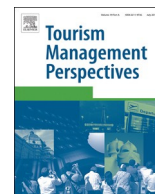




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# Ibiza dances to the rhythm of pedals: The motivations of mountain biking tourists competing in sporting events

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## ABSTRACT

Renowned worldwide for its nightlife, Ibiza has been diversifying its portfolio of tourism products by actively committing to sports tourism. The primary objective of this study is to explore the profile of the mountain bikers participating in the 2016 IBIZA BTT, a medium-sized international sporting event, taking place in the Balearic Islands, Spain. The study addresses the analysis of visitor motivations. A sample of participants ( $n = 499$ ) was segmented using cluster analysis to explore the differences between segments in terms of sociodemographic and behavioral variables. A factor analysis revealed four motivational dimensions: physiological-sensory, utilitarian purposes, hedonic and previous experience. The average values indicated that route signage, good weather, and the cost of the trip were the main motivations. The cluster analysis resulted in three groups of cyclists: multi-purpose seekers, utility-prestige and sensory seekers. In order to refine the group profiles, they were crossed with socio-economic and behavioral variables.

## 1. Introduction

Definitions of sports tourism have evolved in response to criticisms of early definitions (Weed, 2005). An epistemological analysis of the concept highlights the difficulties involved in defining the term due to its heterogeneity. Since the criticized definition by Standeven and de Knop (1999) and in line with arguments put forward by Weed (2005) and Lee, Chen, and Huang (2014), sports tourism can be defined as “sport-based travel away from the home environment for a limited time, where the sport is characterized by unique rule sets, competition related to physical prowess, and a playful nature” (Hinch & Higham, 2001, p. 49).

As for bicycle tourism, there are also inappropriate definitions. Lamont (2009) conducts a rigorous analysis of these definitions, proposing that cycling tourism should be defined as “trips away from an individual's home region, of which active or passive participation in cycling are considered the main purpose for that trip” (p. 21). This definition extends the scope of bicycle tourism to include people who travel specifically to watch cycling events (passive) and people who travel in order to take part in competitive cycling events (active) (Lee et al., 2014). Types of bicycle tourism range from independent self-organized trips or organized commercial cycling tourism to active and passive participation in competitive cycling events (Lee et al., 2014). From the above definition, five broad segments of cycle tourism can be

identified: 1) independent cycle tourists, 2) recreational cyclists, 3) participatory events, 4) passive participation and 5) competitive cycling tourists (Lamont & Buultjens, 2011).

To date, insufficient academic attention has been given to defining mountain bike tourism (Buning, Cole, & Lamont, 2019). Moularde and Weaver (2016) defined it as “trips of at least 24 hours away from a person's home environment for which active participation in mountain biking for recreational purposes is the primary motivation and determining factor in destination choice” (p. 3). In accordance with the above definitions, this article focuses on competitive mountain bike tourism as a form of cycle tourism, involving travel to compete in mountain bike cycling events.

Sport and tourism have allied to provide new opportunities for both visitors and residents, generating significant economic activity for several regions (Schneider, 2009; Shonk & Chelladurai, 2008). In economic terms, cycling tourism has been making a significant contribution to the leading economies of the European tourism market. In 2016, 2.3 billion cycling trips were made in Europe, with an estimated economic impact of approximately 44 billion euros per year (Bodor, 2016). Germany was at the forefront with, a total of 607 million cycling day trips, and an estimated contribution of 11.37 billion euros, followed by France with 373 million cycling day trips and 7.49 billion euros. Compared to the German and French figures, cycling tourism in Spain is still a nascent activity. It is estimated that 80 million cycling day trips

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were made in the Iberian Peninsula, contributing 1.62 billion euros to the national economy in 2016 (Weston et al., 2012). However, cycling tourism has great potential in Spain (Kruger, Myburgh, & Saayman, 2016), particularly in the Balearic Islands, with more than 1400 km of roads with standardized signage, and a suitable climate (Rejón-Guardia, García-Sastre, & Alemany-Hormaeche, 2018) leading them to become the destination of choice for many European cycling teams, both to train and to compete.

In the academic field, research on cycling tourism has become increasingly important over the last twenty years, and has focused on different regions of the world, such as the United States (Buning et al., 2019; LaChausse, 2006); Tanzania (Nkurunziza, Zuidgeest, & Van Maarseveen, 2012); Canada (Damant-Sirois, Grimsrud, & El-Geneidy, 2014); South Africa (Kruger et al., 2016) and New Zealand (Symmonds, Hammitt, & Addressed, 2000). Notwithstanding this, cycling tourism is a complex issue to study, since it includes the different modalities of sports, recreation, and transport, and involves different agencies in planning and management (Rowe, Shilbury, Ferkins, & Hinckson, 2013).

As a tourist activity, mountain biking originated and developed in the USA in the 1980s, and it spread throughout the world to places as far from one another as France (Saint-Martin, Savre, & Terret, 2012), New Zealand (Cessford, 1995) or Australia (Goefit & Alder, 2001). Initially, academic interest focused on analyses of the participants of medium and large-scale events in places like the United States (Morey, Buchanan, & Waldman, 2002; Symmonds et al., 2000), South Africa (Cape Town) (Bordelon & Ferreira, 2019; Du Preez & Lee, 2016; Kruger, 2014) and Canada (Freeman & Thomlinson, 2014; Getz & McConnell, 2014; Kulczycki & Halpenny, 2014). Currently, an interest has been displayed in analyzing the participants of smaller events (Kulczycki & Halpenny, 2014), given the potential benefits for host regions, such as local economic development with lower investment into infrastructure, the contribution to environmental sustainability, and less acute seasonality at specific destinations (Buning, Cole, & McNamee, 2016; Freeman & Thomlinson, 2014).

Over the last twenty years, the most commonly studied aspects of mountain bike events have been analyses of participant profiles (Cessford, 1995; Getz & McConnell, 2011; Roberts, Jones, & Brooks, 2018), comparisons of mountain biker profiles with other sports participants (Getz & McConnell, 2011; Kruger, 2014), analyses of the economic impacts for host locations (Buning & Lamont, 2020; Moran, Tresidder, & McVittie, 2006) and studies of sustainability and environmental impacts (Freeman & Thomlinson, 2014; Goefit & Alder, 2001; Symmonds et al., 2000).

A detailed analysis of the main literature that studies mountain bike tourist profiles shows a changing trend. Initially, it was a sport carried out by young men due to their perceived risk levels (Cessford, 1995; Getz & McConnell, 2011; Roberts et al., 2018). However, as mountain bike tourism evolved, the profiles of those attracted to it have become more homogenous, with privileged mid-life males outweighing the rest. It is also characterized by an alarming absence of women (Bordelon & Ferreira, 2019).

To identify the participants in events, a wide variety of variables and techniques have been used in academic studies (Buning & Lamont, 2020). As well as characterizing the participants through the use of sociodemographic variables (age, gender, etc.) and tourist behavior (declared expenditure, type of accommodation, etc.), analyses have also been made in the literature of the motivations for participating in mountain bike events (Cessford, 1995; Kruger & Saayman, 2014; Kulczycki & Halpenny, 2014; Skar, Odden, & Vistad, 2008). Motivational studies mainly conclude that there is some heterogeneity in the stated motivations due to the absence of a standardized measurement instrument or a common theoretical framework (Buning & Lamont, 2020), with the main theoretical frameworks tending to study push-pull or intrinsic-extrinsic motivations in accordance with the Self-Determination Theory (Deci & Ryan, 2008; Kruger & Saayman, 2014).

