

High performance sport in Brazil

Structure and policies comparison with the international context

Leandro Carlos Mazzei, Tatiana de Barros Meira, Flávia da Cunha Bastos,
Maria Tereza Silveira Böhme and Veerle De Bosscher*

Brazil is one of the countries that has invested more in high performance sport; the ultimate goal of this nation is to win about 30 medals in the Rio de Janeiro Summer Olympic Games in 2016. The aims of this study were to present the structure of the Brazilian sport policies and the quality of actions in high performance sport policies. The actions were compared with other countries in an international research called “Sports Policy Factors Leading to International Sporting Success”. The results indicated the existence of financial resources, but the strategic planning and integration in the Brazilian high performance sport policies are deficient. It was also found that high performance sports policies in Brazil showed a progress due to the organization of international major events in the country, but there are still several factors that can be improved.

Keywords: Brazil, sports policies, high performance sport, comparative study, quality assessment.

*Leandro Carlos Mazzei has a Master in Sport Sciences/Sports Management at the University of Porto (Portugal), is a PhD student in Physical Education at the University of São Paulo (Brazil) and at the Vrije Universiteit Brussel (Belgium) and is a professor of the Professional Master Program in Administration/ Sport Management at the Nove de Julho University of São Paulo (Brazil). Tel: +55 11 30 91 87 97. E-mail: leandromazzei@usp.br. Tatiana de Barros Meira has a Master in Physical Education in the University of São Paulo (Brazil). Tel: +55 11 30 91 87 97. E-mail: tati_meira7@hotmail.com. Flávia da Cunha Bastos has a PhD in Education at the University of São Paulo and is an assistant professor of the Sports Department in the School of Physical Education and Sport of the University of São Paulo (Brazil). Tel: +55 11 3 091 87 97. E-mail: flaviacb@usp.br. Maria Tereza Silveira Böhme has a PhD in Sport Sciences from the Justus Liebig Universität Giessen (Germany) and is a titular professor in the Sports Department in the School of Physical Education and Sport of the University of São Paulo (Brazil). Tel: +55 11 30 91 87 97. E-mail: terbohme@usp.br. Veerle De Bosscher has a PhD in Physical Education at the Vrije Universiteit Brussel (Belgium) and is a professor in the Department of Sports Policy and Management at the Vrije Universiteit Brussel (Belgium). Tel: +32 2 629 27 12. E-mail: vdebosc@vub.ac.be

Article received on August 29, 2014, and accepted on October 22, 2014.

Deporte de alto rendimiento en Brasil: Estructura y políticas comparativas en un contexto internacional

Brasil es uno de los países que ha invertido más en el deporte de alto rendimiento; el objetivo final de esta nación es ganar alrededor de 30 medallas en los Juegos Olímpicos de verano de Río de Janeiro en 2016. Los objetivos de este estudio son presentar la estructura de las políticas deportivas de Brasil y la calidad de las acciones en las políticas deportivas de alto rendimiento. Las acciones fueron comparadas con las de otros países en una investigación internacional denominada “Sports Policy Factors Leading to International Sporting Success”. Los resultados indican la existencia de recursos financieros, pero también que la planificación estratégica y la integración en las políticas brasileñas de deporte de alto rendimiento son deficientes. Asimismo, se constató que las políticas de alto rendimiento deportivo en Brasil mostraron un progreso debido a la organización de grandes eventos internacionales en el país, pero todavía hay varios factores que se pueden mejorar.

Palabras clave: Brasil, políticas deportivas, deporte de alto rendimiento, estudio comparativo, evaluación de la calidad.

INTRODUCTION

International sporting success is considered a valuable tool to achieve some indirect goals. In the last ten years, different countries increased the investments in effective high performance sport policies. Generally, these investments are carried for seeking good results in major international sporting events and consequently achieve some indirect goals, like a better international prestige, national pride and an effective internal socio-economic development promotion (Bergsgard *et al.*, 2007; Grix and Carmichael, 2012; Houlihan and Green, 2008).

