

## OUTDOOR TOURISM DEMAND SEGMENTATION: A CASE STUDY FROM NORTH OF PORTUGAL

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**Abstract:** This research aimed to segment the market of visitors who practise outdoor activities in the North region of Portugal based on their motivations. An online survey was conducted between June to September of 2021, with a sample of 200 tourists who realised the region's outdoor activities during this period. The data collected allowed determining factor analysis and the clusters. Two factors: services/hospitality and nature experiences, and three clusters: soft practitioners, radicals, and enthusiasts were delimited. The results show that these groups differ in motivations and practised activities. Segmentation of outdoor tourism demand in North of Portugal should set out marketing and promotion strategies in different destinations, attracting demand from outside the region, and according to their preferences.

**Key words:** outdoor tourism, outdoor activities, motivations, visitor's profile, clustering

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### INTRODUCTION

Outdoor tourism has been practised substantially in the last few years, particularly in the pandemic period when outdoor activities increased considerably (Silva et al., 2021). Outdoor tourism can be understood as the realisation of outdoor activities (Ferreira et al., 2021) classified as hard or soft (Tsaour et al., 2020; UNWTO, 2014). These activities often take place in nature, protected areas, urban parks, and rural areas (Derek et al., 2019). Furthermore, outdoor tourism is considered one of the fastest-growing subcomponents of tourism and a trend in line with the principles of sustainability and environmental awareness (Valizadeh and Khorani, 2020). In past years, with the increase in demand for outdoor activities,

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studies on this subject are in evidence. Leisure, recreation, and tourism are often themes of the studies (Pomfret and Bramwell, 2016). Otherwise, outdoor tourism (e.g., Anna et al., 2021; Du et al., 2016; Hao et al., 2016; Ito, 2021) can encompass studies about Outdoor Recreation (Bailey et al., 2017; Beery and Jönsson, 2017; Gamborg and Jensen, 2017; Schirpke et al., 2018), Adventure tourism (Beedie and Hudson, 2003; Chen et al., 2020; Pomfret and Bramwell, 2016; Tsaur et al., 2013), Nature-based tourism and protected areas (Beedie and Hudson, 2003; Chen et al., 2020; Pomfret and Bramwell, 2016; Tsaur et al., 2013), sport and tourism (Ito, 2021). Despite these themes, we can notice outdoor tourism requires further investigation (Pomfret and Bramwell, 2016), specifically in outdoor tourism demand segmentation. Were identified articles segmenting the tourists in rural areas, nature-based tourism (e.g., Tangeland, 2011) and adventure activities (e.g., Pomfret and Bramwell, 2016; Tsaur et al., 2013, 2015, 2020), but scant research exist specifically about outdoor tourist. But who is the outdoor tourist? We can consider the person who practices outdoor activities. In this sense, this tourist can be segmented by considering traveller features, travel behaviour, soft and hard adventure, cultural learning or exchange, physical activity and interaction with nature (Pomfret and Bramwell, 2016), and they are motivated by different factors (Pomfret and Bramwell, 2016). Moreover, the participants have different skill levels, from beginner to expert and the different skills influence the participants' motivations (Buckley, 2007). Based on motivations, this research aimed to segment the market of visitors who practise outdoor activities in the North region of Portugal.

This region supports the potential for the development of outdoor tourism, considering the diversity and uniqueness of natural resources (Martins et al., 2021). The increased demand for outdoor activities demonstrates the importance of understanding the tourist's segmentation of the Northern Region of Portugal. This can facilitate tourism planning, determining more effective policies in this segment. Moreover, it can also make marketing actions more effective, reaching different outdoor tourist groups' needs and desires (e.g., Ito, 2021; Liu et al., 2022). In this sense, this paper is organised into five sections. After the Introduction, section 2 will survey a literature review regarding Outdoor Tourism and tourists' motivations. Section 3 describes the research method used to collect and analyse the data. The results and discussion are presented in section 4. Finally, section 5 summarises the results and presents some policies and managerial implications.

