



Rio de Janeiro residents' perceptions of the 2016 Olympics in the pre-Games period

A percepção do residente da cidade Rio de Janeiro sobre os Jogos Rio 2016 no período pré-olímpico

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Abstract

Between 2014 and 2016, the city of Rio de Janeiro hosted two mega-sporting events: the FIFA World Cup and the Olympics, generating changes in the city. This study aims to analyze the perceptions of Rio residents in the lead-up to the Games. A quantitative survey was conducted face-to-face with a sample of 404 residents, precisely one year before the Olympics. The data indicate that the period before the Games was troubling for residents in light of uncertainties regarding the desired Olympic legacy for the city. In fact, residents' routines were impacted, either by transit issues or by media reports that generated expectation and apprehension. The pre-Olympic period was marked by protests, concern about overspending, construction delays and fear about the success of the mega-event. However, in the perception of residents, an evident expectation was the legacy to tourism, the visibility of the destination and lasting improvements for tourism and sport.

Keywords: Rio de Janeiro, 2016 Olympic Games, resident perceptions, mega-sporting events.

Resumo

Entre 2014 e 2016, a cidade do Rio de Janeiro sediou dois dos principais megaeventos esportivos - a Copa do Mundo da FIFA e os Jogos Olímpicos, gerando diversas mudanças na cidade sede. O presente estudo objetiva analisar a percepção dos residentes na cidade do Rio de Janeiro no período pré-olímpico. Para tanto, foi realizada uma pesquisa quantitativa face a face com uma amostra de 404 residentes do Rio de Janeiro, exatamente um ano antes dos Jogos Olímpicos. Os dados indicam que o período anterior a realização dos Jogos foi preocupante para os residentes, tendo em vista as dúvidas e incertezas quanto ao legado desejado. Na verdade, a população sofreu impactos em sua rotina, seja por trânsito ou por vários meios de comunicação que geraram expectativa e apreensão. No entanto, na percepção do residente, uma expectativa evidente é o legado do turismo, da visibilidade do destino e dos investimentos em melhorias duradouras para o turismo e o esporte.

Palavras-chave: Rio de Janeiro, Jogos Olímpicos 2016, percepção de residentes, megaeventos esportivos.

1. Introduction

Mega-sporting events are seen by governments as a way to increase the international visibility of their countries, attract visitors, and thus boost economies, generating economic benefits to society. The 2016 Olympic Games in Rio de Janeiro were expected to generate approximately US\$ 152 million in revenue from hosting segments, food, trade and services. According to Portal Brasil (2015), the 2016 Games would attract between 350.000 to 500.000 foreign visitors to the city. The expected numbers were confirmed and even surpassed since the Federal Government announced through Portal Brasil (2016) that the event received 1.2 million visitors, of whom 410 thousand were foreign tourists, whose average daily expenses were US \$ 132,69. In addition, the event was attended by 10,500 athletes from over 200 countries and was transmitted to billions of people around the world via television and social media.

Brazil hosted two of the world's most important (and largest) sporting events in less than two years: The 2014 FIFA World Cup

and the 2016 Olympic Games. After the 2014 World Cup, boosters expected the Olympic and the Paralympic Games to solve the country's woes. The Games were to generate jobs, stimulate Rio's economy and generate income, increase the number of visitors, build legacy infrastructure, and improve the tourism and sports facilities in the city.

For the development of a tourist destination, the use of data and studies with theoretical bases, like the one proposed by this paper, is important to identify the perception and expectations of the local population and can be a tool for public and private bodies to enhance the view of the residents on tourism. Furthermore, the importance of sharing accumulated knowledge in the context of mega-events is a priority that cannot be overstated. Werner, Dickson and Hyde (2015) highlight the value of knowledge-sharing in tourism networks and the role that a mega-event can play in the fostering of knowledge-sharing.

This study gauged Rio de Janeiro residents' perceptions of the Olympic Games and the anticipated impacts on the city. A



secondary objective pertains to the Games' legacies as envisioned by residents, including infrastructure, mobility, tourism and security, among others. It is important also to highlight the "lack of data, information, and knowledge about event development; and with inadequate resources allocated for academic research in the developing countries, it is not surprising to find a limited amount of research" (Zhou & Ap, 2009, p. 79). Therefore, studies like the one proposed, particularly in an emerging nation (Brazil) are important to enhance academic research on subjects such as tourism, sociology, urban studies, and public and private policies regarding mega-events.