For many countries, success in high performance international sport means winning medals. The Olympic Games could be considered the main. After the worldwide social and geopolitical changes in the recent history, this

This work is part of the Brazilian results in the second edition of SPLISS research 2009-2012, leading by the International SPLISS Consortium (Sport Policy Factors Leading to International Sporting Success) that aimed to compare the sport policies of 15 nations. The SPLISS Consortium is led by Prof. Dr. Veerle de Bosscher (Vrije Universiteit Brussel), Prof. Dr. Maarten Van Bottenburg (Universiteit Utrecht), Prof. Dr. Simon Shibli (Sheffield Hallam University) and Prof. Dr. Hans Westerbeek (Victoria University). More information: <http://www.spliss.net/>

Thank you for the Secretaria Nacional de Esporte de Alto Rendimento (SNEAR), Forças Armadas Brasileiras, Confederações Olímpicas Brasileiras, performance directors, coaches and athletes for their cooperation in data collection for this research.

mega event has presented an increase in the number of nations and athletes. At the same time, in each edition the competitiveness between nations for Olympic medals has also increased. Many medals are still achieved by some countries, but it appears that each Olympic Games brings new competitors, which means more countries have the ability to win medals in this context (De Bosscher *et al.*, 2008; Green and Oakley, 2001; Shibli *et al.*, 2013).

Therefore, it is natural in such competitive environment the interest by researchers and managers to explain the reasons of success achieved by some and not reached by others countries. Considering high performance sport as a system and its development the result of effective sport policies (among other factors), the analysis of different countries can be considered as a strategic action. Through the results of these analyses, the bodies responsible for high performance sport in a country can intensively engage in learning the best practices performed by other “competitors”, or at least understand the reasons for a possible competitive advantage gained by some nations.

Over the past decade, Brazil is one country that invested more in high performance sport (Almeida and Marchi Júnior, 2011; Meira, Bastos and Böhme, 2012). It is unclear the indirect goals the country wants to achieve, but there is a clear direct goal. Stimulated by the organization of the XXXI Olympic Games, the Sports Ministry and the Brazilian Olympic Committee have target the achievement of at least 30 medals and/or the position among the top ten countries (in number of medals) in Rio de Janeiro 2016 (Brazil-Ministério do Esporte, 2012).

Thus, the aims of this study are to present the structure of sport policies in Brazil as well as, through a comparison methodological model of sports policies from different nations, to analyse the quality of the actions in the Brazilian high performance sport that have been developed until 2012, considering the goals set for 2016.

STRUCTURE OF HIGH PERFORMANCE SPORTS IN BRAZIL

To present the current sport policies structure, the historical context of this subject in Brazil is briefly required. Sport policies in Brazil can be divided

into two historical moments (Tubino, 2002). The first one, from 1941 to 1985, has as main characteristic the state control. During 44 years, the Brazilian government had all sport policies under the control of one larger body: the National Sports Council (NSC). This body encouraged sport practices, regulated and supervised the national federations, state federations, leagues and sports associations. Whereas the second historical moment starting in 1985 has as main characteristic the democratization of the sport organization in Brazil. In fact, there was a decentralization in the Brazilian sport organization, caused by the political opening that occurred in this country in the 1980s. The 1988 Constitution, which is still in effect today, covers the sport in Article 217; among other aspects, it gives autonomy to the organization and management of sport organizations, associations and sport managers.

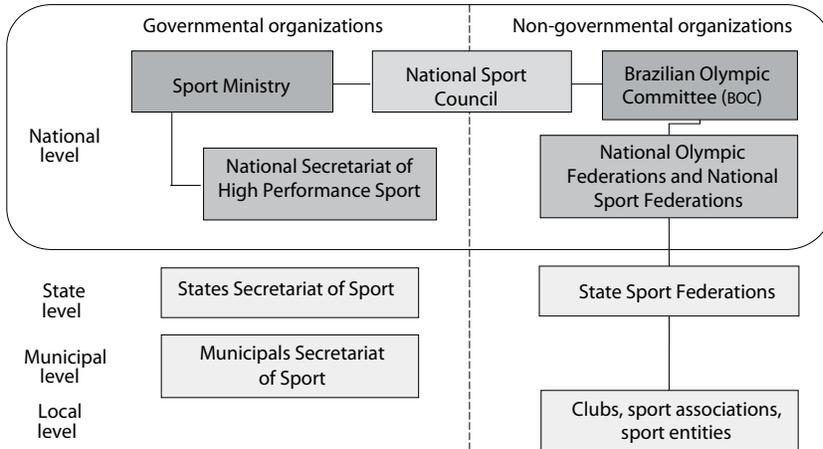
Since the Constitution of 1988 and Law No. 9.615/1998, the current structure of high performance sport in Brazil is structured from the perspective of two systems: one consisting of governmental organizations and the other composed by non-governmental organizations, that cover four levels of action: national, state, municipal and local (figure 1).

In this paper the analysis will focus the actions at the national level, where the main organizations are the Sport Ministry in the governmental system and the Brazilian Olympic Committee (BOC) and National Olympic Federations in the non-governmental system.

