



The management of major sporting events as an antecedent to having the city recommended

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ABSTRACT

Sports are consolidating as a complementary resource for economic and social development and promotion. Hosting a sporting event may result in a boost for the hosting city, where attendees may become promoters when it comes to recommending the destination. This study aims to analyse whether the quality of the services offered, the quality of the game, emotions, and satisfaction influence the spectators' intentions to recommend a city. A multi-group analysis was conducted to determine whether the model relating these variables was the same for the different groups of spectators. The results showed the importance that quality management has in attendee satisfaction, with functional quality being a direct antecedent to recommending the city. In conclusion, hosting major sports events and ensuring quality management in their organisation has positive effects on the promotion of tourism.

1. Introduction

Contemporary tourism is a socio-cultural, global, and multidimensional phenomenon, with tourist activities becoming increasingly diverse (González Morales, 2018). At the beginning of this century, the World Tourism Organisation already considered sports and tourism to be complementary activities for the promotion and sustainable economic development of tourist destinations (WTO, 2001).

People travel abroad as tourists for many different reasons, but one specific reason is to attend sporting events, either as a primary or secondary objective of any particular trip (Nishio, Larke, van Heerde, & Melnyk, 2016). The celebration of sporting events, such as world or European championships of any discipline, involves a huge organisational and economic effort by the hosting city, which expects to receive some positive feedback (Calabuig, Prado, Crespo, Nuñez, & Añó, 2015). Various studies have revealed the positive impact that holding sporting events has on the image of the hosting destination (Tasci, Hahm, & Breiter-Terry, 2016). The positive impact on tourism in the area where an event is held is undoubtedly one of the most important aspects for the

local social and economic actors that promote it, as it affects many sectors of society and the benefits usually last for a long period of time (Shonk & Chelladurai, 2008). This is one of the main reasons why policy makers, together with the leaders of the country's sports bodies, usually agree to apply to host major events (Koenig-Lewis, Asaad, & Palmer, 2018).

Ensuring the social utility of these events is at the heart of the concerns of the organisation's managers (Mundina & Calabuig, 2011). Currently, the social utility of sporting events must be in line with sustainable development, so that the increase in tourism does not cause rejection by the local population and lead to negative consequences for all those responsible for the event (Kapera, 2018). The achievement of this objective manifests itself as the impact of these events, which can be measured through surveys or other means (Djaballah, Hautboi, & Desbordes, 2015).

In most cities that have hosted a major sporting event this has been a unique opportunity for transformation and revival, especially when it comes to small and developing cities where this short-term process of improvement would otherwise take years (Mundina & Calabuig, 2011;

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Welty, Borland, Lobpries, & Cohen, 2015). This is why, in events of this nature, the focus cannot only be on the costs they generate (investments), but also on the cost-effectiveness for the stakeholders involved (citizens, administrations, and companies).

According to Ko, Kim, Kim, and Lee (2010), the study of perceived service quality and spectator satisfaction in major events is key for organisers who wish to develop effective marketing strategies that can revitalise the image of the organising city. Higher levels of satisfaction indicate that there will be higher economic returns for the organising city (Roca, Cabello, González, & Courel, 2018).

If key aspects such as service quality are not properly addressed, this image might turn out to be negative (Fairley, Lovegrove, & Newland, 2016; Moon, Ko, Connaughton, & Lee, 2013), which might therefore mean that the spectators' intentions to recommend the city are low or non-existent. The spectators' perceptions of the event are thus crucial to its success (Shonk & Chelladurai, 2008) and will differ depending on the spectators' characteristics and profiles (Lunhua & Huang, 2016). Spectators at a sporting event may include tourists and residents of the city hosting the event. Positive perceptions among local and resident spectators influence the quality of the services and products offered to visitors (Wall & Mathieson, 2006). Their participation and support play an important role in the success of the sports event itself and in the image of the host city (Duan, Mastromartino, Zhang, & Liu, 2020; Gursoy, Yolal, Ribeiro, & Netto, 2017). This image is of paramount importance in promoting the city as a tourist destination (Nicoletta & Servidio, 2012). One of the greatest successes of a major sporting event is that spectators are satisfied with it and that this is translated into their intention to return to a similar sporting event and to the same city, which is closely related to their intention to recommend the city to others (Shonk & Chelladurai, 2008).

Despite the importance of local residents' perceptions of and support for sporting events, surprisingly few studies have explored their perceptions (Lee, Cornwell, & Babial, 2012) and fewer still have compared their perceptions with those of tourist spectators. In order to compare the two groups of spectators, locals and tourists, factor invariance tests must be performed between the groups to avoid errors caused by a failure to verify measurement equivalence beforehand. In other words, if no multi-group invariance tests are performed, no inferences can be drawn, as it is not possible to verify whether the differences between the groups result from the different factor structures of the tests or from the specific or contextual characteristics of the groups (Asparouhov & Muthén, 2014).

Another key element in the improvement of the image of the city and the recommendation it enjoys is emotions, which might contribute to reinforcing people's attachment to the destination (Hosany, Prayag, Van der Veen, Huang, & Deesilatham, 2017). Emotions must therefore be taken into account by tourism promoters and should be analysed if the intention of recommending a city is to be boosted, because emotions seem to affect people's perception of how well services work (Calabuig, Prado, Crespo, Núñez-Pomar, & Añó, 2015).

The aim of the present study was to determine the influence, as seen in the quality of the event, that organising the 2018 European Badminton Championship in Huelva, Spain, had on local and/or tourist spectators' intention of recommending a visit to this city in the future after attending this major event by using a multi-group analysis.

