



What drives you to the sea? Animal rights, environmental protection and sensation seeking

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ABSTRACT

Marine environments are magnets for millions of tourists and recreationalists worldwide. This study aims to assess the relationships between individuals' sensation and risk seeking, concerns about the environment and animal rights, and their interest in engaging in marine recreation during the visit to tourist destinations. Specifically, the paper proposes a five-stage ordinal logistic model and adapts three attitudinal scales - *Animal Attitude*, *New Environmental Paradigm* and *Sensation Seeking* - to explain the level of interest subjects have in pursuing five marine-based activities: jet skiing, whale watching, sea kayaking, underwater observation, and snorkelling. A comprehensive analysis of 1094 responses from European frequent travellers reveals differences in the background factors that explain their dissimilar focus on one activity or another. Such differences concern preferences for the more challenging water sports, which is explained by the desire for risk and excitement, while a more focused concern for animal welfare and the environment is associated with activities that involve contact with wildlife, e.g., whale watching and snorkelling. Results deliver insights for policy decision-makers to incentivise corporate commitment to the marine environment and its biodiversity in order to meet the bio-centric attitudes of tourists and recreationalists.

1. Introduction

In the last few decades, marine recreation has generated a growing interest within the context of tourism and outdoor recreation, with expectations that this trend will continue [21,58]. Overall, marine recreation involves a wide range of activities related to the sea, marine resources and biodiversity, and water/nautical sports, covering a broad range of market niches [21,57,72]. Some activities in the marine environment require physical effort, a degree of skill, and/or imply a certain level of risk motivated by 'rush' attitudes - e.g. sailing, jet skiing, kayaking and surfing [11,13] - while other activities are more passive and usually involve direct contact with marine wildlife - e.g. whale watching, snorkelling and (semi) submarine tours [4,31,53].

Explaining the marine tourism demand is thus a puzzling task, as there is not still consensus about the criteria to delimitate tourist segments [13,3]. This has led to a very fragmented and unbalanced scientific production within the area, with studies often focused on one

specific activity or trip purpose [85]. To our knowledge, few studies have analysed the broad marine tourism market through the socio-psychological characteristics of individuals, lifestyle indicators, mind-sets and the perceived benefits of the marine ecosystems [2,31,86].

As tourists' interaction with the marine environment comes in form of leisure and recreation activities, any impact on its quality (e.g., in terms of beauty, cleanliness, biodiversity abundance), due to direct human pressure and global warming, has serious implications for the experience of tourists [6,32,46,64,71], with the consequences that this has for the profitability, employment, and other components of 'quality of life' in coastal areas [16].

In this context, scant investigations have analysed the extent to which tourists' attitudes and concerns towards the marine environment and its biodiversity influence how they use and enjoy marine and coastal areas. At this point, it is worth asking if tourists' choices of marine activities are mainly driven by the quest for adventure and risk, or if

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genuine concerns for animal welfare and the environment are also implicated.

In response, this paper adapts three well-known attitudinal scales - *Animal Attitude* [37,36,40], *New Environmental Paradigm* [19,82], and *Sensation Seeking* [38,88] - in order to explain whether and how these attitudes influence the level of interest individuals have in engaging in diverse marine activities when travelling for different purposes. Other background factors are also analysed in our model, referring to the previous experience in practising nautical/marine activities, and the individual characteristics of tourists.

Five specific activities are analysed, ranging from water sports that require some physical effort and skills: (1) jet skiing, (2) sea kayaking, to another less challenging: (3) snorkelling, and those more passive activities: (4) whale watching and (5) underwater observation. These can be considered a comprehensive representation of the wide range of leisure activities [63] that may be significantly affected by any downgrade in the quality of coastal and marine environments [71,73,84].

The main contribution of this research is that it merges three different socio-psychological and psychometric scales to explain individuals' preferences for diverse marine activities and water sports when visiting coastal tourism destinations, regardless of the purpose of their trip. In light of this, the paper is concerned with the need to take advantage and incorporate the environmental values of tourists into firms' management systems and performance indicators, which can become a positive force for sustainability [12,43,44,59,67].

The paper is structured as follows. After Following the introduction, the literature review section outlines a general overview of the main drivers of marine tourism consumption, with a detailed analysis of the empirical applications related to sensation seeking, and tourists' concerns about animal rights and the environment. The third section describes the model, the variables and their measurement. It also presents the fieldwork and the research instrument utilised for data collection and sample construction. The fourth section then discusses the results of the model. Finally, sections five and six are dedicated to the discussion and conclusions of the research and offer additional remarks.

2. Literature review

2.1. Marine tourism

To date, there is no clarity regarding the degree of physical effort, the level of specialisation or the instruments that delimit the marine tourism segment [87]. Consequently, nautical and marine tourism are often seen and studied as synonymous in the literature [58].

