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# **The social impact of participative sporting events: A cluster analysis of marathon participants based on perceived benefits**

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## **Abstract**

Since many years, hosting mega-events is known to have potential positive effects on local communities. In the recent years, there has been a growing interest for non-strictly economic impacts, among which well-being, quality of life, sense of belonging, civic pride (Crompton 2004, Balduck, Maes, and Buelens 2011, Kim and Walker 2012) as well as destination image (Alonso-Dos-Santos, Calabuig, Montoro, Valantine, and Emeljanovas 2014, Armenakyan, Heslop, Nadeau, O'Reilly, and Lu 2012, Berkowitz, Gjermano, Gomez, and Schafer 2007). Most of the studies have investigated these effects through spectator events. Researches regarding participative events are much less developed. Hence, this article seeks to delve into this area, more particularly by wondering what impacts participative events can have on the participants themselves. Based on a literature review that identifies three main areas of impacts (i.e. city image, sport participation, and psychosocial benefits), a questionnaire was built and submitted to the participants of the Unicef Geneve Marathon (N=1305). A statistical segmentation (cluster analysis) procedure was performed, which allowed for the identification of three distinct groups of participants based on a combination of eight factors. Each of these groups are described, thereby confirming the existence of a variety of effects related to participative sporting events that are then discussed both from theoretical and managerial perspectives.

**Key words:** social impact, city image, sport participation, psychosocial benefits, marathon

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# **The social impact of participative sporting events: A cluster analysis of marathon participants based on perceived benefits**

## **Introduction**

Since scholars began to examine the role of sports in society, one of the most prolific debates has been about the spillover effects of major sporting events. Over the last 50 years, most studies have been focused on economic impacts of mega sporting events hosted by large cities (Crompton 1995, Crompton, Lee, and Shuster 2001). However, now that there seems to be a consensus that these impacts are limited (Burns, Hatch, and Mules 1986, Crompton 1995, Zimbalist 2010), non-economic outcomes, otherwise called social impacts, are under growing scrutiny (Gibson, Walker, Thapa, Geldenhuys, and Coetzee 2014, Inoue and Havard 2014, Kaplanidou Karadakis, Gibson, Thapa, Walker, Geldhuys, and Coetzee 2013). With some exceptions (i.e. Taks 2013, Djaballah, Hautbois, and Desbordes 2015), here again these studies have investigated social impacts through mega sporting events (Jones 2001, Kim and Petrick 2005, Kim and Walker 2012, Waitt 2003). Beyond the worldwide exposure of these events, this orientation was justified by the important amount of public money spent on their staging, putting event organizers and public authorities under pressure to demonstrate that the benefits exceeds the cost. As a result, in the two last decades, there has been numerous research works addressing a variety of outcomes (Brown and Massey 2001, Coalter and Taylor 2008, Cornelissen, Bob and Swart 2011, Taks, Littlejohn, Snelgrove, Wood 2016) of mega spectator sporting events like the Olympic Games or the FIFA World cup.

The original purpose of this article is to pay attention to the effects of participative sporting events, as this kind of events has scarcely been explored yet. Indeed, what can be the social impacts of participative events like marathons? How are these impacts perceived by the participants? These are the research questions of this paper. These questions, which are of an exploratory nature, require an analysis of social effects that have often been studied separately,

and mostly in spectator events contexts. Hence, this study provides an integration of three bodies of sporting events' impacts literature, namely territorial image, sport participation and psychosocial benefits, with the ambition of developing a conceptual tool that could enable researchers as well as event managers to better understand participants and ultimately improve decision-making processes when hosting large participative events.

The paper is structured as follows. First, a literature review of sporting events impacts in terms of territorial image, sport participation, and psychosocial benefits is provided, preceded by a focus on social exchange theory. Then, we describe the method, i.e. the building of a questionnaire that was submitted to the participants of the Unicef Geneve Marathon (N=1305), as well as the statistical segmentation procedure (clustering analysis) that was performed in order to identify (1) social benefits factors and (2) clusters (groups) of participants based on a combination of these factors. Finally, we present our findings, i.e. the three clusters identified and discuss their theoretical and managerial implications.

