


Chapter 4 – Sport Participation

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Sport Participation in Host Countries before and after the Olympic Games: Do the Games Change Something?

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‘People are designed to move’

Lisa MacCallum



Abstract

The Olympic Games are expensive for host cities and sometimes result in financial deficits for host countries. In an attempt to promote the Games, attract more bidders and justify huge price tags, the organisers highlight various benefits: boost for the country's economy, improved infrastructure, increased tourism, a national showcase, etc. A sustainable sporting legacy is also now on the organisers' agenda.

A wide-spread belief exists that mega-events, such as the Olympic Games, create community excitement and lead to a so-called "trickle down" effect where people are inspired to become more active due to the successes of Olympic athletes and the staging of such a high-profile event.

One of the articles of the International Olympic Committee (IOC) Charter states that part of the role of the IOC is "to promote a positive legacy from the

Olympic Games to the host cities and host countries." While numerous studies have been conducted on the evaluation of the long-term benefits from hosting the Olympic Games, related to economic, transport, tourism, infrastructure impacts, few evaluations have been carried out to show the effects of the Olympic Games at the level (mass or elite) of sports participation. Despite the claims about the wider social impacts of the Olympics, there is a lack of serious post-event assessment. The purpose of this study is to measure, through the analysis of official statistics, the level of grassroots sport participation in recent Olympic host countries. Additionally, where possible, the cities before and after the Olympic Games and try to determine if the Olympic Games inspire the general population to practise more sport. The findings of this research indicate little evidence for a positive long-term sporting benefit from staging the Olympic Games.

Introduction

One of the International Olympic Committee's (IOC) missions is "Sport for All" and advancement of sport in society. The Olympic Games, therefore, by definition, among other things, are supposed to boost mass sports participation. This should be one of the positive Olympic "legacies".


The Olympic Games are expensive for host cities and sometimes result in financial deficits for host countries. Therefore, cities interested in hosting the Games are now placing more and more emphasis on the legacies that the event could leave for their citizens. Rule 2.14 of the Olympic Charter states that part of the role of the IOC is "to promote a positive legacy from the Olympic Games to the host cities and host countries." Cities hosting the Olympic Games are under increasing pressure to account for public expenditure by creating positive legacies for the host country and the population, for example, in terms of additional employment, more local business opportunities, education, know-how and others. A sustainable sporting legacy is now also on the organisers' agenda. To justify investment in staging this mega event to the general audience, organisers and politicians try to demonstrate long-term benefits beyond increasing international prestige, such as grassroots sports participation and potential health benefits.

One suggestion is that the economic value of the health benefits generated by the hosting of the event may make up for the public expenditure involved in staging

the event. Roberts conducted a study (Roberts, 1982) on the economic benefits deriving from general physical activity. These benefits resulted in enhanced health, which was measured in terms of a reduction in two major conditions: heart disease and lower back pain. This in its turn, translated into savings to the health budget and industry savings from reduced absenteeism and increased productivity. Following this logic, even a small increase in mass sports participation could produce benefits of several million dollars for the state.

There appears to be a commonly held perception, especially among politicians, that mass sports participation is generated by elite sport and vice-versa. One example is a claim from former Prime Minister of Norway, Kjell Magne Bondevik, in an interview during the 1998 Nagano Olympic Games (Hole 1998, p. 54): "Olympic gold puts Norway on the map and stimulates the Norwegian people to be active on ice and snow. There are many Bjørn Dæhlies around. They would not be there if they did not have an idol. Elite sport is good entertainment and good culture, and it is a positive relationship between elite sport and mass sport." There is a hope that the Olympics would trigger "a virtuous circuit": sport for all feeds elite sport which, in turn, it is hoped, will inspire more people to participate.

More recently, the UK government in 2010 published its legacy plan for the 2012 Olympic and Paralympic Games which included commitments to bolster



community sport and to create a mass participation sporting legacy.

Despite the claims about the wider social impacts of the Olympics, there is a lack of serious post-event assessment. A widespread belief exists that mega-events, such as the Olympic Games, create community excitement and lead to a so-called “trickle down” effect where people are inspired to become more active due to the successes of Olympic athletes and the staging of such high-profile events.

