

Understanding the relation between serious surfing, surfing profile, surf travel behaviour and destination attributes preferences

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Abstract

Surfing is a sporting activity that has become a major business, integrated in the leisure and tourism industries. Due to the impact of surf tourism and to the surfers' characteristics featured by the time and effort they invest in surfing and their propensity to travel in search for the perfect wave, it is important to understand if the six serious leisure qualities (*perseverance, career, effort, benefits, ethos and identity*) are related with socio-demographic characteristics, surfing profile, surf travel behaviour and surfing destination attributes preferences. Aiming to achieve these goals, an online survey (in the form of a questionnaire) was applied to a casual sample of 200 surfers in Portugal. The results of this study demonstrate that surfers exhibit the six serious leisure qualities and have a strong disposition to travel for surfing. Moreover, the results highlight that surfers value mainly the surfing natural conditions when choosing a surfing travel destination. Statistical tests also allowed concluding that socio-demographic variables are not good predictors of serious surfing, although serious surfing is correlated with surfing profile, surf travel behaviour and surfing destination attributes preferences. This data enables to provide important information that can be used to strengthen management strategies by surf tourism industry providers.

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Introduction

Surf tourism

Surfing is a wave activity with its roots in Hawaiian culture and tradition (Buckley, 2002a). Since the early 1900's, surfing has grown as sport of Western civilization (Dolnicar & Fluker, 2003b). Since the 1960's, the popularity of surfing has progressively increased (Barbieri & Sotomayor, 2013; Ponting, 2008) due to the cultural changes of that period (Wheaton, 2010). Surf tourism started with independent adventure travellers searching for new surfing spots, driven by the quality of the surfing experience in other regions or climates (Barbieri & Sotomayor, 2013). This kind of travel peaked in the 1960s because of the image of surfing culture delivered by mass media, as well as more affordable travel and the development of lighter materials (Barbieri & Sotomayor, 2013; Lazarow, Miller, & Blackwell, 2008). Surf tourism gained economic, social and environmental significance and has become a significant component of the adventure (sport) tourism sector (Buckley, 2002a; 2002b). Surf tourism is generally defined as travelling at least 40 km away from home, to domestic or international destinations, staying for at least one night and no more than 12 months, with surfing the primary purpose for travel. This includes active participants in surfing activities, as well as the spectators of events and those who follow them on their surfing trips (Buckley, 2002a; Dolnicar & Fluker 2003a, 2003b, 2004; Fluker, 2003; Ponting, 2008).

Nowadays, surf travellers rely on surfing tour operators to help them manage their surfing trips, which has led to a "global industry involving thousands of tour operators, village home stays, resorts, charter boats, wholesalers, retail travel agents, and vertically integrated service combinations around the world" (Barbieri & Sotomayor, 2013, p. 112). Recent research calculated that 112 countries have available surfing tours or surfing-related information for tourists (Ponting, 2008), fostering a multimillion-dollar industry that stimulates local economies (Barbieri & Sotomayor, 2013).

The growth of surfing and surf tourism sector has gained academic attention (Martin &

Assenov, 2012). Surfing research started in the 1970's (e.g., Kelly, 1973), and continued into the 1980's (e.g., Johnson & Orbach, 1986; Markrich, 1988) and 1990's (e.g., Breedveld, 1995; Poizat-Newcomb, 1999a, 1999b). However, the growing body of literature specifically on surf tourism emerged in the 21st century (Martin & Assenov, 2012), especially in the last ten years. During that period, a variety of topics have been covered, such as analyses of surfers' demographic and economic statistics, travel patterns, behaviour and preferences (e.g. Buckley, 2002a, 2012; Dolnicar & Fluker, 2003b), the surfing imaginary (e.g. Ponting, 2008, 2009; Ponting & McDonald, 2013), analyses of conservation and the sustainability of surf tourism (e.g. Buckley, 2002a, 2002b; Martin & Assenov, 2014a, 2014b; O'Brien & Ponting, 2013; Ponting & O'Brien, 2014) and the impact of surfing events (e.g. Getz & Fairley, 2003; O'Brien, 2007).

The surfing industry in Portugal is also growing but there are no publications that identify its global economic significance. There is some evidence to indicate the growth of this sector, particularly the growth in the number of surfers (Melo, 2013), the growth in the development of more specialized services such as surf schools and surf camps, and the increase in the market for surfing-related consumer brands (Moutinho, Dionísio, & Leal, 2007). Portugal is one of the best countries in Europe in which to develop surfing activities: it has a continental coast of almost 1000 km, hosting large numbers of beaches with excellent surfing quality. These natural conditions, along with internationally renowned spots such as Ericeira (recognized during 2011 as the first World Surf Reserve in Europe, and the second one in the entire world) and Peniche (the Portuguese Capital of the Wave), and the organization of national and international top level events such as the World Surf Leagues, has allowed Portugal to create a positive destination image related to surfing (Melo, 2013).

Surfing and serious leisure

Serious leisure is a perspective that was introduced by Stebbins (1982) to analyse the seriousness with which some individuals take some leisure activities, including those who

participate in sport and tourism activities (e.g. surfing). Serious leisure was defined by Stebbins (1992) as “the systematic pursuit of an amateur, a hobbyist, or a volunteer activity that participants find so substantial and interesting that, in the typical case, they launch themselves on a career centred on acquiring and expressing its special skills, knowledge, and experience” (p.3). Serious leisure is also defined in contrast with casual leisure by six interrelated qualities: perseverance, career development, personal effort, durable benefits, unique ethos, and strong identity (Stebbins, 2007).

