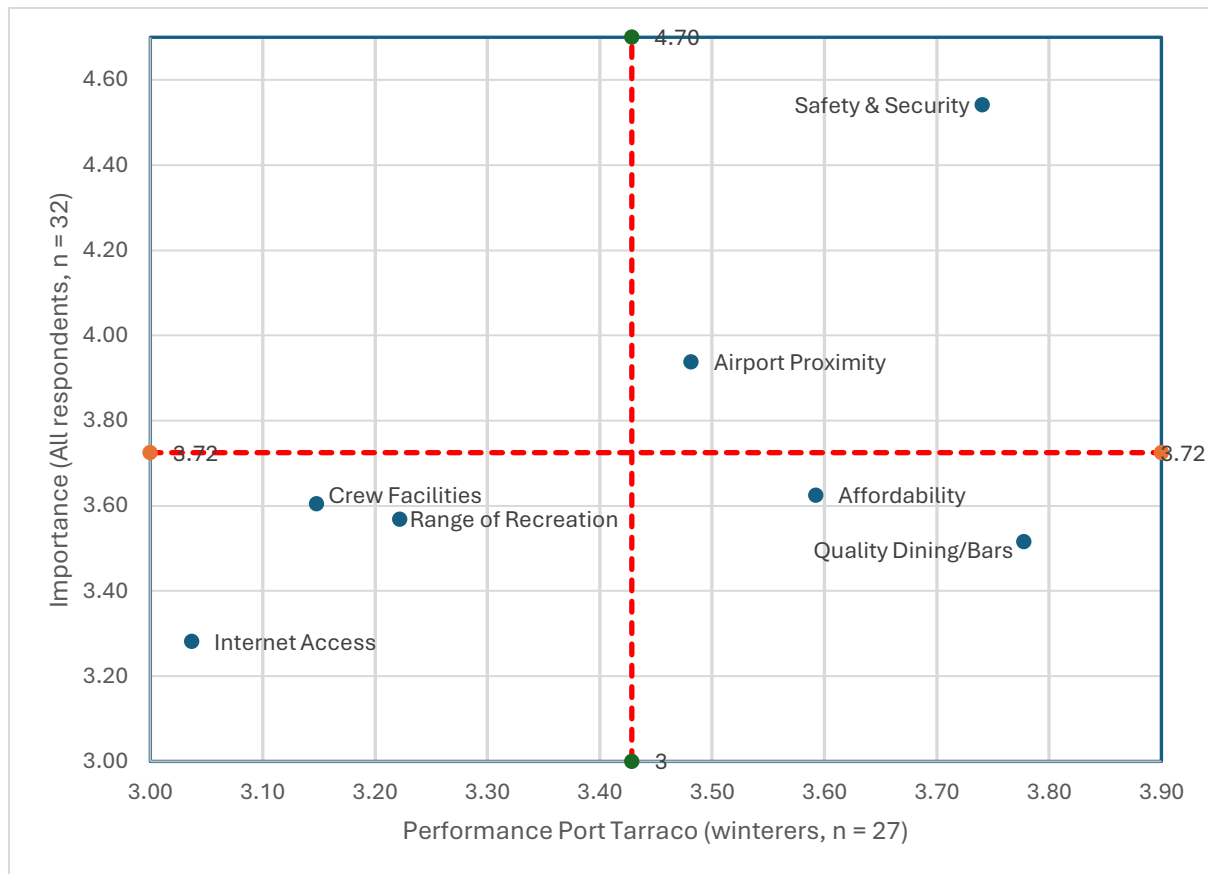
Table 12 Port Tarraco importance–performance across the seven dimensions

Dimension	Importance (n = 32)	Performance (n = 27)	Gap (I – P)	Quadrant
Safety & Security	4.54	3.74	+0.80	Maintain
Airport Proximity	3.94	3.48	+0.46	Maintain
Crew Facilities	3.60	3.15	+0.46	Lower priority
Range of Recreation	3.57	3.22	+0.35	Lower priority
Internet Access	3.28	3.04	+0.24	Lower priority
Affordability	3.62	3.59	+0.03	Possible over-provision
Quality Dining/Bars	3.52	3.78	–0.26	Possible over-provision

Note. Gap = importance – performance (positive = importance higher). Cut-points: importance 3.72, performance 3.43. Rounded numbers for display.