2. Theoretical precedents and hypotheses

2.1. Quality of the sports event and intention to recommend the city

The quality of a sporting event is a multi-factorial or multi-dimensional phenomenon (Wu & Cheng, 2018). Shonk and Chelladurai (2008) distinguish four dimensions (contest quality; access quality; venue quality; accommodation quality), each having their respective sub-dimensions. Yoshida and James (2011) distinguish three types of dimensions instead (aesthetic, functional, and technical quality) with

equal importance in the spectators' perception of the quality of the service. The results obtained by these authors, both in Japan and in the United States, show that sports managers should attach more importance to the aesthetic and functional qualities of sporting events.

Rosa, Castellanos, and Palacios (2012) analysed the case of a Spanish professional football club and concluded that spectators considered the tangible aspects of the service to be fundamental when it comes to assessing the quality perceived. In particular, the following aspects stood out: the good condition and cleanliness of the facilities, the comfort of the seats, and the availability of parking, toilets, and catering services. These results are important, as there is a significant and positive relationship between the quality perceived and the loyalty of the supporters of a sports club (Hosseini, Eskandari, Adab, Takdehghan, & Sepasi, 2017).

In another study conducted in the field of professional football in Europe, specifically in Greece, Theodorakis, Alexandris, Tsigilis, and Karvounis (2013) found that the most important aspect, above "functional quality", was "outcome quality", which is a determining factor of spectators' future behaviour.

Although there is no consensus as to the number of constructs that shape the quality of a sporting event as perceived by spectators, Gronroos's proposal (1984) is widely used. According to him, in order to conceptualise the quality of the service provided to spectators of sporting events, it is necessary to include the constructs of outcome quality and functional quality. Mullin (1985) and Mullin, Hardy, and Sutton (2007) argue that there are two main components of a sport product: core elements, which include aspects related to the game, the players' performance, the quality of the game, the characteristics of the team, etc., and peripheral elements, which include aspects related to the facilities or stadium, auxiliary services, employees, transportation, etc.

Therefore, considering that spectator sports are, to a large extent, an outcome-driven industry (Brady, Voorhees, Cronin, & Bourdeau, 2006; Theodorakis et al., 2013) and that sporting events require a series of auxiliary features to succeed, two constructs will be used to measure quality in this study: functional quality and outcome quality.

According to Biscaia (2016), the specific characteristics of each type of sport should be taken into account when assessing service quality. However, regardless of the sport, it has been demonstrated that an increase in service quality will have a positive influence on spectator satisfaction and behavioural intentions. Several studies examine the role of quality in influencing customers and their future behaviours (Chen & Chen, 2010; Yoon, Lee, & Lee, 2010), and there is a consensus that the quality of the event affects the image of a destination and the future behaviours of spectators/tourists (Moon, Kim, Ko, Connaughton, & Lee, 2011; Žabkar, Brenčić, & Dmitrović, 2010). Žabkar et al. (2010), as well as Jin, Lee, and Lee (2013), found that perceived quality was positively related to tourists' intentions to return to the destination. Specifically, Moon et al. (2013) found a significant influence of perceived quality on the image of the destination where the sports event is held.

Consequently, with this in mind, the following hypotheses were formulated:

H.1. The intentions to recommend a city are based on the quality of the sporting event, i.e. on both functional quality (H.1.1.) and outcome quality (H.1.2.).

2.2. Emotions and intentions to recommend the city

Emotions are a complex set of interactions between objective and subjective variables that may result in affective experiences such as feelings of pleasure and excitement (Dubé & Menon, 2000). The prevailing theory supports that the consumer's emotional experiences and brand attachment are closely related (Grisaffe & Nguyen, 2011). A sporting competition may generate pleasant or unpleasant emotions, and emotions are clearly related to the spectators' behavioural intentions (Biscaia, 2016).

Russell (1980) recommended two-dimensional models (pleasure and arousal) for studying the effect of emotions, because this structure tends to be more stable. This two-dimensional model presents some advantages in leisure contexts (Dubé & Menon, 2000; Jiang & Wang, 2006). In a study with tourists, Hosany et al. (2017) demonstrated that positive emotions were related to the assessment of the destination and the intention to recommend it. In contrast, the relationship between negative emotions and recommending the destination seems to have been seldom studied (Hosany et al., 2017; Manzo, 2005).

The relationship of emotions with the intention to recommend the city has been studied directly and indirectly through satisfaction. Hosany et al. (2017) observed the existence of both types of relationships between emotions and the intention to recommend the destination. More specifically, in a study on sporting events by Calabuig, Crespo, Nuñez-Pomar, Valantine, and Staskeviciute-Butiene (2016), an indirect relationship between basketball spectators' positive emotions and their future intentions was found. Calabuig et al. (2015), in another study with spectators, found no direct relationship between spectators' emotions, either positive or negative, and their future intentions. Martínez-Caro and Martínez-García (2007) found an indirect relationship between negative emotions (arousal) and the loyalty of participants in a sporting event.

Consequently, with this in mind, the following hypotheses were formulated:

H.2. Positive emotions are antecedents of the intention to recommend a city.

H.3. The lack of negative emotions is a precedent of the intention to recommend a city.