In the different studies that were analyzed, the main recurrent motivations for taking part in mountain bike events are hedonic or personal motivations, such as a search for “speed/excitement/risk” (Cessford, 1995), “to have fun” (Getz & McConnell, 2014; Kulczycki & Halpenny, 2014), “event attractiveness” or “to seek out opportunities to engage in a physical challenge” (Kruger & Saayman, 2014). Ranking top and alternating with one another are motivations related to “exercise/fitness workouts”, “physical exercise”, “athleticism”, and “achievement and challenge” (Getz & McConnell, 2011; Kulczycki & Halpenny, 2014; Skar et al., 2008). This alternation between motivations linked to fun and others linked to the notion of a physical challenge might be explained by how tough the analyzed event is. Thus, motivations tied in with physical or athletic aspects usually take precedence among the participants of harder or longer races (Getz & McConnell, 2014).

Sports events are increasingly being recognized as integral to a destination's marketing strategy (Snelgrove & Wood, 2010). Due to the various positive impacts of holding sporting events, there has been increasing interest among public actors to attract both sports events and tourists (Henderson, Foo, Lim, & Yip, 2010). Sports events can attract a large number of tourists and generate positive effects for the host locality, for example through the construction of suitable sports facilities, by increasing income from visitors, and improving the image of the town (Crompton, 2004; Grieve & Sherry, 2012). In general terms, Grieve and Sherry (2012) state that a positive social impact is generated in the residents of the host community of sporting events through the experimentation of positive feelings such as enthusiasm, satisfaction or pleasure. Similarly, there is a positive impact on the tourist through an improvement of the host city's image regarding recognition and projection abroad (Oshimi & Harada, 2018). Mega-sporting events, in particular, are an unbeatable opportunity for tourism development, encouraging economic development and contributing to the creation of jobs or the construction or improvement of infrastructure (facilities, lighting, roads, commerce, restaurants, etc.), which benefits both the local population and tourists (Alles & Teresa, 2014). In the case of small to medium-sized events, the economic benefits generated usually outweigh the costs, due to the tendency to use existing facilities. Significant revenue for hotels, restaurants and other local businesses is also generated (Gibson, Kaplanidou, & Kang, 2012; Veltri, Miller, & Harris, 2009). Additionally, positive social impacts for residents include increased community spirit and civic pride (Veltri et al., 2009; Ziakas, 2010) and improved image and visibility of the destination. Hosting sporting events also serves as promotional tool for tourist destinations (Connell, Page, & Meyer, 2015), helping to reduce the seasonality of demand (Buning et al., 2019), which is of significant relevance in the Balearic Islands (García-Sastre, Alemany-Hormaeche, & Trías-Villar, 2015).

Among the public attending sports events, Herstein and Berger (2013) make a distinction between those who travel to participate in an organized sporting event, spectators attending the event, and finally, sports lovers who self-organize their trips to participate in sports events.

This study aims to provide an updated view of mountain bike tourism events and evaluate their usefulness as a sport to attract visitors to specific destinations. Hence, this study focuses firstly on to determine the importance of the different groups participating in mountain biking events by identifying the primary motivations for participation, secondly, in the characterization of tourist segments based on the declared motives. The results should allow the destination and organizers to evaluate the characteristics and the economic potential of each group identified and help develop more targeted marketing strategies. The discussion section contains the theoretical and practical implications for the management of this type of event, as well as the limitations and further research ideas.

### 1.1. The typology of sporting events

Getz and Page (2016) identified four types of events according to

the type of activities carried out: (i) Business; (ii) Festivals and Culture; (iii) Entertainment; and (iv) Sports. Of these, sports events have experienced significant growth in recent years, due to their economic impact, and contribution to the social environment and environmental sustainability (Gibson et al., 2012). The close relationship between tourism and sport has led to the appearance of numerous sports events of different sizes which have sparked the interest of governmental organizations to host them in their regions due to the economic, social and promotional benefits they provide (Henderson et al., 2010).

The general classification used for sporting events is according to size. Gratton, Dobson, and Shibli (2000) and Wilson (2006) distinguish between sporting events ranging from mega-events (Type A, B, C and D) to small-scale events (Type E). This classification was later extended by Barajas, Salgado, and Sánchez (2012). Another approach to the classification of sporting events is Getz and Page's (2016), portfolio of events by type, season, target market and value. In the case of cycling the Australian Bureau of Statistics (ABoS, 2008), describes cycling categories as follows: (i) commuter cycling (for transport to a specific destination such as work or the shops); (ii) recreational cycling (non-organized cycling in leisure time); (iii) organized cycling: (a) non-competitive (community events, cycling holidays, social groups and bicycle user group participation); and (b) competitive (club cycling and racing). The present study focuses on a medium-size organized competitive, regular frequency and international dimension (ABoS, 2008; Barajas et al., 2012), the Ibiza BTT, which takes place in the mountains of Ibiza, Spain.

### 1.2. Segmentation in sports tourism

One of the most widely used techniques in marketing is segmentation, by which individuals with similar characteristics and needs are grouped (Kotler, Bowen, Makens, Moreno, & Paz, 2004), to subsequently articulate programs and commercial plans to satisfy the needs and wishes of consumers (Dunbar, 2010). Accurate segmentation improves the effectiveness of marketing actions and enables the formulation of proposals and programs adapted to the identified needs of different target groups (Park & Yoon, 2009). In tourism, segmentation is a particularly important concept (Castro, Armario, & Ruiz, 2007). The tourism market is extremely heterogeneous, with consumers showing many individual differences which are indicative of different future behaviors (Mittal & Kamakura, 2001). Given the growing international competition in the global tourism marketplace, tourism destinations have been trying hard to identify a unique market position in order to compete effectively (Leslie & Wilson, 2006).

In the field of sports events, segmentation has become an essential tool for promoters and organizers, allowing the identification of subgroups among participants and greater knowledge of their needs, motivations, abilities and behavioral patterns (Thompson & Schofield, 2009). Once the event is finished, measuring the levels of satisfaction of the different segments allows the incorporation of corrective actions to adapt to the expectations of future participants and promote improvements in subsequent events (Burr & Scott, 2004).

In the sporting context, segmentation techniques help to make predictions about the behavior of different target groups (Dunbar, 2010) and enable the identification of segments as potential markets (Ritchie, Mosedale, & King, 2002) before the design of marketing strategies and plans. Every sporting event and the type of participants it attracts is unique. For this reason, organizers need to identify the different clusters which will allow them to develop specific programs for each segment of the market (Myburgh, Kruger, & Saayman, 2014). The categorization that segmentation allows identifies distinct groups, necessitating and justifying the application of marketing tactics and programs specific to each one (Filo, Funk, & O'Brien, 2008; Kaplanidou & Gibson, 2012). To this end, it is essential to study the different market segments of cycling tourism, with their respective submarkets and typologies.

Variables which have been used in the segmentation of sports events include: demographic variables (Howell, 2012; Myburgh et al., 2014); geographical variables (Bojanic & Warnick, 1996); as well as previous experience or frequency of participation (Filo et al., 2008; Kaplanidou & Gibson, 2012; Kruger, Botha, & Saayman, 2012) in order to understand behavioral differences and develop specific programs for different segments. In the case of cycling, Chen and Chen (2013) propose the separation of the recreational cycling segment into two groups: high specialization favoring longer and more challenging routes, and low specialization opting for shorter and quieter routes. Lamont and Jenkins (2013) distinguish between intermediate cyclists and expert cyclists, two clusters presenting statistically significant differences with relation to the distance ridden, motives for participation, and views on operational aspects of the event. In the present study, a segmentation of mountain bikers has been made based on their motivations for competing and tourist behavior variables.

### 1.3. Segmentation by motivation

Motivation is a segmentation variable used on a recurrent basis in research (Thompson & Schofield, 2009). In general terms, Hodgetts and Altman (1991) understand motivation as a dynamic process linked to the impulse of action and subsequent execution. Motivations, understood as forces, usually manifest themselves as a result of an unmet need, thus generating an action (Cassar & Dias, 2005; Fodness, 1994; Mowen, 2000).