Recent research has associated serious leisure, among others, with:

a) recreational and leisure activities, including, art photography (Spurgin, 2008), birdwatching (Cole & Scott 1999; Tsaur & Liang, 2008), fishing (Yoder, 1997), and volunteering (Stebbins, 1996b);

b) sport activities, including, climbing (Dilley & Scraton, 2010), climbing, kayaking and snowboarding (Stebbins, 2005), cycling (O’Connor & Brown, 2010), golfing (Siegenthaler & O’Dell, 2003), swimming (Hastings, Kurth, Schloder, & Cyr, 1995), white-water kayaking (Bartram, 2001), and among sport fans (Gibson, Willming, & Holdnak, 2002; Jones, 2000);

c) tourism, including, cultural tourism (Stebbins, 1996a), indigenous tourism (Tsong-Chiung, Chyong-Ru, & Wan-Chen, 2012) and;

d) sport tourism, including, MTB event travel (Getz & McConnell, 2011), kayaking adventure tour (Kane & Zink, 2004), marathon tourism (Smith, Costello & Warren, 2010), and surf tourism (Barbieri & Sotomayor, 2013; Campos, Portugal, & Melo, 2017; Cheng & Tsaur, 2012).

Most of the studies on serious leisure have employed qualitative methodologies, using the six characteristics to explore the nature of an activity (e.g. Getz & McConnell, 2011; Gibson et al., 2002; Kane & Zink, 2004; Smith, Costello, & Warren, 2010). However, more recent studies have used quantitative methodologies to examine the relationship between serious leisure with other variables (e.g., Barbieri & Sotomayor, 2013; Campos, Portugal & Melo, 2017; Cheng & Tsaur, 2012;

Gould, Moore, McGuire & Stebbins, 2008; Tsaur & Liang, 2008).

In the last approach, Gould, *et al.* (2008) developed the Serious Leisure Inventory and Measure (SLIM) as an instrument to assess serious leisure, composed of 54 operational items organized into 18 sub-dimensions representing the six defining qualities of serious leisure. Other studies were also developed from the SLIM, on chess (Gould, Moore, Karlin, Gaede, Walker, & Dotterweich 2011), birdwatching (Lee & Scott, 2013). From this, Barbieri and Sotomayor (2013) investigated the relationship between serious leisure, surf travel behaviour and destination preferences, confirming that surfers show high levels in the six qualities of serious leisure, and have a strong disposition for surf tourism. However, serious leisure qualities were not shown to be good predictors of surf travel behaviour (Barbieri & Sotomayor, 2013).

In addition, Tsaur and Liang (2008) developed an instrument to measure the serious leisure construct, dividing it into six dimensions and 21 items, to study birdwatchers and investigate the relationship between serious leisure traits and recreation specialization. Other studies were also developed from this (Campos, Portugal, & Melo, 2017; Cheng & Tsaur, 2012). Cheng and Tsaur (2012) studied the relationship between surfers’ serious leisure characteristics and recreational involvement. They demonstrated that ethos, identity with surfing, significant personal efforts and career pursuits are all strong indicators of surfers’ serious leisure characteristics, and that attraction and self-expression (dimensions of recreational involvement) have the most impact, demonstrating that surfers with higher serious leisure characteristics have a higher recreational involvement.

More recently, Campos, Portugal and Melo (2017) presented a study that focuses on the segmentation of surfers in Portugal, according to the seriousness of their surfing involvement. The results from this study allow affirming that surfing can be considered a serious leisure activity, and demonstrating that surfers exhibit the six serious leisure qualities, especially related to expected *benefits*, *career* and

identity, and have a strong disposition for surf tourism.

In summary, previous studies showed that surfers share the six serious leisure qualities:

a) *perseverance* - the need for surfers to persevere in attaining the skills and knowledge required to master the waves (Butts, 2001; Ponting, 2008) but to also negotiate the many constraints they face, such as physical risks, cancelling social appointments when the waves are good, and waiting for the good waves (Butts, 2001);

b) *career* - surfing creates the possibility of finding a career by progressing into more difficult waves (Butts, 2001), and by travelling greater distances or to special destinations to practice (Dolnicar & Flucker, 2003b);

c) *effort* - serious surfers are characterized by the long-term personal effort they make to master their skills (Dolnicar & Flucker, 2003b) and to understand and appropriate the subculture's attitudes, knowledge and values, through a process of instruction and socialization by their peers, and by digesting information from books, videos and specialist magazines (Butts, 2001);

d) *benefits* - evidence of durable benefits was found in the literature, especially in the form of gaining courage, self-invigoration, self-confidence and fitness (Buckley, 2012);

e) *ethos* - in acquiring the necessary skills and adopting appropriate behaviour surfers can, over time, become accepted member of the surfing subculture and attain their peers recognition, thus sharing the unique ethos that is present in this subculture (Butts, 2001);

f) *identity* - surfers exhibit a tribal behaviour characterized by a strong identification which is externalized by taking their boards whenever they go to the beach (Moutinho *et al.*, 2007), as well as through their manners of dress and language (Butts, 2001).

Purpose and objectives of the study

The study of serious leisure in sport and tourism, particularly surfing, is important because it allows an understanding of the participants' behaviour. In spite of the size and economic impact of surfing and the importance of determining the surfers' characteristics, few studies have examined this form of sport tourism and even fewer investigated the

application of serious leisure among surfers. This study was developed during the year of 2014 aiming to fill this gap in the literature. Based on the serious leisure perspective, this article addresses four main objectives: a) to verify if socio-demographic characteristics are good predictors of serious surfing; b) to understand the relation between serious surfing and surfing profile; c) to identify the role of serious surfing on surfing travel behaviour; and d) to examine if the six serious surfing qualities are related with surfing destination attributes preferences.

