

Analysis of residents' perception about the cultural and sporting impact of a Formula 1 Grand Prix

*Ferran Calabuig Moreno**

*David Parra Camacho***

*Vicente Añó Sanz****

*Daniel Ayora Pérez*****

Abstract: The aim of this study is to analyze the perception of residents about the cultural and sporting impact of European Formula 1 Grand Prix. Cluster analysis was conducted, combining hierarchical and non-hierarchical methods, which allowed to find three groups with different perceptions about the event: Unfavorable, Moderate Unfavorable and Moderate Favorable. Most residents consider that the event does not have a considerable impact at cultural and sporting levels. Differences were also found between the three groups of residents in their interest in Formula 1, support for the event, attendance, and degree of identification.

Keywords: Resident population. Social perception. Sports. Cultural factors.

1 INTRODUCTION

Sports events affect the lives of residents of places or areas where they take place. Thus, we can find positive and negative impacts associated with hosting these events and which can

*Department of Physical Education and Sports. School of Physical Education and Sports. University of Valencia. Valencia, Spain. E-mail: ferran.calabuig@uv.es

**Department of Physical Education and Sports. School of Physical Education and Sports. University of Valencia. Valencia, Spain. E-mail: david.parra-camacho@uv.es

***Department of Physical Education and Sports. School of Physical Education and Sports. University of Valencia. Valencia, Spain. E-mail: vicent.anyo@uv.es

****Department of Physical Education and Sports. School of Physical Education and Sports. University of Valencia. Valencia, Spain. E-mail: daniel.ayora@uv.es

influence residents' quality of life. Several authors have classified and compiled the possible impacts of sports events (FREDLINE, 2004; PREUSS; SOLBERG, 2006; TAVARES, 2011). Historically, interests of the event's administration and organizers have focused on the analysis of economic impact due to the need to justify return on investment. However, sports events have several stakeholders, which calls for a more comprehensive and thorough evaluation of its impact on the host community. For this reason, researchers and organizers' recognition of the need to measure the socio-cultural impacts of those events is increasingly unanimous, since dissatisfaction of the host community may jeopardize their long-term success even though the event is economically feasible (SMALL, EDWARDS, SHERIDAN, 2005).

Numerous studies have examined the social impact of sports events, especially contributions on large or mega events such as the Olympic Games (MIHALIK; SIMONETTA, 1999; WAITT, 2003; ZHOU, AP, 2009) and the Football World Cup (KIM; PETRICK, 2005; KIM, GURSOY; LEE, 2006; OHMANN; JONES; WILKES, 2006).

This study shows the results of residents' perceptions about a Formula 1 race, namely the European Formula 1 Grand Prix (GP). However, this paper focuses on the analysis of citizens' perceptions of the cultural and sporting impact that the event has meant to the city of Valencia, where it has been held every year since it was added to scheduled races in 2008. Many studies examining public opinion on sports events include aspects related to cultural and sporting impact on specific dimensions, such as Kim, Gursoy and Lee (2006) (benefits of cultural exchange) or Balduck, Maes and Buelens (2011), on interest and cultural consolidation. Aspects related to sporting impact are usually subsumed under other dimensions such as socio-cultural impact and benefits to the community.

Authorities and organizers of major sports events often mention the possibility of promoting sports development of the

regions as a result of hosting those events. However, several studies consider that they result in no major increment in levels of sports practice (COALTER; TAYLOR, 2009; WEED; COREN; FIORE, 2009).

On the other hand, the lack of clear evidence that sports events increase levels of physical activity are added to the particular characteristics of Formula 1, since it is a motorsport and the population's access to it is very restricted due to its high cost and the difficulty to practice it safely.

Studies such as Fredline and Faulkner (2000) on the Gold Coast IndyCar Race, Fredline (2004) and Fredline, Deery and Jago (2005) on the GP of Australia, Cheng and Jarvis (2010) on the Singapore Formula 1 GP, Zhou (2010) on the Macau Formula 3 GP or Añó, Calabuig and Parra (2012) on Formula 1 consulted residents on their perception about the social impact of these events. Works by Fredline and Faulkner (2000), Fredline (2004) and Fredline, Deery and Jago (2005), which group citizens through cluster analysis according to their perceptions of events' impacts, point out that residents with more negative reactions to events tend to be in disagreement with positive impacts to the community resulting of hosting Formula 1 races, while citizens with more favorable perceptions show the opposite trend. In the aspects consulted in the study of Fredline and Faulkner (2000) on the cultural and sporting impact, most residents agreed that hosting the IndyCar race is an opportunity to attend an international event. This trend was similar in the groups of citizens with a more favorable attitude towards the event regarding aspects related to improving hospitality of residents and the opportunity to meet new people. However, most groups did not agree, except for those most favorable to the event, with the possibility that the event in question would allow promoting motorsports in Australia or give new opportunities to young pilots and, more markedly, with the possibility to develop new infrastructure that could be later used by residents.