Motivation in the field of tourism has been approached from multiple perspectives. Cassar and Dias (2005) point out the existence of generic motivations, which affect all tourists equally, such as an escape from daily routine, a reward for work done, a form of liberation from convention, and a contribution to the development of spiritual values. According to de la Poza-Lleida (1993), motivations inspire tourists to choose a holiday destination. Tocquer and Zins (2004) classify motivations which influence the desire to travel as: (i) physical motivations related to the physical and mental health of the individual, and the need for entertainment, relaxation, leisure activities, etc.; (ii) cultural motivations which consider tourism as a feature of personal development through the knowledge of other cultures and countries, or increased artistic or historical knowledge; (iii) interpersonal motivations, by which tourism is seen as a means of emotional development through visiting friends and relatives or making new friends; (iv) and social or prestige motivations through which tourists can attain specific objectives, such as achieving recognition, being appreciated, or cultivating a right image. Tourists are often influenced by more than one motivation when choosing a particular trip or destination (Trail & James, 2011). As a result, the choice of destination will depend on the interrelation between the possibilities offered by the destination and the preferences given to the motivations of the tourist.

The literature shows that some motivations for sports tourism are common to general tourist motivations, such as recovery, escape from routine and self-determination (Suárez, Zoghbi, & Aguiar, 2013). To these, other motivations specific to sports tourists must be added, such as the need to compete, the desire to win and the opportunity to develop better levels of skill and dexterity (Weed & Bull, 2012). Furthermore, motivations vary according to the activity selected by the participants (LaChausse, 2006).

The literature agrees that different sporting events have numerous participants with a variety of motivations (Kruger, 2014; Kruger et al., 2016; Ritchie, Tkaczynski, & Faulks, 2010), and through segmentation, it is possible to distinguish homogenous groups of participants. Streicher and Saayman (2010) highlight as main motivations: event attractiveness, personal motivation, escape and relaxation, and socialization. In the context of participation in cycling events, Damant-Sirois et al. (2014), state that motivations are related to weather and effort, time efficiency, dislike of cycling near cars, cycle route infrastructure, peer and institutional encouragement, cycling identity and enjoyment,

among others.

Kruger and Saayman (2014) point out that for new cycling events, the novelty of the proposal is the primary motivation which drives both road cyclists and mountain bikers to compete, although road cyclists are more motivated by escape and socialization, whereas mountain bikers are more motivated by event novelty, achievement, and teamwork. While many authors have addressed the study of the motivations of participants in cycling events (Getz & McConnell, 2014; Kruger et al., 2016; Nkurunziza et al., 2012; Rowe, Shilbury, Ferkins, & Hinckson, 2016), very few have considered differentiation by segmentation of participants as a basis for marketing policies (Nkurunziza et al., 2012; Streicher & Saayman, 2010). According to Nkurunziza et al. (2012), grouping the cycling population into segments differentiated by motivations for participation helps to meet the needs of demand through event planning and increased participation rates, allowing the design and creation of services with real value for the sports tourist (Fandos & Puyuelo, 2012). This study suggests that the different motivations of mountain bikers in the choice of destination for sports practice condition their tourism behavior and that this is similar among those athletes who share similar motivations.

## 2. Methodology

### 2.1. Study site: The Balearic Islands

Emerging demand, changes in tourist behavior and intense competition have forced the Balearic Islands to diversify their tourism products, to propose new experiences for visitors and thereby counteract the seasonality of the destination. The current strategies of tourist destination differentiation are based on breaking away from the excessive standardization of leisure provision (Clavé, 2004). In recent years, organized sports events have become increasingly relevant, both as cultural events and entertainment. Sporting events are considered to be significant economic driving forces, especially in medium-sized communities, such as the Balearics.

Over the last ten years, the Balearic Islands have begun to specialize in sports tourism, promoting different sports and holding small and medium-sized events, taking advantage of existing infrastructures which have not required significant public investment (Gibson et al., 2012; Veltri et al., 2009). The sport of cycling, be it professional, amateur or simply recreational has become very popular with many British and Germans resident and tourists since 2015 (Rejón-Guardia et al., 2018). With more than 1400 km of routes with standardized road signage, a velodrome and 60 hotels catering specifically for cyclists, as well as both amateur and professional competitions (Challenge Mallorca, Challenge Menorca, Vuelta Tour BTT Formentera, Cinturón Ciclista Vuelta Ciclista a Mallorca, Vuelta Cicloturista Internacional, Marcha Internacional Marcha Cicloturista Mallorca 312 Giant Taiwan) the Balearic Islands are an ideal setting for the pre-seasons of both amateur and professional teams. The evidence suggests that given the economic impact 150,000 cycling tourists generate in the destination, with one million overnight stays and almost 150 million euros per year for the economy of the Balearic Islands (Rejón-Guardia et al., 2018), it is a product with great potential for counteracting the seasonality of the destination, as the cycling activity is concentrated essentially from January to March and October to November, the low and mid-seasons in the Balearic Islands.

The island of Ibiza is a well-known, Mediterranean tourism destination, specialized in the traditional products of sun and beach and nightlife. It has recently reoriented its portfolio of products to adapt to new trends in the tourism market and correct the problems of second-generation destinations, such as the volatility of the market and decline in demand (Ritchie & Crouch, 2003). A commitment to sports events is one of the central themes of the new tourism provision, aimed at a more active and demanding tourist and at achieving a more positive economic, social and environmental impact (Kaplanidou, Jordan, Funk, &

Ridinger, 2012), thereby attempting to reduce the effects of seasonality endured by this insular territory.

Along with other sports such as golf, marathons, triathlons and sailing (Alcover et al., 2011) road cycling, and mountain biking is becoming an excellent tourist attraction, as the mountains of Ibiza are an idyllic setting for this type of sports tourism. In recent years, a vital investment effort has been made to adapt hotel facilities to cater for the specific needs of the cyclist. Specialized tour operators, the Balearic Tourism Agency, and event organizers have estimated the turnover generated by this type of tourism will be over 300 million euros in 2019 (Ruiz-Collado, 2018).

According to the classification of the Australian Bureau of Statistics (ABoS, 2008), the sporting event analyzed in this study, the IBIZA BTT is an international event of the type "organized competitive cycling" and type C2, a medium-sized, international sports event, of a regular nature, according to Gratton et al. (2000), Wilson (2006), and Barajas et al. (2012). In 2016, the event was organized by the Sant Antoni Cycling Club and Ibiza Sport, with the participation of 1000 cyclists touring the territory of Ibiza in three stages over three days in March, racing mainly along rural roads with a total distance of 200 km. Bicilink (2016) reported that the IBIZA BTT 2016 was among the ten most important events in Spain, attracting a considerable number of both participants and tourists interested in the sport of mountain biking to the island.

### 2.2. Research method

The organization of a cycling tourism sports event requires extensive knowledge of the profiles of participants in the different race categories in order to target them as a homogeneous group (Kruger et al., 2012). Since 2012, Ibiza has implemented an economic development strategy for tourism through the organization of sports events. The IBIZA BTT mountain bike race held in March 2016 is an example of this. To determine the motivations of the participants in the IBIZA BTT 2016 a self-administered web-based questionnaire (CAWI) was used as the primary data collection instrument among those registered for the event. The data was gathered during May 2017, and the sampling method was non-probabilistic through self-selection of the respondents by e-mail. The questionnaire was provided in English and translated to Spanish, consisted of four sections, with thirty-one primarily closed questions, covering various aspects of the sports event experience. The questionnaire was developed through a review of the previous literature and refined through a pilot study held in January 2016. The selection of items was based on the work of Driver, Tinsley, and Manfredi (1992), Tocquer and Zins (2004, 2008) and Taylor (2010). The pilot study consisted of a pretest of the questionnaire carried out on a sample of 100 participants from the previous year's event IBIZA BTT 2015. Once the observations were collected, the validity and reliability of the items used were analyzed and the appropriateness of the structure of the questionnaire verified. The first part of the questionnaire evaluated behavior-oriented variables, such as the choice of tourist destination, the number, and type of companions, the length of stay and expenditure (Rejón-Guardia et al., 2018). The second part gathered the motivations for choosing the sports event destination. The third part evaluated the levels of satisfaction, and the last part of the questionnaire recorded the sociodemographic characteristics of the respondents (see Appendix).