At the same time, a counter hypothesis exists that sporting achievements at the Olympic Games may actually discourage the average person from practising physical activity due to a perceived gap between their level of ability and that of an elite athlete.

The purpose of this study is to measure, through the analysis of official sports participation statistics, the level of grassroots sports participation in the selected Olympic host countries and, where possible, cities before and after the Olympic Games, and try to determine if the Olympic Games inspire the general population to practise more sport.

What is an Olympic legacy? According to J. Mangan (Mangan 2008, p. 1869), a legacy can be understood to be “a long-lasting effect of an event or process”. In regard to sporting legacy, how exactly can mass sports participation be measured? There are many “sports” and a lot of models of “participation”. While Olympic sports cover a wide range of disciplines, many popular sports activities, for example, yoga, skateboarding, or free running are not

part of the Olympic programme. Apart from this, as some academics note, there are changing structures of engagement with sport, such as various convergences between sport and health clubs, as well as issues of access and sports infrastructure.

Professor Fred Coalter from the University of Stirling (Coalter, 2004), observed before London was awarded the 2012 Olympics, that it was not clear what “model of behaviour change” supported the claim that hosting the 2012 Olympics would lead to an increase in general sports participation. He posed the following questions:

- Is it implying a media-led growth in participation as a result of widespread coverage of the Olympic Bid?
- Is it presuming that elite role models will encourage widespread participation?
- Is it assuming that the coverage of individual sports will increase their popularity (even though many Olympic sports are highly technical and/or minority activities)?
- Why is it assuming that persistently under-participating groups will be moved to participate and enable the nation to get fitter and healthier?
- As the majority of spectators of any Olympics will view it via television, what is specific about the London Games in terms of participation?

The absence of an evaluation framework and the need to create a comparable benchmark across all future Olympic Games editions motivated the IOC to


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establish the Olympic Games Impact study (OGI). Its purpose is to measure the impact of the Olympic and Paralympic Games through a consistent and comparable reporting system. Launched only a few years ago, it hasn't yet yielded comprehensive results. It officially started with the Beijing 2008 Olympic Games and was first fully applied at Vancouver 2010. In accordance with the IOC Candidature Procedure and Questionnaire document, the study includes more than 150 indicators. For each indicator, a detailed description and measurement methods and units have been determined. The period of measurement stretches over 11 years, i.e. it starts two years before the election of the Host City and ends two years after the Olympic Games. One of the "social" indicators includes "participation rates in sport" which is suitable for this study.

Two opposite beliefs exist in the academic literature surveyed: first, is that mega-events, such as the Olympic Games, create community excitement and lead to a so-called "trickle down" effect when people are inspired to become more active due to the successes of Olympic athletes and the staging of such high-profile events. The other wide-spread belief, is that sporting achievements at the most high-profile sports event on the planet may actually drive people away from sport due to a perceived gap between their level of ability and that of an elite athlete. This discouragement effect is related to the "coach-potato" effect where people spend too much time watching sport on television and too little time actually doing it.

The topic of the impact of the Olympic Games on physical activity levels has been researched but under-published. A study by Weed et al (2015) reports 1778 titles on this topic identified by an electronic search. The studies below attempted to find a correlation between a nation's sporting success at the elite level and grassroots sport participation. These have been analysed and serve as a foundation to interpret and understand the findings of this research.