The study of Cheng and Jarvis (2010) showed that promotion of

cultural exchange and interaction as well as the opportunity to meet new people were the aspects most often mentioned by Singapore residents as positive socio-cultural impacts, while promoting sports had the least mentions. In that study, most citizens consulted felt that hosting the F1 GP showed the ability of Singaporeans to organize international sports events and increased entertainment opportunities before, during and after the event. However, they did not feel as clearly that Formula 1 would give them the chance to learn more about other cultures or enjoy meeting other people.

In Zhou (2010) – and similarly to what was detected in Fredline and Faulkner (2000) – most residents felt that the event offered citizens an opportunity to attend an international event.

Furthermore, they said that the celebration of Formula 3 races in Macau would help citizens to understand and meet other people and cultures. On the contrary, from the point of view of sports impact, residents did not agree with the possibility that the event would provide facilities to be used later by the local community. Finally, Añó, Calabuig and Parra (2012) cover the sporting repercussion of Formula 1 through several items: incrementing sports practice in the city, increasing sports facilities, enhancing sports prestige, increasing interest in sports, and Formula 1 as designed for the enjoyment of the public. The authors concluded that residents expressed their disagreement with the possibility that the event incremented sports practice or increased facilities.

Nonetheless, the study does not provide information on residents' perception about the cultural impact and other aspects related to sporting impact, which are covered by other works mentioned, for example, the possibility to promote sports and provide new opportunities for young athletes, the ability to organize a sporting event, and increased subsidies or support for sports clubs. For this reason, and based on the review of the studies analyzed (AÑÓ; CALABUIG; PARRA 2012; CHENG; JARVIS, 2010; FREDLINE, 2004; FREDLINE; FAULKNER, 2000; ZHOU, 2010), we made a compilation of aspects and planned a number

of items related to the cultural and sporting impact of motorsport events, which are shown in Table 1.

Table 1. Impact of cultural and motorsport events.

Cultural Impact	Sports Impact
It provides the opportunity to meet new people.	It increases citizens' sports practice.
It improves solidarity and hospitality of residents towards visitors.	It provides new sports facilities.
It promotes cultural exchange and understanding of other cultures.	It promotes motorsport and gives new opportunities to young athletes.
It promotes the preservation and conservation of local culture.	It increases the interest in Formula 1.
It increases the cohesion and unity of society.	It provides support and subsidies to sports clubs in the city.
It provides citizens with an opportunity to attend an international event.	It shows society's ability to host major sporting events.
It makes nightlife more exciting and entertaining.	It increases sports prestige.
	It provides citizens with an opportunity to participate in the organization of major sporting events.
It is intended for the entertainment of the citizens.	

Source: Provided by the authors based on from Añó; Calabuig; Parra (2012); Cheng y Jarvis (2010); Fredline y Faulkner (2000), Fredline (2004) y Zhou (2010).

Thus, in this study we will analyze residents' perception about the aspects summarized in Table 1, establish groups of citizens with similar perceptions about the cultural and sporting impact of European Formula 1 GP in Valencia, and define the characteristics of their profile.

2. METHOD

2.1 SAMPLE AND PROCEDURE

A total of 442 residents of Valencia completed the survey. At the time of the interview, citizens were asked if they lived permanently in the city or had lived there for an extended time (for academic, labor reasons, etc.) in order to avoid visitors or persons not living there. We chose to apply a method of convenience sampling due to the lack of an appropriate sampling framework and a census of permanent residents in the city of Valencia, rather than those registered at the city government. However, interviewers were trained to administer the survey through a training seminar and were instructed to collect surveys of different population groups to achieve the best possible balance in several sociodemographic variables related to sex or age.