## 3. Results

A total of 499 sports tourists responded to the questionnaire, from 1000 total participants at the 2016 edition, a response rate of 49.9%. The study sample consisted mostly of men 89% (444). The mean age of the sample was 37.08 years: 25.7% were between the ages of 16 and 32; 23.4% between 33 and 36; 23.6% between 37 and 41, and 22.8% were aged 42 or more. With regard to education, 31.5% of the sample declared having a university level of education, 30.7% professional

training, 14.6% secondary education, while 16.6% had only completed primary education. The majority of the sample were Spanish (73.1%), while 8.5% were from the rest of the European Union, and the remaining 18.4% did not declare their country of residence. The majority indicated that they had attended the event with other cyclists (46.9%), with non-cyclist friends, (28.5%) and only 4% came with relatives. Regarding the length of stay, 72.9% stayed on the island for less than a week to attend the event ( $X_{\text{days-stay}} = 4.99$ ,  $s.d. = 1.44$ ), compared to 8.7% who stayed for more than a week.

The analysis of motivations with a large number of variables complicates the interpretation for the researcher, thus the technique of exploratory factor analysis (EFA) was used to find a dimensional structure among the motivations declared by the respondents. Factor analysis is a technique of interdependence where the variables are not divided between independent and dependent, but rather the entire interdependence relationship plot of the variables is examined. This technique is used to reduce and synthesize data, where relationships between sets of many linked variables are examined and represented by fewer factors. In this study the application of the factor analysis determined the existence of four main motivational factors, in which the mean of the sampling adequacy ( $KMO = 0.772$ ) and the Bartlett sphericity test was significant ( $X^2 = 1368.288$ ,  $d.f. = 45$ ;  $p < .001$ ) indicating the presence of four dimensions. The determination of the number of factors was carried out through the extraction of eigenvalues, retaining the values higher than one. Table 3 shows that when four main factors were used, 74.02% of the variance was explained. Table 1 shows that when main factors were used, 74.92% of the variance was explained.

3.1. Extraction method: Analysis of the main components

The main motivational dimensions declared by those attending the sporting event are described below. The highest means among the factors revealed that the most relevant dimension was the “physiological and sensory” related to the environment of the destination (mean value = 3.92) which included route signage as the most important (4.05), and the weather (3.79) as the second main motivations. The next most important were those related to the dimension of “utilitarian practices” (3.54), formed by the cost of the trip (3.61) and accessibility to the island (3.47). These were followed by motivations related to the “hedonic and prestige motivations” such as recommendations and services offered (3.25), including the advice of friends and acquaintances (3.54), special offers and hotel services (3.40), recommendations by experts/in magazines (3.26) and leisure (restaurants and nightclubs) (2.81). The least important dimension in terms of motivation was the membership factor of previous experience (2.7), formed by prior knowledge of the islands (3.00) and, finally, having friends or family in

Ibiza (2.40).

3.2. Cluster analysis of characteristics of mountain bike tourists

A cluster analysis was used to classify the subjects into mutually exclusive groups based on the Ward method, using the K-means grouping process. The cluster analysis results indicated that a three-group solution was appropriate. The result of the ANOVA tests also revealed that the four factors contributed to differentiate the three motivation clusters ( $p < .001$ ). In addition, Scheffe's multiple range tests were used to examine any difference between the groups concerning each factor. Statistically significant differences were found between groups, supporting the claim that an appropriate categorization was represented.

As shown in Table 2, among the three groups of the cluster, the first has the highest average score in all motivation groups, obtaining high mean scores in the “physiological and sensory” factors, and the second-highest score in “utilitarian practices” followed by “hedonic and prestigious” factors. This group is called “multipurpose seeker”. The second group presents a greater average in the motivations related to “utilitarian practice”, “hedonic and prestigious” for which they are described as “utilitarian and service seeker”. Finally, the third group shows particularly high scores in the “physiological and sensory” motivations, which is why they are referred to as “sensory seekers”.

To validate the results of the motivations of the mountain biking tourists, a discriminant analysis consisting of three groups and four motivation factors was carried out. While discriminant analysis helps to determine which variables discriminate between groups, the classification matrix was calculated to explain the degree to which respondents were correctly classified in groups, as well as the degree to which the cases were grouped cross-validly. This procedure is known as an external validity analysis. From the results of the discriminant analysis shown in Table 3, the classification matrix indicates that for the whole sample ( $n = 499$ ), 94.8% of the respondents were correctly classified, and 94.1% of the groups with cross-validation were correctly classified. These results increase confidence in the reliability and validity of the cluster performed.

To better identify the profile of the three groups, each one was crossed with external variables such as socio-economic characteristics and behavioral variables. As shown in Table 4, the results of Chi-square tests indicate that there were statistically significant differences between the three groups in terms of the socio-economic characteristics of mountain biking tourists and behavioral variables, with the exception of gender (mostly male in all groups) and length of stay, and type of accommodation, where there was a balanced distribution in the same proportion in all groups.

Table 1  
Results of the motivational analysis of mountain bike tourists.

Motivation factors and items	Factor load	Variance (%)	Cronbach's $\alpha$	Means	Skewness	Kurtosis
<i>F1: Hedonic and prestigious (recommendation and services)</i>						
Recommendation by experts/in magazines	0.844	25.23	0.81	3.25		
Hotel services and special offers	0.805			3.26	-0.555	-0.483
Advice from friends/acquaintances	0.732			3.40	-0.661	-0.100
Leisure (nightclubs, restaurants, etc.)	0.656			3.54	-0.814	-0.140
				2.81	-0.141	-0.942
<i>F2: Membership (direct or indirect previous experience)</i>						
Previous knowledge of the islands	0.848	16.81	0.71	2.70		
Friends or family in Ibiza	0.825			3.00	-0.220	-1.045
<i>F3: Physiological and sensory (destination environment)</i>						
Weather	0.869	16.10	0.71	2.40	0.383	-1.075
Route signage	0.790			3.92		
<i>F4: Utilitarian practices</i>						
Cost of the trip	0.881	15.88	0.72	3.54		
Accessibility to the island	0.841			3.61	-0.816	0.323
Total variance explained (%)	74.02			3.47	-0.819	0.351

**Table 2**  
Cluster analysis: statistical summary of the motivations of mountain biking tourists.

	Cluster I (n = 344)	Cluster II (n = 63)	Cluster III (n = 92)	F-value	Scheffe's test of multiple ranges		
					I-II	I-III	II -III
F1: Hedonic and prestigious	3.763	2.6786	2.2446	197.604***	***	***	***
F2: Membership (previous experience)	3.0833	1.6984	2.3207	51.011***	***	***	***
F3: Physiological and sensory (destination environment)	4.1825	2.4762	4.1902	217.654***	***	n.s <sup>b</sup>	***
F4: Utilitarian practices	3.869	2.8730	3.0924	54.340***	***	***	n.s <sup>b</sup>
Cluster names	Multipurpose seekers	Utility and service seekers	Sensory seekers	Pillai's trace = 1.105 (p < .001) Wilks' lambda = 0.200 (p < .001) Hotelling-Lawley trace = 2.472 (p < .001) Roy's greatest root = 1.289 (p < .001)			

Average values based on a 5-position Likert scale (1 - totally disagree; 3 - neutral; 5 - totally agree). \*\*\* p < .001; b = indicates not significant.

