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**Original Article**

# Perception of residents about the impact of sports tourism on the community: Analysis and scale-validation

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**Abstract:**
The influence of tourism activities on residents' perceptions is indispensable for the development of these activities in the community. In particular, sports-tourism activities have increasingly influenced the development of community-based tourism in certain towns. The main objective of this study is to develop a valid scale to measure residents' perceptions of the impacts generated by sport tourism activities. The questionnaire has been developed and tested with a sample of 250 residents on the island of Gran Canaria, Spain. The analysis results obtained a five-factor model with 16 items divided into (1) economic impacts, (2) cultural impacts, (3) environmental impacts, (4) social impacts and (5) political impacts. These factors are limited to a model in which the multidimensional nature of residents' perceptions can be identified.
**Key words:** sports tourism, socio-economic impact, scale development, residents' perception.

## Introduction

Identifying and understanding the factors that influence the attitudes of community residents is important since it is a key building block for tourism growth (Gursoy & Rutherford, 2004). Tourism activities can generate both positive and negative results and directly influence the attitudes of residents towards the development and implementation of new tourism initiatives (Ko & Stewart, 2002).

The worldwide growth of tourism and the belief that it is one of the most important industries for coming generations encourage attention to be paid to the impacts deduced from the activity and the consequences that this sector has on the involved communities (Vargas, Plaza & Porras, 2007). Because of this growth, governments recognize tourism as an industry of the future and hope that the benefits from this activity will outweigh the costs. The reality is that tourism affects local, regional and state levels and its degree of influence is increasing (Dwyer, Edwards, Mistilis, Roman & Scott, 2009), which allows tourism to continue growing internationally. Therefore, it is necessary to give meaning to the development of controlled tourism in its socioeconomic indicators since this will provide us with the necessary information to anticipate changes and impacts and the ability to redirect the consequences and conflicts of tourism activities (Del Chiappa & Abbate, 2013).

The worldwide popularity of sports in recent decades has increased the recognition of the links between sports and tourism. This combined with the ease of travel allows for technological and communications developments and stimulates industry initiatives to formulate more market opportunities for sports tourism (Gibson, 1998). In fact, Hoye, Smith, Westerbeek, Stewart & Nicholson (2006) state that governments have invested in sports and sports tourism in the hope of making profits and diversifying the sector.

This is why the academic concept of sports tourism have become one of the most interesting fields in recent years. Sports tourism refers to people who travel to participate in some type of physical sports activity or event either as participants or spectators. Sports nostalgia tourism includes visits to sports museums, famous sports centres or sports-themed centres (Gibson, 1998). These types of sports tourist activities could occur in urban or non-urban areas, indoors or outdoors (Sobolev, Rozhin, Sobova, Ryabinna & Ratueva, 2017), and in any weather conditions or seasons. Furthermore, interest in sporting activities can include a multitude of motivational factors for participants, spectators or both. (Kurtzman & Zauhar, 1997).

Therefore, it is important that tourism promoters and the relevant public bodies recognize the impacts produced by the tourism sector and develop understandable mechanisms for the maintenance of competent public services and environmental conservation. This tends to establish opportunities for the involvement of society in the sector (Almeida-García, Peláez-Fernández, Balbuena-Vazquez & Cortes-Macias, 2016; Nunkoo & Smith, 2013) and foster a sense of brotherhood and control in citizenship (Aas, Ladkin & Fletcher, 2005). In addition, an analysis of the groups involved in tourism should be undertaken that accounts for the relevance of the residents and their degree of involvement in the activity (Nunkoo & Gursoy, 2016).


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Since the last third of the 20th century, several theoretical and conceptual models have attempted to explain the relationship between the tourism-related perceptions of a community's residents and the resulting economic impacts (Teye, Sönmez, & Sirakaya, 2002). Initially, models such Doxey's (1975) Irridex or Butler's (1980) tourism cycle of evaluation sought to shed light on this paradigm. Subsequently, new models emerged such as the theory of social representation (Fredline & Faulkener, 2000; Madrigal, 1993; Moscardo, 2011) or those based on the theory of social exchange (Andereck, Valentine, Knopf, & Vogt, 2005; Ap, 1990; Nunkoo & So, 2016; Jurowski & Gursoy, 2004; Perdue, Long, & Allen, 1990; Teye et al., 2002, Zuo, Gursoy & Wall, 2017).