Methodology

This study used an online survey (in the form of a questionnaire) to collect data. The questionnaire was composed of 5 groups of questions, including: a) socio-demographic characteristics (nationality, sex, age, marital status, education level, working situation, and income); b) surfing behaviours (currently surfing or not; number of years surfing, number of days surfing per week, season of the year surfing); c) surfing travel behaviour (past surfing trips, surfing destinations, length of surfing trips, travelling companionship, surfing destination choice, spending per day, willingness to take a surfing trip in the future, and future surfing destinations); d) surfing destination attributes [25 items adapted from Dolnicar and Flucker (2003b), Barbieri and Sotomayor (2013) and Reis and Jorge (2012), measured in a 7-point rating scale, ranging from 1 (*not at all important*) to 7 (*totally important*)]; and e) serious leisure related with surfing [21 items adapted from Cheng and Tsaor (2012), measured in a 7-point rating scale, ranging from 1 (*completely disagree*) to 7 (*completely agree*)]. The questionnaire was created in two languages (Portuguese and English), with identical questions and application methods [using translation and back translation (Hill & Hill, 2002)], and was validated by pre-test application and expert examination (face validity). The questionnaire was built in *Google Forms* platform and a casual sample technique was used (Marôco, 2011).

The target population included those who have practiced surfing activities in Portugal, and who were aged 18 years or older. The questionnaire

was distributed in Portugal and abroad through websites and social media, and more precisely through surfers' schools and surfing groups' Facebook page. The questionnaire was applied from June until October 2014, and 200 answers were obtained.

Data was analysed in the IBM SPSS (version 21). Descriptive analyses were first conducted to present the socio-demographic characteristics of responding surfers, to describe surfing profile and surfing travel behaviour, and to analyze destination attributes preferences and the seriousness of surfing.

Factorial analysis, by Principal Component Analysis (PCA), was used for data reduction purposes (Marôco, 2011). Surfing destination attributes (25 items), and serious leisure related to surfing (21 items) were reduced to a smaller number of dimensions or PC (respectively, five and six dimensions). The following criteria were used to decide the number of components to extract (Marôco,

2011): i) Kaiser-Meyer-Olkin (KMO) value obtained greater than 0.6 and the significance value (using Bartlett test) below 0.1, in order to reject the null hypothesis and prove the suitability of the analytical method for the treatment of data; ii) eigenvalue greater than 1.0 or the scree Plot indicating the suitable number of PC that can be extracted before the amount of explained variance becomes too small; iii) communalities, representing the percentage of common variance between items and extracted factors; iv) factor loadings, higher than 40%; and v) variance explained percentage, at least 60% of the total variance was considered satisfactory. In addition, the reliability coefficient to assess internal consistency (Cronbach's alpha coefficient) was analysed for all dimensions and globally structured (Marôco, 2011). One item from both scales was withdrawn from the final factorial solution, to accomplish the presented criterion: *destination with good cultural heritage* (surfing destination attributes scale), and *I persevere in*

Table 1. Socio-demographic characteristics of responding surfers

Socio-demographic indicators	N	%
Nationality		
Portuguese	177	88.5
Others	23	11.5
Sex		
Male	165	82.5
Female	35	17.5
Age group		
18 - 30	72	36.0
31 - 43	99	49.5
≥44	29	14.5
Mean (in years)	34	
Standard deviation	±9	
Marital Status		
Single	119	59.5
Married	68	34.0
Others	13	6.5
Education Level		
9 th Grade or less	7	3.5
Secondary School (12 th grade)	42	21.0
Higher Education studies (Graduated)	100	50.0
Post-graduate studies (Master or PhD)	51	25.5
Working situation		
Working to others	108	54.0
Owners of companies or self employees	44	22.0
Student	40	20.0
Others	8	4.0
Income		
Without income	28	14.0
≤€500	14	7.0
501-€1000	57	28.5
€1001-€1500	30	15.0
>€1500	19	35.5

surfing to conquer difficulties (serious surfing scale).

Standard multiple linear regression were used to verify if socio-demographic characteristics (independent variables) are good predictors of serious surfing (dependent variables); to understand the relation between serious surfing (independent variables) and surfing profile (dependent variables); to identify the role of serious surfing (independent variables) on surfing travel behaviour (dependent variables) and; to examine if the six serious surfing qualities (independent variables) are related with surfing destination attributes preferences (dependent variables). The model assumptions were analysed and are generally satisfied, namely, the normal distribution, homogeneity and errors independency. No multicollinearity was found among the independent variables because variance inflation factor (VIF) were below conservative maximum scores (<5.0) (Marôco, 2011).

Binary logistic regression, using enter method, was also performed to predict the relation between serious surfing (independent variables) and surfing travel behaviour - average length of surfing trips, travelling companionship, surf destinations choice and future destinations (dependent variables). The model assumptions were analyzed and are generally satisfied (Marôco, 2011).

Results

Socio-demographic characteristics of respondents

The descriptive analysis of nationality, sex, age, marital status, level of education, working situation and income variables allowed the characterization of the socio-demographic profile of the surfers in our sample (Table1). The results show that 88.5% of respondents were Portuguese and the large majority (82.5%) were male. The average age was 34 years old ($SD=\pm 9$), with 36% in the aged 18-30 group, 49.5% in the 31-43 years group, and

Table 2. *Surfing profile of responding surfers*

Surfing profile	N	%
Current behaviour (n=200)		
Currently surfing	169	84.5
Do not surf currently but I did in the past	31	15.5
Number of years surfing (n=169)*		
Less than 1 year	10	5.9
1-2 years	9	5.3
3-5 years	57	33.7
6-10 years	51	30.2
11-20 years	30	17.8
More than 20 years	12	7.1
Preferred surfing season (n=169)*		
Spring	3	1.8
Summer	10	5.9
Autumn	4	2.4
Winter	4	2.4
During all year	148	87.6
Number of surfing days per week (n=169)*		
Less than a 1 day per week	25	14.8
1 day per week	22	13
2 days per week	50	29.6
3 days per week	33	19.5
4 days per week	23	13.6
5 days per week	7	4.1
6 days per week	4	2.4
7 days per week	5	3.0
Financial willingness to evolve in surfing (n=169)*		
None since I don't earn income yet	12	7.1
None since I can afford basic needs only	41	24.3
Some since I live with some financial comfort	87	51.5
Total since I have financial availability	29	17.2

* This only includes those who currently surfing.