2. Literature review

Mega-events sometimes referred to as large-scale special or hallmark events, can be an important element of a region's tourism development strategy (Jago, 1997). For example, Melbourne uses large annual fixed events (i.e., Australian Open, Melbourne Cup, Melbourne Grand Prix) to generate media coverage, attract tourists, and gain prestige as an "event city." In this way, it is implied that hosting large-scale events is directly linked to the development of local tourism and minimises the impacts of tourism seasonality. This does not occur by happenstance but rather by strategic and coordinated planning with a range of players: event rightsholders, municipal and provincial governments, destination marketing organisations, private sector operators i.e., transport, hospitality businesses, etc.

According to Allen, Harris, McDonnell and O'Toole (2003), mega-events are those whose magnitude affect economies and global media. Among them, we can mention the Olympic Games and the World's Fairs, although it is difficult to fit many other events in this category. The tourism, as part of the economy, is impacted significantly by major events as there is the development of tourist infrastructure, such as hotels, airports and transport, to receive the volume of visitors inherent for this kind of event.

Research on residents and the Olympic Games during the past 24 years have investigated the attitudes of the host population concerning the Games and their impacts. Guala and Turco (2009) argue that residents do not really count, especially at the beginning, when a city decides to bid on a mega-event or when the nomination is obtained. Shortly after that, the population must be involved: Participation works as a retroaction tool, that helps to release more information, to legitimise (or not) the municipality's and the organising committee's decisions. The position of the government and business stakeholders concerning mega-events is political and financial. If the event works, it will bring more tourists and more money to the host economy, but at the same time, residents are concerned that more tourists will lead to higher consumer prices, traffic congestion, crime, and so on.

The city of Los Angeles commissioned a survey of its population before bidding for the 1984 Olympic Games. Responses were

relatively positive but revealed specific worries. Respondents were concerned about the burden placed on the local community to finance the Games. Public sentiment toward the Games shifted based on the sources of funding: 70 per cent were in favour of hosting the Games unless public funds were needed but dipped to 60 per cent if federal funds were requested, to 45 per cent if state funds were required, and to 35 per cent if city or county monies were needed (Söderman & Dolles, 2013). To date, the 1984 Games are the only Games to turn a profit, owing to the decision of Los Angeles Olympic Organizing Committee (LAOOC) to sell the television broadcasting rights to ABC Sports; it was the first time this had happened in the history of the Games. In addition, the strategic use of sponsorships was significantly expanded by the LAOOC, further contributing to the Games bottom line.

Guala and Turco's (2009) study of the Torino 2006 Olympic Games examined residents' perception across the lifecycle of the event: Pre, during, post-Games. Phases or stages of the mega-sporting event lifecycle vary considerably in length of time. For football's World Cup, the bidding alone takes one to two years, seven years for preparation, 40 days of competition, and potentially decades for the legacy stage. For hosting the Olympic Games, the cycle is similar though the event takes place over 17 days. Public perceptions of the event shift across the lifecycle, from elation and euphoria at the bid stage; concerns over readiness, costs, anxiety and 'wait-and-see' in the preparation stage; relief and joy during operations; and pride, appreciation and satisfaction following the Games. In essence, residents' perceptions of the Olympic Games over time can be likened to a rollercoaster, full of ups and downs.

Preparation for a mega-event modifies the structure and daily life of the host city: Transportation systems are created or expanded, stadiums are built or renovated, accommodations for athletes and visitors are installed, etc. and the lengthy period of construction often inconveniences residents (and visitors). Ultimately, and ideally, many people would benefit from the local developments attributed to a mega-event e.g. local and visiting workers involved in the construction, operations, and maintenance of infrastructure and sports facilities, citizens who use public transport and better quality public facilities for sport and leisure, etc. These developments (and others) contribute to the symbolic capital from a sport mega-event (Preuss, 2008; Lohmann, 2010).