Figure 1 then plots them against the two grand-mean cut-points that partition the importance–performance plane into four quadrants. Within this plane, dimensions falling above both means may be read as strengths to sustain, those of high importance but weaker performance as candidates for attention, and the remainder as either lower-priority or possibly over-provided relative to the importance crew attach to them

Figure 1 Importance–Performance Analysis for Port Tarraco.



Note. Dashed lines mark the grand-mean cut-points (performance 3.43, importance 3.72), forming the four IPA quadrants.

The data indicate a broadly favourable alignment. The two dimensions to which respondents attach the greatest importance – Safety & Security (4.54) and Airport Proximity (3.94) – both fall in the maintain quadrant, their performance (3.74 and 3.48) sitting above the data-centred threshold; notably, no dimension occupies the may-warrant-attention quadrant, the pairing of high importance with weak performance that would suggest a priority concern. The widest gap, Safety & Security (+0.80), appears to reflect the exceptional importance attached to safety rather than a weakness in delivery, since the performance score remains comparatively high; this suggests a dimension to sustain rather than to address. Airport Proximity and Crew Facilities follow with the joint second-widest gaps (both +0.46), although they sit in different quadrants – the former a high-importance dimension performing adequately, the latter a lower-importance, lower-performing one. At the foot of the ranking, two dimensions show performance at or slightly above importance: Affordability, where the coordinates are

almost level (+0.03), and Quality Dining/Bars, the only negative gap (−0.26); both occupy the possible-over-provision quadrant, which the data suggest reflects comparatively strong delivery on dimensions that respondents weight a little less. The remaining lower-priority cluster – Internet Access, Range of Recreation and Crew Facilities – sits below both cut-points, with Internet Access recording the lowest perceived performance of any dimension (3.04). Read together, importance exceeds performance on six of the seven dimensions, a pattern that tends to indicate generally high expectations meeting solid, if not uniformly matching, perceived delivery.

V.4.2. Triangulation with the Objective Desk Evidence

Where Chapter IV provides an objective measure, the perceived ratings can be read against it. On Affordability, the perceived performance (3.59) and the Numbeo cost-of-living index for Tarragona (53) point the same way: recalling that a higher index denotes a more expensive setting, the index places Tarragona among the more affordable options in the comparison set (Table 8), broadly consistent with how crew rate it. On Safety & Security, the perceived rating (3.74) similarly aligns with the Numbeo safety index (66), which sits above Barcelona's (48); the setting is both rated and recorded as comparatively safe. Airport Proximity is the one dimension on which perception and the objective position appear to diverge a little. Chapter IV records Barcelona–El Prat at roughly 85 km and 70 minutes by road (about 65 minutes by bus), the most distant airport in the set and the port's clearest relative weakness on paper. Yet the perceived performance (3.48) is only modestly below the others and still clears the threshold. A tentative reading is that the nearby mainline rail connection (Chapter IV) and the port's other strengths may temper how heavily crew weigh the airport distance, so that a limitation evident in the desk data does not necessarily translate into a poor perceived rating. As these indices are perception-based, contributor-sourced measures, the comparison is read only as soft corroboration.

V.4.3. Discussion

In this sample, the data do not point to any dimension on which Port Tarraco underperforms relative to its importance, so the analysis is better read as locating the marina's relative strengths and gaps than as identifying a shortfall to remedy. The clearest signal is the safety apex. Safety & Security is both the most important dimension and one on which the port is perceived to perform solidly. This sits comfortably with the crew-wellbeing literature linking welfare to a secure working and living environment (Chapter II), and with the study's framing of the wintering port as a temporary home rather than a purely technical base. This ordering, with safety foremost and the social and recreational dimensions weighted below it, also echoes Maslow's (1943) hierarchy of needs, in which physiological and safety requirements are satisfied before higher-level social and self-fulfilment needs are activated. Read in that light, crew appear to value a wintering port first as a safe and serviceable base, and only then as a setting for social and recreational life.

The treatment of Airport Proximity is perhaps the most interesting nuance: although Chapter IV identifies distance to an international airport as the port's one clear objective weakness, this does not surface as a perceived shortfall, the dimension instead falling within the maintain quadrant. A tentative interpretation is that every day local accessibility – which the supplementary factors above suggest crew value highly and which Port Tarraco serves well – may weigh more in the lived experience of wintering than longer-range connectivity, so that an objective limitation is not necessarily experienced as one.