14.5% aged 43 or older. The respondents were mostly single (59.5%) and a third of them were married (34.0%). The majority (75.5%) had higher levels of education, including postgraduate studies (25.5%), mainly working for others (54.0%) as well as being self-employed or owning companies (22.0%). The majority (50.5%) of responding surfers also indicated that they have income above the Portuguese average (>€1000 per month).

Surfing profile of respondents

In terms of the surfing profile of respondents (Table 2), the large majority (84.5%) stated that, at the time of the study, they were surfers, and only 15.5% were not practicing at that time, but had done in the past. The participants are mainly (55.1%) experienced surfers, and the majority (49.1%) stated they surf 2-3 times per week, 23.1% stated that they surf 4 or more days per week. The large majority (87.6%) also

Table 3. Surf travel behaviour among responding surfers.

Indicators of surf travel behaviour	N	%
Past surfing trips (n=200)		
Have taken at least one surfing trip (at least 2 days)	160	80.0
Have never taken a surfing trip	40	20.0
Surfing destinations in the last 3 years (n=160)*		
Mainly domestic destinations	106	66.3
Mainly international destinations	54	33.7
Average length of surfing trips (n=160)*		
Less than 1 week	47	29.4
1-2 weeks	88	55.0
3-4 weeks	19	11.8
1- 2 months	6	3.8
>2 months	0	0.0
Travelling companionship (n=160)*		
Alone	16	10.0
With family (including children)	27	16.9
Partner	25	15.6
Friends	83	51.9
Organized group	9	5.6
Surfing destination choice (n=160)*		
By the internet	37	23.1
Friends suggestions	66	41.2
Magazines/Journals/Other media	24	15.0
Events/Championships happening at the destination	10	6.3
Previous visit	11	6.9
Tourist guide book	1	0.6
Travel agency	1	0.6
Others	10	6.3
Spending per day (n=160)*		
< 20€	20	12,5%
20€-40€	44	27,4%
41€-80€	55	34,3%
81€-100€	16	10,0%
101€-120€	10	6,3%
121€-140€	6	3,8%
141€-180€	3	1,9%
181€-200€	2	1,3%
>200€	4	2,5%
Willingness to take a surf trip in the future (n=200)		
Totally unwilling	2	1.0
Not very unwilling	1	0.5
Unwilling	1	0.5
Nor unwilling nor willing	18	9.0
Willing	21	10.5
Very willing	22	11.0
Totally willing	135	67.5
Future surf destinations (n=200)		
Mainly domestic destinations	61	30.5
Mainly international destinations	139	69.5

* This only includes those who have taken a surfing trip.

reported that they surf at all times of the year, and more than two thirds (68.7%) have financial willingness to evolve in surfing.

Surfing travel behaviour of respondents

Regarding surfing travel behaviour (Table 3), the large majority (80.0%) of respondents had taken a surf trip of at least 2 days. In the last 3 years, 66.3% had visited domestic destinations, while only 33.7% travelled primarily to international destinations. In terms of the average length of travel, the majority (55.0%) had taken surf trips for 1-2 weeks, 29.4% for less than 1 week, 11.8% for 3-4 weeks, and only 6 respondents (3.8%) embarked on lengthy trips for 1-2 months. Surfers travelled

mostly with friends (41.5%), 16.9% travelled with family (including children), 15.6% with the partner, and 10.0% alone. For the choice of surfing destination, 41.2% chose according to friends' suggestions, 23.1% chose through internet sites, 15.0% through the press, 6.9% according to prior visits, and 6.3% based on events/championships held previously in that destination. In terms of the amount of money spent per day, 40% spent less than €40, 50.6% between €40-120, and 9.4% more than €120. Regarding the intention to travel in the future, 67.5% demonstrated a total willingness to travel, and 69.5% decided on international destinations, showing that surfers present a high propensity for surf tourism.

Table 4. PCA results for the 5 components of surfing destination attributes

Principal Components	Items	Mean Score ^a	SD	Factor Loadings	Mean Score ^a	SD	Total Variance	Cronbach's α
<i>Surfing infrastructures and cultural ambience</i>	Destination with local surf schools/ surf camps	3.0	1.9	0.759	3.7	1.2	18.9%	0.87
	Destination with local rental/sale of surfing equipment (surfing suits, boards, etc.)	3.6	1.8	0.738				
	Popular surf destination	3.4	1.6	0.721				
	Good destination to meet other surfers	4.5	1.7	0.697				
	Destination with features for sports physical practice	4.3	1.8	0.693				
	Destination with supporting beach infrastructures (showers, lockers, bar, terrace)	3.6	1.8	0.665				
	Destination with diversity of services (commerce, attractions, etc.)	3.9	1.5	0.621				
	Destination with attractive night life	3.3	1.5	0.567				
<i>Hospitality and touristic facilities</i>	Destination with good quality of accommodation	4.7	1.5	0.772	5.0	1.0	16.4%	0.84
	Safe destination	5.7	1.3	0.700				
	Destination with family and friends facilities (infrastructures and equipment)	4.7	1.6	0.683				
	Destination with good natural environment quality	5.9	1.2	0.682				
	Destination with good hospitality	5.4	1.4	0.666				
	Destination with good gastronomy	4.7	1.5	0.597				
	Destination with easy access	4.2	1.5	0.544				
<i>Surfing natural conditions</i>	Destination with variety of places to surf	6.2	1.1	0.829	6.0	0.9	8.8%	0.66
	Destination with good waves quality (wave consistency, good swell, wave type variety)	6.5	0.8	0.772				
	Destination with secret locations to surf	5.3	1.6	0.600				
<i>No crowd destination</i>	Destination close to the local community	5.1	1.4	0.711	5.3	1.0	7.7%	0.51
	Destination with low costs (low cost of living)	5.4	1.4	0.570				
	Destination never crowded	5.4	1.3	0.539				
<i>Natural amenities</i>	Destination with good water temperature	5.0	1.4	0.840	5.2	1.0	7.6%	0.65
	Destination with good climate	5.7	1.1	0.735				
	Destination with easy access to surf spots	4.9	1.4	0.449				

Surfing destination attributes

The analysis of the factorial structure of the 24 items of the surfing destination attributes scale (Table 4) was performed by exploratory factor analysis, with extraction of factors by the PCA method, using *varimax rotation*. The criteria defined to accept the factorial structure was, respectively: KMO (0.84), Bartlett test (p value = 0.000), eigenvalue greater than 1.0 or the scree plot elbow rule confirmed, factor loadings higher than 40.0%, and 69.4% of total variance explained by the 5 components. The internal consistency, evaluated by Cronbach's alpha coefficient, is considered *good* for the global factorial structure (0.88) and at least *acceptable* for the 5 dimensions (Marôco, 2011).