In 2004 a study on curling success and its impact on participation was carried out on behalf of SportScotland (SportScotland 2004), a national agency for the development of sport in Scotland. In 2002, Scottish women curlers won Britain's first Winter Olympic gold medal since 1984. This gold was followed by a further gold in the Curling World Championships in Canada. Both successful performances generated a lot of media coverage and public interest in the sport across the United Kingdom and Scotland, in particular. The media coverage suggested that there had been a spike in interest and participation in curling as a direct consequence of the success at the Winter Olympic Games and World Championships. The research focused on examining whether these successes indeed had any effect on participation in curling in Scotland through a survey of all curling clubs in Scotland and 47 interviews with curlers new to the sport. The survey found that curling club membership had increased by 3% in the season following success at the Olympics and World Championships – an average of one new member per club. For those clubs that gained new



members, the number ranged from 1 up to 14 new members. In addition, the study tried to establish reasons for any change in participation. In the survey of new curlers, respondents were asked to provide reasons encouraging them to take up curling. These were: watching curling on television (38%) and the recent success (36%). Only 4%, however, indicated that the success in curling was the main reason for taking up this sport. The study also concluded that the ice rinks and clubs that benefited the most from the success were those that had initiatives or promotions in operation. This statement is in accordance with the general conclusions of this research paper.

In 2010, a case study of Norwegian biathlons was undertaken to examine the relationship between elite and mass sport (Hanstad, Skille 2010). Is there any correlation between Norwegian elite biathlon performances and the number of participants in the Norwegian Biathlon Association (NBA)? Through the analysis of the annual reports from the NBA, market research reports, interviews with key personnel of the NBA as well as elite athletes and grassroots volunteers, the authors conclude that there appears to be a correlation between international elite performances by Norwegian biathletes and the number of participants in the NBA. More specifically the report states: "That may be identified as indicators of a relationship between elite and mass sport, but at the same time, it is pointed out that elite performances cannot be taken as a sole contributor for growth at the lower level. The relationship between elite sport and mass sport in

Norwegian biathlon may be explained by a detour via other interrelated factors such as economy and strategies. It is not believed that elite sport creates mass sport per se. Elite sport may – indirectly – generate mass sport, but it depends on the economy of the sport governing body and priorities made by its decision makers." In this particular study, an increased balance between the elite sport and mass sport partly depends on the priorities of the NBA.

In 2010, a study on the influence of the Olympic Games on Canadians was conducted (Halim, Boettger, Najera 2010). The effect of the Olympics on trends in sport participation rates in Canadians, aged of 12- 65 and over before, during and after the 2006 Torino Olympics and 2008 Beijing Olympics, was examined. Two sports for each Olympics were chosen: curling and cross-country skiing for Winter Olympics and tennis and rowing for the Summer Olympics. The results demonstrated that the Olympic Games had an effect on sport participation rates for Canadians, and did have an effect on the number of participants in a given sport. Every sport showed an increase in the number of people, up to several more thousand, taking part after the Games, even if individual age groups showed a decrease. The authors noted, however, that the research was hampered by the lack of data on participation rates several years before the Games.

While it is difficult to measure the impact of the Olympic Games at the grassroots level, it may be a good idea to narrow down the research and choose

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a different “target” for assessment. A study in New Zealand (Hindson, Gidlow, Peebles 1994) measured the impact of the Olympics on sports clubs, especially those for Olympic sports. A postal survey of 35 New Zealand sports clubs and six National Sporting Associations was conducted in the period following the 1992 Albertville Olympic Games and Barcelona Olympic Games. The purpose was to examine the influence of these mega-events on club membership. Yet, only six of the clubs had an increase in membership inquiries, and only three experienced an increase in competitive membership. Here the “tickle down” effect was not observed. The authors of the report point out a few reasons which could have explained a failure of the clubs to take advantage of the publicity of the Olympics. For example, there was a lack of innovative marketing, only four clubs used the Games as promotion tool; sports clubs simply relied on an anticipated “trickle down” effect and didn’t have a specific strategy in place to promote the sport in the run up to the Games.

To sum up, it should be noted that the findings in the academic literature present somewhat contradictory views, with

some mixed accounts. One observation is that a clear strategic plan in place prior to the Games, contributes to maximising the opportunities presented by the Olympics (e.g. curling clubs in Scotland that had promotional programmes benefited from the Games versus a failure of the New Zealand sports clubs to take advantage of the situation). Not all the findings in the academic literature are consistent with the results of this research paper but, nevertheless, they provide a general picture helping to identify some correlations and trends as well as success factors. This is confirmed by a recent and quite exhaustive literature review already mentioned by Weed et al (2015). In this review, the 1,778 relevant sources identified were reduced to 112 sources. 21 of these sources were further investigated and are summarised in the article (table 2, p. 205). They all conclude there is a lack of demonstrative (or trickle down) effect of major sports events including the Olympics. The authors note that the Games can have specific impacts on sports participation frequency and re-engagement, especially if they are properly leveraged before and after the Olympics. This is an idea which was first developed by Chalip (2004).