The dimensions in the lower-priority quadrant, and Internet Access in particular with the lowest perceived performance, may represent the most actionable openings: areas where modest investment could lift the wintering experience, even though respondents currently weight them comparatively less and the analysis does not mark them as urgent. The comparatively strong showing on Affordability and Quality Dining/Bars, by contrast, points to features the port might reasonably emphasise. These readings are offered as input to the recommendations in Chapter VI rather than as firm conclusions: they rest on a small and

uneven sample, with performance drawn from only 27 respondents, and on perception-based measures positioned relative to one another, so they are best understood as indicative tendencies rather than tested effects.

A small number of respondents (n = 5) used an optional open-text field to raise factors the questionnaire did not capture: everyday provisioning (large supermarkets and DIY/hardware stores), local services — healthcare recurring, with doctors and hospitals named twice — cultural amenities (art, cinema, music and theatre), and marina waste infrastructure, notably black-water pump-out provision. Raised by only a handful of respondents, these are noted here for completeness rather than analysed further, though they may inform a larger future study.

VI. RECOMMENDATIONS

Port Tarraco's offer appears broadly sound, so management is better placed to sustain its strengths than to overhaul them. Safety & Security is the factor crew and captains weighted most heavily, and one the port is perceived to serve well – should be protected as a core asset.

Its one clear objective weakness, distance to an international airport, did not register as a felt shortfall, which tentatively suggests management might foreground local accessibility and the mainline rail link rather than chase the airport gap. The clearest openings lie in lower-priority dimensions, above all Internet Access: modest investment here, with crew facilities, could lift the wintering experience at low cost, while affordability and local dining are strengths worth emphasising.

Crew and captains appeared broadly aligned, sharing a safety apex, so captain judgement is a reasonable proxy for crew priorities – though crew leaned a little more towards on-site recreation, which may therefore warrant treating as part of a liveable port rather than as discretionary. Captains also tended to weight crew-facing wellbeing provision above what they perceived OMCs to prioritise, while perceiving that OMCs prioritise major-city proximity more highly than they did; the case for crew amenities may need making explicitly to owners.

More widely, investment in liveability may function as a competitive and retention strategy rather than a courtesy, a tendency future research could test on a larger, more balanced sample.

VII. CONCLUSIONS

This study set out to explore how professional superyacht crew evaluate a wintering port – as a temporary living environment rather than a purely technical berth – and to position Port Tarraco against five other Mediterranean marinas in light of crew and captain preferences. Within its exploratory limits, it suggests that what the two groups value converges on a small, stable core: personal and asset safety was the shared priority, and crew and captains appeared broadly aligned rather than divided by command rank. Where preferences diverged they did so softly, and captains attached more weight to crew-facing wellbeing than they perceived owner/management companies to do. Against Port Tarraco's perceived performance, importance exceeded performance on most dimensions, yet none paired high importance with weak delivery – including the port's one objective weakness, airport distance, which did not surface as a felt shortfall.

Read together, these tendencies lend modest support to the study's proposition that a wintering port functions for crew as a temporary home, whose liveability may bear on where scarce, experienced seafarers spend the off-season. They also suggest that ports able to demonstrate liveability, not berth capacity alone, may hold a position that is at once competitive and a matter of retention. These readings must be held lightly: the sample is small and uneven, the tests exploratory and unconfirmed, and the performance ratings perception-based. The contribution is best understood as a first, exploratory mapping of an under-studied question, inviting a larger and more balanced study to test how far it holds.

BIBLIOGRAPHY

(n.d.). Retrieved May 2026, from Le Port Vauban: <https://leportvauban.com/en/>

(n.d.). Retrieved May 2026, from Porto Montenegro: <https://www.portomontenegro.com/>

(n.d.). Retrieved May 2026, from Yalıkavak Marina: <https://yalikavakmarina.com.tr/>

(n.d.). Retrieved May 2026, from Instamaps: <https://www.instamaps.cat/>

(n.d.). Retrieved May 2026, from Grand Harbour Marina: <https://ghm.com.mt/>

Alphabet Inc. (n.d.). Retrieved May 2026, from Google Maps: <https://www.google.com/maps>

Badawy, Z.-A.-E. (2025). Global Seafarer Shortage in the Age of Automation “A Cross National Analysis of Maritime Workforce Gaps, MET System Performance, and Digital Readiness”. *Blue Economy*, 3(2), 115-127.