The most valued attributes, when choosing a surf travel destination, are those related to the *surfing natural conditions* dimension ($M=6.0\pm 0.9$), especially *good waves quality* ($M=6.5\pm 0.8$) and *diversity of places to surf* ($M=6.2\pm 1.1$). A destination with *natural environment quality* ($M=5.9\pm 1.2$), *good climate* ($M=5.7\pm 1.1$), and *safety* ($M=5.7\pm 1.3$), is cited as possessing other valued surfing destination attributes. On the other hand, *surfing infrastructures and cultural ambience* ($M=3.7\pm 1.2$) is the overall surfing destination attribute dimension that is less valued, especially in terms of *local surf schools/surf camps* ($M=3.0\pm 1.9$), and *attractive night life* ($M=3.3\pm 1.5$).

Table 5. PCA results for the 6 components of serious surfing

Principal Components	Items	Mean Score ^a	SD	Factor Loadings	Mean Score ^a	SD	Total Variance	Cronbach's α
<i>Career</i>	To me, surfing is an important part of life	6.0	1.4	0.847	5.7	1.3	19.0%	0.85
	Without surfing, my life would be boring	5.0	1.9	0.711				
	I'm willing to engage in surfing activities for the long-term	6.3	1.2	0.773				
	I dedicate significant time and effort to surfing	5.2	1.6	0.787				
<i>Ethos</i>	I meet many friends by attending surfing activities	5.5	1.6	0.684	5.2	1.4	15.7%	0.88
	I share a sense of trust and value with my colleagues in surfing	5.5	1.4	0.749				
	In private, I will attend activities and gatherings with my surfing friends	5.2	1.6	0.805				
	In private, I can discuss everything with my surfing friends	4.5	1.7	0.839				
<i>Perseverance</i>	I would participate in surfing even though I'm very busy	5.6	1.5	0.853	5.3	1.5	12.0%	0.72
	I would participate in surfing even though I'm very tired	5.0	1.8	0.914				
	I would participate in surfing even though I'm feeling down	5.6	1.8	0.701				
<i>Effort</i>	I'm willing to spend time and money in training for surf techniques	4.6	1.7	0.803	4.3	1.4	9.8%	0.72
	I'm willing to purchase surfing books and video tapes to enhance my surfing techniques	3.6	1.8	0.884				
	I have the opportunity to achieve self-actualization by attending surfing activities	4.8	1.7	0.442				
<i>Identity</i>	I believe no other leisure activities can replace surfing	5.2	1.9	0.484	5.5	1.4	8.9%	0.77
	I enjoy watching TV shows on surfing	5.6	1.5	0.751				
	I like to discuss interesting things about surfing with others	5.5	1.4	0.606				
<i>Benefits</i>	I achieve pleasure and satisfaction by attending surfing activities	6.5	1.6	0.455	6.0	1.1	8.1%	0.70
	I achieve a sense of fulfilment by attending surf activities	5.6	1.6	0.646				
	I enhance my physique by attending surfing activities	5.6	1.5	0.576				

Serious surfing

The analysis of the factorial structure of the 20 items of the serious surfing scale (Table 5) was also performed by PCA, using *varimax rotation*. The criteria defined to accept the factorial structure was, respectively: KMO (0.86), Bartlett test (*p value*=0.001), eigenvalue greater than 1.0 or scree plot elbow rule confirmed, factor loadings higher than 40.0%, and 73.1% of the total variance explained by the 6 main components. The internal consistency, evaluated by Cronbach's alpha coefficient, is considered *good* for the global factorial structure (0.89) and at least *acceptable* for the 6 dimensions (Marôco, 2011).

Overall, the 20 items were classified with high scores ($M=5.3\pm 0.6$). The most valued serious surfing qualities were *Benefits* ($M=6.0\pm 1.1$) [*I achieve a sense of fulfilment by attending surfing activities* ($M=6.5\pm 1.6$)] and *Career* ($M=5.7\pm 1.3$) [*I'm willing to engage in surfing activities for the long-term* ($M=6.3\pm 1.2$); *to me, surfing is an important part of life* ($M=6.0\pm 1.4$)]. These results show the importance and centrality of surfing to surfers' lives.

On the other hand, *Effort* ($M=4.3\pm 1.4$) is the serious surfing quality with the lowest scores, especially the item, *I'm willing to purchase surfing books and video tapes to enhance my surfing techniques* ($M=3.6\pm 1.8$). These results can be explained by the fact that most of the surveyed individuals were already experienced surfers with high skills, and they did not need to

spend time and money on further developing their surfing in this way.

Socio-demographic characteristics as predictors of serious surfing

Results of statistical tests (Table 6) indicated that the socio-demographic characteristics are not good predictors of serious surfing qualities, especially in *ethos* ($F_{(6, 193)} = 1.176$; *p-value* = 0.321), *perseverance* ($F_{(6, 193)} = 0.574$; *p-value* = 0.751), *identity* ($F_{(6, 193)} = 0.979$; *p-value* = 0.440) and *benefits* ($F_{(6, 193)} = 1.463$; *p-value* = 0.193).