Research Methodology

Reliable and accurate information on overall levels of physical activity in a given country is of vital importance. The selected method for gathering data on sports participation rates was through obtaining country-wide and, where possible, city-wide, official statistics. Australia was the only country that had information on individual sporting activities. The sample countries (Australia, US, Greece and UK) were selected on the basis of availability of official statistics. To ensure the validity and credibility of results, only statistics from official sources were sought: sports government organisations, and Eurostat. The majority of surveys examined during this research included statistically significant samples. The questions posed in the surveys were in line with the topic of this research. In order to identify any potential trends, the sports participation rates were examined a few years before and after the Olympic Games took place.

The following data sources have been used during this research: websites of the relevant Ministries of Sport, government sport organisations and agencies, Olympic Museum library, Olympic Studies Centre archives, websites of National Statistics Bureaus, European Commission, Eurostat – statistical office of the European Union (EU), École Polytechnique Fédérale de Lausanne (EPFL) library database, Google Scholar, IOC website, the official reports of the Sydney 2000, Salt Lake City 2002, Athens 2004 and London 2012 Olympic Games (pre-Games period), academic journals, published books, publications by academics specialising in the topic.

Challenges

The research was hampered for several reasons:

- There is an obvious lack of official statistics on this topic. Few government organisations keep a record of this type of data over a long period of time. Those who do are not willing to necessarily share it. For example, in the course of this research personal contact was made with the relevant Ministries of Sport and electronic enquiries were sent asking for the official statistics. Although the Greek Ministry of Culture and Sport, responsible for this information, confirmed its availability, it failed to provide it despite numerous follow-ups.
- The national surveys analysed in this study have different designs and, therefore, are not comparable with each other. Even surveys conducted within one country, namely Australia, had different methodologies, which made it difficult to track trends.
- The definition of sports participation is not consistent across the sample countries.
- The “sport and physical activities” social indicator, which is part of the OGI study, was only available for the London pre-Games period (for the Summer Olympics).
- The surveys had different methodologies and the results, therefore, are open to misinterpretation.

Results

2000 Sydney Olympic Games

Australia appears to be the only country in the sample which has easily available physical activity data at both country and city (Sydney) level. A range of government, industry and other organisations collected statistical information on Australia's sporting activities prior to and after the Sydney 2000 Olympics. While various nation-wide surveys on sport participation exist, however, their results are not directly comparable. The analysis of the data is rendered difficult by the fact that no two physical activity evaluations were conducted using the same methodology, so it is not possible to determine trends in participation greater than three years at a time.

For the purposes of this study, the following data sources have been selected:

1. "Trends in population levels of reported physical activity in Australia, 1997, 1999 and 2000" by A. Bauman, I. Ford and T. Armstrong.
2. The Exercise, Recreation and Sport Survey (ERASS), 2001-1005,

conducted by the Australian Sports Commission and the state and territory departments on sport and recreation.

The first evaluation was carried out as part of Active Australia and National Physical Activity Surveys. It shows the percentage of people achieving at least 150 minutes per week of moderate or vigorous activity or walking. All activity outside the workplace was covered, including household chores. Methodology:

- Survey method: random sample population telephone interview
- Age-range of sample: adults aged 18-75
- Sample size: 2500 responders in 1997 and 3,000 in 1999 and 2000.