Berth Map. (n.d.). Retrieved May 2026, from Port Tarraco: <https://www.porttarraco.com/en/berths/berth-map>

Berths for Superyachts. (n.d.). Retrieved May 2026, from Marina Port Vell: <https://www.marinaportvell.com/your-berth/>

Brinkhoff, T. (n.d.). Retrieved May 2026, from City Population: <https://www.citypopulation.de/>

Brooks, S., & Greenberg, N. (2022). Mental health and psychological wellbeing of maritime personnel: a systematic review. *BMC psychology*, 10(1), 139. doi:<https://doi.org/10.1186/s40359-022-00850-4>

Cost of Living. (n.d.). Retrieved May 2026, from Numbeo: <https://www.numbeo.com/cost-of-living/>

Danaci, M., & Yazir, D. (2022). Comprehensive analysis of yacht masters operating in Bodrum district in terms of fatigue, burnout, and job satisfaction. *Int Marit Health*, 73(1), 32-42.

- Dunn, A., Heggestad, E., Shanock, L., & Theilgard, N. (2018). Intra-individual response variability as an indicator of insufficient effort responding: Comparison to other indicators and relationships with individual differences. *Journal of Business and Psychology*, 31(1), 105-121. doi:<https://doi.org/10.1007/s10869-016-9479-0>
- Dwyer, L., & Kim, C. (2003). Destination competitiveness: determinants and indicators. *Current issues in tourism*, 5, 369-414. doi:<http://dx.doi.org/10.1080/13683500308667962>
- Evolució de la població*. (n.d.). Retrieved May 2026, from Area Metropolitana: <https://www.amb.cat/s/es/web/area-metropolitana/coneixer-l-area-metropolitana/poblacio.html>
- Horak, S., Marusic, Z., & Favro, S. (2006). Competitiveness of Croatian nautical tourism. *Tourism in Marine Environments*, 3(2), 145-161. doi:<https://doi.org/10.3727/154427306779435274>
- International Labour Organization. (2006). *Maritime Labour Convention*. Geneva: ILO.
- International Maritime Organization (IMO). (1966). *International convention on load lines*. International Maritime Organization. Retrieved from <https://treaties.fcdo.gov.uk/data/Library2/pdf/1968-TS0058.pdf>
- Jaksic, C., Steel, G., Stewart, E., & Moore, K. (2019). Antarctic stations as workplaces: adjustment of winter-over crew members. *Polar Science*, 22(100484). doi:<https://doi.org/10.1016/j.polar.2019.100484>
- Jankovic, S., & Vlastic, D. (2018). Developing a benchmarking methodology for marina business. *Tourism in marine environments*, 13(2-3), 141-154. doi:<https://doi.org/10.3727/154427318X15276699095970>
- Kovačić, M., & Silveira, L. (2018). Nautical Tourism in Croatia and in Portugal in the Late 2010's: Issues and Perspectives. *Scientific Journal of Maritime Research*, 32, 281-289. doi:<https://doi.org/10.31217/p.32.2.13>

- Lewis, J. (2024, May 13). *Best Luxury Marinas in the Mediterranean*. Retrieved from Relevance Yacht: <https://relevanceyacht.com/blog/top-10-best-marinas-in-the-mediterranean/>
- Mann-Whitney U Test Calculator*. (n.d.). Retrieved May 2026, from Social Science Statistics: <https://www.socscistatistics.com/tests/mannwhitney/>
- Marina Port Vell Barcelona. (2026). *Press Kit*. Retrieved May 2026, from Monaco Yacht Show: <https://www.monacoyachtshow.com/media-file/318349/marina-port-vell-barcelona-press-kit-2025.pdf>
- Marinas in Europe*. (n.d.). Retrieved from Tripadvisor: <https://www.tripadvisor.com/Attractions-g4-Activities-c57-t64-Europe.html>
- Martilla, J., & James, J. (1977). Importance-performance analysis. *Journal of Marketing*, 41(1), 77–79. doi:<https://doi.org/10.2307/1250495>
- Maslow, A. (1943). A theory of human motivation. *Psychological Review*, 50(4), 370–396. doi:<https://doi.org/10.1037/h0054346>
- Meade, A., & Craig, S. (2012). Identifying careless responses in survey data. *Psychological Methods*, 3, 437–455. doi:<https://doi.org/10.1037/a0028085>
- Muslu, A. (2021). Crew Management Services as an Outsourcing in Global Yachting Tourism. *Inter-Disciplinary Entrepreneurship And Innovation Studies*, 199-221.
- Oldenburg, M., Hogan, B., & Jensen, H.-J. (2013). Systematic review of maritime field studies about stress and strain in seafaring. *International Archives of Occupational and Environmental Health*, 86(1), 1-15. doi:<https://doi.org/10.1007/s00420-012-0801-5>
- Ozer Sari, F., Bulut, C., & Pirnar, I. (2016). Adaptation of hospitality service quality scales for marina services. *International Journal of Hospitality Management*, 54, 95-103. doi:<https://doi.org/10.1016/j.ijhm.2016.02.004>