### ***Literature review***

#### *Social exchange theory*

Different theoretical frameworks have been proposed to understand the resident perceptions (Andereck, Valentine, Knopf, and Vogt 2005), attitudes (Gursoy and Rutherford 2004) or reactions (Deccio, and Baloglu 2002) towards the staging of mega events. The three main ones are community attachment theory (Onyx and Bullen 2000), social identity theory (Heere, Walker, Gibson, Thapa, Geldenhuys, and Coetzee 2013) and social exchange theory. Among these, social exchange theory is appropriate to study both local and non-local individuals since it does not include the dimension of attachment to one's community or its identity. Social exchange theory has indeed been used to understand both host and non-host residents' perceptions of social impacts (Karadakis and Kaplanidou 2012). Ap (1992, p. 668) described

social exchange theory as “a general sociological theory concerned with understanding the exchange of resources between individuals and groups in an interaction situation”. According to this theory, an individual or a group is gleeful to be involved in an exchange with another party if the individual or group estimates that there will be some benefits from the exchange (Gursoy and Kendall 2006). This definition lends itself well with sporting events participants, since their choice whether to participate depends on a comparison between the perceived costs and benefits of the event, what is a key element of social exchange theory. Hence, in the same way as residents of spectator events, sporting events participants have a set of perceptions regarding what benefits the event can bring to them – knowing that if the perceived costs appeared to be more important, they would chose not to participate. On this basis, benefits related to participative events can be identified in three main bodies of sporting events literature, i.e. sport participation benefits (as it is the very principle of participative events), psychosocial benefits (since this kind of effects has been fairly studied in sporting events in general), and benefits associated with the place (city image) in which the event is staged, in the sense that events like marathons constitute a form of sport tourism (meaning that the decision to participate can also be based on the desire to visit a given region). In the following section, a brief literature review of these three research areas is provided in order to pinpoint the different benefits.

### *Sport participation*

Among the benefits of sporting events, their ability to increase sport participation by encouraging the “population to become more physically active” (Frawley and Cush 2011, 65) has largely been pointed out although it is not clearly evidenced. Most studies, done in the context of mega spectator events, conclude that no, little, or only short-time effects occur (Weed, Coren, and Fiore 2009). For example, Taks et al. (2018) conducted an action research in the context of the International Children’s Games. They focused on two sports which were

included in the process and found little influence of sporting events on sport participation: several barriers (distrust among local clubs, insufficient human and physical resources) still exist which limit sport participation. The case of participative events is obviously different in that they induce a direct participation. Still, as physical activity on a regular basis has become a matter of public policy (due to its potential effects in terms of health), participative events may be better able than spectator events to act as a trigger of sport participation (since finishing a marathon can represent a form of achievement that rewards a demanding physical training) as well as a factor of maintaining physical activity following the event (in order these efforts not to be wasted).

### *Psychosocial benefits*

Studies exploring the psychosocial impacts of sporting events have grown in numbers in the last decades, although using various terminologies. Generally, psychosocial impacts pertain to a broader set of “intangible impacts”, as opposed to “tangible impacts” (Preuss and Solberg 2006) which notably include economic spinoffs as well as the building of sport facilities or infrastructures. Within this first subdivision, it is then possible to identify a variety of constructs, e.g. feel-good effect (Maennig 2008), well-being (Kavestos and Szymanski 2010, or happiness (Taks et al. 2016). Among those, the notion of “psychic income” has notably been used to describe individual’s psychosocial benefits. Originally, this term appeared in the field of human resource management to measure intrinsic rewards included in a given job. Later, Gibson (1998) took the notion under consideration while examining the effect of major sport events. Crompton (2004, 181), still in the context of spectator events, defined psychic income as “the emotional and psychological benefit residents perceive they receive, even though they do not physically attend sports events and are not involved in organizing them”. Kim and Walker (2012) also used psychic income to measure the social impacts of the Superbowl. Like the previous constructs, psychic income contains dimensions that are only suitable for residents

of major spectator events, i.e. perceptions relating to tourism development, community pride, or community excitement. However, two main dimensions developed by Crompton (2004) can be adapted to the case of participative events, namely self-esteem and social bonding.

Rosenberg (1965) defines self-esteem as the attitude (negative or positive) of an individual to oneself, resulting from self-evaluation. While the notion of self-esteem in studies using the psychic income framework is collective (meaning the self-esteem of the whole community hosting the event), a large amount of research has explored individual self-esteem in sports, notably pointing that sport activities can reinforce it (Richman and Shaffer 2000, Slutzky and Simpkins 2009). From this perspective, and since participative sporting events can be viewed by some participants as an opportunity to push their limits by competing against the others or against themselves, their benefits in terms of self-esteem can be postulated.