The socio-demographic characteristics explains 12.5% of *career* dimension and the model is statistically significant ($F_{(6, 193)} = 4.578$; *p-value* = 0.000). Male sex ($\beta = 0.299$, $t(193) = 4.218$, *p-value* = 0.001) was revealed to be a significant estimator of *career* dimension. Considering the positive β value, men present higher values in this dimension than women.

Effort dimension can also be predicted by socio-demographic characteristics. The model explains 7.8% of *effort*, and is statistically significant ($F_{(6, 193)} = 2.737$; *p-value* = 0.014). Male sex ($\beta = -.249$, $t(193) = -3.421$, *p-value* = 0.001) was revealed to be a significant estimator of *effort* dimension. Considering the negative β value, men present lower values in this dimension than women.

The relation between serious surfing and surfing profile

Multiple linear regressions were also used to

Table 6. Multiple linear regressions of socio-demographic characteristics on serious surfing qualities

Independent Variables: Socio-demographics	Dependent Variables: Serious surfing qualities (standardized β and significance)					
	<i>Career</i>	<i>Ethos</i>	<i>Perseverance</i>	<i>Effort</i>	<i>Identity</i>	<i>Benefits</i>
Age	-0.193	0.123	-0.072	-0.051	-0.050	0.051
Sex (male)	0.299*	-0.067	0.026	-0.249*	-0.030	-0.088
Marital status:						
Single	-0.168	-0.055	0.016	-0.038	-0.087	0.221
Married	-0.248	-0.133	0.037	-0.042	-0.050	0.240
Level of Education	-0.001	0.026	-0.017	0.109	-0.085	-0.110
Income	0.116	0.099	0.145	0.015	0.050	-0.086
R ²	0.125	0.035	0.018	0.078	0.030	0.043
Adjusted R ²	0.097	0.005	0.132	0.050	-0.001	0.014
<i>p-value</i>	0.001	0.321	0.751	0.014	0.440	0.193

*Significant with Bonferroni adjusted critical value ($p < 0.02$).

Table 7. Multiple linear regressions of serious surfing on surfing profile

Independent Variables	Dependent Variables (standardized β and significance)	
	Surfing experience ^a	Surfing frequency ^b
<i>Career</i>	0.180*	0.349*
<i>Ethos</i>	0.063	-0.159
<i>Perseverance</i>	0.047	0.224*
<i>Effort</i>	-0.407*	-0.338*
<i>Identity</i>	-0.174*	-0.082
<i>Benefits</i>	0.041	0.108
R ²	0.183	0.264
Adjusted R ²	0.153	0.237
p-value	0.001	0.001

*Significant with Bonferroni adjusted critical value ($p < 0.017$).

^a Defined as the number of years surfing in an ordinal scale: 1. Less than 1 year; 2. 1-2 years; 3. 3-5 years; 4. 6-10 years; 7. 11-20 years; 8. More than 20 years.

^b Defined as number of surfing days per week in an ordinal scale: 1. Less than a 1 day per week; 2. 1 day per week; 3. 2 days per week; 4. 3 days per week; 5. 4 days per week; 6. 5 days per week; 7. 6 days per week; 8. 7 days per week.

Table 8. Multiple linear regressions of serious surfing on surf travel behaviour

Independent Variables	Dependent Variables (standardized β and significance)		
	Length of surfing trips ^a	Average spent per day ^b	Willingness to travel in the future ^b
<i>Career</i>	0.111	-0.128	0.526*
<i>Ethos</i>	-0.150	0.121	0.160*
<i>Perseverance</i>	-0.111	-0.080	0.017
<i>Effort</i>	-0.157	-0.061	-0.078
<i>Identity</i>	0.011	0.036	-0.034
<i>Benefits</i>	0.095	-0.088	-0.076
R ²	0.086	0.055	0.318
Adjusted R ²	0.050	0.018	0.296
p-value	0.031	0.189	0.001

*Significant with Bonferroni adjusted critical value ($p < 0.017$).

^a Defined in an ordinal scale: 1. Less than 1 week; 2. 1-2 weeks; 3. 3-4 weeks; 4. 1- 2 months; 5. >2 months.

^b Defined in an ordinal scale: 1. < 20€; to 9. >200€.

^c Defined in a 7 point scale: 1. Totally Unwilling to 7. Totally Willing.

test the hypothesis of if serious surfing can influence surfing profile (Table 7). The results show that the six serious surfing qualities are good predictors of the surfing experience ($F_{(6, 162)} = 6.043$; p -value = 0.001), especially *career* ($\beta = 0.180$, $t(162) = 2.401$, p -value = 0.016), *effort* ($\beta = -0.407$, $t(162) = -5.566$, p -value = 0.001) and *identity* ($\beta = -0.174$, $t(162) = -2.406$, p -value = 0.016). Considering the positive β value, higher valuation in the *career* quality corresponds to more years of surfing, while, considering the negative β value, less *effort* and less *identity* valuation correspond to more years surfing.

The six serious surfing qualities are also good predictors of the surfing frequency ($F_{(6, 162)} =$

9.680; p -value = 0.001), specifically *career* ($\beta = 0.349$, $t(162) = 4.918$, p -value = 0.001), *perseverance* ($\beta = 0.224$, $t(162) = 3.260$, p -value = 0.001) and *effort* ($\beta = -0.338$, $t(162) = -4.869$, p -value = 0.001). Considering the positive β values, higher scores in *career* and *perseverance* corresponds to a higher surfing frequency. On the other hand, considering the negative β value, to a less *effort* valuation corresponds to a more surfing frequency.

The role of serious surfing on surfing travel behaviour

Statistical testes indicated that the six serious surfing qualities are good predictors of surfing travel behaviour. Multiple linear regression (Table 8) indicates that the level of serious

surfing shape their *willingness to travel in the future* ($F_{(6, 193)} = 14.970$; p -value = 0.001), especially *Career* ($\beta = 0.526$, $t(193) = 8.876$, p -value = 0.001) and *Ethos* ($\beta = 0.160$, $t(193) = 2.693$, p -value = 0.008), which are positively correlated with the future intention to travel for surfing purposes. On the other hand, serious surfing qualities are not correlated with the *length of surfing trips* ($F_{(6, 153)} = 2.386$; p -value = 0.031) and the *average spent per day* ($F_{(6, 153)} = 1.478$; p -value = 0.189).