For instance, authors usually see certain activities such as kayaking, scuba diving and whale watching under the umbrella of marine tourism [4,1], despite the fact that they are very different in nature. While the former is often carried out along the shore line, the second is practised in the depths of the ocean and requires nautical equipment. Meanwhile, whale watching implies the use of vessels, is often carried out in the open ocean and, unlike the other two, does not require any physical skill [80,82].

Other studies conclude that a growing number of tourists engaged in marine recreation do not have water activities and sports (boating, chartering, sailing, whale watching, etc.) at the core of their travel motivations [2,3,57,58,8]. This lack of consensus on the criteria to delimitate the segment poses a challenge for quantification and research subjects, and especially for policy decision-making [58].

Overall, marine tourism encompasses the water-based activities and sports undertaken by tourists who seek escape from the daily routine, enjoy outdoor recreation and have close contact with nature. In this vein, it can also be related to nature-based and sport tourism segments [12]. The literature argues that these forms of tourism have in common their capacity to attract and promote ethical behaviours, moral values, and raise higher levels of environmental awareness in an increasing and evermore diverse group of consumers [6,31,32,46]. This incentivises

tourism firms and coastal destinations to implement and improve sustainability policies and monitoring indicators [12,44,28].

Given the multiple functions that the marine environment has for tourism, this research delimits the marine tourism segment as a highly dynamic, multifaceted and complementary product of the maritime space that can be consumed by multiple tourists regardless of the purpose of their trip [57].

2.2. Tourist preferences in the marine environment

For decades, studies have sought to explain tourists' motivations and preferences, and how these aspects influence intentions, the planning of the trip, activity choices, satisfaction, expenditure, and loyalty [13,45,47,49]. Scientific knowledge has provided reliable empirical insights into the tourism industry that have contributed to a better understanding of tourists' decision-making processes, helping to improve the tourism offerings at destinations and, thus, their competitiveness [60,65,86].

According to Carvache-Franco et al. [13], the complexity relies on the fact that tourists behave differently, even if they are operating under the same travel motivation. This has led to a considerable number of studies analysing and segmenting the tourism market through the socio-psychological characteristics of tourists, lifestyle indicators, travel experience, mind-sets and the perceived benefit provided by destinations, natural environments and activities that may explain tourists' behavioural responses [15,42,50,66].

Regarding the marine environment, the literature is often case-specific and tends to take one of two different paths: analysis of 'recreation at sea' as a whole, or focusing on one specific activity - i.e., surfing [76]. For instance, the study of Suárez, Zoghbi and Aguiar [78] reported 'practical lifestyles' and 'feelings and affection' as the main factors predicting tourist intentions to practice 'water sports'. They also found that past destination choices favoured the practice of 'water sports' during subsequent visits.

On the other hand, some studies conclude that 'enjoying nature and learning', 'socialisation', 'exploration and excitement', 'novelty', 'challenge', and 'escape' are primary drivers for the practice of sea kayaking, diving and/or yachting activities [2,3,63,7,86]. Other authors confirm that individuals who are environmentally aware tend to engage in whale watching [15,33] or surfing [76], which in turn validates their environmental identity.

At this point it is important to underline that whale-watching tours can use kayaks [31], but we analyse sea kayaking as an activity which is mainly undertaken in search of adventure, excitement, personal growth, and a physical challenge, according to the definition provided by [63].

According to the above-mentioned authors, research is still needed to provide a holistic understanding of tourists' choices of activities in the marine environment in relation to moral norms, environmental and animal concerns, and many other behavioural aspects, including those related to sensation, risk, and thrill-seeking. This kind of information is useful for identifying which activities attract more responsible behaviours in order to inform marine tourism policy, and warning of the potential need for action so as not to further compromise the natural environment.

This is especially important for all coastal regions that are highly dependent on tourism, as this is an activity that leads to negative impacts from environmental, economic, cultural and social points of view. There is thus a need to recognise the negative effects associated with increased tourism flows, as well as the opportunity that represents attracting and retaining tourists with more pro-environmental and animal attitudes [31], so as to progress more efficiently towards sustainable development [12].

2.3. Risk seeking

Facilitating the appropriate harmonisation between consumers'

personality traits and tourism destinations and products is an essential issue in tourism management [32,86]. In light of this, the literature has demonstrated that tourists, particularly those engaging in adventure or outdoor recreational activities, are moved to seek out risk, thrills, fear, or 'rush' [30,32,38,51].

The most widely-used scale to measure the 'sensation seeking' behaviour of individuals is the (brief) Sensation Seeking Scale (SSS) [38, 88]. The SSS was developed to assess individual differences in the desire and willingness to take physical and social risks and engage in varied, novel and complex experiences [88,89]. The SSS aims to characterise many aspects of behaviour, including those relating to sensory experience, socialising, and thrill-seeking [38]. According to Fontaine [29], sensation seeking constitutes the basis of travel motivation. For instance, Pizam et al. [69] pointed out that individuals who preferred to participate in extreme sports scored higher on the SSS than those choosing to go on a 'leisure trip' that include guided tour packages. In addition, extreme sensation seekers are more willing to accept uncertainty and risk and often travel to less familiar places [69].

