

Influence of quality attributes on the general satisfaction of participants during a European sporting event

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Abstract:

The aim of this study was to determine different dimensions of quality and to assess their influence on the overall satisfaction of athletes during a European sporting event. In total, 828 participants from Italy, Spain, Hungary, Cyprus, and Ireland participated in the study. An ad hoc self-administered questionnaire was used to assess the perception of the influence of the quality of event on activities, specific materials, human resources, sport practice area, general organization, and general satisfaction. A significant relationship was identified between the nationality of participants and their perception of the quality of the event. The general event organization was the factor with the highest influence on the satisfaction of participants, followed by the specific materials.

Key Words: Satisfaction, perceived quality, health, habits, sport services, sporting event

Introduction

Sport practice has become a fundamental main stone in society, depending on its undeniable health benefits (Blair & Morris, 2009; Friedenreich, Neilson, & Lynch, 2010; Wen, Wai, Tsai, Chan, & Wu, 2011), and it is constantly evolving with the objective of satisfying the users' needs, those who are more demanding in physical activity (Calabuig, Burillo, Crespo, Mundina, & Gallardo, 2010).

However, physical activity has lots of benefits, the percentage of European citizens who usually make exercise is 9%, and on the contrary 39% of population assert that they never practice physical activities (European Commission, 2010). In this regard, physical inactivity has become one of the biggest problems for public health. Warburton, Nicol and Bredin (2006) indicated that physical inactivity increased the risk of certain chronic health problems; including obesity, osteoporosis, high blood pressure and depression. Furthermore these problems lead an additional economic cost, due to the medical care, the workers' compensation and productivity lost (Chenoweth & Leutzinger, 2006). In the last years, physical activity practice seems to have reached a standstill in many European countries (Spain, Finland, Belgium, Portugal, and Austria) and has begun to decline in others, such as The Netherlands, Italy, and England (Van Bottenburg, 2005). A European Commission (2010) report found that 60% of the European population does not do sports or does so rarely.

Therefore, many countries and professionals perform different strategies with the aim of increasing sports participation to make better health, economic and social conditions (Crosnoe, 2002; Wang, Pratt, Macera, Zheng, & Heath, 2004). Recently, the organization of sport events is becoming a vehicle to promote tourism and city investment in which these events can be used as a powerful tool to establish, and develop image and international promotion (Chalip & Costa, 2005; Task, Green, Misener, & Chalip, 2014; Parra, Añó, Ayora, & Núñez-Pomar, 2012). Following Lera-López and Rapún-Gárate (2011), sports participations is mainly constrained by economic, sociological and psychological variables. For these authors, the positive factors are female, age, number of sporting activities and some motivational factors, while the negative determinants include time availability. According to Ruseski, Humphreys, Hallmann and Breuer (2011), hours worked does not affect participation confirming that physical activity is leisure time activity, so that the time allocated to physical activity derives from the non-work hours. Time is also included in the neoclassical approach in relation to sport as a major constraint in sport participation (Downward, 2007). In the family environment, Becker's theories suggest that distribution of activities among household members affects individual allocation of time (Downward, 2004).

Recent researches have focused on the variables that encourage the participants or spectators' sustainability on sport events (Kaplanidou & Gibson, 2010; 2012). According to Andreff (2001) and Baade and Matheson (2008), the high economic impact of managing a sport event based on the economic succeeds of the municipality. Gillet and Kelly (2006) indicated that managing sport events improved the economic situation of the town owing to tourism. Additionally, Highan (1999) affirmed that managing 'small-scale sport' events are better hand managing 'large-scale' events such as Olympics. This way, Barajas, Coates and Sánchez-Fernández (2016) there are a lack in small and medium scale events compare to mega-events.

Generally, quality is one of the most important aspects in the management of any organization or business (Golder, Mitra, & Moorman, 2012), and the same case happens in the management of the sport events (Calabuig-Moreno, Prado-Gascó, Crespo-Hervás, Nuñez-Pomar, & Añó Sanz, 2015). Clemes, Brush, and Collins (2011) asserted that spectators of a sport event perceived the strong influence of perceived value and service quality on the satisfaction. Previous researches identified that the quality of service is regarded as a precedent of satisfaction (Brady, Cronin, & Brand, 2002); while Hightower, Brady, and Baker (2002) argued that the influence of quality of service was perceived by the value of consumers. Furthermore, the participants' gender affected the satisfaction in the sport event (Calabuig et al., 2010).