2.3. Emotions, satisfaction, and intention to recommend a city

The influence of emotions on the satisfaction of spectators at a sporting event is a current research topic. Studies such as that of Calabuig et al. (2015) show that emotions are the best predictor of service performance, since emotions may predict the effect of quality on spectators' perceived value. In fact, spectators who displayed high levels of emotion (pleasure and arousal) presented high values in the ratings of quality, perceived value, and satisfaction. These variables were also positively related to each other.

The relationship between the sports event attendees' satisfaction and their perception of the quality of the service has been widely documented (Tasci et al., 2016). These are two different constructs that may

also be analysed separately. Satisfaction is a basic element in determining the future behavioural intentions of spectators at a major sporting event (loyalty), with studies producing significant results in this respect (Biscaia, 2016; Shonk & Chelladurai, 2008; Theodorakis et al., 2013). According to Brown, Essex, Assaker, and Smith (2017), higher levels of satisfaction indicate a greater intention to attend a similar event again (see Fig. 1).

In addition, quality is positively and significantly correlated with spectator satisfaction (Calabuig, Burillo, Crespo, Mundina, & Gallardo, 2010; Calabuig, Crespo, & Mundina, 2012; Ko et al., 2010).

There are studies in the field indicating that quality, satisfaction, and future intentions of tourists and spectators of sporting events are related. For instance, Zabkar et al. (2010) found that perceived quality is positively related to satisfaction, as well as to intentions to revisit the hosting city. Mundina and Calabuig (2011), regarding the celebration of the 2005 Mediterranean Games in Almeria, Spain, confirmed that addressing spectators' needs and raising their level of satisfaction was highly positive, because it increased the intention to recommend attending similar events. The same conclusions were reported by Roca et al. (2018) in relation to the celebration of the 2015 Winter Universiade in Granada.

A sports competition may generate pleasant or unpleasant emotions, with pleasant emotions being clearly related to the increase in satisfaction and behavioural intentions of spectators (Biscaia, 2016). Studies have confirmed the relationship between positive emotions and satisfaction (Bigné, Andreu, & Gnoth, 2005; Rodríguez & San Martín, 2008; Yüksel & Yüksel, 2007). Similarly, studies have confirmed the negative relationship between negative emotions and satisfaction (Faullant, Matzler, & Mooradian, 2011; Grappi & Montanari, 2011; Lee, Lee, Lee, & Babin, 2008; Rodríguez & San Martín, 2008). Therefore, generally speaking, any satisfactory experience will increase the intention to recommend the city (Hosany et al., 2017).

Consequently, with this in mind, the following hypotheses were formulated:

H.4. Functional quality predicts both positive (H.4.1.) and negative emotions (H.4.2.).

H.5. Outcome quality predicts both positive (H.5.1) and negative emotions (H.5.2.).

H.6. Functional quality (H.6.1.) and outcome quality (H.6.2.) are antecedents of satisfaction.

H.7. Positive emotions are antecedents of satisfaction.

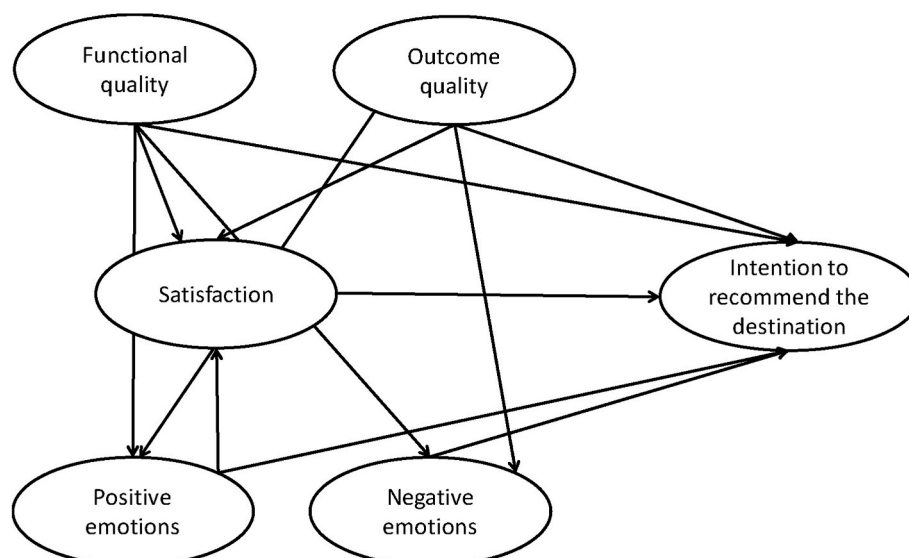


Fig. 1. Structural model predicting the future intentions of sport spectators.

H.8. The lack of negative emotions is an antecedent of satisfaction.

H.9. Satisfaction is an antecedent of the intention to recommend the hosting city.

3. Materials and methods

3.1. Participants and sampling

The number of tickets for the 2018 European Badminton Championship was 5000. After collecting data from the participants, a total of 686 complete questionnaire responses were obtained from spectators who attended the competition. This means that there was a margin of error of 3.67% for a 95% confidence level. Ages ranged from 16 to 89, with a mean age of 36.08 ± 14.15 years. Female spectators accounted for 39.1% of the sample. Most spectators reported having a university degree (50.8%), more than half were working (58.3%), and 46.1% were single. Local spectators accounted for 66.1%, while non-resident spectators accounted for 33.9% (Table 1).