This report indicates that there were declines in physical activity between 1997 and 1999 for adult Australians and no change in physical activity participation between 1999 and 2000. This suggests that the Olympics had little impact upon physical activity participation overall across the adult population. Although, since the Olympics took place between

Gender	Physical Activity 1997	Physical Activity 1999	Physical Activity 2000
Men	63.4%	59.6%	57.6%
Women	61.1%	53.8%	56.0%
Total	62.2%	56.6%	56.8%

Table 1 Levels of Physical Activity: Australia, 1997, 1999, 2000



Olympic Sport	2001 (%)	2002 (%)	2003 (%)	2004 (%)	2005 (%)	Change 2001–2005 (%)
Swimming	16.0	14.9	15.3	16.5	14.4	-1.6
Athletics	0.7	0.7	0.8	0.7	0.5	-0.2
Tennis	9.2	8.2	9.0	8.4	7.8	-1.4
Basketball	3.5	4.0	3.6	3.2	3.5	0.0
Gymnastics	0.4	0.3	0.2	0.3	0.4	0.0
Cycling	9.5	9.3	9.4	10.5	10.3	+0.8
Canoeing/ Kayaking	0.7	0.7	0.7	0.9	0.9	+0.2
Running	7.2	7.6	7.6	8.3	7.7	+0.5

Table 2 Individual Activities. Trends: 2001-2005, Australia

six and nine weeks prior to the survey, this provided an opportunity for people to react to the Olympics and try physical activity in response to it. Overall 4% of Australian adults increased their activity since the Olympics. According to the report “This proportion was not large enough to influence physical activity participation overall, and indicates that the Olympics were not likely to have specifically resulted in increases in physical activity participation in the whole community.”

The ERASS survey presents information regarding the level of participation in physical activity and frequency of participation over the last 12 months preceding the interview. Methodology:

- Survey method: random sample population telephone interview
- Age-range of sample: adults aged 15-65 and over
- Sample size: 13,000

Table 2 contains data on some of the Olympic disciplines in the ERASS survey. The trends in participation are somewhat uncertain, given the increase in some of the activities but decline in others. It is interesting to observe that swimming, one of Australia’s most popular sports, demonstrated a decline. Overall, of the 21 Olympic sports included in the full ERASS study, ten increased their participation or did not decline over the five-year period.

The data in the Table 3 indicates little difference between Sydney and national figures, though some of the sports, such as swimming and tennis, demonstrated a greater decline in comparison with the national figures. No explanation for this was produced. A report containing the results of the examination of the effects of the Sydney Olympics on mass sports participation (Veal, Frawley 2009), concluded that: “The aggregate scores show very little difference between the

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Olympic Sport	2001 (%)	2002 (%)	2003 (%)	2004 (%)	2005 (%)	Change 2001–2005 (%)	National 2001–2005 (%)
Swimming	21.0	18.8	19.6	20.2	17.5	-3.5	-1.6
Athletics	0.5	0.9	0.6	0.5	0.4	-0.1	-0.2
Tennis	11.8	9.4	11.0	10.4	9.6	-2.2	-1.4
Basketball	2.6	3.8	3.6	2.7	3.3	+0.7	0.0
Gymnastics	0.5	0.4	0.1	0.5	0.4	-0.1	0.0
Cycling	8.0	8.6	7.3	9.3	8.2	+0.2	+0.8
Canoeing/Kayaking	0.5	1.4	0.6	0.8	1.3	+0.8	+0.2
Running	8.3	8.9	8.4	10.8	8.6	+0.3	+0.5

Table 3 Individual Activities. Trends: 2001-2005: Sydney

Sydney and national figures, suggesting a lack of a strong Sydney-specific “Olympic boost” to participation. It has not been possible to draw firm conclusions regarding the effect of the Sydney 2000 Olympic Games on grassroots sports participation.”

2002 Salt Lake City Olympic Games

The IOC’s legacies fact sheet of January 2010 says that: “To ensure a legacy from the Games, the Utah Sports Commission was set up in order to develop both public recreational and elite sport in the State. Utah has hosted over 50 world

cups or championships since 2002, as well as numerous other sporting and non-sporting events. The Games also saw an increase in sports participation from young people, with sports like bobsleigh, skeleton, snowboard and freestyle and mogul skiing seeing an upsurge in interest.” Yet no evidence to back up the last statement was found.