These models intended to identify the factors associated with residents' perceptions of general tourism activities by encompassing the full breadth of the term. Specifically, in Spain, there are limited studies related to tourism, even more so if it is focused on the sports tourism sector. Studies based on the relationship between sports and tourism have historically focused on the size of the sport involved in the tourism and the impact this symbiosis has on promoters (tour operators) and participants (Weed, 2009). Other studies studied the importance of tourism activities, such as holding sporting events in the host locality (Añó, Calabuig & Parra, 2012) and the socio-economic impacts of these events (Fernandez-Alles, 2014, González-García, Parra, Calabuig & Añó, 2016).

With respect to the relationship between tourism and sports, Gibson (1998) provided an initial assessment of the bibliography between these terms, which was further exported by Weed (2006) who reviewed the relevant literature from 2000 and 2004. Moreover, Getz & Page (2015) researched the confluence of sports management and their tourism-related studies. They concluded that the theme is mainly focused on sports events as an attraction (both for participants and fans) and active sports participation that requires a trip. During the course of these sporting activities, the author indicates that they tend to evolve from activities with a local attraction to activities with an international appeal.

Sports tourism activities have an important enriching social potential because residents directly experience the improvement of economic benefits and endowments through the provision of new, additional social and recreational opportunities and the promotion/development of new infrastructure. There are reasons why it is important that the relevant institutions know how to manage the impacts of sports tourism. First, it is the moral obligation of these institutions to ensure the sustainability of any activities that are promoted and supported and that such activities do not have negative consequences for local residents. Second, local residents play an important role in welcoming sports tourism. In many cases, the commercial success of the activity is dependent on the support and involvement of the local community. Such support will be significantly reduced if residents perceive that negative impacts outweigh positive ones (Fredline, 2005).

In short, a neglected aspect of sports tourism research is the analysis of residents' perceptions of the impacts of sports tourism. In fact, González-García, Parra, González-Serrano & Añó (2016) states that the research has focused on the valuations of tourists and infrequently addresses the valuations of the community residents, which is a determining aspect of the identification and social commitment with the sector. However, no concrete scales have been found to measure the perceptions of a community's residents about the socioeconomic impacts of sports tourism in that community. This is why the main objective of this study is to create and validate a scale to measure the perceptions of a community's residents regarding the impacts generated by sports tourism activities.

## Material & methods

*Participants*

For this study, data were extracted from a sample of 250 people living in Gran Canaria, Spain by means of a structured and self-administered survey. The average age of the respondents was 38.82 years (SD=16.12), of which 45.2% were men and 54.8% were women.

*Procedure*

For the collection of information, the adaptation of different scales that measure the economic, social, cultural, environmental and political impacts of sports tourism on the locality in question was used as a reference. Maddox (1985) recommended the use of a Likert scale as a research tool to assess the impacts of tourism since it has greater convergent and discriminatory efficiency.

The study has adopted an interdisciplinary approach to strengthen the literature review and scale development procedures to measure the perceived impacts of tourism (Delamere, 2001; Kim & Walker, 2012; Lankford & Howard, 1994; Mayfield & Crompton, 1995; Weed, 2005).

First, an exhaustive list of items associated with the perception of tourism impacts was compiled using a review of the existing literature on this topic. The items were then adapted to the subject matter of the study and evaluated through the focal group and a group of experts to improve their clarity, relevance and effectiveness. (Babbie, 1992). As a result, five factors were considered representative of the dimensions of the impacts associated with sports tourism. Finally, the resulting items were tested through a pilot study using a convenience sample of residents on the island of Gran Canaria. A total of 75 questionnaires were collected. The results were assessed using Cronbach alpha and correlations between items and totals to assess item reliability. After the

initial purification, the retained elements were checked to develop a standardized measurement and articulation of perceived impacts. The resulting questionnaire consisted of two sections: (1) perceived impacts associated with sport tourism, and (2) socio-demographic characteristics.

The validity and content of the preliminary survey were assessed through a focus group and an expert panel. First, a focus group was held with 4 PhD students specializing in sports management in order to establish a list of factors related to the impacts associated with sports tourism. Each participant thoroughly assessed a preliminary model of 5 factors (economic, social, cultural, environmental and political impacts) based on their opinions. The group members then informed the researchers of their views by completing a pre-established document that would allow the researchers to gather the suggestions in order to construct more valid constructs.