Social bonding has been defined by Hirschi (1969) in order to measure the extent to which an actor is "bonded" to society – meaning that his behavior does not deviate from societal norms – and was originally used to predict delinquency. In their further developments, research works enlarged the definition of social bonding to notions such as social capital and community consciousness (Putnam 1995, Gittell and Vidal 1998). This larger approach has been applied to sports and more particularly sporting events on the basis that they are able to tie people together, regardless of race, gender or economic standing (Crompton 2004). Therefore, social bonding is a form of psychosocial benefit which is not centered on the individual, but on his relationships with others. It illustrates the need to establish social ties that generate a security, care, and affection (Sousa 2010), which is the reason why individuals form groups and communities. It is thus possible to postulate that participative sporting events generate or reinforce social bonding, whether among participants, groups of participants, or even between non-local participants and residents of the local community.

*Territorial image*

Kavaratzis and Ashworth (2005) transformed the concept of 'place marketing' to 'place branding' to better explain the case of cities. They consider an approach where city brands are treated as expensive assets and managed in a distinctive way in competitive contexts. "*Most academics accept the idea that place branding can be associated with regular product branding but in considering the specificities of territories*" (Anttiroiko 2014, 22). City/destination image became a key concept over the last 15 years. In parallel, a growing number of research works examined the relationship between destination image and intention to visit in the context of major sporting events (Chalip, Green, and Hill 2003, Choong-Ki, Taylor, Yong-Ki, and Bongkoo 2005, Ryan 2008). In the same way as for previous dimensions, so far most studies explored destination image related to spectator events. Very little has been done about the effects of participative events on city image. When they exist, studies are focused on running races (Hallman, Kaplanidou, and Breuer 2010, Higham 2005, Richard and Jones 2008). Huang, Mao, Wang and Zhang (2015) showed that both affective image congruence and cognitive image congruence have a positive influence on tourist satisfaction. Funk, Toohey, and Bruun (2007) demonstrated that aesthetic dimensions of the venue are the principal determinant of loyalty for active sports tourists while the principal determinants of the intent to return were the venue and the technical quality. These studies indicate that the territory in which the event takes place is a full-blown element of participants' experience. Its tourism infrastructures, cultural patrimony, gastronomy, or night life can therefore be perceived as benefits and influence participants' choice of an event over another.

Overall, participative sporting events seem to be able to generate a variety of benefits, which are of a different nature from widely studied spectator events' social outcomes. This paper aims to begin filling this research gap by seeking evidence of these benefits among sport participants. To do so, the research proposition consists in segmenting participants basing on their perceived benefits. Segmentation is a marketing tool used to divide a broad consumer market into sub-

groups of consumers based on common characteristics such as shared needs or similar demographic profiles (Fahy and Jobber 2012). Its aim is to better understand customers in order to adapt the marketing offer. In the present case, segmentation will serve to identify participant's profiles in terms of perceived benefits, in order to provide insights into their event experience. This could allow for a deeper understanding of (1) what the social impacts of participative events are and (2) what the different sub-groups of participants are in search of.

## ***Methods***

### *Research context and measures*

Geneva Marathon has been created in 2005 (1840 finishers from 113 countries in 2017). This marathon is one of the fastest in Europe and one of the most picturesque city marathons. A questionnaire was developed that comprised four sections: (a) sport participation (b) psychosocial benefits (c) city image and (d) demographics. The sport participation section included 10 items about the sporting objectives both in general and related to the event, the role of the event in increasing running or physical activity in the preceding months, the benefits of the event in terms of perceived health and the motivation gave by the event to maintain running of physical activity afterwards. The psychosocial benefits section comprised 11 items guided by the literature (Crompton 2004, Kim and Walker 2012) including questions about the role of the event in improving self-esteem dimensions as well as questions related to social bonding which were oriented whether towards participants friends, other runners or more generally towards the local community. For the destination image section, 19 items were adapted from Hallmann and Breuer (2010a, 2010b) and Hallmann, Kaplanidou, and Breuer (2010), including questions for the affective component and questions for the cognitive component. Additionally, for sample description and segmentation purposes, the demographics section included six

variables: gender, age, annual household income, education level, place of residence and runner profile.