The legacy of mega-sporting events can be perceived in several ways. "It can be seen as positive or negative, tangible or intangible, territorial or personal, intentional or unintentional, global or local, short- or long-term, sport- or non-sport-related, and can also be seen from the various event stakeholders' perspectives" (Chappelet, 2012, p. 76). The legacy of a mega-event affects the host city in many ways and can be defined as tangible and intangible (Preuss, 2007). Tangible structures are aspects that can be measured more easily and are divided into primary, secondary and tertiary structures. Primary structures are linked to sporting practices during the event (sports



infrastructure and training venues). The secondary ones are those that participate in the support of the accomplishment of the event (athletes' village). The tertiary structures are those that touch on the surroundings of the event (cultural attractions) and the urban infrastructure necessary for its accomplishment (public transportation, security).

For some cities, particularly in developing countries, a mega-event can be a way to generate global recognition through media exposure, which in turn can be good for the destination's tourism if the event is a success, or negative if the event had many flaws (Jones, 2006 cited in Sousa, Miranda, Moreira, & Tabak, 2012).

The global reach of modern media makes a mega-event highly and immediately visible. Event coverage in the forms of media messages and images influence the opinions of the host country. This reality was seen in the pre-event stage of the 2016 Olympic Games when mass demonstrations and public dissatisfaction with the local and national government were exposed and transmitted internationally by media. The image of Brazil and the event were impacted as a result. Brazil may take some solace in knowing that other Olympic Games hosts have been perceived similarly by the public. Participation by the local community in event planning becomes more important in this context. If the population feels involved, the degree of public resistance towards the event may be lower. According to Atkinson (2009), the planning of mega-events should emphasise working together with residents, sport rights holders, host government and tourism officials: "Leaders should present the plan for the Olympic period and generate interest—perhaps through volunteer activities, events, and committees." (Deccio & Baloglu, 2002, p. 54).

Upon reflection of public approval ratings and impacts from London 2012, Pappas (2014) contends that negative impacts are usually ignored by locals prior to the Games due to the glorification of the benefits expected by the population at the pre-event stage. London 2012 was able to achieve high levels of public involvement across all stages of the Games. In contrast, Rio 2016 encountered a climate of dissatisfaction and violent protests combined with political and economic crises that ultimately led to the ouster of the country's president.

Pappas (2014) claims that the economic impacts of tourism attributed to the Games are the most valuable outcomes for host cities. The anticipated economic activity from the Games raises public expectations that such investments and visitor spending will translate into quality of life improvements for local residents. Yet this is not always the case. Some citizens are displaced to make way for the development of Olympic sites and contractors may hire foreign labour for construction or service jobs.

Other impacts, often cited by proponents of mega-events, that may benefit local residents include increased direct foreign investments, the possibility of cultural exchanges with visitors, enhanced youth and elite sport development programs, and

increased social optimism. In this context, Rio's residents are important stakeholders, and their expectations, attitudes, and interest in the Games, over the event's lifecycle, should be ascertained and considered for planning purposes.

3. Research Methods

To facilitate the purpose of the study, a quantitative survey was conducted with 426 residents of Rio de Janeiro (face-to-face) 3 to 28 August 2015. Upon data analyses, 404 cases were deemed valid. Surveys were administered in three specific regions of the city: Center, South Zone and Barra da Tijuca. These areas were selected due to the fact they have a high number of residents living and working in these locations and because they were experiencing lots of changes due to Olympic preparations. According to Instituto Pereira Passos (2017), Rio is administratively divided into five areas of planning with sixteen (16) planning regions, thirty-three (33) administrative regions, which contain one hundred and sixty (160) neighbourhoods in an area of 1224.56 square kilometres. Of residents interviewed, 92,6% had no prior involvement with the Olympic Games, and only 7,4% had some kind of involvement as a volunteer, employee, sponsor or relative/friend of an athlete.

For the Organisation for Economic Co-operation and Development [OECD] (2005), survey research aims to investigate the characteristics of a given population through a data collection of the population sample to find out their characteristics through the systematic use of statistical methodology. The sample dimensions were calculated to fit the criteria of significance considering estimators that would maximize the variance of the target population. However, beyond the sample size, data collection techniques were essential to ensure the representation of the population studied, such as assuring that a wide range of neighbours was covered by the researchers, variety of age from the interviewed population, interview application training to the researchers, among others.