Once the information provided by the focal group had been compiled, an expert group reviewed the resulting questionnaire. The experts for this study included three university professors with proven experience in sports management and previous studies related to residents' perceptions of the impacts associated with sporting events. Each expert examined the relevance, representativeness, clarity, format and wording of the items, the content of the scales in the questionnaire and other associated sections recommended by the previous review (Babbie, 1992). As a result of the feedback, the preliminary questionnaire was modified and revised to improve its clarity and validity. After the modification, a pilot study was conducted to examine the validity of content from the perspective of the target population and to assess the reliability of the developed scales.

The modified model of the resulting questionnaire for the main study was developed including five factors with 24 items: Economic Impact (8 items), Social Impact (4 items), Cultural Impact (4 items), Environmental Impact (4 items) and Political Impact (4 items).

The collection of the sample was carried out in different municipalities on the island of Gran Canaria. The recommendations of Hair, Black, Babin, Anderson & Tatham (2006) and Kline (2005) were adopted to determine the appropriate sample size. Based on the recommendation, the target sample size was at least 10 respondents for each item on the largest scale observed. The data were collected using a method of spatial location of local residents. Ten trained graduate students and researchers were recruited to help with the data collection. These were carried out in several public areas.

*Statistical analysis*

The results obtained were subjected to different statistical analyses using the SPSS.24 and the FACTOR programs (Lorenzo-Seva & Ferrando, 2007). EQS 6.1 was also used to conduct the confirmatory factorial analysis. First, an exploratory factorial analysis was carried out for the 24 items related to the impacts of sports tourism. Following the recommendations of Lloret-Segura, Ferreres-Traver, Hernández-Baeza, & Tomás (2014), the exploratory factorial analysis was performed using the unweighted minima-square extraction method and then a direct Oblimin rotation. The Parallel Analysis procedure was used to determine the appropriate number of factors. To check the fit of the model, Root Mean Square of Residuals (RMSR) and the gamma index or GFI (Tanaka & Huba, 1989) were analysed. These should be lower than their respective cut-off points of .05 (Harman, 1980) and .95 (Ruiz, Pardo, and San Martín, 2010). Finally, the items with factorial loads lower or higher than 0.40 in several constructs, were eliminated.

## Results

*Descriptive statistics*

The descriptive statistics can be seen in Table 1. Taking into account the midpoint cut-off of 2.50 in a 5 point Likert scale, the scores that exceed that average value will correspond to a better perception of the impacts, including economic impacts, cultural impacts and political impacts. This is contrary to the case that occurs with those negative scales, including social impacts and environmental impacts. A number below the midpoint of the cut-off will obtain a better assessment of the perception of the impacts in question.

Normalcy was examined through the values of asymmetry and kurtosis, with all of them lower than the criteria recommended by Chou & Bentler (1995) of 3.0.

Table 1. Average, standard deviations, asymmetry and kurtosis of the impacts perceived by the resident population.

| | | Mean (ST) | Skewness | Kurtosis |
|---|---|---|---|---|
| *Economic Impacts* | | | | |
| EI1 | Sports tourism brings greater economic investments to the community | 4.10 (.98) | -.86 | .12 |
| EI2 | Sports tourism helps improve the economic situation for many residents in this community. | 3.89 (1.05) | -.70 | -.13 |
| EI3 | Sports tourism creates a market opportunity and attracts foreign investment in Gran Canaria. | 4.14 (.95) | -.86 | .00 |
| EI4 | Sports tourism benefits from other non-tourist sectors in our locality | 3.68 (1.08) | -.62 | -.14 |
| EI5 | Sports tourism creates more employment opportunities for people from outside the island. | 3.32 (1.15) | -.22 | -.57 |
| EI6 | Sports tourism makes sports more expensive for residents. | 2.85 (1.21) | .07 | -.91 |
| EI7 | The sports tourist has great purchasing power. | 3.38 (1.06) | -.37 | -.32 |
| EI8 | The sports tourist spends more money per day than the conventional tourist. | 3.13 (1.15) | -.12 | -.58 |
| Total | | 3.56 (.65) | -.53 | .48 |