In the marine environment, it has been found that divers are adventurous individuals who display a great propensity for thrill sensation-seeking [36,84]. On the other hand, the level of specialisation is found to be a measure of tourists' level of interest in sensation seeking. For example, novice kayakers usually express a lower level of interest in seeking out new sensations and adventures than advanced, experienced practitioners [24]. With regard to surfing, Diehm and Armatas [17] and Springwald et al. [76] suggested that surfers are characterised by higher levels of sensation seeking. In this regard, a question arises: are whale-watching tourists sensation seekers too? There is no empirical evidence that assesses and compares the 'risky and thrilling' attitudes that influence tourists' interest in getting involved in a wide variety of water sports and activities, which is an aim of the present paper [22,32].

2.4. New environmental paradigm (NEP)

The tourism industry is heavily dependent on natural resources to develop the different activities it provides. In addition to provisioning and regulating, natural resources provide other, less tangible services to tourists in the form of aesthetic appreciation or recreational experiences. These services are crucial to their satisfaction and emotional well-being [70,80], and to predicting their behaviour [32].

The most commonly employed tool to assess tourists' level of environmental awareness has been the New Environmental Paradigm Scale [19]. The New Environmental Paradigm (NEP) measures peoples' beliefs (values) about nature [20,52]. In particular, it shows human attitudes for their ability to upset the balance of nature, the existence of limits to growth for societies, and their right to rule over nature [20,54]. Uysal et al. [82] were the first to apply the NEP in the tourism context, identifying a significant correlation between trip behaviour and environmental attitudes. They pointed out that individuals who preferred more direct contact with nature were more likely to have greater environmental awareness, whereas those who were more interested in organised guided experiences, such as cruise tours, expressed more anthropocentric attitudes.

In the marine recreation literature, research employing the NEP scale has largely focused on wildlife-based activities. For instance, studies have shown that tourists who usually engage in whale watching possess pro-active conservation attitudes and acknowledge the finite existence of natural resources [56,81]; (Tkaczynski & Rundle Thiele, 2018). Likewise, Filby et al. [27], who employed a modified NEP scale, revealed that dolphin-watching tourists also have biocentric attitudes towards dolphins and marine wildlife conservation. A recent study confirmed that snorkelers and divers strongly agreed with the biocentric belief statements measuring general environmental value orientations, in contrast with the NEP-anthropocentric statements [68]. For recreational fishing, researchers found that those anglers expressing a desire to comply with management directives, or supporting mandatory fishing

programmes, had higher environmental values and felt responsible for conservation issues [55].

There is no evidence concerning other high-demand activities such as sea kayaking or jet skiing. These seem to be activities that are practised in nature, rather than experiences which 'consume' nature. As Giddy and Webb [32] argued, these more adventure-oriented experiences have only been analysed through the sensation-seeking attitudes of tourists and not through their attitudes towards the environment. This study partly addresses this gap by analysing, in a comparative way, how the environmental values of tourists determine their interest in engaging in these and other marine activities.

2.5. Animal rights

People have always been interested in animals. As such, animals have been widely used for recreational purposes, from circuses and zoos to ecotourism and wildlife tourism [15,25,33]. In recent decades, tourist demand to visit and observe wildlife has continued to increase in tandem with general awareness and concern about animal welfare [34,43].

Animal ethics theories are necessary for explaining the rightness or wrongness of tourism practices [25]. Hughes [40] found that concern for the environment by tourists engaging in wildlife-based tourism experiences were not enough to ensure animals' rights and welfare in practice. In response, some academic attention has been paid to assessing individuals' ethical behaviour and moral values with regard to animal welfare and rights, when experiencing animal-based tourism [8,24,34, 43].

In this respect, the Animal Attitude Scale has commonly been employed in the literature, aimed at measuring the aspects of humanity's relationship with other species, particularly in regards to general attitudes about animal protection [36]. The Animal Attitude Scale (AAS) [37,36] assesses the social tendency to engage in animal welfare actively - 'take action' - and attitudes toward the treatment and use of animals, including for recreation - 'ethics'.

Despite the psychometric robustness of the AAS, few studies have been applied to the tourism context [36,75]. For instance, in an attempt to understand tourists' attitudes toward animal-based attractions, Shani [74] pointed out that tourists attach great importance to the way animals are treated among diverse animal-based attractions, such as traditional zoos, theme parks with animals, or safari parks. To our knowledge, there are no studies that analyse the extent to which tourists' interest in marine recreation is conditioned by the value they attach to marine wildlife protection, which is an aim of this paper.