2.2 INSTRUMENT

The questionnaire design was based on several previous studies on the social impact of sports events (AÑÓ; CALABUIG; PARRA., 2012; BALDUCK; MAES; BUELENS, 2011; CHENG; JARVIS, 2010; FREDLINE; FAULKNER, 2000; KIM; GURSOY; LEE, 2006; ZHOU; AP, 2009; ZHOU, 2010) and other festivals or cultural events (DELAMERE, 2001; SMALL; EDWARDS; SHERIDAN, 2005), with particular emphasis on aspects that provided information related to cultural and sporting impact.

The survey consists of a total of 15 alternative response items on a 5-point Likert scale. It also included several questions about interest in Formula 1, support for the event, attendance to the event, and degree of identification, as well as issues related to sociodemographic variables. Those intrinsic variables allowed defining the characteristics of the groups of residents with similar perceptions about the event, as well as validating the cluster solution.

2.3 DATA ANALYSIS

Cluster analysis was conducted on the survey's data with SPSS statistical software version 20.0, with the 15 items that collected the perception of residents about the cultural and sporting impacts of the event. Following recommendations by Hair, Anderson, Tatham and Black (1999), we combined two (hierarchical and non-hierarchical) estimation methods for the cluster solution in order to optimize results. Hierarchical cluster analysis was performed using the clustering process of the Ward Method. We used the Euclidean distance squared as similarity measure, obtaining agglomeration history. From the groups proposed in the above analysis, a non-hierarchical analysis was applied by the K-means method, using as initial centers or seed points the means of the variables obtained for each cluster analysis of the hierarchical solution.

Then, differences between the variables included in the cluster analysis were analyzed from ANOVA test values, considering Hair et al.'s (1999) warning about the need for caution and a descriptive purpose when using data from that test. In order to define the characteristics of the profiles of the groups and to assess predictive validity, ANOVA and Chi-Square tests were performed with variables that were not included in the initial analysis.

3 RESULTS

Analyzing the results of hierarchical cluster analysis, we found different solutions by observing the history of agglomeration. On the other hand, most of contributions made in this area indicate two, three or five-group solutions. Therefore, we decided to submit possible solutions (two, three, four and five groups) in the second analysis via the k-means method. Considering these results and previous studies we decided to choose the three-cluster solution because it allowed good interpretation of results.

The variables that best distinguish the groups are "I think that

citizens' sports practice has increased as a result of F1" ($f = 287.93$), followed by "sports facilities have increased as a result of F1" ($f = 233.79$) and "my interest in F1 has increased because it happened in my city" ($f = 215.65$) while the one with the least difference in the groups was "F1 provides citizens with an opportunity to attend an international event" ($f = 59.45$).

As can be seen in Table 2, cluster one represents 42.1% of the sample, whose scores on the several items related to the cultural and sporting impact of European Grand Prix Formula 1 are quite low. Therefore, this group has been called Unfavorable since they express an unfavorable attitude towards the cultural and sporting impact of the event. Most means given by that group have lower-than-two values in the Likert scale (Disagree) and close to one (Totally disagree). For example, these scores are seen in the items referred to "I think citizens' sports practice has increased" (1.24), "sports facilities have increased" (1.31), "subsidies and support sports clubs in the city have increased" (1.33) or "Formula 1 is designed for citizens' entertainment" (1.30). Only the item related to the possibility of attending an international event shows a higher-than-two average (2.55). In some studies, groups of residents with such extreme values are often referred to, in this case, as "enemies" of the event (FREDLINE; FAULKNER, 2000), since they express clear opposition to the event.

Group two represents 33.9% of the sample, who are referred to as Moderate Unfavorable, since most aspects viewed show values ranging between two and three on the Likert scale. Thus, as we can see in Table 2, items with lower averages coincide in some cases with the group of Unfavorable residents (e. g. "increase in sports practice", "increase in sports facilities", "sports subsidies and support to clubs", "it is intended for the entertainment of the public"). However, some aspects score higher-than-three means, which would indicate some agreement regarding aspects related to the possibility of attending an international event (3.67) or the fact that the event increases Spain's prestige in sports (3.27). Thus, although this group does not have as unfavorable an attitude towards

Formula 1 as the first group, it expresses some disagreement in the assessment of cultural and sporting impacts it has generated.