- Pallant, J. (2020). *SPSS survival manual: A step by step guide to data analysis using IBM SPSS* (4th ed.). Berkshire, England: Open University Press.
doi:<https://doi.org/10.4324/9781003117452>
- Porto Montenegro. (2015). *Marina Handbook*. Tivat.
- Quality of Life*. (n.d.). Retrieved May 2026, from Numbeo: <https://www.numbeo.com/quality-of-life/>
- REG (Red Ensign Group). (2024). *Red Ensign Group yacht code (Part A)*. Retrieved from Red Ensign Group: <https://www.redensigngroup.org/media/yzlbtkyi/reg-yc-july-2024-edition-part-a.pdf>
- Sendilmen Danaci, C., & Kececi, T. (2024). Analysis of burnout, job satisfaction, and fatigue among yacht crew: a case study of Turkish yacht crew operating in the southern Aegean Sea. *Transportation Research Record*, 2678(5), 381-396.
doi:<https://doi.org/10.1177/03611981231189739>
- The Best Marinas in Europe: Where Luxury Meets Excellence*. (n.d.). Retrieved from ACCOMAR Marine Interior AS: <https://www.accomar.com.tr/the-best-marinas-in-europe/>
- TOP 12 Best Marinas in the Mediterranean for Superyachts*. (n.d.). Retrieved from Porto Montenegro: <https://www.portomontenegro.com/blog/top-5-superyacht-marinas-in-the-mediterranean/>
- TÜİK. (n.d.). Retrieved June 2026, from Merkezi Dağıtım Sistemi: <https://biruni.tuik.gov.tr/medas/>
- UK Statutory Instrument. (2025). *The Merchant Shipping (Vessels in Commercial Use for Sport or Pleasure) Regulations 2025, SI 2025/1195*. Statutory Instrument. Retrieved from <https://www.legislation.gov.uk/ukxi/2025/1195/note>

Vlastic, D., Poldrugovac, K., & Jankovic, S. (2019). The Competitive pricing in marina business: Exploring relative price position and price fluctuation. *Journal of Tourism, Heritage & Services Marketing*, 5(1), 3-8.

Which Maltese harbors offer the best facilities for luxury vessels? (2025, December 13). Retrieved from Lengers Yachts: <https://www.lengersyachts.com/blogs/which-maltese-harbors-offer-the-best-facilities-for-luxury-vessels/#:~:text=Grand%20Harbour%20Marina%2C%20Portomaso%20Marina%2C%20and%20Marina%20di%20Valletta%20represent,proximity%20to%20services%20and%20amenities.>

Wilcoxon Signed-Rank Test Calculator. (n.d.). Retrieved May 2026, from Social Science Statistics: <https://www.socscistatistics.com/tests/signedranks/>

Woldoff, R., & Litchfield, R. (2021). Digital nomads: In search of freedom, community, and meaningful work in the new economy. doi:<https://doi.org/10.1093/oso/9780190931780.001.0001>

Wyatt, B. (2023). "What happens on the boat, stays on the boat": the dark side of luxury yachting. *Worldwide Hospitality and Tourism Themes*, 15(4), 442-450. doi:<https://doi.org/10.1108/WHATT-03-2023-0040>

YachtCharterFleet. (2017). *10 of the World's Top Superyacht Marinas*. Retrieved from <https://www.yachtcharterfleet.com/bestof/overview.htm?id=32/>

Yorulmaz, M., & Sevinc Basol, F. (2024). Yacht crews' perceptions of ethical climate, safety climate, psychological capital and psychological well-being in Türkiye. *Maritime Business Review*, 9(2), 113-127. doi:<https://doi.org/10.1108/MABR-07-2023-0057>

ANNEX

Annex 1 Survey Instruments

Table 13 Port Importance Factors (PIF)