### *Data collection and analysis*

Participants of the marathon were asked to fill an online questionnaire designed by the authors and sent by the organizers. 2037 questionnaires were sent, 1721 were collected and 1305 were usable (i.e. entirely filled). Prior to engaging in the core of the analysis (the segmentation process), a principle component analysis (PCA) was first conducted on the benefits items to identify latent factor structures and reduce items. Then, the segmentation was performed through a cluster analysis in order to identify subsamples of individuals with common perceptions regarding the different dimensions of benefits. Cluster analysis is appropriate for segmentation because it comprises a set of multivariate statistical techniques with the aim of identifying and classifying individuals into groups based on similarities, and has been vastly used in marketing (see Sarstedt and Mooi 2014) and social sciences including studies related to sport practices or consumptions (Downward and Riordan 2007, Ross 2007, Rundle-Thiele, Kubacki, Tkaczynski, and Parkinson 2015). There are different types of cluster analyses. In this paper, given the large size of the sample and the variety of scales (continuous, ordinal and nominal) used to measure the variables, two-step cluster was employed, because it allows for both categorical and continuous data to be analyzed simultaneously (Norusis 2011). Following the procedures outlined by Norusis (2011), two-step cluster analysis in SPSS 19.0 based on the log-likelihood measure was used to reveal natural groupings in the data set. Two-step cluster analysis was considered the most appropriate technique for this study as it does not necessarily need the researcher to select a predetermined number of clusters. Considering the exploratory nature of this study, this would have seemed arbitrary to expect a given number of clusters before performing the analysis. Thus, two-step cluster analysis involves two stages. In the first step, the software identifies the number of preclusters that best fit the data by

constructing a cluster features tree. In the second step, cluster allocations are refined through the standard hierarchical clustering algorithm (Norusis 2011). Following this procedure, the researcher still has the possibility to add or remove variables in order to explore a range of solutions. The best solution will be defined by the Schwarz's Bayesian information criterion (BIC), which is considered one of the most objective selection criteria (Chiu et al. 2001). The BIC ranges from -1 to 1, and needs to be above 0.0 to indicate that the within-cluster distance and the between-cluster distance are valid (Norusis 2011).

## ***Results***

### *Principle component analysis*

A PCA with varimax rotation was conducted on the above-mentioned 40 items. The Kaiser–Meyer–Olkin (KMO) measure of sampling adequacy value was .898 and Bartlett's Test of Sphericity (BTS) was significant ( $p < .001$ ), indicating that the sample was appropriate for a factor analysis (George and Mallery 2007). To determine the factors and their associated items, the following criteria were used, based on Kim and Walker (2012): (a) factors with eigenvalues greater than 1.0, (b) enough factors to meet a specified percentage of variance explained (i.e., usually 60% or higher), (c) items with a factor loading equal to or greater than .40, (d) items shown to have a substantial common variance (i.e. a communality value equal or greater than .40), and (e) identified factors and items which are interpretable in the theoretical context. The initial 40 items were reduced to 30 under eight factors meeting the retention criteria, explaining 60.4% of the variance. The resultant factors were labelled according to the three dimensions above-mentioned (i.e. sport participation, psychosocial benefits and city image). Sport participation includes two factors, namely (1) motivation before event (3 items,  $\alpha = .733$ ) and (2) motivation after event (3 items,  $\alpha = .731$ ). Psychosocial benefits includes two factors, namely (3) self-esteem (4 items,  $\alpha = .845$ ), and (4) social bonding (4 items,  $\alpha = .760$ ). City

image includes four factors, namely (5) affective image (5 items,  $\alpha = .846$ ), (6) cultural resources (4 items,  $\alpha = .782$ ), (7) hygiene, safety and climate (3 items,  $\alpha = .756$ ), and (8) tourism services (4 items,  $\alpha = .742$ ), see Table 1 for factors loadings, communalities, eigenvalues, Cronbach's Alphas and mean scores.