To determine the sample size, it is necessary to fix a margin of error with a certain level of confidence and some prior knowledge about the variability of the population. The first two measures were established at a maximum error of 5% and a confidence level of 95%. As a measure, variability is unknown, whereas the variable of interest is a dichotomous characteristic and our intention is to maximise its variability. Listing the parameters (or their estimates), we have:

$$n = \frac{1.96^2 \times 0.5^2}{0.05^2} \rightarrow n \cong 384$$

With reference to the example of the calculation of sample size, it is notable how close the amount of obtained interviews (404) is to the calculated sample size, and therefore very close to statistical significance criteria of confidence (95%) and margin of error (5%) to the survey.

The data collection instrument encompassed four main components:



(1) The first section of the questionnaire included questions about the demographic information of respondents, such as the local area of residence and involvement with the Games.

(2) In the second section, residents answered questions about their interest in and attitude toward the Olympic Games and its impact on their lives, such as: whether it was a good choice for Rio to host the mega-event; and whether the Games impact their neighbourhoods and their routines. A comparison between interest in the World Cup and the Olympic Games was also performed.

(3) The third section included questions on a Likert scale on: commercial activity and economic gains; price increase due to the Olympics; financial loss; business opportunities; job creation; publicity for tourism activity; damage to the reputation of the host city; increase in the number of tourists; problems of the country that could be hidden by the occurrence of the event. And on the long-term legacy of: urban mobility; airport infrastructure; public security; tourism; and sports. For these questions, a 5-point Likert scale was used: 1 = totally disagree, 2 = partially disagree, 3 = not agree or disagree, 4 = partially agree and 5 = totally agree.

(4) Finally, the last section of the questionnaire contained profile data and open questions about attitudes toward the main positive and negative impacts of the Olympic Games. This was an open question, so the respondents responded spontaneously.

Last, the data analysis was performed using IBM SPSS software, descriptive statistics and hypothesis tests were performed. As

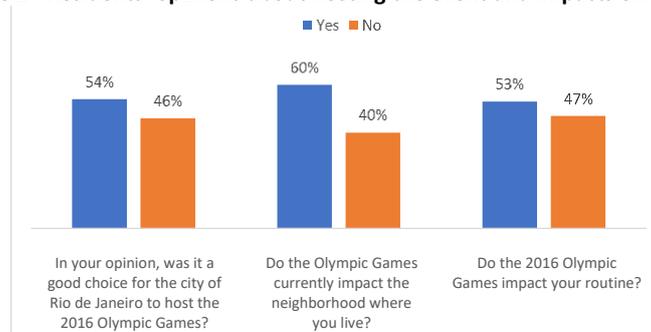
examples of hypothesis tested we have: The pre-games phase generates multiple impacts on residents' life due to the infrastructure changes the city is going through; In the residents' perception, the Rio 2016 Olympic Games generated positive impacts for the destination, in the pre-Olympic period; The tourism sector is one of the biggest beneficiaries of hosting an Olympic Games.

4. Results and discussions

The survey's target public was asked to answer the following question: "Was it a good choice for the city of Rio de Janeiro to host the Olympic Games?". Respondents commented that it was a difficult question to answer at the time due to the public protests in the country. Some subjects noted that the choice to host the Games was made years ago and that at that time, everyone was excited about the opportunity. However, with the recent political events and economic crisis in the country, residents did not perceive the Games as positive for the city. Respondents still expected the Games to create a 'miracle': help the country's economy with the arrival of tourists, bring joy to its people, and improve their self-esteem.

Those who answered that it was not a good choice reiterated that Rio de Janeiro did not have the infrastructure to host an event of this size. Such perceptions are reflected in the data where there is duality regarding Rio de Janeiro as host of the 2016 Games: 54.5% believed that yes, it was a good choice for the city, while 45.5% believed that it was not a good opportunity for Rio to host the Games (see Figure 1).

Figure 1 - Residents' opinions about hosting the event and impacts on daily life



Source: Own elaboration.

Football is Brazil's number one sport; however, this time, it appears that residents' interest in the Olympic Games was higher than the interest in the World Cup. On a Likert scale of 1 to 10, which represents the interests of the population in mega-events, the average was 5.9 for the World Cup and 6.57 for the Olympic Games.

The majority (59.7%) of respondents did not experience an impact from the Games in their specific neighbourhoods. Those who did experience impacts highlighted the chaos generated by the construction projects and / or improvements that would not have occurred if there were no Olympics in Rio.

Residents' routines were most impacted by traffic, with changes in routes and an increase in the average travel time. Residents hoped that mobility would improve after completion of all the construction work, but believed that the various projects would not be ready on time. The impacts on routine were experienced by 53% of residents, either in their actual neighbourhoods or during their daily commutes.