Binary logistic regressions tests (Table 9) also show that serious surfing qualities are good predictors of *past surfing trips* (p -value = 0.001)

and *future destinations* (p -value = 0.001) while for *travelling companionship* (p -value = 0.480) and *surfing destination choice* (p -value = 0.647) the models are not statistical significant. For *career*, higher values corresponds to more probability of *have done one surfing trip in the past* ($\beta = 0.824$; $\chi^2_{Wald}(1) = 18.890$; p -value = 0.001) and more probability to *travel for national destinations* ($\beta = -0.364$; $\chi^2_{Wald}(1) = 5.518$; p -value = 0.019); for *effort*, higher values corresponds to more probability of *never made a surfing travel* ($\beta = -0.383$; $\chi^2_{Wald}(1) = 3.769$; p -value = 0.052) and more probability to *travel for international destinations* ($\beta = 0.524$; $\chi^2_{Wald}(1) = 18.890$; p -value = 0.001); for *identity*,

Table 9. Binary logistic regressions of serious surfing on surf travel behaviour

Independent Variables: <i>Serious surfing qualities</i>	Dependent Variables (β and significance)			
	Past surfing trips ^a	Travelling companionship ^b	Surfing destinations choice ^c	Future destinations ^d
Career	0.824*	-0.060	0.884	-0.364*
Ethos	-0.118	-0.068	-0.174	0.192
Perseverance	-0.055	-0.265	-0.308	0.063
Effort	-0.383*	0.192	-0.182	0.522*
Identity	-0.023	-0.174	0.001	-0.287*
Benefits	-0.415*	0.235	-0.149	-0.395*
Constant	1.645	1.047	-3.000	-0.940
Nagelkerke R ²	0.222	0.049	0.066	0.154
p -value	0.001	0.480	0.647	0.001

* $p \leq 0.1$

^a Defined as done at least one surfing trip or never made a surfing travel.

^b Defined as travelling accompanied or alone.

^c Defined as knowledge of the local or by specialists.

^d Defined as national or international destinations.

Table 10. Multiple linear regressions of serious surfing on surfing destination attributes

Independent Variables	Dependent Variables (β and significance)				
	Surfing infrastructures and cultural ambience	Hospitality and touristic facilities	Surfing natural conditions	No crowd destination	Natural amenities
Career	-0.015	0.434*	0.174*	0.089	0.011
Ethos	0.036	0.124	0.040	-0.048	-0.100
Perseverance	-0.069	-0.088	0.066	0.072	-0.211*
Effort	0.371*	-0.278*	0.079	-0.088	-0.015
Identity	-0.016	0.016	-0.071	0.093	0.067
Benefits	-0.114	-0.003	0.195*	0.077	0.001
R ²	0.157	0.289	0.086	0.038	0.059
Adjusted R ²	0.131	0.267	0.057	0.008	0.030
p -value	0.001	0.001	0.008	0.275	0.064

*Significant with Bonferroni adjusted critical value ($p < 0.017$).

higher values corresponds to more probability to *travel for international destinations* ($\beta = -0.287$; $\chi^2_{\text{Wald}}(1) = 2.707$; $p\text{-value} = 0.100$); for *benefits*, higher values corresponds to more probability of *never made a surfing travel* ($\beta = -0.415$; $\chi^2_{\text{Wald}}(1) = 4.796$; $p\text{-value} = 0.029$) and more probability to *travel for international destinations* ($\beta = -0.395$; $\chi^2_{\text{Wald}}(1) = 5.658$; $p\text{-value} = 0.017$) and, finally; for *ethos* and *perseverance* qualities, no statistical differences were found in relation to *past surfing trips* and *future destination* variables.

Serious surfing related with surfing destination attributes preferences

Results show that the level of seriousness of respondents' shape their preferences for surfing destination attributes in *surfing infrastructures and cultural ambience* ($F_{(6, 193)} = 6.004$; $p\text{-value} = 0.000$), *hospitality and touristic facilities* ($F_{(6, 193)} = 13.062$; $p\text{-value} = 0.001$) and *surfing natural conditions* ($F_{(6, 193)} = 3.016$; $p\text{-value} = 0.008$), while for *no crowd destination* ($F_{(6, 193)} = 1.275$; $p\text{-value} = 0.275$) and *natural amenities* ($F_{(6, 193)} = 2.026$; $p\text{-value} = 0.064$) the models are not statistically significant (Table 10).

Effort ($\beta = 0.371$, $t(193) = 5.619$, $p\text{-value} = 0.001$) is positively related with *surfing infrastructures and cultural ambience*; *career* ($\beta = 0.434$, $t(193) = 7.148$, $p\text{-value} = 0.001$) is positively related with *hospitality and touristic facilities*, while *effort* ($\beta = 0.278$, $t(193) = 4.574$, $p\text{-value} = 0.001$) is negatively related with *hospitality and touristic facilities*. In the other hand, *career* ($\beta = 0.174$, $t(193) = 2.532$, $p\text{-value} = 0.012$) and *benefits* ($\beta = 0.195$, $t(193) = 2.837$, $p\text{-value} = 0.005$) are positively related with *surfing natural conditions*.

Discussion and conclusions

The results of this investigation allowed reinforcing the understanding of the serious leisure perspective as an important conceptual framework to study sport tourism participants (Melo, 2017). More specifically, this study contributes to the understanding of surf tourism, an important and emergent sport tourism sector in Portugal, by determining the surfers' socio-demographic characteristics, their surfing profile, surfing travel behaviour and surfing destination attributes.