### Theoretical Framework

The modern lifestyle and the urbanisation of big cities make people look for alternatives to escape from this rhythm of life, and therefore they choose outdoor activities, especially in nature (Beames et al., 2018). The connection between physical activities and nature is recognised and has a positive effect (Bácsné-Bába et al., 2021), contributing to the well-being of the people (Silva et al., 2021). The pandemic period increased the practice of activities in natural places and made outdoor space more valued by visitants and tourists. Thus, in this period, the demand for rural and nature-based tourism increased (Silva, 2021). Based on previous studies, we consider these tourism segments as outdoor tourism, described as a destination product, combining tourism with natural, cultural, and human resources (Hao et al., 2016). Furthermore, outdoor tourism is considered one of the fastest-growing subcomponents of tourism and a trend in line with the principles of sustainability and environmental awareness (Valizadeh and Khorani, 2020).

Nonetheless, the concept of outdoor tourism is not closed, and different authors use different terms. Nature-based tourism (e.g., Beedie and Hudson, 2003; Chen et al., 2020; Pomfret and Bramwell, 2016; Tsaur et al., 2013); ecotourism (e.g., Lee et al., 2021); outdoor recreation (e.g., Bailey et al., 2017; Beery and Jönsson, 2017; Gamborg and Jensen, 2017; Schirpke et al., 2018); adventure tourism (e.g., Beedie and Hudson, 2003; Chen et al., 2020; Pomfret and Bramwell, 2016; Tsaur et al., 2013); mountain adventure tourism (e.g., Beedie and Hudson, 2003; Maroudas et al., 2004) are some concepts found in the studies about this subject. However, the term outdoor tourism can be an opportunity to approach as an overarching concept.

Outdoor tourism can involve different activities. Some approaches segment these considering the geographic characterises, in other words, land-based, air-based, or water-based activities (Dereck et al., 2019). Another way to segment is by considering the risk involved; in this sense, activities may be classified as hard or soft (Tsaur et al., 2020; UNWTO, 2014). Radical activities tend to involve risk and danger (Zhou et al., 2020), like bungee jumping, downhill and others. Soft activities involve little risk, such as hiking or fishing (UNWTO, 2014). As the demand for outdoor tourism increases, the studies about this are more evident. In the meantime, few studies analyse the segmentation of outdoor tourists.

Motivation is one of the aspects considered when there is the segmentation of tourists and is an important factor in studies of tourism segmentation. Motivation can be described as the process of decisions made by tourists (Bansal and Eiselt, 2004) and what can influence a person in choosing a destination or activity. Some authors developed studies considering motivation to segment tourists of outdoor tourism. Palacio and McCool (1997) related four motivations to nature-based tourism: escape, learning about nature, healthy activities and cohesive and identified five types of tourists, including nature escapists, ecotourists, and comfortable naturalists passive players. Beh and Bruyere (2007) defined motivations as general viewing, nature, culture, adventure, mega-fauna, escape, learning and personal growth and three types of tourists the escapists, the learners and the spiritualists. Tangeland (2011) identified four purchase motivations: quality improvement, skill development, new activity and social. Furthermore, he identified six types of tourists: social, want-it-wall, try a new activity, performer and unexplained. Recently, similarly to the aim of the present paper, the mentioned authors have also segmented the practitioners of outdoor activities Povilaitis et al. (2020) identified the profile of tourists of outdoor programmers of summer camps. They classified four psychographic profiles: Enthusiast, Ecologist, Dabbler, and Constrainer. Humagain and Singleton (2021) identified the motivations of outdoor recreationists during COVID-19.

They classified the motivations as enjoying nature, autonomy, physical fitness, rest, escaping personal-social-physical pressure, family and friends, novelty experience and COVID-built motivations. Besides these studies, Derek et al. (2019) segmented the tourists using activity-based segmentation. In this sense, six types of tourists were determined: angling

sailors, non-angling sailors, cyclists, anglers, water recreationists and passive tourists, based on activities such as sailing, motorboating, angling, walking, cycling, observing wild animals, and others. Analysing these studies, it is evident that the main motivations for the practice of outdoor activities are basically living new experiences, escapism and being amid nature, and so it is important to consider motivation as a segmentation factor for outdoor tourists in the Northern Region of Portugal.