Among the main positive impacts flagged by respondents: improvement in urban infrastructure, increased tourism and destination visibility (see Figure 2). These aspects are directly related to the government's arguments for hosting the



Games, and they were the main reason for the population to support the event and see it as an opportunity for the city. When Rio de Janeiro was in the bidding process, the highest scores for its candidature were for: government

support, legal issues and public opinion due to the strong government commitment; which shows that the candidature of Rio de Janeiro was very much related to political and social issues.

Figure 2 - Main positive impacts of the Olympic Games to Rio de Janeiro?



Source: Own elaboration.

Chappelet (2012, p. 80) stated that the “the notion of legacy that develops “before and during” is being increasingly used, i.e. the possibility of reaping benefits from the mega-event during its preparation and even during its candidature phase”. When the survey was conducted the population could see the improvements in the city such as works that would benefit mobility, transport and tourism sectors. Although many of these benefits were perceived by the population, and some of them were even being experienced due to some concluded works, the residents were still suspicious about the real “legacies” of the Games.

Among the perceived negative impacts, top complaints were the disorder generated by construction projects and traffic chaos (see Figure 3). In addition, the failure to fully implement the much-touted clean-up of the polluted Guanabara Bay. These impacts have some relation to the tourism negative impacts on the quality of life of residents studied by Andereck, Valentine, Knopf and Vogt (2005), which stated that these impacts “can be in the form of crowding, traffic and parking problems, increased crime, increased cost of living, friction between tourists and residents, and changes in hosts’ way of life” (Andereck et al., 2005, p. 1057).

Figure 3 - Major negative impacts of the Olympic Games on Rio de Janeiro

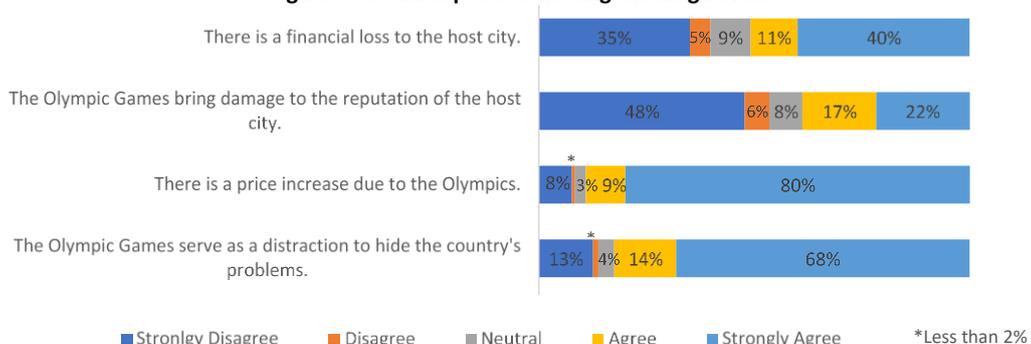


Source: Own elaboration.

Some research questions have the characteristic of being affirmative statements arranged randomly, with the Likert scale response options with five levels - fully agree, partially agree, neither agree nor disagree, disagree partially and fully disagree (Figures 4, 5 and 6). Specific points were almost unanimous in participants’ responses, for example, the question as to whether the mega-event serves to hide the country's problems with 82.4% in agreement; those who disagreed with this statement said that the problems are

clearer now for both the population and for the other countries, as Brazil is now more exposed to the world, due to the visibility that the Olympics bring. Another issue that had almost general agreement, 89.2%, was about price increases. The main explanation of the respondents was that it is natural to have price changes in the city near any event. Those who disagreed justified that the event is not related to this increase as much as the economic problems the country is facing.

Figure 4 - Social aspects of hosting the mega event



Source: Own elaboration.