3.2. Measures

The study constructs were measured using multi-item scales. Service quality was assessed using a specific 28-item scale measuring both functional and outcome quality. In order to measure functional quality, like Theodorakis and Alexandris (2008) and Theodorakis, Koustelios, Robinson, and Barlas (2009), five dimensions were adapted to the present study: tangible aspects, responsiveness, reliability, accessibility, and safety. The internal consistency of the scale as measured with Cronbach’s alpha was .897. In order to measure outcome quality, two outcome-related dimensions were adapted to this study, based on the studies by Koo (2009), Brady et al. (2006), and Yoshida and James (2010): the quality of the game and the quality of the players. Reliability was measured using Cronbach’s alpha (0.830).

Spectator satisfaction was measured with five items, adapted from Oliver (1997). According to Brady et al. (2006), satisfaction was measured based on the last game attended. Reliability was measured with Cronbach’s alpha, with a value of 0.946. Positive emotions were calculated through six items (Cronbach’s alpha = .961) adapted from Hosany and Gilbert (2010). Three items (Cronbach’s alpha = .960), adapted from Hosany and Prayag (2013), measured negative emotions. Finally, three items adapted from Hosany et al. (2017), with Cronbach’s alpha = .944, were used to determine the intention to recommend the hosting city.

In all scales, respondents were instructed to rate their level of agreement with each item using a 7-point Likert scale ranging from strongly disagree (1) to strongly agree (7). Several socio-demographic questions regarding age, sex, level of education, place of residence, marital status, and physical activity were added to the scales.

3.3. Procedure

The present study met the highest standards of safety and ethics and

Table 1
Socio-demographic variables of the spectators who attended the 2018 European Badminton Championship in Huelva.

	Male	Female	Total
Sex	60.9%	39.1%	
Age	35.80 ± 13.91	36.17 ± 14.01	36.08 ± 14.15
Level of education	Primary	13.9%	11.7%
	Secondary	40.8%	37.6%
	University	49.4%	50.8%
Tourism	Local residents	65.7%	66.1%
	Tourists	34.3%	33.8%

was approved by the ethics commission of the Regional Government of Andalusia, Spain. The organisers of the event were informed of the objectives and aims of this study, which was conducted after obtaining their approval. The confidentiality of the data and the anonymity of the participants were preserved in compliance with the Spanish Organic Law 3/2018, on Personal Data Protection and Guarantee of Digital Rights (Ley Orgánica 3/2018, de 5 de diciembre, de Protección de Datos Personales y garantía de los derechos digitales). The fundamental principles established in the Declaration of Helsinki were also taken into account at all times (revised in Brazil in 2013). Informed consent was obtained from all participants before collecting data from them, which was subsequently carried out using the self-report questionnaire in the presence of a researcher who administered it. The completion time of the questionnaire was approximately 10 min. The questionnaires were collected once the matches had finished.

3.4. Data analysis

Means, standard deviations, the correlations between the study factors, internal consistency (Cronbach’s alpha), average variance extracted (AVE), and composite reliability (CR) were calculated using the software Statistical Package for the Social Sciences, version 22.0 (SPSS, IBM, Armonk, NY, USA).

A multi-group analysis was carried out with the program Analysis of Moment Structure (AMOS, IBM, Armonk, NY, USA), version 22.0. This procedure makes it possible to verify the invariance of the factorial structure of the groups of spectators at the sporting event. Variance is related to the degree to which the items used in a survey have the same meaning as the members of the different groups studied, in which it is a requirement for the comparison of factors to make sense. The purpose of the analysis was to show if the model relating functional quality, outcome quality, positive emotions, negative emotions, satisfaction, and intention to recommend the city was the same for the group. The normal distribution of the results was verified using the program SPSS v. 22. Skewness values ranged between -1.85 and 1.72, and kurtosis values ranged between -0.24 and 1.84, which showed that the data were normally distributed (Kline, 2011) (Table 2). This analysis was performed with the maximum likelihood estimation method (Thompson, 2004). In order to assess factorial invariance, we followed the procedure by which the adjustment of the model must be verified in different models (Byrne, 2010). The adjustment of each model was assessed by examining various indices. The Comparative Fix Index (CFI) and the Root Mean Square Error of Approximation (RMSEA) were used as adjustment statistics. CFI values ≥ 0.95 are considered to be acceptable (Hu & Bentler, 1999). RMSEA values < 0.07 would indicate an acceptable fit (Steiger, 2007) and RMSEA values ≤ 0.06 would indicate a good fit (Hu & Bentler, 1999). The Akaike Information Criterion (AIC) and the Expected Cross-Validation Index (ECVI) were also used as adjustment statistics. Lower values of the model indicate a better fit (Schermelleh-Engel, Moosbrugger, & Müller, 2003). The χ^2 value and the χ^2 value/degrees of freedom were also used. Regarding the ratios between χ^2 and the number of degrees of freedom, a perfect model would have a value of 1.00, and ratios below 2.00 would be considered to be indicators of a very good model fit, while values below 5.00 are considered to be acceptable (Hu & Bentler, 1999; MacCallum, Widaman, Preacher, & Hong, 2010). Finally, the standardised regression coefficients were calculated for determining the relationships in the model.

4. Results

Table 3 summarises the means and correlations of the dimensions that make up the study model. The variable means range from 6.17 for functional quality to 6.33 for quality of the game and recommending the hosting city. Only the mean value for negative emotions was very different, 1.49. Significant positive correlations between all dimensions were observed with correlation coefficients ranging from -0.143 ** to

Table 2
Descriptive statistics.