3. Research design

3.1. Survey design and fieldwork

The main research instrument was the questionnaire, which was structured into three sections. The first section consisted of a 5-point Likert scale question soliciting respondents' level of interest (1 = I am not interested at all; 5 = I am very interested) in doing/practising five sea-based activities during their next holiday trip: 1) jet skiing, 2) sea kayaking, 3) whale watching, 4) snorkelling, and 5) underwater observation (semi-submarine tour). The results from this question led to the five dependent variables in the regression model - labelled as INTEREST. Participants were also asked about their previous nautical experience via a multiple-choice question, by marking which activities (from the above-mentioned five) they had undertaken before (PE_variables in the model).

The second group of questions was dedicated to measuring attitudes and concerns towards the environment and animal rights (NEP and AAS scales), and towards risk and sensation-seeking (SSE scale). Using a 5-point Likert scale, tourists rated a total of nineteen statements, ranging from 1 = I totally disagree, to 5 = I totally agree. The final section focused on socio-demographic questions related to gender, age,

education level and occupation.

Prior to the fieldwork, a pre-test was conducted on June 2019 to validate the questionnaire's comprehensibility and its effectiveness according to the study's goals. The fieldwork was conducted online with individuals in their countries of origin, through an enterprise specialising in advanced consumer studies. It was carried out continuously without interruption over two months - from September to October 2019 -.

The study population was defined as frequent travellers from the following EU member countries: The United Kingdom, Germany and Portugal. These countries represent three of the biggest outbound tourist markets to European seaside destinations (Eurostat, 2018) [23].

The 'quota sample' passed a fourfold filtering process in order to continue with the questionnaire, according to the following:

- (i) The nationality of the individual and country of residence
- (ii) The number of overseas trips they usually go on every year (any purpose);
- (iii) The kind of destination they visited on their last trip (Seaside/ Beach/ Island destination; Mountain destination; Urban destination; other);
- (iv) Where they plan to visit in the near future, for any purpose (Seaside/ Beach/ Island destination; Mountain destination; Urban destination; other)

Suppose respondents - British, Germans and Portuguese - did not go on at least two overseas trips or chose an option different from 'Seaside/ Beach/Island destination'. In that case, they could not continue with the questionnaire.

A total of 1500 individuals opened the online questionnaire. After removing protest responses and questionnaires with missing data (402 cases), one thousand and ninety-four valid cases were retained for the analysis ($n = 1094$), which represents a high response rate [18].

Sample representativeness by 'Nationality', which was evenly distributed among British, German, and Portuguese, was assessed by borrowing the finite large population formula of Israel [41] and assuming a reasonable error level of plus or minus five per cent [35]. According to this, the final sample was considered statistically representative of the outbound tourism numbers of the above-mentioned countries, with a 95% level of confidence and a margin of error of 2.96%. It was verified using data from the national statistics offices on the number of overseas trips by residents in 2019. According to these sources, British, German and Portuguese citizens made 168 million overseas trips in 2019, and more than half visited a seaside destination, for different purposes.

As Table 1 shows, respondents were on average, middle-aged, with a high level of education, and employed with a yearly income of between 12,000 and 36,000 € (53.3%) - a profile representing the average frequent traveller in the EU (Eurostat, 2018; [80,23]). The table also shows the more frequent categories for the rest of the variables.

Table 2 shows the mean values of the variable INTEREST. According to the self-reported information of interviewees, 'whale watching', closely followed by 'underwater observation' and 'snorkelling' are, on

Table 1
Sociodemographic profile.

Variables	Categories	%
Sex	Male	51.9
Age	(Median)	44
Nationality	English	33.6
	German	33.3
	Portuguese	33.1
	Bachelor's degree	43.5
Occupation	Employee	56.5
Income	12,001 – 36,000 €	53.3

$n = 1094$

Table 2

Level of interest in pursuing marine activities.

Activity	Mean	Stand. Dev.
Jet ski	2.73	1.415
Whale watching	3.78	1.181
Kayak	2.78	1.350
Underwater observation	3.43	1.321
Snorkel	2.95	1.420

$n = 1094$

average, the most interesting activities for the interviewees to engage in when visiting tourist destinations.

3.2. Data analysis

The dataset was built with the coding of the 1094 questionnaires' responses and analysed using SPSS (Version 26.0, SPSS Inc., Chicago, Ill). Frequency analysis was utilised to characterise the general profile of respondents. A five-stage ordinal logistic regression model [61] was employed to explain the interest (INTEREST_j) of tourists in doing/-practising the five marine-based activities: 1) jet skiing, 2) sea kayaking, 3) whale watching, 4) snorkelling, and 5) underwater observation. Other variables such as previous nautical experience (PE_j) and demographic characteristics (gender and age) were also included in the regression. Table 3 shows the variables included in the model with their measurements and the previous studies from which they were adapted.

In order to reduce the number of variables in the regression model, the sixteen NEP and AAS statements measuring individuals' attitudes towards the environment and animal rights were factor analysed utilising a Principal Component Analysis (PCA) with Varimax rotation. The NEP scale was slightly modified to the context of this study to assess respondents' biocentric values concerning animal use and its implications. In addition, only three of the five statements used in the simplified AAS scale were included in our analysis (AAS-5 hereon) - 'It is morally wrong to fish/hunt just for sport'; 'I sometimes get upset when I see animals in cages at zoos or in tanks/pools at aquariums'; 'The slaughter of whales should be immediately stopped'.