Figure 5 - Political aspects of hosting the mega event

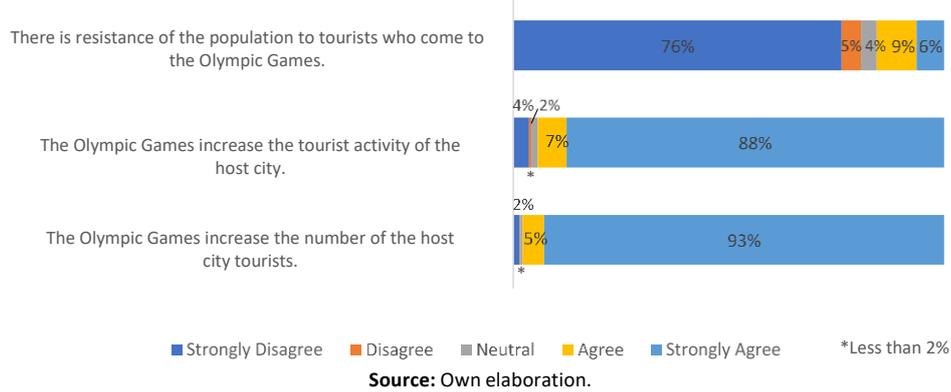
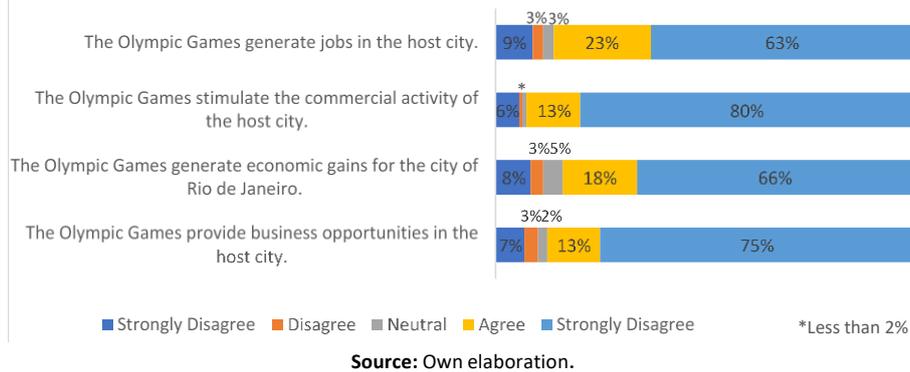


Figure 6 - Economic aspects of hosting the mega event



Most, 87.6%, believe that the mega event will provide business opportunities, generating economic gains (83.9% agreement) and stimulating the commercial activity of the city (92.6% agreement). In the case of Barcelona, for example, according to Duran (2005, p. 13) the “Games have contributed to the growth of tourism and this has benefited not only the tourism sector but also all sectors of the economy: financial institutions, transport companies, motorways, the food industry, etc.”

Although partially balanced (50.7% agree and 39.9% disagree), the population believes that there is a financial loss to the city, due to the high expenses for the event. Regarding job creation, some respondents mentioned that the mega-event does not create permanent jobs but rather temporary ones, and, that was the justification for the 86.1% who disagreed that the Games lead to jobs creation.

Most also believe that tourism is increased by a mega-event (97.8%) as well as an increase in the promotion of tourism in the city (94.3%). Some people mentioned at the time of data collection that Rio de Janeiro is already well known internationally and already receives many tourists, this fact also suggests that there is a possibility that there is an increase in the number of tourists just during the event, but then it returns to the average tourism in the city. Most (80.7%) also disagreed that there would be resistance to the tourists

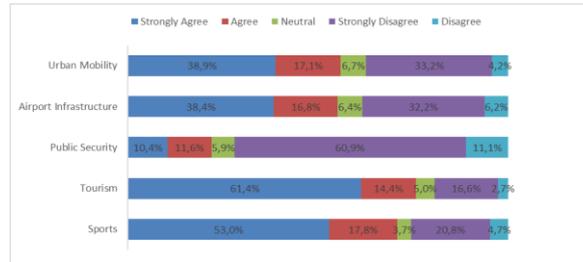
who came to the city for the mega-event due to the good receptivity of Rio’s residents in general.

About the damage to the reputation of the city, the opinions are balanced. 53.5% disagreed that the Olympics bring damage to the reputation of the host city, and 38.9% believed that the event damages the city’s image. It was stated that the factors that generated negative comments affecting the city’s image were the country’s scandals with corruption, violence, pollution and other aspects and not the Olympics itself, but because Brazil was more exposed internationally due to the mega-event, the city’s image was damaged. In addition, some respondents believed that possible problems that occur during a mega-event might affect the city’s image, i.e. construction delays or construction fatalities

Respondents stated that infrastructure improvements would not become legacy projects but remain strictly tied to the event. Most of the respondents, 55.9%, agreed that there were improvements in urban mobility while 37.4% disagreed with the statement (see Figure 7). In airport infrastructure, percentages are similar: 55.2% agreed that there were lasting improvements in this sector while 38.4% disagreed. 75.7% agreed with the statement that tourism is the area that would most receive lasting improvements. Sports was also seen as a sector that would be benefited, with 70.8% agreeing that there were lasting improvements in this sector and only 25.5% disagreeing.