## MATERIALS AND METHODS

### Study site

Northern Portugal is a region with diversity and uniqueness of natural resources. The area consists of eight micro-regions known as NUTS III. This area has mountains, rivers, and protected areas, including natural parks, regional natural parks, national reserves, local nature reserves, and regionally protected landscapes with characteristics and infrastructure conditions for outdoor activities (Martins et al., 2021; Silva et al., 2021). Peneda-Gerês National Park and Montesinho Natural Park are important outdoor areas located in Northern Portugal, which attract practitioners of different activities, such as hiking, cycling, canoeing, mountaineering, and others. The coastal area, with its beautiful beaches, is attractive for water-based sports. And there are also different options for adventure activities throughout the Northern Region. Considering the potential for Outdoor and nature-based tourism, this segment was identified in the strategic plan "Portuguese Tourism Strategy 2027" (Turismo de Portugal, 2017) and it is also a strategic product of Turismo Porto e Norte (TPNP), an entity responsible for promoting and developing the value chain of tourism in the Porto and North Region of Portugal (TPNP, 2015). In this regard, there is a need for knowledge of the tourist profile of outdoor tourism to contribute to tourism planning and marketing strategies.

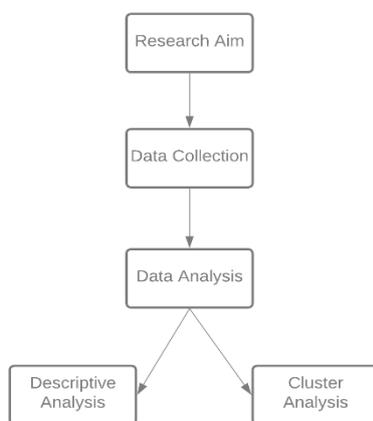


Figure 1. Methodology Flowchart

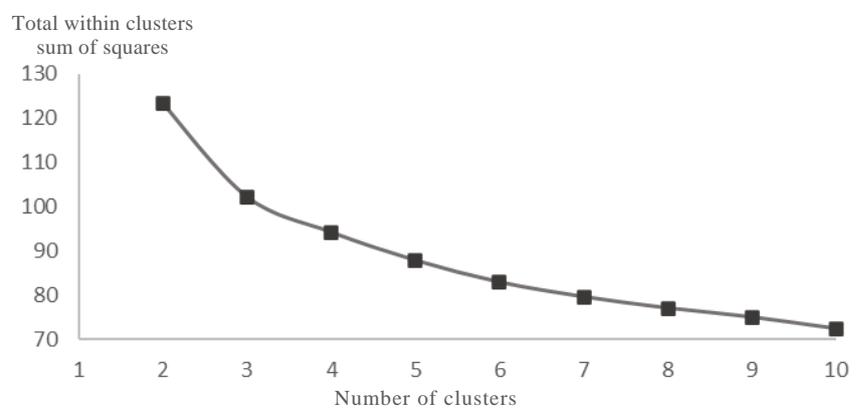


Figure 2. The number of clusters indicated by the Elbow position

### Data collection

The methodology followed the steps presented in Figure 1, which will be detailed in this topic of the paper. Based on the purpose, the first step was to apply a survey to tourists and visitants who practised outdoor activities in the Northern Region of Portugal. Due to the pandemic period, it was used the Microsoft Forms tool to apply an online questionnaire between June and September 2021. Portuguese and English versions were available. Thus, a non-probabilistic snowball sample was chosen, where each respondent indicated a new respondent. A total of 236 answers were received, and after discarding 36 incomplete questionnaires, 200 valid responses were analysed. A pre-test was conducted to validate the questionnaire that was carried out with 100 elements in the period from April to May 2021.

From the pre-test, some improvements were made, namely the adequacy of the qualitative measurement of the scales regarding the knowledge about the activities practised and regarding the issues related to loyalty. Filters were also inserted between the questions to facilitate their understanding and after these the questionnaire was applied. The questionnaire was designed with 42 open and closed questions and was split into three parts. The first part consisted of twenty-five questions to characterise the visit and the outdoor activity performed. One of the sections identified the motivations, which was measured by fourteen items on a 5-point Likert Scale (1=not important, 5=extremely important). Part two presented questions with items on a 5-point Likert Scale, concerning thirteen items to importance (1=not important, 5=extremely important), thirteen items to satisfaction (1=very unsatisfied, 5=very satisfied), two items to perceived value (1=very bad, 5=very good), and six items to behavioural attitude (1=definitely not, 5=definitely yes). The last part of the questions consisted of thirteen questions that sought to understand the sociodemographic profile of the sample. Previous research influenced the statements presented in the questionnaire.