- **Cluster I:** The results of the study reveal that cluster I (n = 344) called multipurpose seekers, was mainly composed of men (86.63%) (as in the rest of the groups), mostly with higher education or university students, of Spanish nationality or from other European countries, and were accompanied by other cyclists or non-cyclist friends. Apart from the sporting activities of the cycling event, this group enjoyed the local cuisine and sun and beach activities. As regards the type of accommodation, there were no significant differences between groups, but this group stayed mainly in hotels and private houses. They learned about the event through the recommendation of advertising in magazines, the club in which they were federated and through the event website and Facebook. The total expenditure during their stay was the lowest of all the groups. This was the group of participants most likely to recommend the mountain biking event.
- **Cluster II:** The results of the study reveal that this group (n = 63), called utility and service seekers, was mainly composed of men (90.5%). They mostly declared to have professional training or university education, to be of Spanish nationality, and were accompanied by other cyclists and friends, but not by relatives. They mainly stayed in the destination for less than a week. Apart from the sports event itself, this group enjoyed the local cuisine, and sun and beach activities. As regards the type of accommodation, there were no significant differences between groups, but this group stayed mainly in hotels and private houses. The total expenditure during their stay was the highest of all the groups, and this group of participants would be the least likely to recommend the event.
- **Cluster III:** The results of the study reveal that this group (n = 92) called sensory seekers, was mainly composed of men (96.74%). They mostly declared having professional, university and secondary education and were of Spanish nationality, accompanied by other cyclists and friends, but not by relatives. They mainly stayed in the destination for less than a week. Apart from the sporting event itself, this group enjoyed the local cuisine, and sun and beach activities. As regards the type of accommodation, there were no significant differences between groups, but this group stayed mainly in hotels,

they learned about the event through different media, highlighting the federation, Facebook and advertising in magazines and on the event website. This group had the second highest expenditure during their stay and were the second group of participants most likely to recommend the mountain biking event.

### 3.3. Economic potential

The evidence suggests that government agencies around the world are interested in assessing the return on investment of an event by means of an analysis of direct expenditure (direct expenditure impact). This approach avoids the use of multipliers by limiting measurement to immediate expenditure directly related to event visitation and provides a practical method to measure economic potential (Buning et al., 2016; Davies, Coleman, & Ramchandani, 2013; Perić, Dragičević, & Škorić, 2019). In line with Salgado-Barandela, Barajas, and Sánchez-Fernández (2019), in order to estimate the amount of money that a given event can attract, the number of event participants are multiplied by the average expenditure at the event by the number of days. Table 5 shows the estimated economic impact of the sports event. The calculation method is based on the multiplication of the declared average total individual cost by the size of the population (N = 1000) by the average number of days (X<sub>days-stay</sub> = 4.99, s.d. = 1.44). The total initial revenue generated by the event was €380.701,34. The results indicate that Cluster I (multipurpose seekers) generated an estimated initial amount of around €245,827.44 (accounting for 64,57% of the total revenue); Cluster II (utility and service seekers) around €61,522.50 (16.6%); while Cluster III (sensory seekers) yielded around €73,351.40 (19.27%).

Overall, participant expenditure ranged from €71.45 to €97.70 per day. The multipurpose seekers (Cluster I) produced the highest total expenditure. The average daily expenditure for the Ibiza BTT 2016 was similar to the findings of other studies in areas such as the United States (Buning et al., 2016) or to more recent studies into events taking place in Europe (Buning et al., 2019; Perić et al., 2019).

The World Health Organization declared a global pandemic after the outbreak of Coronavirus (COVID-19) that started in Wuhan, China

**Table 3**  
Results of the discriminant analysis of the cluster of motivations.

	Discriminant functions	Auto values	Canonical correlation	Wilks' lambda	X <sup>2</sup> sig.
Motivational factors of the mountain biking tourist	1	1.289	0.750	0.200	0.000
	2	1.183	0.736	0.458	0.000
<i>Standardized coefficients of the canonical discriminant function</i>					
Motivations of the mountain biking tourist			Function 1	Function 2	
F1: Hedonic and prestigious			1.022	-0.162	
F2: Membership (previous experience)			0.122	0.207	
F3: Physiological and sensory (destination environment)			-0.522	0.962	
F4: Utilitarian practices			0.409	0.185	

Note: 94.8% of grouped original cases classified correctly and 94.1% of grouped cases validated cross-classified correctly.

**Table 4**  
Differences among the cluster groups of the participants in the mountain biking event.

Characteristics	Cluster I (n = 344) Multipurpose seekers	Cluster II (n = 63) Utility and service seekers	Cluster III (n = 92) Sensory seekers		
<i>Gender</i>					
Male	298 (86.63%)	57 (90.5%)	89 (96.74%)	$X^2 = 2.718$ , d.f. = 2, $p = .257$	
Female	24 (6.98%)	6 (9.5%)	3 (3.26%)		
<i>Level of education</i>					
Primary	65 (18.9%)	8 (12.70%)	10 (10.87%)	$X^2 = 19.981$ , d.f. = 8, $p = .010$	
Secondary	48 (13.95%)	9 (14.29%)	16 (17.39%)		
Professional training	93 (27.03%)	22 (34.92%)	38 (41.30%)		
Higher Education/university	110 (31.98%)	19 (30.16%)	28 (30.43%)		
Other training	6 (1.74%)	5 (7.94%)	0 (0%)		
NA	22 (6.40)	0	0		
<i>Country of residence</i>					
Spain	222 (64.53%)	60 (95.24%)	83 (90.22%)	$X^2 = 54.051$ , d.f. = 4, $p = .000$	
Rest of Europe	30 (8.72%)	3 (4.76%)	9 (9.78%)		
NA	92 (26.74%)	0	0		
<i>Accompanied by</i>					
Other cyclists	172 (50%)	35 (55.56%)	27 (29.35%)	$X^2 = 14.125$ , d.f. = 6, $p = .028$	
Family members	16 (4.65%)	1 (1.59%)	3 (3.26%)		
Non-cyclist friends	102 (29.65%)	13 (20.63%)	27 (29.35%)		
NA	54 (15.70%)	14 (22.22%)	35 (38.04%)		
<i>Length of stay</i>					
Less than a week	222 (64.53%)	60 (95.24%)	82 (89.13%)	$X^2 = 2.733$ , d.f. = 2, $p = .255$	
More than a week	30 (8.72%)	3 (4.76%)	10 (10.87%)		
NA	92 (26.74%)	0	0		
<i>Activities during the stay (multiple-choice)</i>					
Enjoying sun and beach	143 (41.57%)	22 (34.92%)	46 (50%)	$X^2 = 37.803$ , d.f. = 18, $p = .040$	
Shopping	76 (22.09%)	21 (33.33%)	25 (27.17%)		
Nightlife	44 (12.79%)	11 (17.46%)	13 (14.13%)		
Cultural tours	88 (25.58%)	12 (19.05%)	29 (31.52%)		
Enjoying the local cuisine	157 (45.64%)	46 (73.02%)	66 (71.74%)		
Visiting natural parks	73 (21.22%)	17 (26.98%)	23 (25%)		
Hiking	15 (4.36%)	2 (3.17%)	7 (7.61%)		
Watersports	10 (2.91%)	0 (0%)	2 (2.17%)		
Other	205 (59.59%)	53 (84.13%)	72 (78.26%)		
<i>Type of accommodation</i>					
Hotel	197 (57.27%)	53 (84.13%)	69 (75%)		$X^2 = 2.072$ , d.f. = 10, $p = .996$
Private house	23 (6.69%)	7 (11.11%)	8 (8.7%)		
Agritourism	1 (0.29%)	0	1 (1.09%)		
With relatives or friends	9 (2.62%)	3 (4.76%)	5 (5.43%)		
NA	114 (33.14%)	0	0		
<i>Learned about the event on the recommendation of (multiple-choice)</i>					
Other cyclists	172 (50%)	35 (55.56%)	27 (29.35%)	$X^2 = 37.985$ , d.f. = 16, $p = .002$	
Family members	16 (4.65%)	1 (1.59%)	3 (3.26%)		
Friends	102 (29.65%)	13 (20.63%)	27 (29.35%)		
Club or federation	286 (83.14%)	60 (95.24%)	83 (90.22%)		
Facebook	274 (79.65%)	57 (90.48%)	82 (89.13%)		
Magazine advertisement	292 (84.88%)	59 (93.65%)	78 (84.78%)		
Event Website	273 (79.36%)	56 (88.89%)	70 (76.09%)		
Other	308 (89.53%)	59 (93.65%)	85 (92.39%)		
Total expenditure	356.53	487.50	398		
Would recommend the Ibiza mountain bike event? (Likert from 1 to 5)	4.77	4.54	4.62	$F (2.735)$ , d.f. = 2; $p = .066$ $F (4.553)$ , d.f. = 2, $p = .011$	