Socio-demographic characteristics of responding surfers from this study is similar to other nature sports participants in Portugal (Melo & Gomes, 2017), and to surfers reported in other studies from the literature (Barbieri & Sotomayor, 2013; Dolnicar & Flucker, 2003a). According to the results of this study, surfers in Portugal are mainly male, young/adult individuals with decreasing participation with the increase in age, with very high level of education, working for others, and with income above the Portuguese average. Respondents are also mostly experienced surfers with a frequent participation in surfing activities along the year, and with financial willingness to evolve in surfing. In this regard, the potential of the surfing activities is very attractive, given the high propensity of surfers to practice surfing activities along the year and their socio-demographic composition (with more educational qualifications and higher monthly incomes), which allow having more sustainable behaviours in the locals of their practices.

This study also highlights that surfers have a strong disposition for surf tourism, as already reported in the literature (Barbieri & Sotomayor, 2013; Butts, 2001), because 80% of respondent surfers reported that they have already made a surf travel in the past, and the majority (90%) have propensity to take a travel to surf in the future. This data, together with the average length of surfing trips and the average amount spent per day during the travel, allowed to reinforce that surf tourism is an increasing tourism sector able to generate an important economic impact.

Examination of the destination choice shows that the higher valued surfing destination attributes are related with *surfing natural conditional* (e.g., *variety of places to surf and good waves quality*), fact that can be explained because surfers are generally in constant quest for the perfect wave and surfing spots (Barbieri & Sotomayor; Butts, 2001; Ponting, 2009; Ponting & McDonald, 2013). On the other hand, *surfing infrastructures and culture ambience* (e.g., *local surf schools/surf camps*) are the less valued attributes probably because individuals of our sample are experienced surfers with autonomy (probably with their own equipment) that want to improve their skills and

who do not need to purchase surfing services (e.g., equipment renting). Results of this study also show that, overall, the serious surfing items were classified with high scores ($M=5.320$), as already reported in other studies (Barbieri & Sotomayor, 2013), demonstrating that surfers present the six serious leisure qualities, especially related with *benefits*, *career* and *identity*. In turn, this allows reaffirming that surfing can be considered as a serious leisure activity.

Results of statistic tests indicated that the socio-demographic characteristics are not good predictors of serious surfing qualities as already mentioned in other studies (Barbieri & Sotomayor, 2013). On the other hand, results show that the six serious surfing qualities are good predictors of the surfing profile, in *surfing experience* and *surfing frequency*. The positive correlation between *career* with *surfing experience* (number of years surfing) and *surfing frequency*, and between *perseverance* and *surfing frequency* demonstrates the high commitment need for surfers attain skills and knowledge to master the waves (Butts, 2001; Ponting, 2008) to achieve a (sense of) *career* progression. This data is important for surfing destinations with overall good natural conditions for surfing throughout the year (Portugal is a good example) as they can benefit from those conditions as a competitive advantage to capture frequent surfers who wanted to advance their skills. In turn, a negative correlation was found between *effort* with *surfing experience* and *surfing frequency*, and between *identity* with *surfing experience*, counteracting previous studies among surfers (Barbieri & Sotomayor, 2013). These results should be interpreted with caution and can be explained by the fact that the more experienced surfers do not need to make a great *effort* (e.g., *I'm willing to spend time and money in training for surfing techniques*) because they already present those surfing techniques to master the waves, and they do not need to present (a perceived) higher *identification* with surfing (e.g., *I believe no other leisure activities can replace surfing*) than the less experienced surfers. On the other hand, for those who present higher perceived *effort* (e.g., *I'm willing to purchase surfing books and video tapes to enhance my surfing techniques*) the surfing

frequency is lower, while for those who present less *effort* the surfing frequency is higher.

Contrariwise to other studies (Barbieri & Sotomayor, 2013), results from this investigation show that the six serious surfing qualities are good predictors of surf travel behaviour, especially in *past surfing trips*, *willingness to travel in the future*, and *future destinations*. In this regard, *career* is a good estimator of *past surfing trips*, *willingness to travel in the future*, and *future destinations*; *ethos* is related to the *willingness to travel in the future*; *effort* is a good predictor of *past surfing trips* and *future destinations*; *identity* is related with *future destinations* and; *benefits* is also a good estimator of *past surfing trips* and *future destinations*. Moreover, results also show a correlation between seriousness of responding surfers and surfing destination attributes, in *surfing infrastructures and cultural ambience*, *hospitality and touristic facilities* and *surfing natural conditions*. *Career* is related with *hospitality and touristic facilities* and with *surfing natural conditions*; *ethos* is related with *surfing infrastructures and cultural ambience* and with *hospitality and touristic facilities*; *effort* is related with *surfing infrastructures and cultural ambience*, *hospitality and touristic facilities* and; *benefits* is related with *surfing natural conditions*. These results are able to give important information for the decision making process about where surfing activities should occur. Data related to the *travel in the future* and *future destinations* are important especially for those destinations that can offer high *surfing natural conditions*, allowing to attract those surfers who are expecting for high *benefits* and who want to progress in their surfing *career*.

This study also has some limitations, the first being the representativeness of the surfing population as a whole, because the data was collected by accidental sampling and an internet survey. The second limitation is the small size of the sample ($n=200$) which, despite being sufficient to develop an exploratory study, presents some restrictions in terms of considering an applied methodology, because the number of dimensions in partitioning the task is extremely high. Additionally, it should be recognized that although the questionnaire was

validated in two languages (Portuguese and English) problems appears for the non-Portuguese and the non-English native speakers. For these reasons, these results must be interpreted with caution, because participants do not represent the general perception of serious surfers; the results should be taken as indicative and hypothesis-generating for further investigations. Future studies are necessary, with increased sample size, and using other sampling and data collecting methods which allow a higher representativeness of (national and international) individuals who surfs in Portugal, to further examine the influence of the seriousness of surfing across geographic regions. Furthermore, surf tourism should be investigated from other perspectives. For example, surfers' segmentation enables managers to decide which surfers groups are most attractive to them based on the strengths and resources of the respective destination, and determine which aspects of the destination product should be highlighted in promotion materials.

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