4. Results

4.1. Factor analysis

Table 4 shows the results of the PCA. The Kaiser-Meyer-Olkin (KMO= 0.872) showed that the sample was factorable, and the significance of Bartlett's test of sphericity (4950.75; $p < 0.001$) confirmed the adequacy of the analysis. PCA analysis extracted four factors (NA-HUMAN, NA-BALANCE, NA-ANIMAL, and NA-CRISIS), explaining 58.0% of the total variance. Cronbach's alpha coefficients indicated acceptable scale reliability for each factor.

The first factor, *Human domination* (NA-HUMAN), includes six attributes, which explain the anti-environmental thrust and the rejection of exceptionalism (anti-NEP items), i.e., 'nature exists primarily for human use and has no inherent value of its own' ([20], p. 431). This factor obtained an eigenvalue of 4.56 and explained 28.51% of the total variance. NA-BALANCE factor obtained an eigenvalue of 2.51 and explained 15.62% of the total variance. The attributes included in this *Environmental balance* factor realise humanity's ability to impact nature and disclose the need for balance, as humans are still subject to its laws. The third factor includes the three attributes of the AAS-5 scale, concerning the 'use' of animals for recreational purposes or consumption and the NEP attribute indicating that 'humans are severely abusing the animals'. This factor, called *Animal protectionism* (and labelled as NA-ANIMAL), obtained an eigenvalue of 1.13 and explained 7.09% of the total variance. Finally, the (*Eco*) NA-CRISIS factor, comprises the two attributes of the NEP focused on the beliefs about the existence of limits

Table 3

Description of the regression model variables.

Dependent variable	Description	Source
INTEREST_j j = Jet skiing, Whale watching, Sea Kayaking, Underwater observation, Snorkelling	1–5 level of interest in pursuing the marine activity in the next holiday trip (1 = not interested at all; 5 = very interested).	Studies focus on a single activity, or utilise 'water sports' or 'recreational nautical activities' as a single variable grouping several activities very different in nature and requirements. Akkoç [2]; Albayrak, et al. [3,8,7]; O'Connell [63]; Suárez et al. [78]; Yao et al. [86].
Explanatory variables Description		
SSE_Physical risk	1–5 level of agreement (1 = totally disagree; 5 = totally agree) regarding <i>I would like to try activities that may involve in some physical risk.</i>	Studies are available for yachting, diving, kayaking and surfing activities, separately. Akkoç [2]; Albayrak, et al. [3]; Diehm and Armatas [17]; Ewert et al. [24].
SSE_Challenge	<i>I like to face unexpected situations that suppose a challenge for me.</i>	
SSE_Exciting experience	<i>I would love to have new and exciting experiences.</i>	
NA-FACTORS	Constructs measuring environmental and animal welfare concerns through sixteen NEP and AAS-5 statements (1 = totally disagree; 5 = totally agree).	Studies are available for diving, snorkelling, whale watching and fishing, separately. Filby et al. [27]; Mackay, et al. [55]; Springwald et al. [77,43].
PE_j (j = Jet ski, Whale watching, Kayak, Underwater observation, Snorkel)	Previous experience in practising marine activities (1 = never practised; 2 = once; 3 = between 2 and 3 times; 4 = 4- more than 4 times)	Previous experience in a specific activity determines a positive intention to practice the same activity in the future, but do not analyse how the experience in one activity can stimulate the practice of another. Suárez et al. [78].
Age	Continuous variable	These variables are expected to increase the robustness of the model as all previous researches confirm that nautical activities are dominated by men between 27 and 45 years old. Lam-González, et al. [48]
Gender	Dummy variable (1 = female; 0 = male)	

to growth for human societies and the possibility of a 6th mass extinction if things continue on their present course. This last achieved an eigenvalue of 1.05 and explained 6.59% of the total variance.

Our results are similar to those of Dunlap et al. [20] and Luo and Deng [54], who suggested that the NEP is composed of the following three dimensions: human domination of nature or humans over nature (NA-HUMAN), the balance of nature (NA-BALANCE), and limits to growth or eco-crisis (NA-CRISIS). Our factor analysis reported an additional construct (NA-ANIMAL), since various attributes of the AAS-5 scale were included in the analysis.

4.2. Ordinal logit model

Table 5 summarises the regression estimates for the five marine activities (jet skiing, whale watching, sea kayaking, underwater observation, snorkelling). The five models show a good fit according to *Chi-2* values. A correlation analysis of predictor variables indicate that they were positively connected with the five dependent variables (in between 0.1 and 0.05 of significance). According to Midi et al. [61], a correlation

Table 4

PCA of the attributes concerning environmental and animal attitudes (NEP and AAS-5 statements).