### Data analysis

The first step was the descriptive analysis, being possible to identify the sociodemographic profile of the sample. Next, the motivations were correlated, using Pearson Correlation Coefficient. Afterwards, an Exploratory Factor Analysis (EFA) with varimax rotated principal component analysis was used to generate dimensions of tourists' motivations for outdoor tourism. The Kaiser-Meyer-Olkin – KMO - (0.909) surpasses the recommended cut-off of 0.5 (Field, 2018) and Bartlett's test of sphericity (1565.357) revealed the data was properly for EFA.

All the fourteen motivation items presented Eigenvalues above .50 and were accepted for item inclusion in dimensions. Results obtained a two-factor solution, explaining 59.5% of the total variance. The Cronbach's Alpha

values of both dimensions (Dimension 1 = 0.884 and Dimension 2 = 0.878) indicated acceptable reliability. After this, hierarchical clustering was carried out using Ward's method, where the variance of clusters is analysed instead of measuring the distance directly. The retained clusters have the smallest error sum of squares (Hair et al., 2014). This method tends to produce more homogeneous clusters, better separated from each other (Marôco, 2021).

The Squared Euclidean distance, using the squared distance as a measure of dissimilarity between cases (Hair et al., 2014), was adopted in this study. This is the recommended distance to Ward's Method (Hair et al., 2014). In this case, three clusters were found. Also, a visual method was applied, known as Elbow Method, that is used to identify the correct number of clusters (e.g., Humaira and Rasyidah, 2020; Shi et al., 2021).

As it can be observed in Figure 2, it was it was considered the total within clusters sum of squares, so the cost drops to 1, 2 and 3 clusters, and after that, it reaches a plateau; in this case, three is the optimal number of clusters. A combination using the hierarchical approach followed by a non-hierarchical clustering method is often advisable (Hair et al., 2014), known as K-means, which transfers an individual to the cluster whose centroid is located at the shortest distance (Hair et al., 2014). In this step, the three clusters were confirmed. Considering the hypothesis of this study that there are significant differences per cluster regarding the motivation, the decision of the hypotheses wearied parametric tests. Assuming the normality of the data, ANOVA was run (*accommodation, gastronomy, climate, hospitality, history and local/regional culture, touristic attractions, new experiences, find adventure, events/festivals, tourism entertainment activities*) assuming the significant level (0.05) and homogeneity of variances.

On the other hand, it was applied the non-parametric test Kruskal-Wallis to variables that did not present normality (*the environmental resources, safety, nature/landscape and outdoor activities*) and also evidenced a significant level (0.05). To define the clusters' names, activities were divided into soft and hard, similar to a study developed by UNWTO (2014), who engage in outdoor activities based on their motivation and in the type of activities. Some examples of soft activities are circuits/tourist routes, equestrian tours, interpretative trails, walks, guidance, and others. On the other hand, activities such as BTT, slide, rafting, kitesurf, and mountaineering were considered as hard.

## RESULTS AND DISCUSSION

### Sample profile

Regarding sociodemographic characteristics, the sample profile is slightly more women (50.5%), the majority aged between 18-40 years (66.3%). Predominantly (70.5%) had higher education levels, were single (53.3%) and Portuguese (94.5%), with an average monthly income between 601€ and 2400€ (74%). Most reside in Porto Metropolitan Area (25%), in Tâmega and Sousa (17.5%) and in Terras de Trás-os-Montes (13%), all of them located in the Northern region of Portugal. Relating to outdoor activities, most of the sample occasionally (35.5%) practice these activities in their residence, and 20% practice 1 or 2 times a week. The activities most practised were walking/hiding (28.8%), running (11.7%) and cycling (9.5%).

Table 1. Dimensions of Outdoor Tourism Demand

Factor/Motivation	Components	
	1	2
<i>Services and hospitality</i>		
Hospitality	0.808	
Gastronomy	0.777	
History and local/regional culture	0.761	
Safety	0.711	
Nature/landscape	0.685	
Touristic attractions	0.637	
Accommodation	0.557	
Climate	0.502	
<i>Nature Experience</i>		
Find adventure		0.840
Tourism entertainment activities		0.738
Events/festivals		0.731
New experiences		0.676
Outdoor activities		0.617
Environmental resources		0.571
$\bar{X}$	3.94	3.73
$\sigma$	0.751	0.811
Cronbach's Alpha	0.884	0.878
Eigenvalue	7.140	1.190
% Variance Explained	51.0	8.5
% Variance Cumulative	51.0	59.5
KMO (Kaiser-Meyer-Olkin)	0.909	