The official sports participation statistics for the USA and Salt Lake City in particular was gathered by the US Centre for Disease and Prevention, Department of Health and Human Services. Methodology:

Year	Recommended (%)	Insufficient (%)	Inactive (%)
2001	45.3	38.6	16.0
2003	45.9	38.5	15.6
2005	48.1	37.3	14.2

Table 4 Physical Activity Statistics: USA national average

Note: Data were adjusted for non-responses and weighted to the population of the geographic area.



Year	Recommended (%)	Insufficient (%)	Inactive (%)
2001	52.5	39.0	8.5
2003	53.7	33.1	8.6
2005	52.1	35.3	7.7

Table 5 Physical Activity Statistics: Salt Lake City Metropolitan Area

- Survey method: a telephone interview
- Age-range of sample: adults aged > 18 years
- Sample size: at least 500 responders.

Recommended physical activity =

reported moderate-intensity activities in a usual week (i.e., brisk walking, bicycling, vacuuming, gardening, or anything else that causes small increases in breathing or heart rate) for ≥ 30 minutes per day, ≥ 5 days per week or vigorous-intensity activities in a usual week (i.e. running, aerobics, heavy yard work, or anything else that causes large increases in breathing or heart rate) for ≥ 20 minutes per day, ≥ 3 days per week or both. This can be accomplished through lifestyle activities (i.e., household, transportation, or leisure-time activities).

Insufficient physical activity =

more than 10 minutes total per week of moderate or vigorous-intensity lifestyle activities (i.e. household, transportation, or leisure-time activity), but less than the recommended level of activity.

Inactivity = less than 10 minutes total per week of moderate or vigorous-intensity lifestyle activities (i.e., household, transportation, or leisure-time activity).

Although the sample size may not seem significant enough to make far-reaching

conclusions, as can be seen from the Table 4, there is a very slight increase in physical activity levels at the national level from 2001 to 2003 and then a further 2,2% spike two years later. Inactivity levels, accordingly, show a decline over a five-year period. Table 5 shows a minor increase from 2001 to 2003 but a decline in a long-term perspective. It is, therefore, reasonable to surmise that while the 2002 Winter Games had a positive impact on the physical activity levels country-wise, it didn't influence the sporting behaviour of Salt Lake City's residents.

2004 Athens Olympic Games

The data for the Greece case study was extracted from the EU Eurobarometer on Sport, a survey across EU member states.

Methodology:

- Survey method: a face-to-face interview in a person's home
- Age-range of sample: aged 15 and over
- Sample size: in 2004–8, 674, 230; in 2009–8, 693, 566

The findings indicate a short-term impact on sports participation rates right after the end of the Olympics but from a

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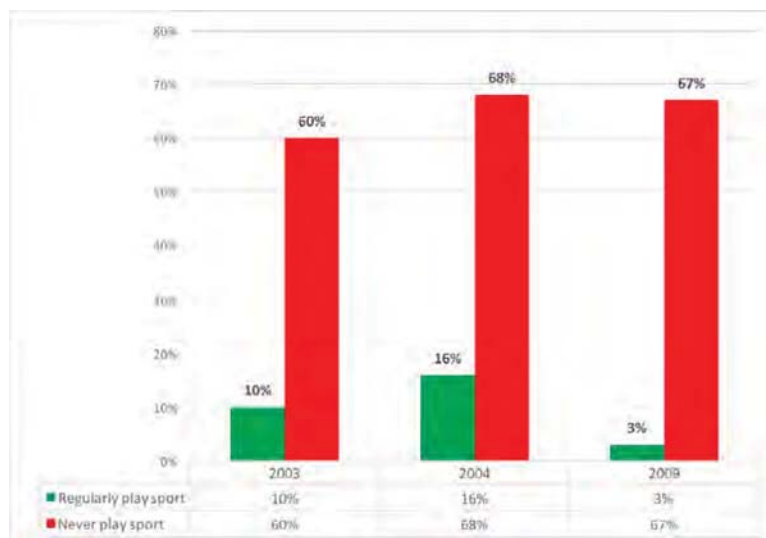