The Sport Ministry proposes laws, designs projects and implements programs at the national level, and through these actions it contributes to the sport development in Brazil. To accomplish its mission, the Sport Ministry has four secretaries: *a)* Executive; *b)* Sport, Education, Leisure and Social Inclusion; *c)* High Performance Sport, and *d)* Soccer and Fan's Rights. The Secretariat of High Performance Sport, in turn, is composed by three departments: *a)* Grassroots Sport and High Performance Sport, *b)* Sport Excellence and Events Promotion, and *c)* Sport Infrastructure.

At the state and municipal levels in the governmental system, there are also organizations called secretaries, which have full autonomy to develop their own sport policies both vertically and horizontally of actions.

FIGURE 1. Structure of high performance sports in Brazil



Source: Authors' own elaboration, adapted from Meira and Bastos (2011).

The BOC and the National Olympic Federations have the responsibility for development Olympic sports and send the Brazilian athletes for the Olympic, Pan American and South American Games. Unlike the governmental system, in the non-governmental system (following the traditional sport system) exists more vertical interactions (but not necessarily strategic). Starting from local clubs, the clubs form state federations, and state federations form a national federation that has representation in the local Olympic Committee and in international sporting bodies.

It is necessary to consider that Brazil has a continental land extension (a total area of 8 456 510 km²) and a population with 193 946 886 people. It is a federal republic composed by 26 states, one federal district and 5 565 municipalities with extreme social contrasts; the HDI varies on average from 0.72 to 0.83 between the north/northeast and the southeast/south. These differences also occur in sport. A survey about Olympic results indicates that Brazilian Olympic medal winners mostly represent clubs or sport organizations located in southeastern and southern regions of this country.

The Brazilian sport policies structure has advantages and disadvantages, which results in positive and negative consequences for the development of high performance sport. Governmental and non-governmental organizations (at the national, state and municipal levels) have autonomy to develop sports policies in accordance with their reality and needs; as the same time the lack of a minimum central guidelines do not favor a consistent implementation of sports policies at the national level. Some consequences of this structure will be discussed below.

A COMPARISON OF DIFFERENT COUNTRIES' SPORTS POLICIES: FACTORS LEADING TO INTERNATIONAL SUCCESS

The sport development in one country can be considered as a product of strategic management. A systemic view of the sport organizations is extremely useful to identify critical factors that may influence the performance and international sporting success (Green and Oakley, 2001). According to De Bosscher *et al.* (2006), sport policies have the interference of three levels: macro, meso and micro. The macro-level consists of the geographical, social and cultural characteristics, beyond the political and economic context of one country (climate, population, values, policies of social welfare, degree of urbanization, human development index, political system, economic situation, etc.). The meso-level includes the sport policies actions that can influence sport performance in the long term. The micro-level corresponds to the individual characteristics of the athletes that are crucial to their success in elite sport. Some factors at the micro-level can be controlled, such as athletic training and others are less or even beyond control such as individual genetic aspects.

Researches have shown that the international sporting success is largely determined by socioeconomic factors (Bernard and Busse, 2004; De Bosscher *et al.*, 2008; Vagenas and Vlachokyriakou, 2012). Indeed, the macro-level directly and indirectly influences the other two levels.

On the other hand, the meso-level tends to be increasingly crucial. Strategic decisions in high performance sport policies provide athletes greater

chances for success in major international events; if the opposite occurs, the actions and strategies can be changed and reformulated in order to achieve the desired goals (De Bosscher *et al.*, 2006).

Due to the competition in the international context, the interest for conducting researches that seek the find of factors for international sporting success has increased significantly in recent decades. Research on this topic are usually made from the comparison of sport structure and policies actions that exist in different countries (Bergsgard *et al.*, 2007; De Bosscher *et al.*, 2008; Digel, 2005; Green and Oakley, 2001; Houlihan and Green, 2008; Röger *et al.*, 2010; Truyens *et al.*, 2013).