Table 2. Social and Demographic profile per cluster

Characteristics	Clusters		
	Soft Practitioners	Radicals	Enthusiasts
(n;%)	(n;%)	(n;%)	(n;%)
Gender (200; 100%)	Female (40; 56.3%)	Female (14; 51.9%)	Male (49; 52.7%)
Age (199; 100%)	18-40 years (44; 62.9%)	18-40 years (21; 77.7%)	18-40 years (63; 67.7%)
Nationality (200;100%)	Portuguese (69; 97.2%)	Portuguese (23; 85.2%)	Portuguese (89; 95.7%)
Marital Status (200;100%)	Single (44;62.0%)	Single (14;51.9)	Single (45;48.4%)
Educational level (200;100%)	Higher education (56;78.9%)	High school (14;51.9%)	Higher education (71;76.3%)
Average monthly income (200;100%)	To 601€ and 1200€ (25;35.2%)	To 1201€ and 1800€ (14;51.9%)	To 601€ and 1200€ (26;28.0%)
Residence Area (NUTS III) (200;100%)	Tâmega and Sousa (19;26.8%)	Tâmega and Sousa (8;29.6%)	Porto (32;34.4%)
Frequency of outdoor activities in place of residence (200;100%)	Occasionally (27;38.0%)	3 to 5 times a week (11;40.7%)	Occasionally (36;38.7%)
Activities practised (200;199%)	Soft (50;76%)	Hard (10;47.6%)	Soft (56;67.5%)

$\bar{X}$  = mean;  $\sigma$  = standard deviation; Bartlett's test of sphericity: 1.565.357; Extraction Method: Principal Component Analysis; Rotation Method: Varimax; Cronbach's Alpha-Internal consistency (0.924)

### Exploratory factor analysis

The exploratory factor analysis (Table 1) revealed two dimensions (with loading greater than 0.5) that motivate the practice of outdoor tourism. The first dimension was called Services/Hospitality, accounted for 51% of the total variance

and incorporated eight motivations items with different aspects of the structure and services of the local chosen (accommodation, gastronomy, climate, hospitality, history and local/regional culture, touristic attractions, safety, nature/landscape). The mean value score of this dimension is 3.94 points ( $\pm 0.751$ )

Nature experience, the second motivation dimension, explains 8,5% of the total variance and includes six items related to the experiences in the local (environmental resources, new experiences, find adventure, events/festivals, tourism entertainment activities, and outdoor activities). This dimension presented 3.73 points ( $\pm 0.811$ ) as the mean of items.

### Cluster analysis

To segment the Outdoor Tourism demand, a K-means cluster analysis was performed. A total of three clusters were identified and named, considering the realised activities, grouped in hard or soft. The first group was the Soft Practitioners (37.2%), the second was radicals (14.1%), and the last one was the Enthusiasts (48.7%). Table 2 shows each group's social and demographic profile. According to their main characteristics, the clusters are described below.

Cluster 1: including 37.2% of the sample, this group was named Soft Practitioners, because they tend to occasionally practise soft and land-based activities. Consists predominantly of women (56.3%), between 18 and 40 years (62.9%). Most of the practitioners had completed higher education (78.9%), with an average monthly income of 601€ and 1200€ (35.2%). Almost 27% resides in Tâmega and Sousa Region. Regarding the visit and the practitioner characteristics, most are practitioner untrained (77.5%) with moderate knowledge about the activity practised (45.1%). The largest number of respondents travelled with friends (49.3%), with an average of 6.21 ( $\pm 6.220$ ) people accompanying. Finally, most did not acquire the activity with anyone; in other words, they performed autonomously (54.3%).

The practitioner of this cluster occasionally practises outdoor activities in their residence area (38.0%). Notably, this group prefers activities classified as soft (76.9%) and opts for land-based activities (72.3%). This cluster presented the highest motivation means in both dimensions: Services/hospitality and nature experience. Noteworthy is that all the motivation means in this group are much higher than the general mean of the study sample. Nature/landscape was the main motivation, with a mean of 4.90 points ( $\pm 0.300$ ). The averages for opinion and likelihoods show similar results to those for motivation, and they are much higher than the study sample. Regarding the quality/price ratio of the outdoor activity practised the members of this group rated with an average of 4.03 ( $\pm 0.803$ ) and when asked about the quality/price ratio in the Northern Region, the average was similar (4.02 $\pm 0.712$ ). About the likelihood, this group tends to repeat the practice of outdoor activity (4.53 points $\pm 0.570$ ) and, also, recommends the Northern Region (4.73 points $\pm 0.561$ ).