Finally, the third group represents 24% of the sample and could be called Moderate Favorable with respect to hosting the European Formula 1 Grand Prix. This designation can be understood by the fact that many of the items obtain scores close to four (Agree), although other aspects show values close to three, indicating a neutral attitude towards several items surveyed. For example, this group shows a tendency toward agreement on issues such as “opportunity to attend an international event” (3.86), “improvement of sports prestige” (3.82), and “possibility that the event promote motorsports and new opportunities for young pilots” (3.68). However, no item gets values above four, hence we cannot refer to this group as favorable, fans or optimistic about the celebration of the event.

Table 2. Mean value for each variable in the three clusters and F-tests of the variables between the three clusters (obtained by the method of K-Means)

	1 Detractors (n = 186)	2 Moderate Unfavorable (n = 150)	3 Moderate Favorable (n = 106)	F	P value
I think citizens' sports practice has increased as a result of F1.	1.24	1.87	3.39	287.93	0.000***
Sports facilities have been enhanced as a result of F1.	1.31	1.88	3.35	233.79	0.000***
Subsidies and support for sports clubs in the city have increased as a result of F1.	1.33	2.03	2.99	144.49	0.000***
F1 promotes motorsports in Spain and provides new opportunities for young pilots.	1.90	2.79	3.68	117.21	0.000***
F1 provides citizens with the opportunity to participate in the organization of major sporting events.	1.60	2.71	3.62	157.82	0.000***
My interest in F1 has increased because it happened in my city.	1.38	2.05	3.68	215.65	0.000***
F1 increases Spain's sports prestige.	2.03	3.27	3.82	126.18	0.000***

F1 is designed for the entertainment of the public.	1.30	1.89	3.43	202.82	0.000***
F1 provides citizens with an opportunity to attend an international event.	2.55	3.63	3.86	59.45	0.000***
F1 increases society's cohesion and unity.	1.39	2.25	3.19	170.08	0.000***
F1 provides citizens with an opportunity to meet new people.	1.73	3.02	3.50	172.26	0.000***
F1 enhances citizens' solidarity and hospitality toward visitors.	1.54	2.65	3.48	191.50	0.000***
F1 enhances cultural exchange and understanding of other cultures.	1.73	2.62	3.62	165.75	0.000***
F1 promotes the preservation and conservation of Valencian culture.	1.27	2.00	3.30	212.05	0.000***
F1 makes nightlife more exciting and entertaining.	1.55	2.49	3.68	157.67	0.000***

Note: Mean values are based on a 5-point Likert scale (1: Totally disagree, 3: Neither agree nor disagree, 5: Totally agree).

*** p ?0001

On the other hand, the profile of residents included in each cluster was obtained from additional variables that also help to ensure predictive validity of the proposed groups. Thus, Table 3 shows the variables used to define that profile based on their perception of Formula 1's cultural and sporting impacts in Valencia.

Thus, we can verify that the group of residents unfavorable to the sporting event are those showing the least interest in that sport (47.8% are not interested in Formula 1), those who give the lowest support to hosting the event (74.7%), and most have not attended the event (85.5%). Furthermore, when asked about different aspects of the degree of identification with the event, they score low values, expressing disagreement or total disagreement on issues such as recommendation to attend, speaking for Formula 1 or considering that the event is beneficial for citizens. Regarding socio-demographic profile, the proportion of women is higher than that of other groups, as well as the high percentage of residents who have lived in the city for over ten years.

The group of moderate unfavorable residents, differently from the unfavorable group, expresses more interest in the sport (45.3% are interested in F1), does not support hosting the sporting event, but at lower percentages than the previous group (40%) and most have not attended the event (81.2%). However, as can be seen in Table 3, they have higher means in aspects related to the degree of identification of the unfavorable group, but they tend to disagree in the three items surveyed. Finally, they have a mean age similar to other groups, with a slight increase in the proportion of men with respect to the pessimistic group, and most have lived in the city for over ten years.

Finally, the group of residents known as Moderate Favorable clearly stands out among the other two groups by showing greater interest in that sport (72.1% are interested in Formula 1), high support for hosting the event (72.4%) and an increase in the percentage of people in the group who attended it (43.4%). It also shows a positive trend in their degree of identification with the event, especially in aspects related to the recommendation of attending the event and interchanging favorable impression towards hosting Formula 1 races. Regarding sociodemographic characteristics, the proportion of men in this group is higher than in others, especially unfavorable residents.