| | | | | |
|---|---|---|---|---|
| *Cultural Impacts* | | | | |
| CI1 | Sports tourism promotes a variety of cultural activities and events for local residents. | 3.72 (1.13) | -.64 | -.45 |
| CI2 | Sports tourism helps keep culture alive and helps maintain the ethnic identity of local residents. | 3.35 (1.21) | -.27 | -.78 |
| CI3 | Sports tourism has given rise to a greater cultural exchange between tourists and residents as an enriching experience. | 3.81 (1.07) | -.61 | -.39 |
| CI4 | The commercial demand of sports tourists causes changes in traditional cultural activities. | 2.93(1.12) | -.01 | -.66 |
| Total | | 3.45 (.83) | -.45 | -.05 |
| *Political Impacts* | | | | |
| PI1 | In general, I believe that the benefits of sport tourism in Gran Canaria are greater than the costs. | 3.51(1.07) | -.34 | -.22 |
| PI2 | The sports tourism industry must be planned for the future. | 4.22 (.89) | -1.06 | .87 |
| PI3 | Sport tourism development plans must be continuously improved. | 4.34 (.85) | -1.30 | 1.44 |
| PI4 | I think the island should make an effort to attract more sports tourists. | 4.16 (.99) | -1.07 | .65 |
| Total | | 4.05 (.72) | -.91 | 1.28 |
| *Social Impacts* | | | | |
| SI1 | Sports tourism produces overcrowding of beaches, trails, parks and other open-air places on the island | 2.89(1.26) | .05 | -.99 |
| SI2 | Sports tourism generates social problems such as delinquency and drug use | 1.80 (1.16) | 1.41 | .99 |
| SI3 | Sports tourism creates conflicts between residents and visitors. | 2.04 (1,18) | .96 | -,02 |
| SI4 | Residents suffer the consequences of sports tourism by living in a tourist destination area. | 2.36 (1.22) | .50 | -.73 |
| Total | | 2.28 (.93) | .71 | -.08 |
| *Environmental Impacts* | | | | |
| MI1 | Sports tourism causes pollution in the environment and accelerates its deterioration. | 2.29 (1.25) | .60 | -.72 |
| MI2 | Sports tourism generates noise, air and water pollution. | 2.26 (1.19) | .59 | -.63 |
| MI3 | Regulatory environmental standards are needed to reduce the negative impacts of the development of sports tourism. | 3.17(1.40) | -.14 | -1.23 |
| MI4 | Sports tourism consumes a great deal of natural resources (water, energy, etc.). | 2,68 (1.27) | -.18 | -1.01 |
| Total | | 2.60 (1.03) | .26 | -.75 |

ST= Standard Deviation.

*Exploratory factor analysis*

Following the process recommended by Lloret-Segura et al. (2014), an exploratory factorial analysis (AFE) was carried out on the 24 items associated with the impacts perceived by residents towards sports tourism. We checked the Parallel Analysis and the factorial solution that best fit the object of study. However, eight items (IE4, IE5, IE6, IE7, IE8, IC4, IP1, and IS1) were eliminated due to theoretical inconsistencies and since they presented factor loads lower or higher than .40 in two or more factors. Therefore, a new exploratory factorial analysis was performed.

Table 2. Rotating factorial structure of the scale of impacts perceived by residents, commonalities and the Cronbach alpha.

| | F1 | F2 | F3 | F4 | F5 | Com. |
|---|---|---|---|---|---|---|
| ***Economic Impacts*** | | | | | | |
| EI1 | .923 | | | | | .807 |
| EI2 | .754 | | | | | .622 |
| EI3 | .575 | | | | | .507 |
| ***Cultural Impacts*** | | | | | | |
| CI1 | | .684 | | | | .626 |
| CI2 | | .790 | | | | .658 |
| CI3 | | .753 | | | | .890 |
| ***Political Impacts*** | | | | | | |
| PI2 | | | .700 | | | .548 |
| PI3 | | | .950 | | | .875 |
| PI4 | | | .531 | | | .556 |
| ***Social Impacts*** | | | | | | |
| SI2 | | | | .661 | | .618 |
| SI3 | | | | .871 | | .790 |
| SI4 | | | | .603 | | .488 |
| ***Environmental Impacts*** | | | | | | |
| MI1 | | | | | .952 | .890 |
| MI2 | | | | | .676 | .738 |
| MI3 | . | | | | .502 | .339 |
| MI4 | | | | | .460 | .440 |
| **Cronbach´s Alpha** | .84 | .80 | .77 | .82 | .81 | |
| **Eigenvalue** | 1.14 | 4.66 | 1.80 | .80 | 3.38 | |
| **Variance Explained (%)** | 7.17 | 29.10 | 11.22 | 5.04 | 21.13 | |
| **Items** | 3 | 3 | 3 | 3 | 4 | |