The researches on service quality at sport events have increased in the recent years, and have generated a set of measures to improve the quality of the event. Several authors focused their research in measuring the spectators' perception of quality in different sport events such as; the study of Theodorakis and Alexandris (2008) and Yusof and See (2008) were specialized in football, while Hyun-Duck et al. (2006) in basketball, Hightower et al. (2002) in baseball and Greenwell et al. (2002) in hockey. However, few instruments found to be evaluated satisfaction of participants in a sport event. Therefore, the aim of the present study was to determine the perceived value of participants in the different dimensions of quality and assess their influence on overall satisfaction in European sports event.

Material & methods

Sample

This is a descriptive and cross-sectional study. The sample was composed of 856 participants, from where 828 were selected for the final sample. Participants were classified in gender, age and nationality (Table 1). Their nationalities were Spanish, Italian, Cypriot, Irish and Hungarian.

Table 1. Characteristics of the sample

Characteristics	N	%
Gender		
Male	410	49.5
Female	418	50.5
Age (years)		
Children (12-17)	127	15.5
Young (18-29)	182	22.2
Adult (30-64)	450	54.9
Elderly (+ 65)	61	7.4
Nationality		
Italy	175	21.1
Spain	198	23.9
Hungary	182	22.0
Cyprus	87	10.5
Ireland	186	22.5

Questionnaire design

For the recollection of data we used a self-administrable questionnaire. The questionnaire was design using a selection of different questions from other studies about sport habits (Calabuig, Mundina, & Crespo, 2010; Rodríguez-Romo, Boned-Pascual, & Garrido-Muñoz, 2009). Subsequently, every question was revised for the needs and the specifications of the research. After the design of the questionnaire, it was review by a group of experts who made very useful modifications and commentaries for the final design. The pilot questionnaire was applied to 30 spectators for every country to guarantee the absence of confusion and ambiguity of the questions. Finally, the questionnaire was revised and approved by the institutional ethics committee of Valencia University.

The questionnaire was structured in different sections with the following questions: 'a' demographic data (gender age and nationality) 'b' Quality of the event, using a 1-5 likert scale (1 very poor, 5 excellent) with questions about perception of activities' quality, material and human resources, space for sport practice and general organization. Section 'c' evaluates the general satisfaction with the event using a 1-10 likert scale

(Murray & Howat, 2002) and the emotional satisfaction with four closet answers (interesting, boring, funny, do not participate actively).

The reliability analysis of satisfaction scale was performed using Combrach's alpha test (Spain = .729, Italy = .698, Hungary = .712, Cyprus = .734, Ireland = .709), and average variance extracted (AVE). The validity was tested first using an exploratory factor analysis (EFA), followed by a confirmatory factor analysis (CFA) using structural equation modeling. All tests showed a satisfactory reliability and validity of the questionnaire, exceeding the recommended minimum values.

Data analysis

Statistical analysis was performed using SPSS package v 19.0.0 (IBM, Chicago) and EQS6.1 software. In first term, results are presented as mean (SD), if not otherwise stated. ANOVA test and Student's T test were performed comparing values of different variables. Finally, we compared the influence of quality variables on the prediction of general satisfaction using a multiple regression model. $P < .05$ was used as the level of significance.

Results

Assessment of quality and general satisfaction

We found differences in satisfaction indicators depending on nationality of participants as it is shown in Table 2. Through the initials we can observe the relation between participants from different nationalities. The results are based on two-side tests assuming equal variances with significance level $p < .05$. We can observe as indicators of "activities" and "general organization", show no difference between nationalities.