NA FACTORS	Factor loading	Com.	Eigen value	% variance explained	Cronbach α
NA- HUMAN - Human domination			4.56	28.51	0.82
Humans will eventually learn enough about how nature works to be able to control it	0.75	0.58			
Humans have the right to modify the natural environment to suit their needs	0.74	0.63			
The adaptive capacity of animals is strong enough to cope with the expansion	0.74	0.58			
Human ingenuity will ensure that we do NOT make the earth unliveable	0.73	0.65			
The so-called 'ecological crisis' has been greatly exaggerated.	0.69	0.52			
Humans were meant to rule over animals	0.66	0.53			
NA- BALANCE - Environmental balance			2.51	15.65	0.73
Despite our special abilities, humans are still subject to the laws of nature	0.77	0.60			
The balance of nature is very delicate and easily upset	0.66	0.61			
Animals have as much right as humans to exist	0.62	0.56			
When humans interfere with nature, it often produces disastrous consequences	0.61	0.55			
NA- ANIMAL - Animal Protectionism			0.13	7.09	0.68
It is morally wrong to fish/hunt just for sport	0.77	0.60			
I sometimes get upset when I see animals in cages at zoos or in tanks/ pools at aquariums	0.73	0.59			
The slaughter of whales should be immediately stopped	0.57	0.47			
Humans are severely abusing animals	0.50	0.54			
NA- CRISIS - Eco-crisis			0.05	6.59	0.57
If things continue on their present course, we are heading for the 6th mass extinction	0.78	0.68			
We are approaching the limit of the number of people the earth can support	0.73	0.57			

Note: KMO measure of sampling adequacy= 0.872; Bartlett's test of Sphericity= 4950.75 ($p = 0.000$); Percentage of total variance= 58.0%

Table 5
Ordinal logit model estimations about the interest in engaging in marine-based activities.

Variable	INTEREST Jet ski ^a		INTEREST Whale watching ^b		INTEREST Kayak ^c		INTEREST Underwater observation ^d		INTEREST Snorkel ^e	
	β	Wald St.	β	Wald St.	β	Wald St.	β	Wald St.	β	Wald St.
SSE- Physical risk	.406 **	44.11	.114	3.46	.481 **	61.33	.195 **	10.56	.315 **	26.48
SSE- Challenge	.224 **	11.82	.008	.018	.233 **	12.90	.095	2.23	.184 **	7.96
SSE- Exciting exp.	.222 **	11.36	.380 **	34.97	.324 **	24.15	.371 **	34.17	.205 **	9.89
NA-HUMAN	.220 **	12.59	-.084	1.85	.001	.001	-.017	.081	.087	1.97
NA-BALANCE	-.0004	.005	.417 **	49.15	.022	.139	.185 **	10.10	.088	2.19
NA-ANIMAL	-.021	.125	.166 **	8.48	.007	.014	.042	.562	.137 *	5.57
NA-CRISIS	-.034	.349	.139 *	5.95	.013	.047	.072	1.62	.160 **	7.65
PE- Jet ski	.736 **	71.32	.041	.227	.117	1.94	.002	.000	-.121	2.03
PE- Whale watching	.342 **	17.53	.363 **	19.90	-.174 *	4.74	-.194 *	6.06	-.218 **	7.31
PE- Kayak	.051	.342	-.031	.129	.603 **	46.88	-.070	.651	.099	1.30
PE- Underwater	-.026	.106	.062	.597	-.087	1.16	.578 **	49.62	.115	1.98
PE- Snorkel	.019	.082	.018	.075	.150 *	5.41	.182 **	7.98	.996 **	195.41
Age	-.031 **	68.50	.000	.000	-.028 **	59.14	-.015 **	18.24	-.027 **	55.15
Gender- Female	-.163	1.89	.523 **	19.60	.169	2.04	.142	1.51	-.021	.031

a. Log likelihood: $X^2 = 581.40$; Sig = 0.000; Pseudo R^2 : Cox & Snell = .412; Nagelkerke = .431

b. Log likelihood: $X^2 = 226.96$; Sig = 0.000; Pseudo R^2 : Cox & Snell = .187; Nagelkerke = .199

c. Log likelihood: $X^2 = 601.93$; Sig = 0.000; Pseudo R^2 : Cox & Snell = .423; Nagelkerke = .442

d. Log likelihood: $X^2 = 321.68$; Sig = 0.000; Pseudo R^2 : Cox & Snell = .255; Nagelkerke = .267

e. Log likelihood: $X^2 = 623.54$; Sig = 0.000; Pseudo R^2 : Cox & Snell = .434; Nagelkerke = .453

* $p < 0.05$; ** $p < 0.01$

matrix is helpful, but not enough to detect collinearity. Therefore, a specific diagnosis was run to confirm the absence of multicollinearity.