Table 3. Profiles of distinct groups (clusters)

Variable	Alternative Response	1 Unfavorable (n = 186)	2 Moderate Unfavorable (n = 150)	3 Moderate Favorable (n = 106)
Interest in F1 *** $X^2(4) = 66.95$, $p < 0.001$	Yes No Indifferent	25.8% 47.8% ⁽²⁾⁽³⁾ 26.3%	45.3% ⁽¹⁾ 25.3% 29.3% ⁽³⁾	72.1% ⁽¹⁾⁽²⁾ 13.5% 14.4%
Support for holding the event*** $X^2(4) = 157.89$, $p < 0.001$	Yes No Indifferent	8.6% 74.7% ⁽²⁾⁽³⁾ 16.7%	27.3% ⁽¹⁾ 40.0% ⁽³⁾ 32.7% ⁽¹⁾⁽³⁾	72.4% ⁽¹⁾⁽²⁾ 16.2% 11.4%
Attendance to the event * ** $X^2(2) = 32.77$, $p < 0.001$	Yes No	14.5% 85.5% ⁽³⁾	18.8% 81.2% ⁽³⁾	43.4% ⁽¹⁾⁽²⁾ 56.6%

Degree of identification with the event	In conversations I spoke in favor of F1. $F_{(2)} = 140.408, p < 0.001$	1.64	2.54	3.86
	If someone asks for my opinion, I will recommend attending F1 as a spectator. $F_{(2)} = 133.619, p < 0.001$	1.63	2.69	3.81
	Overall, I think the investment in F1 is beneficial to citizens. $F_{(2)} = 137.598, p < 0.001$	1.42	2.16	3.56
Sex $\chi^2_{(2)} = 8.34, p > 0.05$	Male	50.5%	57.3%	67.9% ⁽¹⁾
	Female	49.5% ⁽³⁾	42.7%	32.1%
Age $F_{(2)} = 0.926, p > 0.05$	Mean age	33.26	35.05	32.64
Time residing in Valencia $\chi^2_{(6)} = 14.82, p > 0.05$	Under 1 year	1.1%	6.0% ⁽¹⁾	4.0%
	1-3 years	9.7%	10.0%	16.0%
	4-10 years	9.2%	16.7%	14.0%
	Over 10 years	80.0% ⁽²⁾⁽³⁾	67.3%	66.0%

Note: *Indicates statistically significant relationships or statistically significant mean differences * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$; (1) (2) (3) Results are based on bilateral tests with a significance level of 0.05. In the table of results, for each significant pair the key group of residents is shown with the lower-column proportion under the group of residents with the highest proportion column.

4 DISCUSSION AND CONCLUSIONS

In general, it is worth noting the high number of residents who disagree with the cultural and sporting aspects surveyed. In the case of those unfavorable to the event for their clear pessimism or tendency to disagree, we can see that they are the largest group (42.1%) and their opposition to hosting the event is quite high. That group coincides with what was observed in other studies where they were called “haters” or “enemies of the event” (FREDLINE; FAULKNER, 2000). The authors note that 65% of the residents of that group did not support hosting IndyCar in GoldCoast (Australia) – which is somewhat lower than the percentage of citizens who did not support the event in this work (74.7%). In

addition, those researchers noted that residents of the group did not consider that the event would provide facilities that could later be used by citizens, which matches the tendency to disagree detected in this work.

However, they showed a more neutral perception, different from the one shown in this study, about the possibility of promoting motorsports and providing new opportunities for young pilots.

In an intermediate position, but also tending to disagree in many respects, there would be the Moderate Unfavorable group. That group is mostly opposed or indifferent to the event, and consider its cultural and sporting impact quite low. However, they show a neutral trend in some aspects such as those related with the possibility of meeting new people or increasing sports prestige and a favorable trend in the opportunity to attend an international event.

On the other hand, we find residents designated as Moderate Favorable, which is the smaller group (24%) and is characterized by showing a favorable trend in many of the aspects surveyed. This group shows high support for the event, but expresses some neutrality in aspects related to sports' impact such as the possibility of hosting the event and providing subsidies and support to the city's sports clubs and also in matters related to cultural impact, such as increasing society's cohesion and unity as a result of Formula 1.