Constructs	Dimensions/Items	Mean	SD	Skewness	Kurtosis	
Outcome quality	Quality of the game	6.33	.80	-1.13	.86	
	European Badminton Championship matches are competitive					
	Matches are usually fast and attractive	6.22	.84	-.922	.31	
	I have seen a high level of competition	6.30	.77	-.912	.26	
	European Badminton Championship matches are spectacular	6.27	.86	-1.17	1.35	
	Quality of the players	6.39	.70	-.89	.22	
	Players play well-executed games					
	Players play hard all the time	6.33	.71	-.73	-.24	
	My favourite player has a chance to win the European Badminton Championship	6.54	.68	-1.45	1.57	
	My favourite player has had good results this season	6.27	.77	-1.50	1.80	
	Functional quality	Tangible aspects	6.23	1.01	-1.61	1.70
		The pavilion is visually appealing				
		The pavilion is clean	6.28	1.07	-1.17	1.18
		The pavilion provides comfortable seating	5.29	1.35	-.80	.50
There are bars/cafeterias for refreshments		5.35	1.63	-1.01	.38	
Responsiveness		6.26	1.04	-1.85	1.60	
They provide prompt service						
They are willing to help		6.58	.85	-1.33	1.29	
They are polite		6.38	1.00	-1.23	1.55	
They provide personalised care		6.46	.92	-1.60	1.60	
Accessibility		5.48	1.26	-.85	.84	
Car parking is available						
There is public transportation		5.81	1.34	-1.14	.95	
It is easy to enter and exit the pavilion		6.42	.93	-1.11	1.53	
Accessibility to the pavilion is good	6.31	.94	-1.79	1.30		
Reliability	6.14	.99	-1.65	1.66		
The services provided by the organisation are sufficient for my needs						
I have full confidence in the organisation	6.21	.99	-1.80	1.53		
The services of the championship are provided correctly from the first moment	6.13	1.00	-1.67	1.62		
The information provided is effective	6.00	1.13	-1.60	1.67		
Safety						

Table 2 (continued)

Constructs	Dimensions/Items	Mean	SD	Skewness	Kurtosis	
Satisfaction	I feel safe inside the pavilion	6.43	.84	-1.04	1.46	
	I feel safe near the pavilion	6.63	.69	-1.09	1.44	
	I feel safe during the competition	6.44	.84	-1.07	1.53	
	I have a general feeling of safety when I attend the championships	6.64	.69	-1.09	1.22	
	Satisfaction	6.53	.79	-1.34	1.51	
	I am happy with the experiences I have had as a spectator at the European Badminton Championships					
	I am satisfied with the experiences I have had in the European Badminton Championships pavilion	6.54	.74	-1.83	1.72	
	I really enjoyed attending the European Badminton Championship games	6.54	.79	-1.38	1.66	
	I am excited about the experiences I have had in the European Badminton Championships pavilion	6.64	.66	-1.33	1.80	
	Visiting the European Badminton Championships pavilion as a spectator is a pleasant experience	6.44	.84	-1.81	1.81	
	Positive emotions	Positive emotions	6.30	.95	-1.77	1.84
		I am amazed after seeing the game				
		I feel passionate about seeing the game	6.29	.94	-1.69	1.58
		I feel inspired	6.27	.97	-1.73	1.40
Negative emotions	I get a feeling of joy	6.29	.94	-1.68	1.50	
	I get a feeling of love	6.30	.95	-1.77	1.84	
	I get a feeling of pleasure	6.26	.96	-1.67	1.18	
	Negative emotions	1.51	.95	1.54	1.14	
	I feel disappointed					
	I get a feeling of displeasure	1.48	.92	1.49	1.59	
I feel unhappy	1.48	.96	1.72	1.66		
Recommending the hosting city	Recommending the hosting city	6.36	1.16	-1.24	1.38	
	I will recommend Huelva to other people					
	I will say positive things about Huelva to other people	6.33	1.18	-1.22	1.35	
	I will encourage friends and family to visit Huelva	6.29	1.24	-1.12	1.72	

Table 3
Means, correlations, reliability, average variance extracted (AVE), and composite reliability (CR).

	Means ± SD	1	2	3	4	5	6	AVE	CR
1 Functional quality	6.17 ± .61	(.897)	.318**	.401**	-.190**	.477**	.297**	.783	.916
2 Outcome quality	6.33 ± .52		(.830)	.478**	-.270**	.443**	.156**	.730	.869
3 Positive emotions	6.29 ± .87			(.961)	-.299**	.611**	.280**	.835	.968
4 Negative emotions	1.49 ± .91				(.960)	-.337**	-.143**	.801	.924
5 Satisfaction	6.54 ± .70					(.946)	.278**	.827	.960
6 Future intentions	6.33 ± 1.13						(.944)	.899	.964

** The statistical significance threshold for correlations was set at $p < 0.01$ (two-tailed).

0.478 **. Reliability and validity, measured through Cronbach’s alpha, AVE, and CR, showed excellent values.

Subsequently, the validity of the factorial structure of the model relating functional quality, outcome quality, positive emotions, negative emotions, satisfaction, and intentions to recommend the hosting city was verified. The percentage of variance explained regarding the intention to recommend the city was 46%. The results obtained show that the fit indices of the analysed model were correct (CMIN/DF = 1.120; GFI = 0.924; CFI = 0.995; IFI = 0.995; RMR = 0.048; RMSEA = 0.024). The model shows significant relationships between functional quality, positive emotions, satisfaction, and intention to recommend the hosting city. Outcome quality was related to emotions (both positive and negative) and satisfaction. Positive emotions are related to satisfaction (Table 4).