As Table 5 shows, there is a positive and direct effect of the variable *SSE- Exciting experience* on the five dependent variables. This means that the greater the search for excitement on the part of respondents, the higher the interest in doing/practising the marine-based activities under study. On the other hand, there is a positive and significant relationship between physical risk-seeking -*SSE- Physical risk*- and the interest in these activities, except in 'whale watching'. Looking for a challenge, *SSE- Challenge* lead to a greater interest in doing/practising the following three activities: jet skiing ($\beta = 0.224$, $p < 0.01$), kayaking ($\beta = 0.233$, $p < 0.01$) and snorkelling ($\beta = 0.184$, $p < 0.01$).

Data shows that there is significant and positive relationship between the factors (NA-BALANCE $\beta = 0.417$, $p < 0.01$; NA-ANIMAL $\beta = 0.166$, $p < 0.01$; NA-CRISIS $\beta = 0.139$, $p < 0.05$) and tourists' level of interest in engaging in 'whale watching'. It positions 'whale watching' as the activity in the model that attracts the greatest pro-environmental and animal attitudes. For its part, 'snorkelling' attracts those with positive attitudes towards *Animal protectionism* (NA-ANIMAL, $\beta = 0.137$, $p < 0.05$) and (*Eco*)*crisis* (NA-CRISIS, $\beta = 0.160$, $p < 0.01$), while the interest in 'underwater observation' is explained by a greater degree of concern for an *Environmental balance* (NA-BALANCE, $\beta = 0.185$, $p < 0.01$). Conversely, those individuals who believe in humanity's ability to rule over nature (NA- HUMAN $\beta = 0.220$, $p < 0.01$) expressed significant and positive interest in jet skiing. No direct influence was found between pro-environmental or anthropocentric attitudes and respondents' interest in sea kayaking.

Concerning previous experience in doing/practising sea-based activities, results indicate a direct and positive influence on repurchasing intentions. That is, having done jet skiing before -*PE-Jet Ski*-, for instance, led to a higher level of interest in pursuing this activity again during the following trip. Besides, data reveals that for some activities, such as snorkelling, previous experience -*PE-Snorkel*- not only positively influences respondents' interest in pursuing the same activity, but also others, such as 'sea kayaking' and 'underwater observation'. In the case of whale watching, results slightly differ. Having experienced the observation of cetaceans in their natural habitat led to a greater interest in repurchasing 'whale watching', but negatively affected tourists' interest in the other sea-based activities, including 'snorkelling' and 'underwater observation'. This could be explained based on the following: whale-watching tourists may not be considered as the kind of 'marine recreationists' seeking to fully exploit all the leisure possibilities that the

sea provides, may be averse to those water sports that challenge their perception of risk or could give rise to some unexpected situations.

With respect to age, a negative relationship was confirmed. As expected, the younger the individual, the greater their interest in engaging in marine activities (jet skiing, kayaking, underwater observation, and snorkelling). On the other hand, there is a positive relationship between gender (women) and the level of interest in whale watching ($\beta = 0.523$, $p < 0.01$). According to Stipanović et al. [77], women generally prefer 'softer' activities, which could explain the relationship found. Besides, there exists considerable debate regarding the assumption that women have a stronger 'ethic of care' than men ('eco-feminism') - reflected in their interest in animal wellbeing protection [9,10] -, which could also be aligned with the value of *Animal protectionism* found in individuals particularly interested in whale watching.

5. Discussion

Individuals plan their trips according to their motivations, preferences, and travel experiences, the recommendations they make and receive, and their desire for various types of sensation and degrees of stimulation [5,12,30,43]. However, their choices are sometimes unpredictable as they are also partly influenced by personal values [6].

The present study is thus original in explaining the extent to which the various key attitudinal characteristics of individuals influence their interest in engaging in marine recreation during their visit to coastal tourist destinations. This will help to develop a new framework for marine tourism research and policy-making. For example, it opens a new perspective to segment the broader marine tourism market and improve marketing plans accordingly. This research also provides evidence on some understudied activities that attract tourists to coastlines, such as jet skiing, kayaking and underwater observation, and their relationship with the environmental concerns of individuals.

From the theoretical perspective, the paper supports and contrasts earlier hypotheses, and also reveals new insights. This study has demonstrated that the greater the search for physical risk and challenge (i.e., unexpected situations), the higher the probability of doing the marine-based activities under study, with the exception of whale watching.

These results are consistent with studies in the adventure tourism literature, which demonstrate that 'hard' activities attract people seeking extraordinary and non-everyday experiences that often require some level of skill, physical prowess or commitment [24,34,39,69]. On

the other hand, whale watching can be considered a 'soft' activity that attracts more women and requires little to no previous knowledge or physical effort [34]. As an exception, we found that 'underwater observation' is closer to the group of 'hard' activities. Even though it does not involve physical effort (nor previous knowledge or skills), individuals perceive some level of risk, probably associated with being in a capsule/submarine in the depths of the ocean.