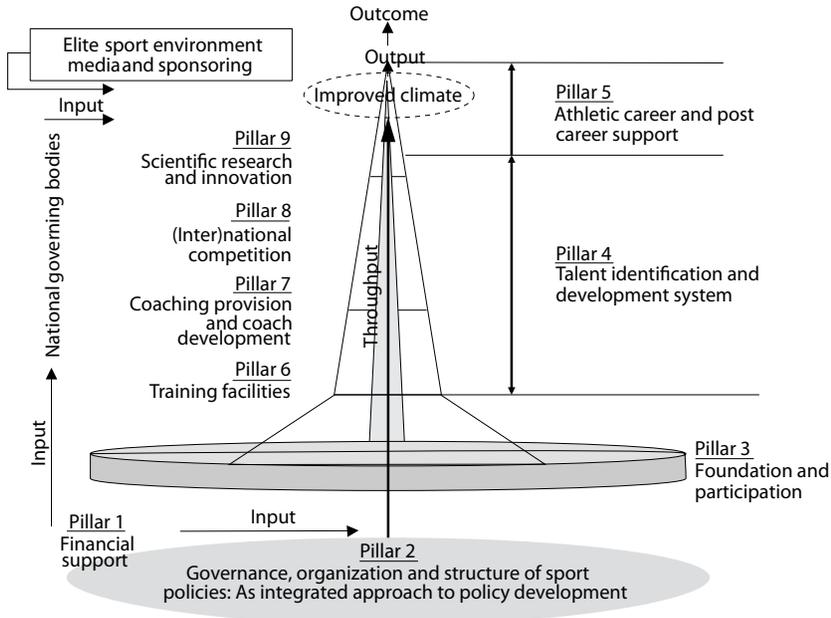
Through extensive literature review, analysis of secondary sources and the opinion of athletes and coaches of high performance sport, De Bosscher *et al.* (2006) developed a model (called SPLISS) about the critical factors that must be developed in the meso-level and which are essential in order to increase the chances for the international sporting success.

The SPLISS (Sports Policy Factors Leading to International Sporting Success) (figure 2) is a model based on nine pillars and allows trans-national comparison of high performance sports policies of different countries. Each pillar consists of indicators, which in turn consists of critical success factors (CSF), as described in the De Bosscher *et al.* (2009).

The Pillar 1 is the financial support for the sport and for high performance sport. Financial resources is considered the input in a sport system. The availability of financial resources in high performance sport increases the opportunities for athletes to develop and train in ideal circumstances, creating greater opportunities to achieve success in international events. In contrast, comparisons of the financial resources spending in different countries are a difficult exercise because it depends on what each country considers as priority in their sport policies.

Therefore, to maintain the comparison between countries as consistent as possible, the model considers financial support as public spending on sport at the national level, it means expenses from a central government to national sport policies. The model considers that financial support is im-

FIGURE 2. SPLISS Model: nine determinant pillars for achieving international sporting success



Source: Authors' own elaboration, adapted from De Bosscher *et al.* (2006).

portant, but it is essential how these resources are invested and used. From the Pillar 2 to Pillar 9, are considered necessary processes for one country develop the high performance sport policies.

Pillar 2 is the basis of these processes. It is how a country organizes its structure, develop the sport policies and determines its goals. In each country, Pillar 2 is inserted in a political and cultural system, but for a sport development, national policies should have at least a strategic long-term planning, a clear description of sport organizations roles and integration among them. Regardless of centralized or decentralized policies, greater government control or not, in the quest for international success high performance sport systems are converging to similar models, with some space for variation (Shibli *et al.*, 2013).

Pillar 3 is the culture and sport participation of a such population. There is a consensus that a large base of participants in various sport practices is positively correlated with the amount of results in international competitions (Digel, 2005; Green and Oakley, 2001).

Pillar 4 are the existence of procedures for the detection, selection and promotion of sport talents, who will be top athletes in the future. In many countries, sport talents are usually recruited from the existing base of participation, while other nations have programs to recruit young athletes through a selection process from a non-participant basis, such as in schools (Böhme, 2011).

When promoted to a main the top teams, the career and the end of an athletic career comes into question. Athletes who seek high performance must be dedicated only to training, and in most cases, are required to forfeit academic learning that would enable a professional activity at the end of their athletic career. In this sense, the Pillar 5 of SPLISS model does not just consider financial support for athletes, but a holistic support which will provide full training conditions and a good transition between the end of the athlete's career and the continuity of their personal/professional life.

The existence of sporting facilities for practice and training are consider in the Pillar 6. In success countries, it is common the existence of training centres. These facilities should have the own administration, hotel accommodation, restaurants, relationship to the educational system, medical research structure for sport science and other support.

Pillar 7 is the support and development of coaches. In this pillar, two factors are crucial: training and context of the profession. The first considers the quality of education and the opportunities for these professionals to become experts in the international level. The second relates to the social importance of the coaches, including status, financial support, social security services and other initiatives that make this skill more attractive as a profession.

Pillar 8 refers to the national and international competitions. The role of competition is linked to the training and development process of ath-

letes because it is through participation in high quality and technical events where different important expertise for sports performance can be acquired.

Pillar 9 is concerned with the scientific contribution to high performance sport and the respective dissemination of scientific information. This pillar in particular can provide competitive advantages, because innovation and the use of applied sport science can be decisive in international sports performance.