Factor invariance tests were also performed in order to compare the model in the two populations, i.e. local spectators and tourist spectators. When taking into account the differences in CMIN/DF between the model without restrictions (model 1) and the rest of the models with restrictions (models 2–6), a series of differences were observed (model 1 versus model 2: $p = .002$; model 1 versus model 3: $p = .017$; model 1 versus model 4: $p = .022$; model 1 versus model 5: $p = .000$; model 1 versus model 6: $p = .000$) (Table 4). The CFI values in the models were found to be similar, with a difference between them of -0.01 , except for the value in model 6, which indicates the factor invariance of the model.

Model 4 showed the best values for the AIC and ECVI indices. In addition, when comparing the values in this model with the values in the rest of the models, model 4 showed CMIN/DF, CFI, and RMSEA values which were always positive and very similar to the rest. This model was therefore considered to be suitable for comparing the two groups under study.

Values in Table 5 show that the functional quality factor had a direct and significant relationship ($p < .001$) with positive emotions. This relationship is maintained in both groups of spectators, with standardised values (β) being slightly higher in local spectators. The outcome quality factor had a direct and significant relationship with both positive emotions ($p < .001$) and negative emotions ($p < .005$). Standardised values (β) were slightly higher among local spectators. Functional quality and outcome quality were directly and significantly related to satisfaction in both groups, with slightly higher standardised values (β)

Table 4
Adjustment statistics for the models. Comparison between models using model 1 as the correct model.

Model	Goodness-of-fit Indices and Model Comparisons for Tested Models								Comparisons of conditions using measurement invariance procedures		
	CMIN	DF	p	CMIN/DF	CFI	RMSEA	AIC	ECVI	Dif. DF	Dif. CMIN	p
1	346.001	236	.000	1.466	.958	.044	558.001	2.364			
2	381.745	251	.000	1.521	.950	.047	563.745	2.389	15	35.744	.002
3	394.755	266	.000	1.484	.951	.045	546.755	2.317	30	48.754	.017
4	396.060	268	.000	1.478	.951	.045	544.060	2.305	32	50.059	.022
5	418.110	271	.000	1.543	.944	.048	560.110	2.373	35	72.109	.000
6	513.632	289	.000	1.777	.914	.057	619.632	2.626	53	167.631	.000

Note: model 1 indicates no parameters constrained to be equal across groups; model 2, factor loadings constrained to be equal; model 3, observed variable intercepts and factor loadings constrained to be equal; model 4, residual variances, factor loadings, and observed variable intercepts constrained to be equal; model 5, factor variances and covariances, factor loadings, and observed variable intercepts constrained to be equal; model 6, factor means, factor loadings, observed variable intercepts, factor variances, and covariances constrained to be equal.

Dif. CMIN = difference between model 1 and the other models; Dif. DF = difference between model 1 and the other models; p = significance level between models.

among local spectators. Positive emotions were related to satisfaction ($p < .05$), with standardised values (β) being higher in local spectators. Functional quality had a direct relationship with the intention to recommend the city ($p < .05$), with the β -value being higher in local spectators (Table 5).

5. Discussion

The main objective of this study was to explore the model that relates service quality, game quality, emotions (positive and negative), satisfaction, and the intention to recommend a city among the spectators of an international badminton tournament held in Spain, while differentiating between local spectators and tourist spectators. The results obtained highlight the influence that the quality of the game and functional quality in particular have on satisfaction, either directly or indirectly through positive emotions. Only a relationship between functional quality and the intention to recommend the city could be observed.

The analysis was performed using the multi-group technique, which is useful for simultaneously testing all the hypotheses formulated. This technique is rarely used to test models examining the relationships between constructs in sport tourism. This type of analysis makes it possible to determine the extent to which the relationships proposed are consistent with the data observed in each of the samples and the extent to which the model is invariant in the different groups (Byrne, 2010). To this end, the model fit for the total sample was verified. The variance of the model between the two groups of spectators, locals and tourists, was then tested, which involved constraining some parameters in the model so that they were equal in both groups and then comparing that model with a less constrained model (the base model), where these parameters could take any value. In order to assess the differences between the models, variations in CFI values were used following the criterion established by Cheung and Rensvold (2002), whereby values lower than or equal to 0.01 suggest the invariance of the model. This made it possible to rigorously compare the relationships proposed in the two models.

The preliminary results of this study seek to confirm the influence of quality on future spectator behaviours, specifically regarding the intention to recommend the hosting city. Literature has shown that the

Table 5

Comparison between standardised and unstandardised regressions of the two groups of spectators. Critical ratios of differences between the two groups of spectators.