In contrast to Giddy and Webb [32], our findings show that some adventurous tourists hold positive pro-animal attitudes when it comes to the marine environment. This is particularly true concerning tourists interested in snorkelling. In other words, snorkelling was found to be an adventurous activity that attracts tourists who seek risk, challenges and excitement while are also greatly concerned for animal rights. This is not the case for tourists that exhibit a greater preference for jet skiing, who present similar levels of 'sensation seeking' to snorkelers, but tend to have greater anthropocentric values. This evidence has managerial implications as, for instance, it can be proposed that snorkelling and diving clubs could better adjust their offer to tourists' needs by providing thrilling experiences full of adventure without neglecting the promotion of environmentally responsible behaviour. As an example, active campaigns focusing on tourists 'cleaning the oceans' could be attractive for snorkelers. In contrast, environmental awareness campaigns should accompany other nautical tour packages, such as jet ski hire firms seeking to promote an improved environmental identity to these recreationists.

Our study also confirms that the greater the bio-centric attitudes and pro-animal protection concerns of tourists, the stronger their interest in having encounters with marine wildlife in their natural environment - whale watching and snorkelling - [15,27,33,5,54,68,76]. However, the 'underwater observation' activity can be considered an exception. That is, those who prefer this activity do not show a greater degree of environmental concern than the aquarium visitors or the general population [14]. As Moscardo [62] highlighted, being interested in marine wildlife experiences does not necessarily mean greater concern for wildlife protection. In order to be sustainable, 'underwater observation' as a tourist activity still faces the challenge of raising consumers' wildlife and environmental awareness. An educational programme supported by technological innovation would ease a suitable strategy for this aim.

Concerning previous experience, findings confirm the importance of obtaining information about the types of activities tourists have done/practised in the past, as it allows tourism managers to anticipate the demand for specific experiential offerings and services in marine tourist areas. In addition, and garnering particular attention to whale watching, this research reveals that having carried out a whale-watching tour before leads to a lower interest in pursuing other sea-based activities. This is supported by the previous evidence provided by Filby et al. [27], García-Cegarra and Pacheco [31], and Gray et al. [33]. They found that engaging in a whale-watching trip may be a unique experience that contributes to increasing the 'environmental identity' and the morality of individuals, thus leading to a behavioural shift in their lifestyles and regards to the 'consumption' of the environment and its biodiversity in general.

6. Conclusions

This study has shed some light on the decision criteria considered by tourists in the context of marine leisure and recreation. More specifically, it assesses how concerns over animal rights and the environment explain tourists' interest in engaging in diverse marine-based activities in the context of other factors - such as personal characteristics, thrill and adventure-seeking, and previous nautical experience - that may also intervene.

Summarising, results confirm that 'harder' water sports - i.e., jet skiing - attract tourists with the highest anthropocentric attitudes, who seek risk, challenge and excitement. On the other hand, individuals with stronger pro-environmental and pro-animal attitudes are more likely to

engage in marine wildlife-based activities - e.g., whale watching. In this context, two exceptions were found: i) snorkelling attracts tourists that hold strong bio-centric attitudes *and* look for a high level of thrill and adventure, and ii) underwater observation, which is perceived as a risky activity, is preferred by tourists who show mid-level environmental concerns.

These findings have practical implications for policies on sustainability. The relationship found between tourists' concerns and the type of activity they perform or plan during the visit to coastal destinations would enable tourism managers to create a cluster map of activities accordingly. In response, firms could meet more closely tourists' (with greater bio-centric) preferences, directing their business toward 'more attractive' environmental and animal-friendly experiential offerings on the one hand. On the other hand, they could lead to those other individuals with low environmental commitment and anticipate possible undesirable tourist practices or even social problems, attracting them to behave more environmentally responsibly. As Font et al. (2021) pointed out, corporate and policy decisions in tourism are a social construct and should incorporate the various interests, values and ideologies of all players, which indeed includes tourists' environmental awareness [28].

All paths lead to the same recommendation - that is: tourism policies should work towards promoting corporate commitment to protect marine ecosystems and animals' wellbeing and rights, which, in turn, would improve brand image. This means not only making sure that the industry complies with the regulations (e.g., respecting the safety distance around whales), but also properly exploiting knowledge-based information to improve destination governance and nourish sustainability performance evaluation.

This study faces various limitations that reduce, to some extent, the potential generalisation of its results and the scope of its conclusions. A larger sample of tourists from different outbound markets would facilitate the extrapolation of results to the total population of tourists interested in the various types of marine recreational activities at any coastal destination. It would also be necessary to consider other attitudinal and behavioural issues in order to take advantage of the changing needs, values and culture of prospective tourists. In addition to providing more tailored tourism experiences, this strategy would also help firms by expanding products and services to a larger range of consumers from different geographical source markets.

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Author statement

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CRediT authorship contribution statement

Chaitanya Suárez-Rojas: Data curation, Investigation, Project administration, Formal analysis, Methodology, Software, Writing - original draft. **Carmelo J. León:** Funding acquisition, Investigation, Validation. **Yen E. Lam-González:** Funding acquisition, Investigation,

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Data Availability

The data that has been used is confidential.

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