**Table 1. Factors and items resulting from the principle component analysis**

Factors and items	Factor loadings	Communalities	Eigenvalues	% of variance	Cronbach Alphas	Mean Scores
<i>Motivation before event (1)</i>			2.728	8.8	.733	
I increased my physical activity in the last few months in order to run Geneva marathon	.917	.71				3.81
Geneva marathon was my main motivation to keep running in the last few months	.824	.60				3.70
I started to run with the goal of running the Geneva marathon	.509	.52				3.32
<i>Motivation after event (2)</i>			2.263	7.3	.731	
I am likely to keep on running after the Geneva marathon	.765	.57				4.57
Running the Geneva marathon gave me the wish to run other marathons in the future	.671	.55				4.05
Running the Geneva marathon gave me the wish to keep practicing sports	.861	.67				4.33
<i>Self-esteem (3)</i>			3.937	12.7	.845	
Running the Geneva marathon made me proud of me	.828	.72				4.29
Running the Geneva marathon gave me a better sense of well-being	.806	.70				4.18
After running the Geneva marathon, I know that I can achieve ambitious objectives	.742	.53				3.91
My self-esteem has increased after running the Geneva marathon	.690	.61				3.74
<i>Social bonding (4)</i>			2.139	6.9	.760	
I feel more integrated to the city of Geneva after running the marathon	.841	.56				2.87
I feel closer to Geneva's inhabitants after running the marathon	.837	.41				2.85
I enjoyed interacting with my friends while running the marathon	.915	.66				3.54
I feel like I have more (digital) friends within the local community after running the marathon	.670	.48				2.34
<i>Affective image (5)</i>			1.767	5.7	.846	
According to you, Geneva is gloomy / cheerful	.810	.72				3.42
According to you, Geneva is dull / exciting	.785	.70				3.09
According to you, Geneva is unpleasant / pleasant	.685	.71				4.05
According to you, Geneva is distressing / relaxing	.641	.67				3.68
According to you, Geneva is traditional / modern	.728	.51				3.52
<i>Cultural resources (6)</i>			2.108	6.8	.782	

Geneva offers interesting historical attractions (museums and/or art centers)	.597	.70				4.11
Geneva offers entertainment	.707	.52				3.81
Geneva offers a way of life that I enjoy	.762	.48				4.21
Geneva has a very strong identity	.649	.41				3.82
<i>Hygiene, safety and climate (7)</i>			1.581	5.1	.756	
Geneva has a good standard of hygiene and cleanliness	.743	.64				4.44
Geneva is safe	.812	.51				4.39
Geneva has a good climate	.572	.59				3.98
<i>Tourism services (8)</i>			2.201	7.1	.742	
Geneva has good quality infrastructure (roads, airport, and/or utilities)	.656	.58				4.53
Geneva has suitable accommodations	.804	.62				3.77
Geneva has a good network of tourist information (tourist centers)	.719	.63				3.72
Geneva has good shopping facilities	.625	.47				3.96

### Two-step cluster analysis

A two-step cluster analysis was then performed on the factors identified from the PCA. It yielded three distinct and interpretable clusters through a solution whose BIC (0.2) was acceptable (see Table 2 for the importance of variables in the clustering solution). Following Norusis (2011), ANOVA tests were performed, and showed that each of the eight factors varied between clusters (at least between one cluster and the two others).  $\chi^2$ -tests were then performed on demographics to identify significative differences between clusters (see Table 3 for demographics and factor scores by cluster).

**Table 2. Cluster solution: variable importance**

Factor name	Variable importance
Self-esteem	1
Motivation before event	0.69
Motivation after event	0.66
Tourism services	0.52
Social bonding	0.42
Cultural resources	0.24
Affective image	0.17
Hygiene, security and climate	0.16

**Table 3. Distribution of demographics and factor scores by cluster**

Variables	C1 (44.2%)	C2 (32.8%)	C3 (23.0%)
<i>Gender</i>			
Men	78.8%**	59.2%	67.6%
Women	21.2%**	40.8%	32.4%
<i>Age</i>			
18-23	0.5%*	5.7%*	1.8%
24-30	10.9%	16.0%	10.6%
31-40	28.9%	32.0%	29.4%
41-50	33.1%	30.2%	37.0%*
51-60	21.4%*	12.5%	17.5%
> 60	5.2%	3.6%	3.6%
<i>Income (annual)</i>			
< 20 000 CHF	10.8%	12.8%	5.9%*
20 000 - 39 999 CHF	12.1%	14.7%	7.0%*
40 000 - 59 999 CHF	15.6%	13.5%	12.0%
50 000 - 79 999 CHF	12.1%	14.2%	15.6%
80 000 - 99 999 CHF	11.5%	9.8%	13.8%
> 99 999 CHF	37.9%	35.0%	45.7%
<i>Education</i>			
No-qualification	2.8%	1.8%	1.1%
Vocational training certificate	5.1%	4.4%	2.9%
Secondary education	12.4%	12.4%	10.6%
A-level or equivalent	10.7%	11.7%	5.8%*
Higher education	69.1%	69.7%	79.6%
<i>Place of residence</i>			
Geneva	19.7%	41.3%**	20.9%
Other Swiss canton	27.1%	31.9%	12.7%*