Therefore, most citizens surveyed do not agree with the possibility that Formula 1 will have cultural and sporting impact on society. Thus, from the point of view of sporting impact, we can see the obvious disagreement among most residents regarding the possibility of increasing sports practice, sports facilities, subsidies and support for the city's clubs or the fact that it is conceived for citizens' entertainment. It is also possible to see a clear tendency by most residents surveyed to disagree with the event's cultural impact, highlighting those related to society's higher cohesion and unity, the opportunity to meet new people, favoring preservation

and conservation of Valencian culture, and improving citizens' solidarity and hospitality towards visitors.

Even though this trend is not so pronounced in other similar studies conducted in other places or regions on motorsport events, some results might match those found by Fredline and Faulkner (2000) and Fredline, Deery and Jago (2005) in groups of residents with a more unfavorable attitude. However, other studies such as Zhou (2010) on the Macau GP or Cegielski and Mules (2002) on the V8 Supercar Race in Canberra (Australia) found that 77.9% and 79% supported holding the event in their respective cities. In this work, these percentages are similar for only a quarter of residents surveyed corresponding to the most favorable group.

In aspects related to sporting impact, Cheng and Jarvis (2010) noted that promotion of sports was the aspect least often mentioned by Singapore residents regarding Formula 1. Añó, Calabuig and Parra's (2012) work on Formula 1 also found that aspects related to sports' impact were the least valued. Those results coincide with those detected in this study on the impact of sports and can be associated, as already noted, to the characteristics typical of those sports. In this vein, Zhou (2010) found that most residents felt that the Macau GP did not provide facilities which could be later used by citizens.

Moreover, some aspects related to the cultural impact are evaluated in other studies as a tendency to disagree, though less marked than in this work. For example, Cheng and Jarvis (2010) showed citizens who did not agree with the possibility that Formula 1 would allow them to learn more about other cultures. Also in Fredline and Faulkner (2000), the possibility of meeting other people got different scores depending on the cluster, with a tendency towards disagreement among residents most unfavorable to the event and the reverse trend in the case of those who expressed a more favorable attitude toward IndyCar. In contrast, in Zhou (2010), most residents agreed with the possibility that the GP would help citizens to understand other cultures and allow them to meet new people.

These results show differences depending on the population

analyzed, since each region or place has different social and cultural characteristics. Specifically, in this work we must bear in mind the socio-economic difficulties which define the current situation in the region where the study was conducted, which implies residents' higher sensitivity to public expenditure incurred in any event. Moreover, such events require a high public investment in aspects related to building, remodeling or adapting a race circuit to the rules of the International Automobile Federation (FIA), besides having to pay a fee to organize the race. Therefore, such high costs in an unfavorable socioeconomic context could explain the absence of a group of residents with a clearly positive attitude towards the event; on the contrary, that attitude has been found in most studies examining the impact on the local population of other motorsport events at different locations (FREDLINE; FAULKNER, 2000; ZHOU, 2010).

On the other hand, the results of this work contrast with and demonstrate what was detected in previous studies (CEGIELSKI; MULES, 2002; CHENG; JARVIS, 2010; FREDLINE; FAULKNER, 2000; ZHOU, 2010) regarding the importance of addressing residents as a heterogeneous group when analyzing the social impact of sports events, since perceptions about them may vary depending on interest, support, assistance or degree of identification. In this regard, it would be interesting to verify to what extent other variables such as socio-political values, socio-economic status, living near the event's location, attachment to the community, level of contact with the event, job or economic link with tourism, the degree of knowledge of the sport or the involvement of residents in planning the event can influence, as has been discussed elsewhere (CEGIELSKI; MULES, 2002; FREDLINE; FAULKNER, 2000; KIM; PETRICK, 2005; WAITT, 2003; ZHOU; AP, 2009). Finally, it is necessary to further evaluate and monitor the social impact of these events and analyze others to compare and observe the changes in attitudes toward their acceptance.

REFERENCES

AÑÓ, V.; CALABUIG, F.; PARRA, D. Impacto Social de un gran evento deportivo: el Gran Premio de Europa de Fórmula 1. **Cultura, Ciencia y Deporte**, Murcia, v. 7, no. 19, pp. 53-65, 2012.

BALDUCK, A.L.; MAES, M.; BUELENS, M. The social impact of the Tour de France: Comparisons of residents' pre-and post-event perceptions. **European Sport Management Quarterly**, Aachen, v. 11, no. 2, pp. 91-113, 2011.

CEGIELSKI, M.; MULES, T. Aspects of residents' perceptions of the GMC 400-canberra's V8 supercar race. **Current Issues in Tourism**, Abingdon, v. 5, no. 1, pp. 54-70, 2002.