Hypothesis		All spectators		Local spectators		Tourist spectators		Verification
		β	<i>p</i>	β	<i>p</i>	β	<i>p</i>	
H. 1.1.	IRC ← FQ	.212	.028	.234	.025	.185	.025	Established
H. 1.2.	IRC ← OQ	-.103	.475	-.017	.913	-.013	.913	Not established
H. 2.	IRC ← PE	.188	.065	.141	.188	.119	.188	Not established
H. 3.	IRC ← NE	-.048	.475	-.040	.565	-.036	.565	Not established
H. 4.1.	PE ← FQ	.324	***	.321	***	.300	***	Established
H. 4.2.	NE ← FQ	-.133	.083	-.142	.077	-.124	.077	Not established
H. 5.2.	NE ← OQ	-.349	.001	-.370	.001	-.322	.001	Established
H. 5.1.	PE ← OQ	.602	***	.619	***	.577	***	Established
H. 6.1.	SATIS ← FQ	.365	***	.380	***	.335	***	Established
H. 6.2.	SATIS ← OQ	.285	.049	.304	.047	.268	.047	Established
H. 7.	SATIS ← PE	.268	.011	.282	.009	.267	.009	Established
H. 8.	SATIS ← NE	-.095	.122	-.082	.180	-.083	.180	Not established
H. 9.	IRC ← SATIS	-.081	.427	-.072	.500	-.065	.500	Not established

FQ = Functional quality; OQ = Outcome quality; PE = Positive emotions; NE = Negative emotions; SATIS = Satisfaction; IRC = Intention to recommend the hosting city; *** *p* < .001.

quality of the event affects the image of the destination and the future behaviours of spectators/tourists (Moon et al., 2011; Žabkar et al., 2010). Studies such as those of Žabkar et al. (2010) and Jin et al. (2013) showed that perceived quality is positively related to intentions to return to the destination. Moon et al. (2013) found that perceived quality had a significant influence on the image of the sports event destination. The multidimensional nature of the quality of a sports event makes it necessary to study quality in depth. In the present study, in accordance with Theodorakis et al. (2013), quality was studied from a dual perspective: functional quality and outcome quality. The results have highlighted the existing relationship between functional quality and the intentions to recommend the city among spectators, both locals and tourists (H.1.1.). This result may be deemed to be particularly important for sports event managers, because it highlights the value of organisational efforts in improving the future intentions of spectators, coinciding with the findings of Calabuig et al. (2015). According to this result, the comfort of the sports facility, the catering services, the accessibility to the facilities, etc. are the factors that organisers must work on to convince spectators of a major international sports event like this one to recommend the hosting city.

It would also be very important for the organisers of the sporting event to try to provide complementary activities to enhance the added value of the event, and to work with local tourism managers to improve the effectiveness of the strategies to be implemented. All this will be conducive to creating a positive image of the destination (Moon et al., 2013). It is also worth remembering, as argued by Nishio et al. (2016), that people travel abroad as tourists for many different reasons, but one specific reason is to attend sporting events, either as a primary or secondary objective of any particular trip.

Our results show that there is no relationship between outcome quality and intention to recommend the city (hypothesis 1.2.). Different results may be found in the literature. Rosa et al. (2012) found that functional quality was essential in assessing perceived quality. In contrast, Theodorakis et al. (2013) concluded that the most important aspect, above functional quality, was outcome quality. In accordance with Biscaia (2016), the specific characteristics of each sport must be taken into account when assessing service quality. However, in addition to this, it may also be necessary to take into account factors such as the nature of the competition (multi-match league or final championship) or the country hosting the competition.

Our results could not confirm the hypotheses regarding the possibility that the intention to recommend a city is preceded by the emotions experienced after attending the sports event, by neither positive emotions (H.2.) nor negative emotions (H.3.). However, Hosany et al. (2017) were able to demonstrate that positive emotions were related to the assessment made of the destination and the intention to recommend it. The present study, with spectators at a sports event, could not

corroborate this hypothesis. These results, suggesting the lack of relationship between negative emotions and the intention to recommend the destination, do not provide any insight into the scarce literature on the subject (Hosany et al., 2017; Manzo, 2005).

Hypotheses 4 and 5, with their sub-hypotheses, rely on the assumption that a high perceived quality should be reflected in high levels of emotions, since, according to Calabuig et al. (2015), basketball spectators who displayed high levels of emotion (pleasure and arousal) reported high values in quality ratings.

Similarly, Calabuig, Crespo, Núñez-Pomar, Valantine, and Staskeviciute-Butiene (2016) found that positive emotions were related to spectators' future intentions. However, no papers have been found in the literature analysing whether perceived quality is an antecedent or a consequence of emotions. The results of the present study show that functional quality is an antecedent of positive emotions, and that outcome quality is an antecedent of both positive and negative emotions. These results show that organisers of sporting events must strive for the highest possible level of quality, because of the influence it has on emotions and the implications it has for future spectator behaviours.

Many studies have already shown the relationship between the quality perceived by spectators and spectator satisfaction (Tasci et al., 2016). Our results confirm the hypotheses 6.1. and 6.2., but they do so within a modality of sports entertainment that had not been previously contemplated. This was an international, one-off badminton event. Badminton is a very popular sport in Asia that is currently gaining momentum in Europe and America, one of the sports with the highest number of players worldwide and with an emerging economic impact.

Hypothesis 7, i.e. that positive emotions are antecedents of satisfaction, has been confirmed. This result, in addition to being relevant in itself, further highlights the importance of functional quality as an antecedent to spectator satisfaction, either directly or indirectly through positive emotions, in addition to the influence that functional quality has on the future behaviours of spectators, whether they are locals or tourists (Brown et al., 2017). However, no relationship has been found between negative emotions and satisfaction, so hypothesis 8. cannot be confirmed.