Figure 7 - The Olympic Games bring lasting improvements to the host city

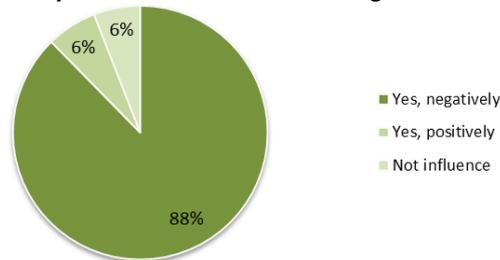


Source: Own elaboration.

For most (87.6%), security is a factor that influences negatively the image of the city as well as being the sector with the highest demand from the population. Reflecting this fact, many respondents mentioned that there

must be permanent security actions and not just ones specific to the mega-event. Moreover, as noted in Figure 8, the item with the highest level of disagreement about lasting improvement is public security, reflecting the area of highest discontent.

Figure 8 - Security is a factor that affects the image of Rio de Janeiro today?



Source: Own elaboration.

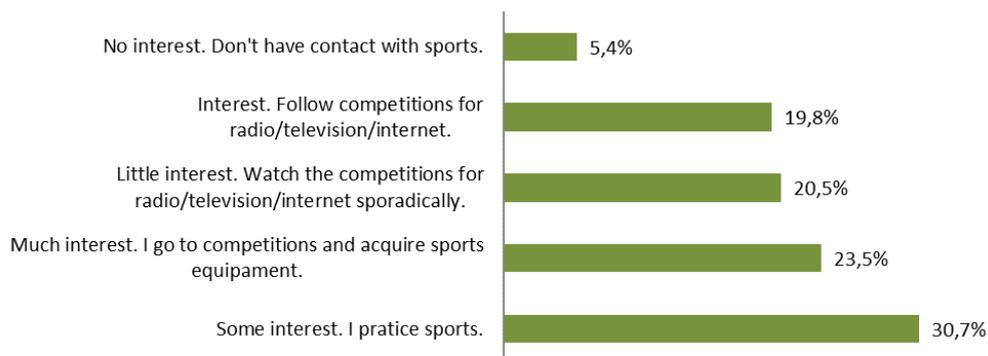
During the World Cup, the perception was that actions taken in the public security sector were only for the period of the event, and afterwards, the violence returned. The safety issue is related to a broader social issue, which includes job opportunities, education, among others. It is believed that the Olympics are built on Olympic values, and as a legacy, these values must be sought for.

Among the 140 respondents seeking information about the Olympic Games, the main preference was via smartphones (53%), followed by the computer (40%) and tablet (7%).

Many respondents who did not seek out their own information about the Olympic Games ended up being informed by television and news media. Among those seeking information spontaneously about the Games, most turned to social networks and websites.

Interest in sports in Rio de Janeiro is reflected in the survey (see Figure 9). 23.5% claimed to have a high degree of interest in sports, with regular practice and participation in competitions and that number was even higher for those that occasionally practice some sports activity (30.7%). 19,8% said they don't practice sport, but accompanied media reports, 20,5% only sporadically monitored and 5,4% had no interest. Although most, 71.8%, said their interest in sports remained the same, 21.5%, noted an increase in interest (Figure 10).

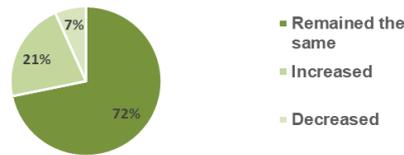
Figure 9 - What is your level of interest in sports?



Source: Own elaboration.



Figure 10 - Looking back at the last year, do you believe that your degree of interest in sports:



Source: Own elaboration.

Many respondents did not intend to attend the Olympic events in Rio personally, but instead follow via media, 51,2%. The main reasons were difficulty in buying tickets, lack of accessibility to the sites, the bureaucracy in the process of buying and the lack of interest in being present at any competition that they would find more comfortable to watch at home.