Based on the SPLISS model, research instruments were developed. The first application was in the comparison of six countries sport policies (Belgium, Canada, Netherlands, Italy, Norway and the UK). The results of this first research were published in 2008 (De Bosscher *et al.*, 2008). From this publication, the model has become frequently discussed in international conferences such as the European Association for Sport Management Conference and the European College of Sport Science Congress. Furthermore, it was used as a diagnostic tool for sport policies plans by the UK for the London 2012 Olympic Games (UK Sports, 2007) and also for the diagnosis of sports policies in Northern Ireland (Sport Northern Ireland, 2012).

In 2009, SPLISS 2.0 was released with the proposal to compare the 15 countries sport policies: Australia, Belgium, Brazil, Canada, South Korea, Denmark, Spain, Estonia, Finland, France, Netherlands, Northern Ireland, Japan, Portugal and Switzerland.

As already mentioned, there is currently a representative competition for winning medals in international sport context and it can be confirmed that the competition is further exacerbated in the context of the Olympic Games. In the case of Brazil, this country has invested more in high performance sport, mainly stimulated by the hosting of major international sporting events. On the other hand, until a few years ago there wasn't a reasonable amount of research on the issue of the development of high performance sport in Brazil (Meira and Bastos, 2011).

To accomplish the aims of this article, the results of Brazil in the second edition of the SPLISS research will be present and analysed below.

MATERIAL AND METHODS

To compare the high performance sport policies of different countries, the SPLISS model takes into account qualitative quantitative data obtained from two sources (“triangulation design”, from the concepts of mixed methods research by Creswell and Clark, 2011). One of these are obtaining through nine inventories, about each pillar (overall sport policy questionnaire) and their respective critical success factors (CSF), which must be filled based on bibliographic, documented and interviews with performance directors responsible for the sport policies. The other use three surveys (the elite sport climate survey), that involve questions related to the critical success factors of the SPLISS model 9 pillars, and must be answered by performance directors, coaches and athletes.

All research instruments—the overall sport policy questionnaire and the elite sport climate survey—were developed by the SPLISS Consortium (leading researchers from Belgium, Holland, Australia and the UK); the validation process occurred through with its application in a comparative study of six countries (Belgium, Canada, Netherlands, Italy, Norway and the UK). More details can be found in De Bosscher *et al.* (2008, 2009, 2010).

Researchers from the Laboratory of Training and Sport for Children and Adolescents (Lateca) at the School of Physical Education and Sport of the University of São Paulo performed the Brazilian data collection. This group of researchers represented Brazil in the second edition of the SPLISS project. In late 2010, the translation into Portuguese and validation of the content of research instruments was complete.

Regarding the first part of the overall sport policy questionnaire, nine inventories were completed by the Brazilian researchers during 2011 and the necessary adjustments were made in 2012, by interviews with Brazilian sport policies performance directors.

For the elite sport climate survey, were sent invitations to performance directors, coaches and athletes from 30 Brazilian Olympic Federations who fit the criteria established by SPLISS (being involved with international lev-

TABLE 1. Brazilian sample in the second edition of SPLISS research

	<i>Invitations</i>	<i>Answered surveys</i>	<i>Percentage of answered surveys</i>
Performance directors	30	10	33
Coaches	110	83	75
Athletes	3000	449	15

Source: Authors' own elaboration.

els of sport performance). Participation was through completion of the surveys, available online during 2012, along with free and clear terms for authorizing the research.

The Ethics Committee of the School of Physical Education and Sport of the University of São Paulo approved the research in Brazil (protocol number 2010/12). The Brazilian sample had 542 respondents, distributed as shown in table 1.

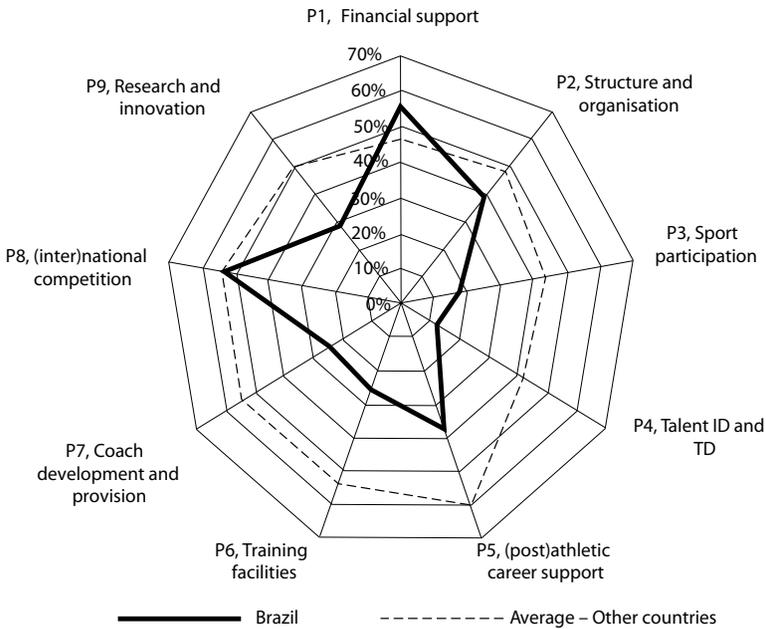
The answered surveys of ten performance directors representing 09 (30%) of the National Olympic Federations, while the answered surveys from 83 coaches and 449 athletes represented 12 (40%) and 29 (96.6%) National Olympic Federations. All data collected were sent to the SPLISS Consortium, where the statistical analysis and the comparison of the results of the 15 countries was conducted. The methods of analysis were published in De Bosscher *et al.* (2010).