Code	PIF Label	Full Survey Question
PIF1	Internet Access	On-site, free and high quality internet access
PIF2	Crew Lounge	Clean and modern crew-specific lounge / showers / laundry
PIF3	Fitness Centre	Well-equipped on-site fitness centre / gym
PIF4	Recreational Facilities	On-site recreational facilities (e.g., pool, sports courts)
PIF5	Indoor Leisure	Variety of on-site leisure facilities (sports courts, gaming lounge, social rooms, consoles)
PIF6	Marina Crew Events	Variety of organized crew events (social gatherings, guided excursions, game nights, parties)
PIF7	Yacht Security	Yacht's safety and security in the marina
PIF8	Marina Personal Safety	Crew's safety and security in the marina
PIF9	English-Speaking Staff	Availability of English-speaking marina staff
PIF10	City Personal Safety	Personal safety and security in the surrounding town/city
PIF11	Affordability	Affordable local cost of living (food, transport, entertainment)
PIF12	Local English	Ease of communication (e.g., English spoken) in local shops/restaurants
PIF13	Nearby Dining & Bars	Variety and quality of nearby restaurants, cafes, and bars
PIF14	City Crew Events	Organized crew events and social activities (e.g., BBQs, parties)
PIF15	Welcoming Community	A welcoming atmosphere from the local community
PIF16	Nightlife Scene	Vibrant local nightlife and social scene
PIF17	Local Language Opportunity	Opportunity to learn the local language
PIF18	Outdoor Recreation	Access to outdoor recreation (e.g., hiking, beaches, skiing)
PIF19	Town Proximity	Proximity to the nearest town/city centre
PIF20	Easy Town Access	Ease of access to the nearest town/city centre
PIF21	Public Transport Proximity	Proximity to a local public transport network
PIF22	Career Services Proximity	Proximity to crew career services (in English) (training centres, recruitment agents)
PIF23	Major City Proximity	Proximity to a major city
PIF24	Train Station Proximity	Proximity to an intercity train station
PIF25	Airport Proximity	Proximity to a major/international airport
PIF26	Public Transport Access	Ease of access (including walking distance) to public transport systems and links

Table 14 Response scales

Scale Point	Label
Importance Scales	
1	Not important
2	Slightly important
3	Moderately important
4	Very important
5	Essential

Performance Scales

1	Extremely poor
2	Poor
3	Average
4	Good
5	Exceptional

Annex 2 Data Screening

Table 15 Criteria and Thresholds

Indicator	Block (items)	Excluded if	Applies to
Attention-check failures	3 checks (crew); 6 checks (captains)	more than 35% failed	Both
Long-string run	Importance – PIF (29)	run > 10	Both
Long-string run	OMC perspective (29)	run > 10	Captains
Long-string run	Performance – PPF (42)	run > 16	Both
Intra-individual SD	Importance – PIF (29)	≤ 0.4	Both
Intra-individual SD	OMC perspective (29)	≤ 0.4	Captains
Intra-individual SD	Performance – PPF (42)	≤ 0.4	Both

Annex 3 Sample profile

Table 16 Composition of the analytic sample (N = 32)

Characteristic	Crew (n = 24)	Captains (n = 8)	Total (N = 32)
Gender			
Men	18	8	26
Women	6	0	6
Role on board			
Deck	14	—	14
Interior	7	—	7
Engineer	0	—	—
Galley	3	—	3
Captain	—	8	8
Professional experience			
1–5 years	15	3	18
6–10 years	5	2	7
11–15 years	2	1	3
More than 15 years	2	2	4
Vessel size (LOA)			
Under 30 m	2	1	3
31–50 m	12	5	17
51–70 m	6	1	7
71–90 m	1	1	2
Over 90 m	3	0	3

Table 17 Personal wintering experience by port (N = 32)

Port	Never	Under 30 days	30 days or more	Wintered (any)
Port Tarraco	5	3	24	27
Marina Port Vell	12	10	10	20
Port Vauban	14	7	11	18
Grand Harbour Marina	22	9	1	10
Porto Montenegro	24	5	3	8

Yalıkavak Marina	25	7	0	7
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Annex 4 Full factor-level results (H1–H4)

Table 18 Crew vs captain importance (Mann–Whitney U) (H1)