Rest of Europe	40.5%*	21.3%*	58.0%**
Rest of the world	6.9%*	2.5%*	4.4%
Not specified	5.8%	3.0%	2.1%
<i>Runner profile</i>			
1 <sup>st</sup> marathon	9.6%	24.5%**	13.1%
Occasional	6.6%**	36.0%	46.2%*
Regular	83.8%**	39.6%	30.7%
<i>City image</i>			
Affective image	-0.26	0.27	0.81
Cultural resources	-0.35	0.49	1.22
Hygiene, security and climate	0.42	-0.24	0.73
Tourism services	0.31	-0.11	1.03
<i>Sport motivation</i>			
Motivation before event	1.19	1.14	0.87
Motivation after event	-0.94	1.21	0.32
<i>Psychosocial benefits</i>			
Self-esteem	1.25	1.49	0.94
Social bonding	-0.97	0.62	0.33

Note: \*\*p < 0.001 ; \*p < 0.05

Note: factor scores are standardized when performing the analysis.

### *The « performance-focused »*

The first and largest cluster (44.2%) contains 576 respondents. It is largely dominated by males (78.8%) from 41 to 60 years old (54.5%) who are regular runners (83.8%). These respondents come from various regions, notably European countries (40.5%) as well as, more than in the two other clusters, non-European countries (6.9%). They are particularly sensitive to self-esteem, a characteristic they share with the second cluster, although not on the same items. Indeed, they have significantly higher scores at “after running the Geneva marathon, I know that I can achieve ambitious objectives” (4.05 vs. 3.27,  $p < 0.001$ ), possibly suggesting that by “ambitious objectives”, they mean future marathons, while respondents from the second cluster seem not to be as focused on performance and may have understood this item in a more general manner. First cluster’s respondents are also sensitive to the motivation this event represented to be actively engaged in sporting activities in the preceding months (i.e. “motivation before event” factor), which is in line with their performance objectives. By contrast, they are particularly non-sensitive to social bonding, probably because they come and/or run alone. Regarding city image, scores are globally closer to zero, meaning that these factors are not of the same importance with respect to differentiation from the two other clusters. Affective image and cultural resources’ scores are slightly negative, which can be interpreted as their low

interest for elements like entertainment, historical attractions or the cheerfulness or pleasantness of the city. They seem mildly more attentive to the quality of tourism services (one can imagine that they are looking for accommodations which are near from the event, or that they expect proper transports in order to be in the best possible conditions to run) as well as to hygiene, security and climate (and more particularly climate) for performance purposes once again.

### *The « self-challengers »*

The second cluster (32.8%) contains 428 respondents. It has the most balanced distribution of males (59.2%) and females (40.8%) among the three clusters. But it has the youngest population (21.7% are under 30 years old). There are less regular runners (39.6%) and more occasional runners (36.0%) than in the first cluster. Additionally, this second cluster has the largest proportion of respondents who were running their 1<sup>st</sup> marathon (24.5%). Another specificity of this cluster is that it contains significantly more respondents residing in Geneva (41.3%) or in other Swiss cantons (31.9%) than the two other clusters. For these runners, it seems that the marathon represents more a personal challenge than a standard competition. The fact that an important proportion of them comes from Geneva and its surroundings indicates that they chose this event not necessarily because of its specific characteristics, but because it took place not far from their home. In the same way as respondents from the first cluster, they are particularly sensitive to self-esteem, but more specifically to the item “running the Geneva marathon made me proud of me” (4.54 vs. 4.05 for the first cluster). Another similarity with the first cluster is that the *self-challengers* are sensitive to the motivation to practice sporting activities before the event, but unlike the *performance focused*, they also have higher scores at the “motivation after event” factor, as it seems that pursuing sporting activities and maintaining an active lifestyle is part of their personal challenge, in which the marathon represented a first step. In that sense, it can be noted that they have higher scores at the item “Running the Geneva marathon gave me the wish to keep practicing sports” than at the item “Running the Geneva marathon gave me