RESULTS AND DISCUSSION ON BRAZILIAN DATA

In this paper the Brazilian results in relation to the average values of all the countries participating in the SPLISS 2.0 are presented (figure 3). Brazilian actions at the national level, carried out by the Sports Ministry (governmental system) and the Brazilian Olympic Committee (BOC) and National Olympic Federations (non-governmental system) were taken into account.

With respect to the Pillar 1, "Financial support," the following indicators were analysed: the existence of enough resources to sport in general;

FIGURE 3. Results of the SPLISS 2.0.Brazilian Research Project



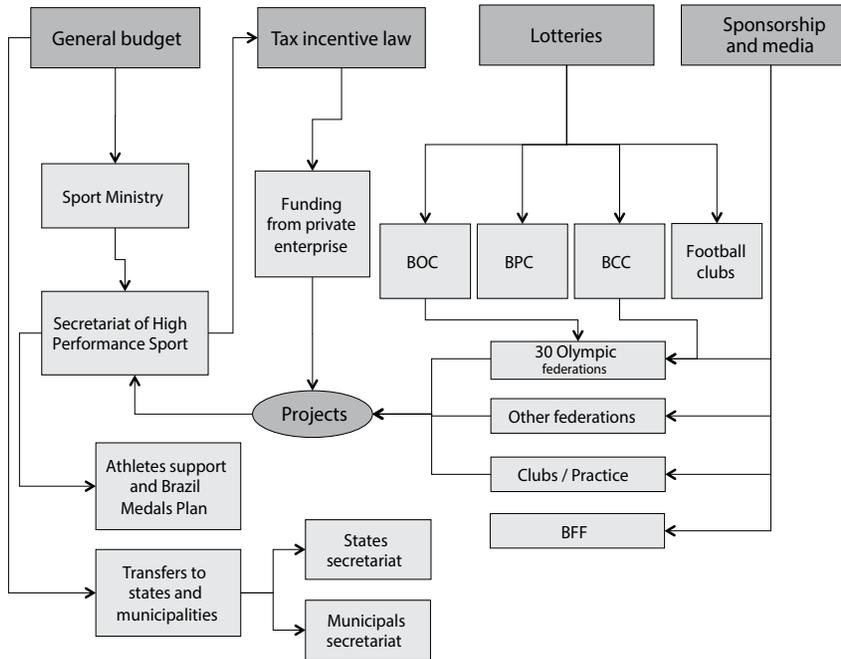
Source: Authors' own elaboration.

financial support for the elite sport; the existence of different sources of sport funding; sport organizations and Olympic sports have access the funding sources. The financial support of the Brazilian high performance sport was 64 per cent and is above average when compared with other countries participating in the SPLISS research (47%).

It was found that there are several sources of funds, including the general budget of the state, lotteries and sponsorships from state and private companies. The Brazilian cash flow for sport can be seen in figure 4.

A major source of funding is the lottery revenues. The Law nº 10.264 (approved in 2001) established the transfer of funds from National Lotteries directly to the BOC, which receives 1.7 per cent of its revenues. Part of the amounts received by the BOC are destined for school sport (0.17%) and college sports (0.085%), while the remainder are invested in BOC's projects

FIGURE 4. Flow of Brazilian high performance sport funding



Source: Authors' own elaboration. BFF: Brazilian Football Federation; BOC: Brazilian Olympic Committee; BPC: Brazilian Paralympic Committee; BCC: Brazilian Clubs Confederation.

or repassed to the 30 Brazilian Olympic Federations. The Brazilian Olympic Federations receive different values based on sporting results achieved (meritocracy). Each federation also have the responsibility to perform a correct management (in sportive and in financial terms), which is often not observed in the analysis of these organizations (Almeida and Marchi Júnior, 2011; Meira, Bastos and Böhme, 2012). The Brazilian Paralympic Committee, the Brazilian Clubs Confederation (BCC) and a small parcel of football clubs are also receive funds from lotteries.