CHENG, E.; JARVIS, N. Residents' perception of the social-cultural impacts of the 2008 Formula 1 Singtel Singapore Grand Prix. **Event Management**, Brisbane, v. 14, no. 2, pp. 91-106, 2010.

COALTER, F.; TAYLOR, J. Large Scale Sports Events: Event Impact Framework. Report to UK Sport. **University of Stirling**, Stirling, v. 23, Dec. 2009. Available at: <http://hdl.handle.net/1893/1942>, Accessed on: Feb. 25, 2013.

DELAMERE, T. A. Development of a scale to measure resident attitudes toward the social impacts of community festivals, part II: Verification of the scale. **Event Management**, Brisbane, v. 7, no. 1, pp. 25-38, 2001.

FREDLINE, E. Host community reactions to motorsport events: The perception of impact on quality of life. In: RITCHIE, B. W; ADAIR, D. **Sport tourism: Interrelationships, impacts and issues**. Clevedon (United Kingdom): Channel View Publications, 2004. pp. 155-173.

FREDLINE, E.; FAULKNER, B. Host community reactions: A cluster analysis. **Annals of Tourism Research**, Kidlington, v. 27, no. 3, pp. 763-784, 2000.

FREDLINE, E.; DEERY, M.; JAGO, L. Host community perception of the impacts of the Australian Formula One Grand Prix in Melbourne: A comparison of resident reactions in 1999 with 2002. **Sustainable Tourism Cooperative Research Centre**, Gold Coast (Australia), 2005.

HAIR, J. F. et al. **Análisis Multivariante**. Madrid: Prentice Hall Iberia, 1999.

KIM, H. J.; GURSOY, D.; LEE, S. B. The impact of the 2002 World Cup on South Korea: Comparisons of pre-and post-games. **Tourism Management**, Kidlington, v. 27, no. 1, pp. 86-96, 2006.

KIM, S. S.; PETRICK, J. F. Residents' perceptions on impacts of the FIFA 2002 World Cup: The case of Seoul as a host city. **Tourism Management**, Kidlington, v. 26, n. 1, p. 25-38, 2005.

MIHALIK, J. B.; SIMONETTA, L. A midterm Assessment of the Host Population's Perceptions of the 1996 Summer Olympics: Support, Attendance, Benefits, and

Liabilities. **Journal of Travel Research**, Thousand Oaks, v. 37, no. 3, pp. 244-248, 1999.

OHMANN, S.; JONES, I.; WILKES, K. The Perceived Social Impacts of the 2006 Football Cup on Munich Residents. **Journal of Sports & Tourism**, London, v. 11, n. 2, p. 129-152, 2006.

PREUSS, H.; SOLBERG, H. A. Attracting major sporting events: The role of local residents. **European Sport Management Quarterly**, Aachen, v. 6, n. 4, p. 391-411, 2006.

SMALL, K.; EDWARDS, D.; SHERIDAN, L. A flexible framework for evaluating the socio-cultural impacts of a (small) festival. **International Journal of Event Management Research**, Brisbane, v. 1, no. 1, pp 66-77, 2005.

TAVARES, O. Megaeventos esportivos. **Movimento**, Porto Alegre, v. 17, no. 3, pp. 11-35, 2011.

WAITT, G. Social impacts of the Sydney Olympics. **Annals of Tourism Research**, Kidlington, v. 30, no. 1, pp. 194-215, 2003.

WEED, M.; COREN, E.; FIORE, J. **A Systematic Review of the Evidence Base For Developing a Physical Activity and Health Legacy From the London 2012 Olympic and Paralympic Games**. Canterbury: SPEAR, 2009.

ZHOU, J. Y. Resident perceptions toward the impacts of the Macao Grand Prix. **Journal of Convention & Event Tourism**, Philadelphia, v. 11, no. 2, pp. 138-153, 2010.

ZHOU, J. Y.; AP, J. Residents' perceptions towards the impacts of the Beijing 2008 Olympic Games. **Journal of Travel Research**, Thousand Oaks, v. 48, no. 1, pp. 78-91, 2009.

Correspondence address:

Ferran Calabuig Moreno

Department Physical Education and Sports

Gascó Oliag, 3

46010 Valencia (España)

Received on: May 31, 2013

Approved on: October 23, 2013