Table 2. Differences between nationalities in quality perception

	Italy (A)	Spain (B)	Hungary (C)	Cyprus (D)	Ireland (E)
	mean (SD)	mean (SD)	mean (SD)	mean (SD)	mean (SD)
Activities	3.83 (.75)	3.83 (.79)	3.79 (.87)	3.78 (.98)	3.77 (.87)
Activities' specific materials	3.64 (.70) ^C	3.54 (.76)	3.31 (.80)	3.78 (.97) ^C	3.71 (.88) ^C
Human resources	3.82 (.79)	3.91 (.80) ^C	3.63 (.87)	4.20 (.87) ^{AC}	3.97 (.83) ^C
Sports practice area	4.04 (.77) ^B	3.60 (.81)	4.07 (.90) ^B	3.89 (.91)	3.91 (.85) ^B
General organization	3.84 (.76)	3.79 (.85)	3.85 (.78)	3.89 (.90)	4.00 (.85)
General satisfaction	8.12 (.80) ^D	8.09 (.86) ^D	7.92 (.91)	7.65 (1.22)	8.08 (.02) ^D

Note: ^{A,B,C,D,E} $p < .05$

The perception of quality shows significant difference according to nationality Respect to the quality of materials ($F(4, 807) = 7.85$, $p < .001$), Hungary shows differences with Italy ($p < .01$), Cyprus ($p < .001$) and Ireland ($p < .001$) whose had lower scores. Respect to human resources we found an effect of nationality as well ($F(4, 805) = 7.91$, $p < .001$). So Cyprus had a higher score than Italy ($p < .05$) and Hungary has significant differences compared to Spain ($p < .05$), Cyprus ($p < .001$) and Ireland ($p < .05$). Analyzing the Sport practice area used we also found differences according to nationality ($F(4, 807) = 9.009$, $p < .001$). In this case, Spain has significant lower scores than Italy ($p < .01$), Hungary ($p < .01$) and Ireland ($p < .05$). Finally, we can observe significant differences in general satisfaction related to nationality ($F(4, 806) = 7.90$, $p < .001$). Since Cyprus shows differences with Italy, Spain and Ireland ($p < .001$).

Predicting the general satisfaction of spectators

In the analysis of general satisfaction of spectators we can observe how assistants to the event show high scores in satisfaction. So 53.9% ($n = 438$) of participants argue that they had fun in the event, 39.4% ($n = 320$) of participants considered the event interesting, and only 1.5% ($n = 12$) of participants feel boring during the event 3.1% ($n = 25$) of participants participated actively and 2.2% ($n = 18$) did not answer.

Differences in quality perception depending on the participation

Using the variance analysis (ANOVA) it has been observed the existence of differences in the level of previous participation in this kind of events and the quality of event's features. Results shown a main effect depending on the participation in sport events $F(2, 814) = 3.60$, $p < .05$. Only the quality of activities was significant different between the participants that never had participated in this kind of events and the participants that participated often who perceived higher quality in the event activities ($p < .05$).

Influence of events features in general satisfaction

The correlation matrix about the effect of event's features on general satisfaction (Table 3) shows how general satisfaction and quality features are significant ($p < .05$). The feature with the highest correlation with general satisfaction is general organization ($r = .577$). Human Resources is the feature with less correlation ($r = .448$). The rest of correlations are significant as well ($p < .05$).

Table 3. Correlation matrix between quality score and general satisfaction variables

	1	2	3	4	5	6
1 General satisfaction	1					
2 Activities	.517*	1				
3 Activities' specific materials	.538*	.565*	1			
4 Human resources	.448*	.483*	.598*	1		
5 Sports practice area	.502*	.490*	.471*	.445*	1	
6 General organization	.577*	.602*	.597*	.629*	.609*	1

Note: * $p < .01$

Linear multiple regression was used to analyse the relation between the different satisfaction variables and the general satisfaction of the sport event. The five variables of satisfaction caused by the features were introduced as independent variables and general satisfaction as dependent. Durbin Watson value test confirmed the residuals terms were uncorrelated or independent ($D = 1.901$). Tolerance and the variance inflation factor (VIF) values showed no multicollinearity. The p-p graphic showed that distribution of residuals was normal. The regression model was significant ($F(5) = 120.99$, $p < .001$) (it should be like this $R = .290$, $R^2 = .84$, $F(5-188) = 1.192$, $p < .01$) indicating that a 10% of variance in the level could be predicted by respondents' team identification level.), indicating that a 42.9 % of variance in general satisfaction could be predicted by activities, activities' specific materials, sports practice area, and general organization.