It was noted that many people were unaware that there were tickets at popular prices or that there were events that would require no ticket purchase

In relation to gender, 57.4% of respondents were women and 42.6% men comprising all age ranges, quote 21.8% between 18 and 25, 26% between 26 and 35 years, 17.1% between 36 and 45, 17.1% between 46 and 55 years, 8.4% between 56 and 64 years and 9.7% over 65 years.

5. Conclusions

Mega-sporting events such as the Olympic Games and the FIFA World Cup are intrusive in their essence, bringing large numbers of tourists and media, which affects residents for a relatively short period of time, impacting on the economy, culture and environment. At the pre-bid stage, the appeal of an Olympic Games to residents is based on the anticipated economic benefits (i.e. employment, visitor spending, direct foreign investments, among others), improved infrastructure, quality of life and enhanced city image. Residents' perceptions of major sports events should be assessed due to these impacts, yet residents are often overlooked as event stakeholders. Residents' perceptions of the Olympic Games' impacts give them a unique position to evaluate an event's legacy as taxpayers, daily consumers of infrastructure, and leisure consumers of Olympic venues. From a strategic management standpoint, it behoves a local organising committee to communicate with residents, particularly if high investments are at stake.

The potential practical implications of this study for the IOC and Rio de Janeiro are that it is important to understand residents' perceptions of the mega-event, in order to plan it in a way that meets the highest levels of sports achievements and at the same time offers a wide range of social, cultural and economic policies that are external to the sports industry itself (Poynter, 2006).

The study measured the involvement of the host city's population and their perception that the spheres represent opportunities and dissatisfactions when they think about the planning of the Olympic Games.

The results during the pre-Olympic period pointed to tourism as an important legacy of the Rio 2016 Games. The study also indicated increased interest in Olympic sports by residents. Although somewhat balanced, 54% of respondents believed it was a good choice by Rio to host the Olympic Games, the split reveals ambiguity among residents when asked about the completion of Games. Negative consequences of the Rio Games as mentioned by residents included high costs, poor financial management, corruption, unfinished construction projects, traffic woes and the lack of security, which may generate an irreversible impact on the population. Many of the same issues were highlighted in the pre-World Cup period, as shown by previous studies.

Rio residents perceived multiple positive aspects from hosting the Games, including increased tourism, visibility, infrastructure, and mobility improvements. With the arrival of large numbers of tourists of different nationalities, one sees an opportunity to enhance visitors' experience and the cultural exchange, something that was also predicted in the dossier of the Olympic Games.

Our survey of residents in the pre-Olympic period found that 21.5% of respondents increased their interest in sport from the year prior. The new structures created in Rio de Janeiro and surrounding areas create new possibilities to boost sports tourism and promote their use both for residents and domestic and international tourists.

There are many challenges and many opportunities in the short, medium and long term for Olympic host cities, especially when considering the Paralympics in terms of accessibility and social inclusion. These should be addressed in the formal bid proposal for the Games and strategically implemented during and after the events. Rio and Brazil must contend with the financial, political, and social baggage from hosting two mega-events in a relatively short period of time. For Rio, there still exists a window of opportunity for city stakeholders to leverage a positive legacy for all Rio residents and ensure their ongoing support for future events.

The global financial crisis of 2008–09 prompted cities to more carefully consider the views of residents toward hosting mega-events, particularly since residents will be the likely ones to cover event costs. London 2012 experienced significant cost overruns during the economic downturn. We can, therefore, expect less favourable public opinion regarding hosting the Games until global economic conditions improve.



Lastly, we offer recommendations for researchers seeking to measure residents' perceptions of hosting mega-events. While this study assessed residents' perceptions before the mega-event, there is a need for post-event assessments of these perceptions and also the view of different stakeholders, similar to the ground-breaking longitudinal studies by Ritchie and Aitken (1984) on the Calgary Winter Olympic Games. A two-stage research design strategy similar to the one used by Kao, Turco and Wu (2010) in researching the Deaflympics in Taiwan is recommended, whereby residential telephone numbers were randomly generated, called and surveys conducted before and immediately following the Games. On-site field intercepts and interviews with spectators during the sports events have also been attempted (Guala & Turco, 2009; Turco, 1998) followed by electronic mail or telephone surveys with the initial sample a week or two later.

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