The results of this new factorial analysis showed a good adjustment of the factorial structure since the RMSR index was .03 and lower than the recommended cut-off point (< .50). The value of the GFI index was .99, which was higher than the recommended cut-off point (> .95). All loadings of the items were greater than .40 and no loadings greater than this saturation were observed in two or more factors. Thus, the five factors in which the remaining 16 items were grouped explained 73.67% of the variance. The five factors extracted were called "Economic impacts", "Cultural impacts", "Political impacts", "Social impacts" and "Environmental impacts".

The scales showed Cronbach's alpha values in the factors between 0.77 and 0.84, which was higher than the suggested limit to be used for further analysis (Lance, Butts & Michels, 2006).

*Confirmatory factor analysis*

Once the exploratory factorial analysis was completed, the following confirmatory factorial analysis (AFC) was performed: (1) specification of the model, (2) identification, (3) estimation of the model, (4) fitting of the test model and (5) re-specification of the model (Tabachnick & Fidell, 2001). The five-factor model of the perceived impacts associated with sports tourism was submitted to the AFC with a total of 16 items. The goodness of fit indexes showed that the five-factor model fit the data.

The chi-square statistic for the model obtained was significant (S-B$\chi$2= 199.02, p< .001). In addition, the normalized chi-square value ($\chi$2/df= 2.12) was below the recommended cut-off value of less than 3.0 (Bollen, 1989). The RMSEA (.069) also indicated a reasonable adjustment, while the CFI (.92), IFI (.92) and NNFI (.90) exceeded the suggested cut-off value (> .90) (Hu & Bentler, 1999, Loehlin & Beaujean 2017).

Table 3. Goodness of fit indexes of the scale of the residents' perceived impacts of sports tourism.

| Model | S-B$\chi^2$ | df | S-B$\chi^2$ /df | RMSEA | CFI | IFI | NNFI |
|---|---|---|---|---|---|---|---|
| 5 Factors - 16 items | 199.02 | 94 | 2.12 | 0.069 | 0,922 | 0,924 | 0,901 |

Note. S-B$\chi^2$ = Satorra-Bentler Scaled Chi-Square; df= Degrees of Freedom; RMSEA= Root Mean-Square Error of Approximation; CFI= Comparative Fit Index; IFI= Bollen´s Fit Index; NNFI= Bentler-Bonett Non- Normed Fit Index.

Reliability tests for the perceived impactful factors were examined by assessing the Cronbach's Alpha coefficient values, the construct reliability (CR) and the average variance extracted (AVE). Cronbach's Alpha values for the perceived positive and negative factors were above the recommended threshold of .70 (Fornell & Larcker, 1981). Finally, the AVE value for the factors that make up the perceived positive and negative impacts ranged from .59 to .68, which were higher than the recommended threshold of .50 (Bagozzi & Yi, 1988).

Table 4. Reliability of scale associated with residents' perceived impacts of sports tourism.

| | EI. | CI. | PI. | SI. | MI. |
|---|---|---|---|---|---|
| **AVE** | .58 | .55 | .56 | .52 | .54 |
| **CR** | .80 | .79 | .78 | .76 | .83 |
| **√AVE** | .76 | .74 | .75 | .72 | .73 |
| **α** | .84 | .80 | .77 | .82 | .81 |

Note: CR = composite reliability; α = Cronbach's alpha

In addition, the discriminant validity was examined by analysing the values of the correlations between factors. The results indicated that all loads between factors were sufficiently below the threshold recommended (.85) by Kline (2005) in each of the dimensions. It is also observed how the Fornell & Larcker (1981) criterion is met, which indicates that the AVE root must be superior to each pair of correlations.