Other sources of elite sport funding are the Law of Tax Incentives for Sport (Law nº 11.438/2006) and the Athletes “Scholarships” Program (Law nº 10.891/2004). The first determines the deduction in tax of individuals or companies that allocated resources for sports projects, and the

second provide financial support to athletes of different levels. There are also sponsorships from state and private companies. With a few exceptions, the information of the sponsorship values is not clear or is not standardized in the general budget of the major non-governmental sports organizations (BOC and National Olympic Federations). If the organizations responsible for high performance sport in Brazil had more information about sponsorships, they could better achieve management of investment distribution, as it happens in the United States (Masteralexis, Barr and Hums, 2011).

Between 2002 and 2012, there was an increase trend of investment in Brazilian high performance sport. A possible explanation for this would be the investment of the Brazilian government for host major international sporting events (South American Games in 2002, Pan American Games in 2007 and Military World Games in 2011, among others). Coaches and athletes also confirm that the financial resources for sport increased in recent years.

However, despite the availability of resources, it was not possible to identify an integrated policy with a strategic plan and clear role description of the Brazilian sport organizations. Thus, there was not effective management on the application of resources according to a policy with long-term goals, as recommended in Pillar 2 of the SPLISS model presented before.

In the Pillar 2, “Organization and policy framework for sport, as an integrated approach to policy development”, the analysis is focused on the existence of coordination, communication and roles of all organizations involved in high performance sports. The existence of long-term planning, the transfer of funds to sports that have real chances of international success, and the presence of full-time managers for the development of high performance sport policies are considered too.

The Brazilian result in this Pillar was approximately 38 per cent and is below the 48 per cent average of other countries participating in the research, suggesting that there is still much to do for improvement the Pillar 2 aspects in Brazil. The interactions between governmental and non-governmental

organizations, mainly the Ministry of Sports and BOC/National Olympic Federations, are focused only in the transfer and application control of financial resources.

On the governmental side, there is no vertical interaction between the organizations. Regarding non-governmental organizations, the BOC and the National Olympic Federations develop plans that do not have absolute synergy in most of cases. The BOC and National Olympic Federations can use Lotteries resources (but are not required) in six items: 1) programs and fostering projects; 2) organization maintenance; 3) human resources training; 4) technical sportive preparation; 5) athletes support and 6) organization and participation in sport events. There is a strong prevalence of investments in the participation in events and in the technical sportive preparation of athletes. However, the coaches training and the construction of training centers (fostering projects) have not received the same volume of investments.

About the strategic investment in sports that have real chances for international success, since the 2000 Olympic Games, Brazil have Olympic medals in at least seven sports. In London 2012, South Korea and Italy (countries that had the ninth and tenth place in total medals) won 28 medals in 12 and 15 sports respectively. To achieve the goals set for 2016, Brazil started to invest in Olympic sports that traditionally win medals and in potential sports that have chance to win at least one Olympic medal.

These sports are swimming (marathon swimming, but other styles are not specified), athletics (unspecified events), basketball, boxing, canoeing, cycling (BMX), women's football, gymnastics, handball, equestrian (jumping), judo, wrestling, modern pentathlon, taekwondo, tennis, shooting, triathlon, sailing, volleyball and beach volleyball (Brazil-Ministry of Sport, 2012). This strategic plan started only in 2009. If the Brazilian results in London in 2012 taken into account, where Brazil won 17 medals in nine sports, it can be concluded that the set for 2016 are ambitious and to achieve the goals this country will have a great challenge.

About managers dedicated in full time for development of high performance sport policies, this type of professional training has been developed

since 2009 by the BOC, from the Managing Olympic Sport Organizations program, produced by Olympic Solidarity in cooperation with “Master Exécutif en Management des Organisations Sportives”. It can be stated that these actions are recently and still only occurring on a small scale.

Countries that host Olympic Games not only seek the best sport results of their history, but also tried to develop a better high performance sport policies. South Korea, Spain, Australia, China and the UK are good examples of countries that, from the time were chosen as hosts, sought a best organized in the sport policies terms. These countries aimed not only the sport results, but also a long-term sport development, earning good results before they hosted the event, during the event, and in the following Olympic Games. Greece is the opposite example, because it had only momentary good results, and did not have a sport legacy that would guarantee long-term sport develop (Shibli *et al.*, 2013). After the framework presented, Brazilian goals can even be achieved in 2016, but they probably will not continue because the policies developed until 2012 do not guarantee that the good results can continue in a long term.