Cluster 2: Radicals, which is the smallest group, involving 14.1% of the sample and the group with the highest number of hard activities practisers, which justifies its name. Women account for 51.9% of the sample, aged between 18 and 40 years (77.7%). Also, 76.3% are holders high of education with an average monthly income of 1201€ and 1800€. This group of practitioners practise outdoor activities 3-5 times a week (40.7%) in their residence area, which is Tâmega and Sousa (29.6%). In this group are the majority of trained practitioners (33.3), with high knowledge about the practised activity (40.7%). They travelled alone (34.6%), and those who had companions indicated an average of 4.89 ( $\pm 11.375$ ) people together to them. Like cluster 1, the practisers performed autonomously (40.7%) the activity in this cluster. However, 33.3% of respondents indicated that they acquired the activity from the club/association. This may justify the Standard Deviation of the mean of companions since some respondents may have practised the activity in groups.

Almost half of the practitioners (47.6%) of this cluster practised hard and challenging activities, and it was the group with the highest percentage (28.6%) of participants in aquatic activities. In this group, the motivation means are much lower than the sample means, which may show the practisers are motivated for the activity and not for the other factors presented. Nonetheless, the highest average of the motivations was in accommodation (2.85 points $\pm 1.027$ ).

Considering the opinion and likelihood, we noticed that the averages presented similar results to the motivations; they are much lower than the sample averages. The low average concerning returning to the North Region (3.28 $\pm 1.173$ ) and the possibility of speaking positively about the Northern Region (3.32 $\pm 0.900$ ) is worth noting. This can demonstrate the need for solid work to improve the image of the North Region before this group of outdoor activities practitioners.

Cluster 3: this is the largest cluster with 48.7% of the sample, named Enthusiasts, by the activities practised, mostly softs and by means of their motivations. Differing from the other clusters, most visitants in this cluster were males (52.7%), aged between 18-40 years (67.7%), and higher education is the most cited educational level in this group (76.3%), with an average monthly income of 601€-1200€ (28.0%). Additionally, 34.4% of them reside in the Porto Region, and outdoor activity in the residential area is occasional. Analysing the characteristics of the visit, the majority are untrained practitioners (83.9%), with a moderate level of knowledge (45.2%), practising the activity with friends (47.3%) and not previously acquired the activity (58.1%). Interesting, however, is that in this group is the highest percentage of practitioners who acquired the activity with a holiday activity company (20.4%).

Similar to Cluster 1, the enthusiasts practise soft (67.5%) and land-based (72.3%) activities. Among the cluster, the highest motivation mean was for nature/landscape (4.40 points $\pm 0.592$ ), followed by security (4.19 points $\pm 0.784$ ).

About the opinions, in this cluster, the quality/price ratio of the outdoor activity practised had a mean of 3.77 points ( $\pm 0.870$ ), and the quality/price ratio in the Northern Region presented 3.90 points ( $\pm 0.895$ ). In terms of likelihood, the members of this cluster tend to recommend the Northern Portugal Region (4.49 points  $\pm 0.751$ ) and to return to the region (4.40 points  $\pm 0.932$ ). The characteristics of clusters 1 and 3 are quite similar; however, the main difference between them is the average motivations. Enthusiasts presented a behaviour similar to that of the general study sample. Table 3 presents the characteristics of the visits made, while Tables 4, 5 and 6 show the correlation between the motivation variables and the averages between the motivation factors and the intentions and probabilities of indicating the activity and the destination.