**Table 5**  
Estimated total income generated by the event.

Total participants (N = 1000) Sample n = 499 (49.9%)	Cluster I (n = 344) Multipurpose seekers (34.4%)	Cluster II (n = 63) Utility and service seekers (6.3%)	Cluster III (n = 92) Sensory seekers (9.2%)
Estimated % of population	68.95	12.62	18.43
Total expenditure per person* (€)	356.53	487.5	398
Expenditure per day (€)	71.45	97.70	79.76
Real income (€)	122,646.32	30,712.5	36,616
Potential income per cluster (€)	245,827.44	61,522.5	73,351.4
Initial revenue generated by the event (€)	380,701.34		
Per day (€)	126,900.44		

Note: \*(F (2.735), d.f. = 2; p < .1).



and spread worldwide. The number of infections and deaths overgrown, forcing governments to implement travel restrictions. As a result, the tourism industry has been one of the most affected. UNWTO (2020) estimates a 30% reduction in tourist arrivals, and these figures are increasing as the virus spreads in different regions (Karabulut et al., 2020). The effect of COVID-19 is challenging to predict. Hence the economic potential of this study may be limited while this situation persists, especially in the geographical context of this study (Ibiza, Spain), which has become one of the areas most affected by the pandemic in Europe.

#### 4. Discussion

Hosting sports events of different sizes bring with it a series of positive externalities in terms of image and economic outcomes. In the field of cycling tourism, considerable interest has been shown in event organization and evaluation. The present study is innovative in the sense that it is one of the first to segment the participants in a mountain cycling event by motivations, assessing the differences between groups according to socio-demographics, tourist behavior and economic impact. Specifically, the segmentation of tourists participating in such events based on their motivations should allow managers to increase the effectiveness of promotional campaigns and improve the economic return of mountain biking sports events for tourism purposes.

From the literature review, many studies were identified that evaluate different categories of sports cycling events in different parts of the world. Many of these studies assess the profile of the mountain bikers' profiles or analyze the economic impact of the events (Buning et al., 2016; Buning & Lamont, 2020; Perić et al., 2019). The main conclusions suggest that holding mountain bike events is beneficial to the host destination, through positive economic returns and an enhanced image. Another significant area of research compares mountain bike events with other sports (Getz & McConnell, 2014; Havlick, Billmeyer, Huber, Vogt, & Rodman, 2016; Kruger & Saayman, 2014) and focuses on the motivations of event participants (Peric & Durkin, 2017), although very few use motivations as variables to segment the different groups of participants (Turkeshi, 2018).

The main conclusion to be drawn from the literature review is that there are diverse motivations for participating in mountain bike events. These results can be explained by 1) the absence of a common theoretical framework for analyses, 2) the lack of a standardized measurement instrument (Buning & Lamont, 2020), and 3) the varying characteristics of the different mountain bike events, (the length in kilometres, days of participation, etc.). However, the prime reasons for participating in mountain bike events are a search for "speed/excitement/risk" (Cessford, 1995), "to have fun" (Getz & McConnell, 2014; Kulczycki & Halpenny, 2014), "event attractiveness", and "to seek out opportunities to engage in the physical challenge" (Kruger & Saayman, 2014). Ranking top in alternating positions are motivations related to "exercise/fitness workout", "physical exercise", "athleticism", and "achievement and challenge" (Getz & McConnell, 2011; Kulczycki & Halpenny, 2014; Skar et al., 2008). This alternation might be explained by how tough the analyzed events are (Getz & McConnell, 2014). Thus to compare the motivations of participants in mountain bike events, events of the same length and physical requirements must be taken in order to take into account participant profiles.

Another large body of research differentiates between recreational cyclists ("serious and expert", "intermediate" and "amateurs") and serious mountain bikers (Chen & Chen, 2013; Lamont & Jenkins, 2013). The main conclusion is that not only are there similarities between the physical abilities of participants due to the tough nature and demands of mountain races, but also at a motivational level, as, contrary to what one might think, both recreational cyclists and serious mountain bikers "enjoy the experience of flow, thrills and adventure" (Bordelon & Ferreira, 2019, pg. 55). Other studies of interest focus on the analysis of small and medium events, as they may have a less negative impact on

the environment and also ensure that the community of local residents are more involved in and satisfied with the organization of the event (Gibson et al., 2012).

Following on from these lines of research the present study has focused on the following three objectives: 1) to evaluate the motivations of participants in a mountain cycling event; 2) to segment the participants according to these motivations; and 3) to assess the direct economic impact of a mountain bike sports event.

The first finding of this research is related to the importance of evaluating the motivations for participation in a mountain bike event. A reduction of variables was made to find universal interdependence between the motivations of participants in the IBIZA BTT 2016. Four main dimensions were found and arranged according to their mean value; namely "physiological and sensory", "hedonic and prestigious", "utilitarian practices" and "membership". In addition, an analysis of the mean values shared similarities with previous studies, where the primary motivations for participation were route signage and weather (physiological and sensory), followed by the cost of the trip (utilitarian practices) (Cessford, 1995; Damant-Sirois et al., 2014; Streicher & Saayman, 2010).

Other studies that explore the motivations for participating in mountain bike events find intrinsic ones, like having fun or engaging in physical challenges, to be highly relevant (Getz & McConnell, 2014; Kulczycki & Halpenny, 2014; Skar et al., 2008), while in our study these motivations were not considered. This demonstrates the need to standardize measurement instruments (Buning & Lamont, 2020). Meanwhile, leisure (nightclubs, restaurants, etc.) (hedonic and prestigious) and friends or family in Ibiza (membership) had the lowest mean. The latter finding is contrary to those found by Getz and McConnell (2014) or Brown, O'Connor, and Barkatsas (2009), where the social dimension of the motivations was of greater significance.

The second finding was that mountain biker groups differed in terms of their sociodemographic and behavioral characteristics, thereby confirming the opinions of Kruger et al. (2012) and Kruger and Saayman (2014), that race participants cannot be regarded as homogeneous in terms of their profiles and reasons (motives) for participation. In line with previous research, the findings of the present study show the majority of participants to be middle-aged males with medium purchasing power and secondary or higher level of education (Bordelon & Ferreira, 2019; Buning et al., 2019; Cessford, 1995).

The third finding was that expenditure per mountain biker was quite beneficial as visitors spent almost €90 on average per day (Buning et al., 2019). According to the findings Cluster I (multipurpose seekers), comprising the largest number of participants, produced the highest amount of total income, despite being the profile spending the lowest individually per day. In addition, multipurpose seekers showed most loyalty and were the group most likely to recommend the event, and therefore to contribute to maintaining levels of participation in the coming years.