the wish to run other marathons in the future” (4.57 vs. 3.81). A peculiarity of this cluster is that it is the most receptive to social bonding. More particularly, the items “I enjoyed interacting with my friends while running the marathon” and “I feel closer to Geneva’s inhabitants after running the marathon” (respectively 4.21 and 3.79) have much higher scores in this cluster than in the two others. An interpretation is that these respondents, most of whom are from Geneva or its closest cantons, are more likely to come in groups of friends. Moreover, as running has evolved, in the last decades, from traditional sport associations towards more unformal “light communities” which are formed at the scale of neighborhoods (Scheerder, Noppe, and Vanreusel 2007), one can speculate that the “*self-challengers*” cluster is notably composed by these small communities for which the event is an opportunity to create or reinforce social ties between their members. Regarding city image, factor scores are closer to zero in this cluster as well, probably due to the weaker presence of foreign tourists.

#### *The « happy loafers »*

The last cluster (23.0%) contains 301 respondents, 67.6% of whom are males and 32.4% are females. There is a large proportion of occasional runners (46.2%), and more than half of its members (62.4%) come from outside the country. It can also be noted that there are less respondents over 50 years old than in the first cluster and less respondents under 30 years old than in the second cluster. Regarding the factors, a first observation is that all scores are positive, as if respondents of this cluster were somewhat glad of all the aspects of their event experience, what justifies the word “happy” in the cluster’s name. However, they are neither the highest nor the lowest cluster concerning sport participation factors, both before and after the event. With respect to psychosocial benefits, while social bonding score is between that of the two other clusters, self-esteem score is significantly lower, probably indicating that these respondents are not especially in search of a personal challenge when coming to the event. By contrast, this cluster has the highest score on each of city image factors, and more notably cultural resources

and tourism services. Given the provenance (mostly foreign countries) of these respondents, a credible interpretation is that their participation to the marathon is akin to a form of sport tourism, a stay in Geneva canton during which the event constitutes an activity (and possibly the primary motive) among others (museum visits, discovery of the city and its cultural attractions).

## ***Discussion***

### *Implications for theory*

The purpose of this study was to explore the social impacts of participative events, which received much less attention than in the context of spectator events. Without the ambition to conduct a strict comparison between these two kinds of events, the goal was to look at the existence and relative importance of such impacts, thus trying to fill several theoretical gaps.

A first aspect to mention is about the use of an integrated approach as suggested by Vargas-Sanches et al. (2010). Indeed, a multidimensional concept of perceived benefits was used in this study, around three different axes: city image (4 factors distributed into 16 items), sport participation (2 factors distributed into 6 items) and psychosocial benefits (2 factors distributed into 8 items). This choice is an original input of this article in the sense that, to date, these three different dimensions have been examined in separated researches.

A second aspect is that the data collected confirmed the intuition that participative events could have an influence on the three dimensions studied here. The influence of sporting events on city image has long been explored. For few of selected items, the influence is highly positive (“Geneva is cheerful”, “Geneva is safe”, “Geneva has suitable accommodations”). These results are at least as good as what has been found in former studies conducted by Chalip, Green, and Hill (2003), Kaplanidou and Vogt (2007) or Manzenreiter (2010). Then, organizing participative events is not less efficient when the goal is to reach a positive influence of the event on the city. The effects on sport participation received rather less attention than city

image, maybe except for the last few years. Taks, Green, Misener, and Chalip (2015) claimed that attending a sporting event had no influence on sport participation. For the authors, different barriers exist in strengthening the relationship between sporting events and sport participation. Nevertheless, Chalip, Green, Taks, and Misener (2016) provided some suggestions (i.e. increasing the alliances between sport organisations, event organisers and non-sport stakeholders) to reinforce the relationship between spectator events and sport participation. The current research confirms the intuition that, contrary to spectator events, participative events can increase sport participation, as suggested by the scores of items related to the factor “Motivation before event” such as “I increased my physical activity in the last few months in order to run Geneva marathon”, or “Geneva marathon was my main motivation to keep running in the last few months”. Another interesting point is that participative events could have a long-term positive influence on sport participation. Item “Running the Geneva marathon gave me the wish to keep practicing sports” was indeed quite high for the whole sample (4.33). In the light of this data, organizing a participative event seems more efficient for a local community when the goal of public authorities is to increase sport participation. Psychosocial benefits are at the heart of social impacts studies focused on residents (Ritchie 1984, Gibson 1988). Our findings show that participants can also be subjected to such effects, in terms of both self-esteem and social bonding.