Figure 1 Level of Physical Activity: Greece, 2003, 2004, 2009

Question: How often do you exercise or play sport?

long-term perspective – five years after the staging of the event – the number of participants declined significantly, whilst the percentage of respondents who never practice sport witnessed an upward trend. In 2009 Greece had the highest number of respondents in the EU who said they never played any sport. This figure classified Greece as one of the most sedentary countries in the EU. Precautions need to be taken, however, when comparing physical activity trends chronologically, as a number of other external factors might have played a positive or negative role in sports participation figures. Athanasios Pappous, in a chapter analysing sports participation statistics in Greece before and after the Athens 2004 Olympics (Pappous 2011), suggests looking at

a broader picture before attributing a growth in physical activity levels to the Olympics. Namely, it should be remembered that Greece won the Euro 2004 Football Championship which caused sporting excitement among Greeks and might have inspired them to be more active, which the Eurobarometer 2004 results indicate. The European Parliament also proclaimed 2004 the European Year of Education through Sport. A range of sports initiatives aimed at raising awareness of physical activity and involved active sports participation took place in Greece. Pappous (2011) notes that the long-term sporting legacy was not a priority for the organisers of the 2004 Athens Games. Their main concern was to ensure the security of the 2004 Olympics. The 2004 Games were the

first to take place after the September 11th 2001 terrorist attacks in the US and all the attention of the organisers was paid to enforcing the necessary security measures. As a result, the security costs of the 2004 Olympics were three times the amount of money and security personnel that was used for the 2000 Sydney Olympics.

2012 London Olympic Games

The UK Department for Culture, Media and Sport (DCMS) defined the London Games legacy in the following way: “The legacy of the London 2012 Games refers to the imprint they will leave. It is, therefore, not just what happens after the Games, but what we do before and during them to inspire individuals and organisations to strive for their best, to try new activities, forge new links or develop new skills. The Olympic and Paralympic Games have a unique power to inspire all of us as individuals, to motivate everyone to set themselves a personal London 2012 challenge.” This statement of a rather general nature gets transformed

into concrete steps. In the London Olympics legacy plan called “Before, during and after: making the most of the London 2012 Games” the DCMS made a commitment, among other promises, “to make the UK a world-leading sporting nation” via:

- Inspiring young people through sport: offer all 5 to 16 year-olds in England five hours of high-quality sport a week and all 16 to 19 year-olds three hours a week by 2012.
- Getting people more active: help at least two million more people in England be more active by 2012.
- Elite achievement: aim for 4th in the Olympic medal table and at least 2nd in the Paralympic medal in 2012.

In 2005, Sport England, the government sport agency, launched its first Active People Survey designed to measure sports participation levels across England. Overall eight Active People Surveys have been carried out with the more recent in October 2014.

One session a week ¹	APS1 2005–2006		APS7 2012–2013		APS8 2013–2014		Statistically significant change from APS 1
	%	n*	%	n*	%	n*	
NS SEC1-2	40.1	4,462,100	42.9	5,898,300	42.7	6,098,400	Increase
NS SEC3	32.3	1,244,000	35.2	1,974,300	33.9	1,976,800	Increase
NS SEC4	32.4	920,200	34.3	1,418,400	32.4	1,393,200	No change
NS SEC5-8	26.9	3,450,200	29.0	4,756,100	25.9	4,380,400	Decrease

Table 6: Active People Survey England 2005-2014

¹At least 4 sessions of at least moderate intensity for at least 30 minutes in the previous 28 days

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NS-SEC is the National Statistics Socio-economic Classification. It is derived by combining information on occupation and employment status, notably:

- Higher managerial and professional occupations;
- Lower managerial and professional occupations;
- Intermediate occupations;
- Small employers and own account workers;
- Lower supervisory and technical occupations;
- Semi-routine occupations;
- Routine occupations;
- Never worked and long-term unemployed;
- Full time students and Occupations not stated or inadequately described.