In 2020, the World Health Organization declared a global pandemic due to the spread of COVID-19 disease, forcing world governments to curb its spread through travel restrictions in order to restore the functioning of health systems as a priority. It is not easy to imagine society and tourism returning to normality in the coming years, and the consequences of postponing sporting events are not yet known. However, what is clear is that even if the industry changes in the future, sports tourism will play a crucial role. It seems that practicing sport in open spaces can be an excellent alternative to mass tourism and nightlife tourism. If we take into account that the main measures to prevent infection include hygiene, the use of face masks and maintaining interpersonal distance, the practice of sports in open spaces and specifically, mountain biking, prevents the spread of the disease. It is essential to examine actions related to mountain bike tourism and COVID-19, so when the next pandemic arrives, we will be better prepared as a society. This situation can be an opportunity to avoid the disconnection between sustainability and tourism growth.

## 5. Conclusion

Mountain biking is a fast-growing, money-generating tourism niche (Mourdale & Weaver, 2016), and a lucrative, frequent, 'short break' market (Buning et al., 2019). Sports events are used increasingly in the marketing of cities (Dos Santos, 2014; Malchrowicz-Moško & Poczta, 2018), and these events often represent the chance to create, improve, or reposition the image of a destination (Kaplanidou & Vogt, 2007).

As a case in point, the IBIZA BTT race has helped to reposition the island as an all-season sports holiday destination rather than a summer-only party destination. The race has been declared an event of tourist interest in 2015 by the competent local authorities, due to its standards of quality, and its impacts on tourism, the economy and society.

However, the study of the cycling tourism phenomenon is complex. This paper aims to help overcome this complexity by studying the motivations of a group of active tourists visiting the Balearic Islands to take part in an international mountain biking event. The study hopes to improve the understanding of the motivations of tourists when choosing a destination for mountain biking tourism, and shows that mountain biking sports events are a useful activity to attract tourists, especially in those destinations where geographic heterogeneity and good connectivity allow for the enjoyment of the environment in sporting terms, as is the case of the Balearic Islands in general and Ibiza in particular.

The present study hopes to assist both event organizers and destination managers. The main motivations and segments of participants identified may not only help with the tasks of sports event developers when organizing races and creating services, but also guide commercial and communication activities. The study will also guide those responsible for taking political decisions with regard to equipment and infrastructure in order to support the repositioning of the destination.

From a theoretical perspective, the results obtained support the importance and usefulness of the study of motivations to segment sports tourists (Kruger et al., 2016; Rejón-Guardia et al., 2018). Moreover, in line with other research, hedonic or prestige motivations were found to be the most important variables for the mountain bike sports tourist (Damant-Sirois et al., 2014; Kruger et al., 2016). Based on the results, several recommendations can be made for management and research consideration.

From a practical point of view, transforming the Balearic Islands into a sports destination requires effective strategies to segment tourism. In terms of size, the largest group was multipurpose seekers who recommend mountain biking event participation the most, followed by the utility and service seekers groups, whose total expenditure was the highest. The motivations which led the cyclists to choose the tourist destination, particularly those linked to sensory and hedonic factors, should be emphasized to promote the destination as ideal for mountain bike tourism. Furthermore, determining tourist behavior makes it possible to identify complementary activities, the length of stay, and how participants learned about the event, among others.

Tourism initiatives based on the organization of sports events, in particular those related to cycling and mountain biking may assist in the design of a range of events to attract the active tourist while at the same time providing a significant economic boost to the host community. Attention should be paid to the possibility of designing packages specifically for race participants (transport, transfers, food and accommodation) which improve the economic conditions and guarantee the mobility of the cyclists given the high degree of sensitivity expressed by the respondents to topics related to the cost of the trip and the accessibility of the destination. It would also be advisable not only to intensify efforts in the design of routes for the event, but also to improve and update route signage, thereby ensuring the safety of the riders and fully respecting the natural environment where the race takes place.

From a promotional point of view, the communications strategy to attract participants should focus on engaging with the motivations of

the largest groups, placing value on complementary activities such as enjoying the local cuisine and sun and beach activities. In short, the full complimentary services offered by the destination and, of course, the unbeatable weather of the islands.

The results showed most visitors were from the domestic market and the rest of other parts of Europe, mainly male, with secondary and higher education, travelling with other cyclists or family members. It would therefore be important to provide suitable channels of communication in order to reach this target group, intensifying efforts within cycling clubs and federations, placing advertising in specialized magazines, and indeed, increasing presence on social media, particularly on Facebook, the network most followed by participants in these kinds of races.

The present study is exploratory, and therefore, is limited by the fact that the sample analyzed is comprised of individuals registered in a single mountain biking event. Enquiring about respondents' memory of total expenditure is a limitation, although it is one of the most popular methods to estimate the direct impact of a sports event (Buning et al., 2016). Additionally, the fact that Ibiza is one of the world's most popular tourist destinations, associated with the concept of nightlife, together with its geographic, economic and cultural singularity, has meant that there are some shared characteristics among the segments identified.

It is important to note that the segmentation technique used in this work has been widely used with success in other publications (Özel & Kozak, 2012; Sung, Chang, & Sung, 2016). However, new methodological recommendations should be considered. In the data-based market segmentation, the key steps are: 1. Data collection, 2. Data exploration, 3. Segment extraction, and 4. Segment description. In each of these stages, new procedures have been identified to improve deficiencies and bad practices. For the data collection phase, the use of Likert-type scales is frequent. These scales are considered to be imprecise or ambiguous. To overcome these problems, some authors recommend transforming Likert-type scale into fuzzy numbers (Disegna, D'Urso, & Massari, 2018; D'Urso, Disegna, Massari, & Osti, 2016). In the exploration phase, factor analysis is considered as a standard, to which it is attributed to producing a loss of almost half of the original information and which transformation of the data space may not reflect the original elements measured (Dolnicar & Grün, 2008; Khoo-Lattimore & Prayag, 2015). Hence, it is recommended to use techniques that use all the items analyzed and not only the factors extracted (Khoo-Lattimore & Prayag, 2015). In the phase of segment extraction, factor-cluster procedures have been highly used on tourism and marketing, but they have also been widely criticized. One of the main criticisms lies in the artificial (even random) construction of segments that may not reflect their real structure. One solution to this issue is to evaluate stability (Punj & Stewart, 1983). Furthermore, for more stable and reproducible clusters, future studies should employ other clustering techniques such as bagged clustering (Dolnicar & Leisch, 2010; Prayag & Hosany, 2014) and bi-clustering (Dolnicar, Kaiser, Lazarevski, & Leisch, 2011). The use of a non-hierarchical k-means clustering algorithm using all the scale items and then run a discriminant analysis to confirm the validity of the chosen clustering solutions is also recommended (Khoo-Lattimore & Prayag, 2015). Another new method is Fuzzy C-Medoids clustering for fuzzy data (FCM-FD) (Khoo-Lattimore, Prayag, & Disegna, 2019). Another consideration to take into account is those techniques which allow the analysis of dynamic changes over time in the cluster segmentation (Disegna et al., 2018). Additionally, the combination of fuzzy numbers and fuzzy clustering methods are considered more accurate in the face of sources of uncertainty such as those arising in human perceptions and judgements (Disegna et al., 2018).

Suggested lines of future research could be related to a longitudinal study of participants, as well as a comparison between different types of cycling, such as road cycling, recreational cycling, mountain biking, and downhill racing, to establish differences in terms of motivations,

participant profiles and economic impacts. Moreover, different cycling events could be studied with the aim of designing a range of events which could help reduce the seasonality of the destination and generate resources sustainably while respecting local residents.

### Potential reviewers

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### Appendix A. Appendix

Table 6  
Sports motivation survey.