PIF Code	Factor Label	Crew M (n = 24)	Captain M (n = 8)	Δ	U	z	p	r
PIF1	Internet Access	3.083	3.875	0.79	63.5	-1.41	0.16	0.25
PIF2	Crew Lounge	2.833	3.5	0.67	68.5	-1.20	0.23	0.21
PIF3	Fitness Centre	3.875	3.75	-0.13	80.5	-0.67	0.50	0.12
PIF4	Recreational Facilities	3.667	2.875	-0.79	67.5	-1.24	0.21	0.22
PIF5	Indoor Leisure	3.583	3.25	-0.33	82.5	-0.59	0.56	0.10
PIF6	Marina Crew Events	3.667	3.75	0.08	95.5	-0.02	0.98	0.00
PIF7	Yacht Security	4.542	4.875	0.33	78	-0.78	0.43	0.14
PIF8	Marina Personal Safety	4.5	4.875	0.38	77.5	-0.81	0.42	0.14
PIF9	English-Speaking Staff	3.917	4.125	0.21	91	-0.22	0.83	0.04
PIF10	City Personal Safety	4.333	4.625	0.29	86	-0.44	0.66	0.08
PIF11	Affordability	3.667	3.5	-0.17	87	-0.39	0.70	0.07
PIF12	Local English	2.917	3.75	0.83	60	-1.57	0.12	0.28
PIF13	Nearby Dining & Bars	3.542	3.625	0.08	95	-0.04	0.97	0.01
PIF14	City Crew Events	3.375	3.75	0.38	77	-0.83	0.41	0.15
PIF15	Welcoming Community	3.875	4	0.13	93	-0.13	0.90	0.02
PIF16	Nightlife Scene	3.5	3.375	-0.13	76	-0.87	0.38	0.15
PIF17	Local Language Opportunity	3.167	3.5	0.33	80	-0.70	0.49	0.12
PIF18	Outdoor Recreation	3.875	3.25	-0.63	65	-1.35	0.18	0.24
PIF19	Town Proximity	3.667	4.25	0.58	66	-1.31	0.19	0.23
PIF20	Easy Town Access	3.875	4.25	0.38	76	-0.87	0.38	0.15
PIF21	Public Transport Proximity	3.75	4	0.25	85	-0.48	0.63	0.08
PIF22	Career Services Proximity	2.875	3.5	0.63	68.5	-1.20	0.23	0.21
PIF23	Major City Proximity	3.25	3.25	0.00	93.5	-0.11	0.91	0.02
PIF24	Train Station Proximity	3.375	3.5	0.13	90	-0.26	0.79	0.05
PIF25	Airport Proximity	3.792	4.375	0.58	71	-1.09	0.28	0.19
PIF26	Public Transport Access	3.792	4	0.21	85	-0.48	0.63	0.08

Table 19 Captains' own vs perceived-OMC priorities (Wilcoxon) (H2)

PIF Code	Factor Label	M self CAP	M perceiv ed-OMC	Δ gap (self – OMC)	T	p two-tailed (exact)	r
PIF1	Internet Access	3.875	3.250	0.625	0.000	0.250	0.410
PIF2	Crew Lounge	3.500	3.000	0.500	0.000	0.250	0.340
PIF3	Fitness Centre	3.750	3.125	0.625	0.000	0.125	0.430
PIF4	Recreational Facilities	2.875	3.250	-0.375	4.500	0.563	-0.170

PIF5	Indoor Leisure	3.250	3.250	0.000	14.000	1.000	0.000
PIF6	Marina Crew Events	3.750	2.875	0.875	2.500	0.156	0.400
PIF7	Yacht Security	4.875	4.750	0.125	0.000	1.000	0.000
PIF8	Marina Personal Safety	4.875	4.750	0.125	0.000	1.000	0.000
PIF9	English-Speaking Staff	4.125	4.375	-0.250	7.500	0.531	-0.140
PIF10	City Personal Safety	4.625	4.750	-0.125	0.000	1.000	0.000
PIF11	Affordability	3.500	3.125	0.375	1.500	0.750	0.140
PIF12	Local English	3.750	4.125	-0.375	2.000	0.500	-0.240
PIF13	Nearby Dining & Bars	3.625	3.500	0.125	7.500	1.000	0.000
PIF14	City Crew Events	3.750	2.750	1.000	0.000	0.125	0.420
PIF15	Welcoming Community	4.000	3.625	0.375	2.000	0.500	0.240
PIF16	Nightlife Scene	3.375	3.125	0.250	1.500	0.750	0.140
PIF17	Local Language Opportunity	3.500	2.500	1.000	4.000	0.109	0.410
PIF18	Outdoor Recreation	3.250	3.000	0.250	0.000	0.500	0.240
PIF19	Town Proximity	4.250	3.875	0.375	0.000	0.500	0.220
PIF20	Easy Town Access	4.250	3.875	0.375	0.000	0.250	0.360
PIF21	Public Transport Proximity	4.000	3.625	0.375	9.000	0.438	0.200
PIF22	Career Services Proximity	3.500	3.250	0.250	1.500	0.750	0.140
PIF23	Major City Proximity	3.250	4.000	-0.750	0.000	0.063	-0.490
PIF24	Train Station Proximity	3.500	3.625	-0.125	1.000	1.000	0.000
PIF25	Airport Proximity	4.375	4.625	-0.250	1.500	0.750	-0.140
PIF26	Public Transport Access	4.000	3.750	0.250	1.500	0.750	0.140