Methodology:

- Survey method: telephone interview
- Age-range of sample: adults aged 14 and over
- Sample size for England: 363,724 between October 2005 and October 2006; 165,000 between October 2012 and October 2013; 166,000 between October 2013 and October 2014.

As Table 6 illustrates, over the course of almost ten years there has been a *slight increase* in participation numbers from higher socio-economic groups. By contrast, the participation rates have *decreased across the lowest socio-economic groups*. The UK Government has launched in August 2015 a nationwide survey to improve inhabitants' sports participation, especially amongst poorer people, in order to redefine the financing strategy of national sport governing bodies

Discussion

In sum, the analysis of the official statistics on sports participation in the selected countries and cities has led to the following results:

- Australia's data doesn't provide evidence of a positive impact on participation. The trends in individual sporting activities are inconclusive, given the increase in some of the activities but decline in others. No Sydney-specific effect from the 2000 Games on grassroots sports participation in the host city was seen.
- It is reasonable to surmise that while the 2002 Winter Games had a positive impact on physical activity levels country-wise, they didn't influence Salt Lake City's populations' sports behaviour. Of course, the US is a large country and many other factors might have played a role in sports participation at country level.
- The Athens 2004 Olympics had a short-term impact on physical activity levels right after the end of the Games but from a long-term perspective – five years after the staging of the event – the number of participants declined significantly. At the same time, the percentage of respondents who never practised sport witnessed an upward trend during the five-year period.

- The physical activity results for England indicate little change and even a decrease over a ten-year period. The full effect of the London 2012 Games is still to be assessed.

It should be remembered that no city before London had purposefully incorporated sports participation legacy plans into its programme. As was mentioned earlier, Athens, for example, was too focused on introducing the necessary security measures to avoid terrorist attacks and simply didn't list increased sports participation as a priority. In this regard, London had much more time and opportunity to establish the sports legacy plan and monitor its execution than any other city in the sample. Even advance planning by the British government, however, hasn't yet produced the desired outcomes.

In conclusion, the results of this research do not support the commonly held belief that the Olympics always inspires the general population to become more active. Some of the ideas expressed in the literature about elite sport indirectly generating mass sport, provided there are other contributing factors in place, make sense. Yet, it is difficult to provide an exact explanation for people's behaviour without sufficient and substantial evidence.

Conclusions and Recommendations

- A thorough examination of the statistics and literature on the topic allowed for identification of some tentative, yet not fully consistent sports participation patterns. The results appear to be somewhat contradictory, with some of the countries demonstrating a slight increase in physical activity levels following the end of the Olympics (USA) (Greece showed an increase in sports participation during the pre-Games period), but a decline (Greece) from a long-term perspective. The findings of this research indicate little evidence for positive, stable long-term sports participation benefits from staging the Olympic Games.
- The lack of empirical evidence on increased mass sports participation in a host country due to the Olympic Games, calls for further and more in-depth research in this area. This information could be useful for future bid cities to reinforce the sporting legacy message.
- Understanding and interpreting long-term participation trends requires a close monitoring for several years prior to and after the Olympics.
- The same sports participation parameters (i.e. what exactly sports participation is) should be applied across the board to make the comparison accurate.
- There is no single common definition of what sustainable sports legacy is. This notion and the legacy's success criteria may vary from country to country.
- If effective, the IOC's OGI study, which also includes a "sports and physical activities" indicator, would serve as a solid foundation for future research in this area.
- A range of stakeholders would benefit from the accurate data on sports participation rates: the IOC, general population, organisers, sports clubs, etc.
- The academic literature and the findings of this research suggest that a sustainable sporting legacy is not an automatic consequence of the Olympic Games and calls for a well thought-out and strategic policy plan engaging all the target groups. Leveraging strategies are necessary but not often put in place.
- As also noted in the academic literature and confirmed in the course of this study, it is doubtful whether the Olympic Games could be the main driver and the sole contributor leading to an increase in participation levels in a host country. It appears to be a much more complex process affected by many external factors: accessible equipment and infrastructure, educated coaches, a well functioning structure of local sports clubs, fitness centres, special initiatives and incentives undertaken by the government on a broader scale, etc.

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