#### Welcome message

#### I. Behavioral-oriented variables

1. How did you travel to Ibiza?
  - By plan
  - By boat
  - Boat & car
2. Where did you stay?
  - Hotel
  - Rental apartment/rental house
  - Finca/Agritourism
  - With relatives and friends
  - Private house
  - Other:\_\_\_
3. How many nights did you stay on Ibiza? (Please indicate the number of nights).
4. How many people were travelling (including you)? (Please indicate the number of people).
5. How many people of your group, including you, participated in Vuelta Ibiza MTB? (Please indicate the number of people).
6. How many people from your group (over 13 years old) travelled with you to Mallorca and did NOT participate in Vuelta Ibiza MTB? (Please indicate the number).
7. How many people of your group (12 years or younger) travelled with you to Ibiza? (Please indicate the number).
8. Which other activities did you enjoy during your stay?
  - Enjoying sun and beach
  - Shopping
  - Nightlife
  - Cultural tours
  - Enjoying the local cuisine
  - Visiting of natural parks
  - Hiking
  - Watersports
9. Did you know that Ibiza is a World Heritage Site by Unesco? (1 – Yes, 2 – No)
10. Are you resident in Ibiza (You live in Ibiza more than six months per year) (1 – Yes, 2 – No)
11. How much money did you spend on the trip in total (personally and only for yourself)? (Please indicate a number (Euros as currency))
12. If you have bought a tour package, please let us know which one ...
  - Basic Registration - IBZMMR16 2015 (entre 90,00 € y 100,00 €)
  - Basic Registration IBZM MR16 + 3 Noches con desayuno (entre 175,00 € y 185,00 €)
  - FERRY DENIA + Basic Registration - IBZMMR16 2015 + Hotel con desayuno (entre 322,80 € y 332,80 €)
  - VALENCIA FERRY + Basic Registration - IBZMMR16 2015 + Hotel con desayuno (entre 295,25 € y 305,25 €)
  - MALLORCA FERRY (RESIDENTES) + Basic Registration - IBZMMR16 2015 + Hotel con desayuno (entre 235 € y 245 €)
  - MALLORCA FERRY (NOT RESIDENTS) + Basic Registration - IBZMMR16 2015 + Hotel con desayuno (entre 294,50 € y 304,50 €)
  - BARCELONA FERRY + Basic Registration - IBZMMR16 2015 + Hotel con desayuno (entre 266,75 € y 276,75 €) (If you don't bought a pack of reserves, indicate how much did?)
13. How much money did you spend to travel (plane o boat) to Ibiza? (Estimated cost in €) (If it is in another currency, please indicate it) (If you don't bought a pack of reserves, indicate how much did?).
14. How much money did you spend on accommodation. (Estimated cost in €). If it is in another currency, please indicate it Indicate your expenditure on inland transport (bus, rent a car, taxis, ...)
15. How many times have you participated in the Vuelta Ibiza MTB, including this one? \_\_\_\_
16. How did you learn about the event?
  - Other cyclists
  - Family members
  - Friends
  - Club or federation
  - Facebook
  - Magazine advertisement
  - Event Website
  - Other
17. How and where did you get information about the event? (Multiple choice)  
Event website, Newsletter, Twitter, Facebook, Other:\_\_\_
18. Can you give us your opinion in regards to: (1- I haven't seen it, 2 - I like it, 3- I don't like it)
  - The newsletters we sent you as a participant
  - The website of the event

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(continued on next page)

Table 6 (continued)

- The information about the event on Facebook
- II. Motivation for choosing the sports event destination**
19. Indicate your degree of agreement or disagreement with the following statements.  
My motivation to participate in the sporting event was ... (1 – Strongly disagree, 2 – Disagree, 3 – Neither agree or disagree, 4 – Agree, 5 – Strongly agree).
- Cost of the trip
  - Accessibility to the island
  - Route signage
  - Weather
  - Previous knowledge of the islands
  - Have friends or family in Ibiza
  - Advice from friends/acquaintances
  - Recommendation by experts/in magazines
  - Hotel services and special offers
  - Leisure (nightclubs, restaurants, etc.)
20. To what extent do the following motives in hence your decision when choosing a travel destination: (1 – not at all influential, 2 – slightly influential, 3 – somewhat influential, 4 – very influential, 5 – extremely influential).
- Connectivity of the destination (nights etc.)
  - Beautiful landscape/surroundings
  - Good nightlife
  - It is well managed/organized
  - Good weather
  - Good cultural offer
  - Good gastronomical offer
  - I have been there before
  - Quality and level of hotels
  - Diversity of tourists (coming from different countries)
  - Friendliness/hospitality of people
  - Available routes for practising sports
  - Information for tourists easily accessible
  - Cleanness of surroundings/environment
  - Reasonable prices
  - Safety
  - Infrastructure and services are above the international average
  - Variety of available touristic activities
  - Variety of sports offer
  - I know the destination well
- III. Level of satisfaction**
21. Can you indicate your opinion on the following statements (bearing in mind what you spent)?  
(1 - Strongly disagree, 2 – Disagree, 3 - Neither agree nor disagree, 4 – Agree, 5 - Strongly agree)
- It was a good sports experience
  - The quality of my trip to Ibiza was good
  - The costs of my trip to Ibiza were reasonable
  - My trip to Ibiza was a good decision
  - Overall, my trip to Ibiza was valuable and worthy
22. Please, indicate your level of agreement or disagreement with the following statements:  
(1 - Strongly disagree, 2 – Disagree, 3 - Neither agree nor disagree, 4 – Agree, 5 - Strongly agree)
- Ibiza is a good destination to practice sports
  - Ibiza is a good destination for holidays
  - My overall experience with Ibiza was better than I expected
  - Coming to Ibiza was a beautiful experience
  - Ibiza is one of the best destinations I have visited so far
23. Please, indicate your level of agreement or disagreement with the following statements:  
(1 - Strongly disagree, 2 – Disagree, 3 - Neither agree nor disagree, 4 – Agree, 5 - Strongly agree)
- I will repeat the Vuelta Ibiza MTB next year
  - I will come back and race next year but not in Ibiza
  - I will most likely be back in Vuelta Ibiza MYB in 2 years
  - I will recommend the Vuelta Ibiza MTB to others
24. In general - can you tell us how satisfied you are with the Vuelta IBIZA MTB 2017 MMR?  
(1 - Not satisfied, 2 - Little satisfied, 3 – Neutral, 4 – Satisfied, 5 - Very satisfied)
- Tour in general
  - Tour Day 1
  - Tour Day 2
  - Tour Day 3
25. Please give us your opinion about the following aspects of the race:  
(1 – Very dissatisfied, 2 – dissatisfied, 3 – unsure, 4 – satisfied, 5 – Very satisfied).
- Registration process
  - Pick-up of your race documents
  - Signage of the courses
  - Pavement/ground of the courses
  - Refreshment stations along with the courses
  - Behavior of volunteers
  - Finish Line
  - Aid stations
  - Road closure
  - About the event venue

(continued on next page)

Table 6 (continued)

- Day 1: Finger-food
  - Day 2: Pasta Party
  - Day 3: Barbecue
  - Final Party
26. Can you tell us how happy you are with Ibiza as the destination? (1 – Very dissatisfied, 2 – dissatisfied, 3 – unsure, 4 – satisfied, 5 – Very satisfied).
- Restaurants
  - Additional offers (museum, nightlife etc.)
  - Accessibility (nights, ferries)
  - Cost of the trip
  - The hotel offers available for athletes
  - Level of prices
  - Infrastructure (Wifi etc.)
  - Public transport
- IV. Socio-demographic**
27. Gender (1 – Male, 2 – Female)
28. What is your year of birth? (XXXX)
- Educational Level:
  - Primary education
  - Secondary education
  - Professional training
  - Higher education / University
  - Other training
29. Are you resident in Ibiza (You live in Ibiza more than six months per year) 1 – Yes, 2 – No
30. Please introduce your postal code: \_\_\_\_\_
31. Which country are you coming from: \_\_\_\_\_
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