A third aspect to underline refers to the method used in this survey. Cluster analyses remain scarce in sport management literature. Ross (2007) used this approach in order to segment NBA fans. He found that the members of each spectator cluster could be further distinguished based upon their gender, educational level, and household income. More generally, demographics are often put aside from analyses, which tend to focus on core variables from theoretical models. For example, Kim and Walker (2012) identified several dimensions of psychic income, including items such as “social interactions with the local community”, “sense of belonging”,

or “socializing opportunities”. Their results concerned the whole sample of residents interviewed. By contrast, in the present study, demographics are a full component of the analysis and allow for a better vision of the three clusters. On this basis, the social benefits are found not to be equally distributed among participants. The “performance-focused” are sensitive to self-esteem but not to social bonding. The “happy loafers” are not especially in search of personal challenge but, are particularly sensitive to city image factors. As a consequence, theoretical outputs could really be adjusted and deepened by using this kind of methodologies.

### *Implications for practice*

As an event organizer, it could be enlightening to take the characteristics of the three clusters under consideration in order to better answer the needs of these different targets and to maximize their satisfaction. Runners who belong to the “performance focused” cluster are firstly interested in their chronometric objectives. The key factors to attract these runners are to explain how fast is the race (low percentage of declivity throughout marathon course), the date of the race (suitable with the other important marathons of the season) and the attractiveness of the city where the marathon is held (when different marathons provide equal opportunities to reach an ambitious objective, runners are likely to select the one organized in the most attractive, exciting or differentiating city). These runners are also sensitive to statistics and every technical information which could support or explain their performance. Providing such data represents a key criteria for organizers to attract this category of customers. The “self-challengers” are mainly people who live in the city (and its surroundings) where the event is held. Then, it would make no sense to promote facilities, environment or tourism attractions that they already know. However, promoting local stakeholders and sport clubs that would be able to offer fitting sporting activities, and giving these participants the opportunity to extend social interactions with each other (like parties or evening events) sound like relevant ways to

maximize the recruitment of this category of runners, their satisfaction and the effects on sport participation and psychosocial benefits. The “happy loafers”, as described in the results section, are more likely to be influenced by tourism opportunities and facilities. The ability of the city and the organizers to promote historical, cultural resources and entertainment offers represents a decisive criteria to attract people belonging to this category and to maximize their satisfaction. This has already been mentioned by Huang et al. (2015) about the Shanghai marathon. But because this finding seems to be partly in contradiction with suggestions associated with the “performance-focused” (for example regarding the path of the course, a choice has to be made between its fastness and its patrimonial aspects, i.e. the fact that it passes near historical monuments or charming parks), the ability of organizers and local authorities to manage these contradictions will be decisive.

## **Conclusion**

Because economic impacts of sporting events face important debates regarding both the method used and the reality of their existence, a growing interest for non-strictly economic effects appeared in the last few years. The originality of this survey is to pay attention to participative events while literature is mainly focused on spectator events. Its main goal is to assess the reality and the importance of the influence of participative events on city image, sport participation and psychosocial benefits. The method, using a cluster analysis, and results have been described. The more engaging dimension of participative events explain some differences in the results obtained, in comparison to what can be found in the literature.

However, after conducting this survey, and despite its theoretical outputs, it is still difficult to assure that a city should better organize a participative event rather than a spectator event. If some factors like self-esteem and sport participation seem more positively influenced by a participative event, the latter are able to attract more people and to benefit from a wider media

exposure which could be helpful when the goal is to improve the image or to strengthen city's awareness. As a result, one of the major practical interest of this survey is to give local authorities a large scope of opportunities and information about how helpful participative events can be in order to reach a positive influence in the field of social impacts. The major challenge for the cities is to consider a set of sporting events, either spectator or participative, that local authorities can operate in regard to the current strategy and the goal that they want to achieve. Both spectator events and participative events can provide a valuable heritage for the community. The strategic outcome of this survey is to confirm that, the cities which do not have the resources or the critical size to host a mega sporting events (FIFA World Cup, Olympic Games, Tour de France, Super Bowl, etc.), can base their development on participative events; the latter being able to have a positive influence on local community in terms of city image, sport participation or psychosocial benefits.

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