The last hypothesis, i.e. that satisfaction is an antecedent of the intention to recommend the hosting city, could not be confirmed. Despite the number of studies that suggest that satisfaction is an essential element in determining the future behavioural intentions of spectators at a sporting event (Biscaia, 2016; Shonk & Chelladurai, 2008; Theodorakis et al., 2013), and in spite of studies suggesting that satisfaction is an antecedent of intentions to revisit the hosting city (Žabkar et al., 2010), the hypothesis could not be confirmed by the results of this work. This may be because spectators were not "loyal" to the city that hosted the event or because, despite the good organisation of the championship and a good level of competition, spectators detected

deficiencies in the city, which does not confirm the idea that any satisfactory experience in a city will increase the intention to recommend it (Hosany et al., 2017). It would be interesting, like Žabkar et al. (2010), to include the dimension of perceived destination quality (e.g. accommodation, cleanliness, friendliness of local people, etc.) to help to determine the effect of destination quality on customer satisfaction with a sporting event and reveal the relationships between quality, satisfaction, and intention to recommend a city for sporting events. Nevertheless, there are numerous studies that relate satisfaction to the future intention of seeing a similar event again (Brown et al., 2017; Mundina & Calabuig, 2011; Roca et al., 2018).

5.1. Managerial implications

From a practical point of view, the results of this study have several implications for sports event organisers. The results show how important the management of both functional and outcome quality is to satisfaction. This relationship is both direct and indirect through positive emotions. Functional quality has also been found to be an antecedent of the intention to recommend the hosting city.

It is important that the organisers of these types of championships devote the necessary resources to achieving the optimal levels of functional quality at events. Taking measures to improve the ratings of tangible aspects, the responsiveness of human resources, and the reliability, accessibility, and safety of the facilities become necessary strategies to increase spectator satisfaction and the chances that spectators recommend the hosting city.

Ensuring a good sports show is another tool for improving spectator satisfaction. Facilitating a good level of competition will result in subsequent positive spectator behaviours. Making sure that the competition has the highest quality standards will undoubtedly result in a higher level of competition.

Increasing the intention to recommend the destination should be a priority for the competition organisers. The results of this study reveal the importance of functional quality. In addition, satisfaction is an antecedent to attachment to the destination, as suggested by Žabkar et al. (2010), who found that perceived quality is positively related to satisfaction as well as to intentions to revisit the city. As a consequence, other cultural and/or leisure activities may also be offered to spectators.

5.2. Limitations

There are several limitations to this study, but these have neither affected the methodological design nor the results. First of all, there is a lack of previous studies on specific sporting events (final championships) and on racket sports modalities, which has made it difficult to carry out this research. Secondly, access to the spectators who attended the event cannot be ignored as a limitation. Data had to be collected at the end of the matches and at the end of the sessions in order to avoid preventing the spectators from enjoying the competition. In addition, in some cases, there was a language barrier that prevented the completion of the questionnaire, although this was addressed by using surveyors with a good command of English and French.

Another limitation is that the data provided by the spectators were self-reported and the results of the badminton matches may have influenced the questionnaire responses. This means that their responses can rarely be verified independently. However, it is also true that the design of this type of research instrument and its subsequent applications have been considered to be valid and reliable, which dispels the uncertainty about this type of data. In this study, as in others like it, researchers must find out what people think about the subject. Understanding the reasons why spectators attend the championship could help to identify profiles and find strategies to improve their perception of the event. Finally, economic variables, such as perceived value, could be introduced in future studies.

5.3. Future lines of research

Future lines of research on this subject should include the development of an instrument regarding the image of the city in order to be able to assess more reliably how the hosting city is recommended. The use of an instrument with a single dimension has limitations that can influence the results. Spectators' experience in attending sporting events should also be borne in mind, as it may lead to different responses.

It would also be interesting to study whether the positive effects of holding a major sporting event are maintained over time or disappear in a short period of time. To this end, it would be necessary to conduct longitudinal studies.

Another future line of research would be to widen the scope of study of the championship to the rest of the elements that are key in its development: organisers, volunteers, referees, players, technical team, etc.

6. Conclusions

The results show how important the management of both functional and outcome quality is to satisfaction. This relationship is both direct and indirect through positive emotions. Functional quality has also been found to be an antecedent of the intention to recommend the hosting city, as there are significant levels of influence between quality and the image of the destination. As a result, these factors may have either a positive or a negative influence on the future behaviours of spectators/tourists, as well as on their intention to recommend the city.

In order to improve functional quality, the organisers of the event should pay special attention to certain aspects, such as comfort in the sports facility, the catering services available, accessibility, etc. Organisers should also work in coordination with the authorities in charge of tourism and other areas of the destination in order to offer complementary activities to the event that would provide added value and promote the positive image of the destination.

Positive emotions may also be a key element in the intention to recommend the city. However, this study could not find a significant relationship between these factors nor even regarding an increase in perceived quality. Nevertheless, it has been possible to demonstrate that positive emotions and functional quality are antecedents to satisfaction. These are, therefore, key elements that influence the future behaviours of spectators, both locals and tourists, and their intention to recommend the city, even though it is also true that there are times when a good organisation and a good championship do not ensure that spectators will develop an attachment to the city, normally due to potential deficiencies they may have identified regarding the destination.

In summary, we believe that the results obtained may serve as an incentive for an increasing number of destinations with an interest in hosting large sporting events, where it would be possible to generate positive effects on different areas by working in conjunction with public and private entities and with broad social support, especially taking into consideration the huge impact that major events like this can have on the tourist activity of the city and the surrounding areas.

Author contributions

Nuviala, A: Conceptualization, project administration, methodology, supervision. Tamayo-Fajardo, JA: Writing: original draft. Nuviala, R: Formal analysis, investigation. Cabello-Manrique, D: Resources. Fernández-Martínez, A: Methodology, Writing - review & editing, supervision, visualisation, validation.

Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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