Table. 5 Correlations between factors associated with residents' perceived impacts of sports tourism.

| | EI. | CI. | PI | SI. | MI. |
|---|---|---|---|---|---|
| **EI.** | *0.76* | | | | |
| **CI.** | .41* | *0.74* | | | |
| **PIS** | .44* | .26* | *0.75* | | |
| **SI.** | -.14 | -.02 | *-.38** | *0.72* | |
| **MI.** | -.01 | -.05 | *-.18** | .60* | *0.81* |

Note: EI= Economic impacts; CI. = Cultural impacts. PI= Political Impacts, SI= Social Impacts; MI. =Environmental Impacts. * indicates that the correlation is significant at the 0.01 level (bilateral). The diagonal offers the values of the √AVE.

**Discussion**

Historically, the development of tourism within the host community has been relevant to understanding residents' perceptions of tourism (Ramkimssoon & Nunkoo, 2011). Thus, one of the main interest groups linked to the development of tourism in a given locality is the local population. For this reason, perceptions and attitudes towards the impacts associated with tourism must be taken into account. In relation to the theoretical foundations on residents' attitudes towards tourism development, it is interesting to observe the interrelationships between the different variables that affect attitudes by formulating a theoretical model.

Butler (2006) argues that relationships between tourism and the resident population are often eroded and could lead to conflicting scenarios as tourism development progresses. This often occurs because of the tendency to consider the demands of tourism and tourists above those of the resident population (Amer-Fernandez, 2009). Amer-Fernandez (2009) indicates that the balanced relationship between tourism and the resident population only occurs when there is a mutual dependence between the two sides and the local population maintains relatively control of tourism development. As residents become more dependent on tourism, the imbalance grows. Most of the models that until now had been proposed for the study of residents' perceptions towards tourism had been focused on the different impacts of variables, such as economic, social-cultural and environmental impacts (Almeida-García et al, 2015; Byrd, Bosley & Dronberger, 2009; Huh & Vogt 2008; Látková y Vogt, 2012). Other studies include the political variable (Nunkoo & Gursoy, 2016) as necessary when explaining residents' perceived impacts of tourism on the community. In this research, residents' perceived impacts associated with sports tourism are divided into economic, social, cultural, environmental and political

impacts. This segmentation can be due to the analysis of an imperishable economic activity since it approaches sports tourism as an activity of the tourist sector. Despite this, a number of related sub-dimensions are observed in the study. This fact is similar to that contemplated by Colmenares (2009) since the positive impacts are seen to be framed in social, economic and environmental terms, while the costs are framed in socioeconomic and environmental terms. In our work, we can observe how the economic, cultural and political impacts are correlated with each other and distance themselves from the social and environmental impacts, whose correlation seems to be negative. It should be noted that our research was oriented towards the sports tourism sector, and this variable could be the one that diversified the previously mentioned sub-dimensions in this way.

In general terms, residents consider that sports tourism produces more benefits than costs in the locality, which is a similar result to that obtained by Wang & Pfister (2008) where they perceive that the positive impacts derived from tourism development will be those with an impact on the economy (increase in employment, improvement of investment, more development, better infrastructure, and improvement of income and living standards). The positive perception that the native population has of the impacts of tourism is derived from a favourable attitude towards greater tourism development oriented towards the sports sector, specifically on the island of Gran Canaria. This result also coincides with that obtained by Canalejo, Soto & Guzman (2012) in their research on the perceptions and attitudes of residents regarding the impacts of tourism on the island of Santiago (Cape Verde). They showed that residents are clearly in favour of greater tourism development because they consider it beneficial. However, it is consistent with the negative impacts it causes.

**Conclusions**

In conclusion, the impacts associated with sports tourism directly influence the attitudes of local residents towards the sector. Consequently, once the adjustments have been made, both the reliability of the factors and the proposed model adjustment are observed with respect to the factorial structure of the questionnaire. The analyses confirm the existence of the five dimensions of economic, cultural, environmental, social and political impacts. This fact justifies that the perceptions of residents must be assessed from different dimensions, regardless of their interrelations. In future lines of research, it would be interesting to relate variables such as residents' perceived quality of life, their perceived image of their locality or their attachment to the community as it relates to sports tourism. These data should not be extrapolated to the whole population. This type of study provides important information to both public and private institutions that are responsible for the management of sport tourism activities.

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