Table 20 Importance by gender

PIF Code	Factor Label	Women Mean (n=6)	Men Mean (n=18)	Mean Gap Δ (W-M)	Women Median (n=6)	Men Median (n=18)	Median Gap (W-M)
PIF1	Internet Access	3.167	3.056	0.111	3	3	0
PIF2	Crew Lounge	3.667	2.556	1.111	3.5	3	0.5
PIF3	Fitness Centre	4.500	3.667	0.833	5	4	1
PIF4	Recreational Facilities	3.833	3.611	0.222	3.5	3	0.5
PIF5	Indoor Leisure	3.833	3.500	0.333	4	4	0
PIF6	Marina Crew Events	3.500	3.722	-0.222	3.5	4	-0.5
PIF7	Yacht Security	4.500	4.556	-0.056	5	5	0
PIF8	Marina Personal Safety	4.667	4.444	0.222	5	5	0
PIF9	English-Speaking Staff	3.667	4.000	-0.333	4	4	0
PIF10	City Personal Safety	4.333	4.333	0.000	4.5	5	-0.5
PIF11	Affordability	3.667	3.667	0.000	4	4	0
PIF12	Local English	2.833	2.944	-0.111	3	3	0
PIF13	Nearby Dining & Bars	3.667	3.500	0.167	4	4	0
PIF14	City Crew Events	3.667	3.278	0.389	3.5	3	0.5
PIF15	Welcoming Community	4.167	3.778	0.389	4	4	0
PIF16	Nightlife Scene	3.000	3.667	-0.667	3.5	4	-0.5
PIF17	Local Language Opportunity	2.667	3.333	-0.667	3	3	0
PIF18	Outdoor Recreation	3.833	3.889	-0.056	4	4	0
PIF19	Town Proximity	4.000	3.556	0.444	4	4	0
PIF20	Easy Town Access	4.500	3.667	0.833	4.5	4	0.5
PIF21	Public Transport Proximity	4.333	3.556	0.778	4	4	0

PIF22	Career Services Proximity	3.167	2.778	0.389	3	3	0
PIF23	Major City Proximity	3.000	3.333	-0.333	2.5	3	-0.5
PIF24	Train Station Proximity	3.667	3.278	0.389	4	3	1
PIF25	Airport Proximity	3.333	3.944	-0.611	3	4	-1
PIF26	Public Transport Access	3.333	3.944	-0.611	3	4	-1
All 26 factors (crew only)							

Table 21 Item-level importance behind the IPA dimensions (n = 32)

Dimension (coordinate)	Importance factor (PIF)	Item mean
Internet Access (3.28)	Internet Access	3.28
Range of Recreation (3.57)	Recreational Facilities	3.47
	Indoor Leisure	3.50
	Marina Crew Events	3.69
	City Crew Events	3.47
	Outdoor Recreation	3.72
Crew Facilities (3.60)	Crew Lounge	3.00
	Fitness Centre	3.84
	English-Speaking Staff	3.97
Safety & Security (4.54)	Yacht Security	4.62
	Marina Personal Safety	4.59
	City Personal Safety	4.41
Quality Dining/Bars (3.52)	Nearby Dining & Bars	3.56
	Nightlife Scene	3.47
Affordability (3.62)	Affordability	3.62
Airport Proximity (3.94)	Airport Proximity	3.94

Note. Dimension coordinates are the unweighted mean of their constituent factors' item means.