Table 3. Visits characteristics per cluster

Characteristics	Clusters		
	Soft Practitioners	Radicals	Enthusiasts
(n;%)	(n;%)	(n;%)	(n;%)
Level of Expertise (200; 100%)	Practitioner untrained (55; 77.5%)	Trained practitioners (9; 33.3%)	Practitioner untrained (78; 83.9%)
Level of knowledge (200; 100%)	Moderate (32; 45.1%)	High (11; 40.7%)	Moderate (42; 45.2%)
Travel Companion (199; 100%)	Friends (35; 49.3%)	Alone (9; 34.6%)	Friends (44; 47.3%)
Where purchase the activity (200; 100%)	Did not require/autonomously (38; 54.3%)	Association/Club (9; 33.3%)	Holiday activity company (19; 20.4%)

Table 4. Motivations Correlation Matrix

	$\bar{X}$	$\sigma$	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1	3.85	0.729	1.000														
2	3.80	1.037	.543	1.000													
3	3.99	0.937	.749	.525	1.000												
4	3.69	0.926	.638	.200	.429	1.000											
5	4.07	0.960	.813	.383	.672	.532	1.000										
6	4.08	0.986	.785	.239	.489	.544	.637	1.000									
7	3.95	0.942	.720	.318	.614	.402	.686	.583	1.000								
8	3.96	0.888	.773	.425	.538	.503	.612	.563	.630	1.000							
9	4.22	0.926	.745	.378	.565	.467	.620	.555	.472	.535	1.000						
10	4.34	0.908	.790	.398	.566	.438	.645	.641	.537	.587	.663	1.000					
11	3.98	0.973	.786	.384	.509	.389	.564	.577	.444	.606	.546	.671	1.000				
12	3.81	0.971	.748	.320	.418	.385	.486	.583	.336	.442	.487	.576	.724	1.000			
13	3.34	1.002	.613	.273	.385	.341	.362	.406	.354	.450	.359	.319	.469	.485	1.000		
14	3.60	1.010	.714	.337	.408	.392	.491	.500	.415	.525	.421	.422	.506	.629	.633	1.000	
15	3.91	1.001	.740	.270	.474	.457	.587	.630	.474	.439	.512	.516	.514	.685	.361	.547	1.000

1= Motivations; 2=Accommodation; 3=Gastronomy; 4= Climate; 5= Hospitality; 6= Environmental resources; 7= History and local/regional culture; 8= Touristic attractions; 9= Safety; 10= Nature/landscape; 11= New experiences; 12= Find adventure; 13= Events/festivals; 14= Tourism entertainment activities; 15= Outdoor activities.  $\bar{X}$  = mean;  $\sigma$  = standard deviation.

Table 5. Means Motivation per cluster/dimension

Motivation	Total			Clusters					
	$\bar{X}$	$\sigma$	p-value	Soft Practitioners		Radicals		Enthusiasts	
				$\bar{X}$	$\sigma$	$\bar{X}$	$\sigma$	$\bar{X}$	$\sigma$
<b>Services and hospitality</b>									
Accommodation	3.80	1.037	<0.001	4.31	0.872	2.85	1.027	3.69	0.932
Gastronomy	3.99	0.937	<0.001	4.66	0.533	2.56	0.577	3.89	0.827
Climate	3.69	0.926	<0.001	4.13	0.773	2.56	0.641	3.69	0.821
Hospitality	4.07	0.960	<0.001	4.73	0.446	2.44	0.698	4.04	0.706
History and local/regional culture	3.95	0.942	<0.001	4.46	0.693	2.63	0.792	3.95	0.757
Touristic attractions	3.96	0.888	<0.001	4.51	0.694	2.78	0.801	3.88	0.657
Safety	4.22	0.926	<0.001	4.80	0.401	2.78	0.751	4.19	0.784
<b>Nature Experience</b>									
Nature/landscape	4.34	0.908	<0.001	4.90	0.300	2.63	0.792	4.40	0.592
Environmental resources	4.08	0.986	<0.001	4.72	0.484	2.56	0.934	4.04	0.765
New experiences	3.98	0.973	<0.001	4.75	0.553	2.52	0.700	3.82	0.691
Find adventure	3.81	0.971	<0.001	4.62	0.544	2.56	0.801	3.56	0.714
Events/festivals	3.34	1.002	<0.001	3.99	0.837	2.56	0.934	3.08	0.850
Tourism entertainment activities	3.60	1.010	<0.001	4.39	0.621	2.59	0.931	3.28	0.826
Outdoor activities (nature, adventure, or nautical activities)	3.91	1.001	<0.001	4.62	0.517	2.48	0.849	3.77	0.809