As it can be seen in Table 4, general organization explains the higher variable ($\beta = .25$, $t = 5.901$, $p < .001$) followed by activities' specific materials ($\beta = .22$, $t = 5.997$, $p < .001$). The human resources were not a significant relation with the general satisfaction of the sport event. ($\beta = .01$, $t = .275$, $p < .001$).

Table 4. Linear Regression Results for the Participant's General Satisfaction of the Sport Event

	B	SE. B	β	T	VIF
(Constant)	4.202	.187		22.518*	
Activities	.220	.051	.154	4.327*	1.780
Activities' specific materials	.325	.054	.224	5.997*	1.948
Human resources	.014	.052	.010	.275	1.907
Sports practice area	.233	.048	.167	4.835*	1.662
General organization	.360	.061	.248	5.901*	2.463

$R^2 = .433$, $R^2 \text{ Adj.} = .429$

Note: * $p < .001$

Dicussion

Knowing the perceived satisfaction of users involved in major sport events is a basic indicator that can guide sport managers to the improvement of these events. A sport event is a set of different elements where a proper organization, management and distribution ensure a general satisfaction of participants, who are being ready to come back in next events. The analysis of different variables of the event can help to encourage public authorities to make strategies and politics that increase the sport practice oriented to the improvement of health for all ages. In this regard, previous researches focused on spectators' view, to reveal the necessity of applying different variables of satisfaction in this context. (Alexandris et al., 2004; Bodet, 2006; Schoefer & Ennew, 2005; Shonk & Chelladurai, 2008). There are few studies that focused on participants (Park, Lee, & Kim, 2016).

In this study, it can be seen that the total percentage of participants of both sexes is similar, being slightly higher for women (50.5%) compared to men (49.5%). This differed from many researches in which observed the participation in this type of events was higher for men compared to women (Calabuig et al., 2010; European Commission, 2010; Lera-López & Rapún-Garate, 2005; Berger, O'Reilly, Séguin, Parent, & Hernández, 2008).

According to the findings of this study, several differences between perception of quality and general satisfaction were found in the terms of nationalities, highlighting the lower general satisfaction in Cyprus respect to Italy, Spain and Ireland. However, there were not significant differences between the perceived quality of activities and general organization with respect to nationalities. This fact could be explained by the need of focusing in these aspects to get a higher perceived quality and a homogeneous general satisfaction in international events. The results indicated that variables related to the tangible (specific sport materials and sport practice area) were crucial to explain the satisfaction of attendees to the sport event. These results are largely consistent with other related studies (Calabuig et al., 2010; Greenwel et al., 2002; Theodorakis et al., 2001), in which they indicated that the quality and safety offered by these elements were motivations of participants to attend next events. However, distinct from the previous studies (Calabuig et al., 2010), human resources variables were not significant predictor on general satisfaction. This difference can be explained by the sample of

current study was included participants in various sports activities, aiming the promotion of physical activity, different from previous studies focused on spectators.

This affirmation suggest that sport events oriented to spectacle, the quality of staff and the interaction between participants is a key factor predicting general satisfaction, while in sport events oriented to physical activity promotion, the staff is less relevant, and other elements become more important as activities' specific materials and sport practice area, because participants have a direct interaction with them. Moreover, the events with competitive nature produce a higher final satisfaction of participants than the events where the participants only act like spectators (Van Leeuwen, Quick, & Daniel, 2002). Depending on the classification of participative service or spectator service (Chelladurai & Chang, 2000), this type of event should locate between both groups, as it encourages the spectator to participate physical activity. However, it shares many of the unique features of sport events, mainly related to participation as a spectator. Therefore, this research may be defined as new part of the evaluation of the quality in sport services and events, working on a new field of action of great importance to the promotion of physical activity and sport.

Conclusions

Measuring the satisfaction of participants in sport events becomes necessary to improve the quality of the service offered, serving as a support to enhance strengthen weaknesses and strengths. The participants who usually take part in this kind of events have a higher satisfaction than users who only participate sometimes. The aspects that affect more to the final satisfaction of the event are specific sport materials (specially their quality and security), and the area where the sport event take place (accessibility, parking, environment, etc.) However, the human resources have not any influence on the general satisfaction of the participants in the event.

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