Table 6. Means Opinion/Likelihood per cluster

Opinion/Likelihood	Total			Clusters					
	$\bar{X}$	$\sigma$	p-value	Soft Practitioners		Radicals		Enthusiasts	
				$\bar{X}$	$\sigma$	$\bar{X}$	$\sigma$	$\bar{X}$	$\sigma$
Quality/price ratio of the outdoor activity practised today/recently	3.81	0.893	0.003	4.03	0.803	3.36	1.036	3.77	0.870
Quality/price ratio in the Northern Region	3.87	0.867	0.002	4.02	0.712	3.38	0.983	3.90	0.895
To repeat the practice of the outdoor activities	4.16	0.809	<0.001	4.53	0.561	3.35	0.977	4.13	0.733
To speak positively about the outdoor activity	4.16	0.851	<0.001	4.52	0.685	3.40	1.118	4.12	0.728
To speak positively about the Northern Region	4.14	0.889	<0.001	4.53	0.684	3.32	0.900	4.08	0.856
To recommend the outdoor activity practised	4.33	0.918	<0.001	4.64	0.671	3.46	1.179	4.33	0.857
To recommend the Northern Region	4.43	0.862	<0.001	4.73	0.570	3.40	1.118	4.49	0.751
To return to Northern Region	4.32	0.939	<0.001	4.60	0.680	3.28	1.173	4.40	0.832

The main objective of this study was to segment the market of visitors who practice outdoor activities in the North of Portugal. This study introduces the discussion about outdoor tourism segmentation, an indeed underestimated topic.

Two dimensions were identified based on the motivations: services/hospitality and nature experience. Furthermore, this study identified three segments of outdoor tourism practitioners: soft practitioners, radicals, and enthusiasts. Although there are not many differences in the socio-cultural characteristics of the groups, the most significant difference is in the motivations and activities practised. This was more evident in group 2. As aforementioned, two dimensions resulted from the Factor Analysis. Nature Experience dimension was also determined in previous studies (e.g., Beh and Bruyere, 2007; Carvache-Franco et al., 2019; Palacio and Mc Cool, 1997), which can be justified by the characteristics of outdoor activities. In contrast to earlier findings, no evidence of a service/hospitality dimension was found. This can be explained by the indicators used to measure these motivations that were different from previous studies. The current research was focused on indicators such as accommodation, gastronomy, climate, hospitality, history and local/regional culture, touristic attractions, and safety. It identified two similar clusters (1 and 3), but they were differentiated by the variables of motivations and the activities practised. Related to the motivations, it was evidenced that cluster 1, composed essentially of women, overvalued all the variables; while cluster 3, with more male elements, presented an opinion very similar to the general sample of this study. A point to highlight concerning the sociodemographic profile is that participants in outdoor activities in the North of Portugal have a high level of education likewise Tangland (2011), Carvache-Franco et al. (2019) and Dereck et al. (2019) studies. Radical activities tend to be practised more by men (e.g. Elsrud, 2001; Lewis, 2004; Terzić et al., 2021; Zhou et al., 2020), although the study is composed of a majority of women (Cluster 2) who practice more radical activities. It is not possible to identify the reason for this difference. In this case, a suggestion for future studies is to identify the gender difference in the practice of outdoor activities.

## CONCLUSION

Motivation is a useful way to segment demand, and this study has also proved to be efficient in the outdoor tourism segment. Knowing the activities and preferred locations of the practitioners is also interesting to assist in marketing campaigns' planning and development processes. Although this study has evidenced a few sociodemographic differences between Clusters 1 and 2, it was clear that there are differences between the preferences for the activities practised in the three clusters found. Another issue is that most practitioners have no training in the activity practised; however, it was evidenced in cluster 2 a higher percentage of participants with training. In this case, the question is whether the practitioners' training in the practised activity makes them more critical, which caused the motivational averages to be lower than the other groups. Although this work has some limitations that must be addressed. The study was conducted using the snowball sample, thus, it is not a random process. In this sense, we cannot consider a representative of outdoor tourists, but exploratory research aimed to introduce this discussion.

The pandemic period potentiated the practice of nature-based activities, and many practitioners have discovered this practice and will continue. In this sense, knowing the profile and segmentation of these visitors is an important marketing tool that companies and those responsible for planning tourism in the destinations can use. In addition, this study can contribute to the discussions on this subject. In future studies, expanding the sample and applying the analysis in different regions is suggested to establish comparisons between practitioners of different activities and in the different regions.

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