Concerning Pillar 3, “Sports participation”, many countries engage on a mass sport culture model. On the other hand, it is essential that policies target the quality practices that are offer to the population, both in terms of facilities and in the methodologies used. For a good evaluation in Pillar 3, it is important to revise indicators like the opportunities for children to participate in sports activities in school; if there is a high rate of participation in sport, and if there is a national policy aiming to promote quality control in clubs and other organizations that offer sports activities for the population.

Brazil’s Pillar 3 evaluation was close to 17 per cent, well below the average values of the other countries, 43 per cent. The fact that Brazil has a large population with ethnic and cultural diversity indicates that the country has great sport potential. However, there was a lack of information about national policies that encourage sport participation, mainly in children and young people.

The educational system could be the leading developer of sport practices, as in other countries, such as China and Japan (Houlihan and

Green, 2008). The results observed indicate that the Brazilian educational system does not have a systematic sport initiation. The extracurricular sport activities are scarce and insufficient for the majority of students. Even with government organizations defending that sports participation is available in programs such as “Segundo Tempo” or that public schools somehow foster sport in Brazil, the number of youth attended is low, almost inexpressive for the Brazilian universe. The sport structure in schools is poor and the National Court of Audit report (the government’s own auditor) also evidenced the discontinuity of sport school programs (Brazil-Tribunal de Contas da União, 2011).

Another point to be considered is the fact that Brazil has a sport system based on private sports clubs, disadvantaging access to sports practice for a large part of the population. Only a small proportion of children and young people have the opportunity to start sport practices in private sport clubs.

The Brazilian challenge in Pillar 3 is to develop and implement an integrated national sport policy, which also considers the state, the local needs and the cultural diversity in each region. Furthermore, the sport participation need to attend not only the most popular collective sports, but also a range of individual and alternative sports. A good option would be improve the sport facilities in the education system and implement programs that consistently offer various sports in these facilities. Another option would be to conduct effective partnerships with sports clubs, non-profit and other organizations that have expertise in this type of service, such as the Social Service of Commerce (Sesc) and Social Service of Industry (Sesi). Nevertheless, it is essential to create a structure, a sports system that takes the initiation in multiple sports; and give options for the children and young people to continue in high performance sport programs. To happen this, the existence of facilities (Pillar 6) and qualified human resources (Pillar 7) are crucial.

In Pillar 4, “System identification and development of talent”, Brazil had the worst rating of all pillars, 12 per cent, well below to the 42 per cent average of other countries. The indicators observed for evaluation in this

pillar were: the existence of a young talent detection system (so that the maximum number of potential athletes is reached at the right time); if there is a national federations planning an effective development system of athletes in their sports; if young athletes receive multidimensional support for their development; if young sport talent can combine their sports activities with education.

There are no policies aimed at developing sport talents in Brazil. Some actions related with Pillar 4 happen in some sports and their National Federation, but these actions are not fully systematized. The holistic development of athletes in Brazil remain in the background. In most cases is giving a priority to an immediate investment in a few high performance athletes. The actions relating to the develop of athletes in Brazil occur through isolated initiatives without organization and control procedures as evidenced by the National Court of Audit report (Brazil-Tribunal de Contas da União, 2011) and other Brazilian authors (Böhme, 2011; Massa, Uezu and Böhme, 2010; Matsudo, 1999). In most cases, the rise of sport talent in the Brazilian reality occurs with “luck” and is not the product of consistent and planned programs.

Support for athletes and post-sport career are covered in Pillar 5. For a positive evaluation in this Pillar, the following indicators should be observed: the existence of a consensus on what constitutes a high performance athlete; if the living conditions offered are sufficient for the athletes (so they can focus their full attention on sport training); if there are programs for support the post-career or on preparation to the end of the athletic career.

Brazil had an evaluation in Pillar 5 of approximately 37 per cent, below the 60 per cent average observed in all other countries. In recent years, there have been advances in support for athletes. One highlight is the financial support offered by the Athlete Scholarship Program and a higher incidence of sponsorships for Olympic teams or individual Olympic athletes. However, to develop the high performance athletes, the financial resources are only part of the necessary support. It is necessary the existence of other supports and structures such as doctors, nutritionists, physiothera-

pists, psychologists, scientists, high quality facilities for training, etc. Thus, it is believed that there is a need for development of new programs also in Pillar 5 in Brazil, and these new programs must be linked with the Pillars 4, 6, 7 and 9.

Regarding post-career, there is too much to be developed. Actions focused on education of athletes can prevent these individuals of an absence of options for professional life after the end of their sport careers. At the same time, it is necessary that the education system become flexible and respect the reality of the high performance athlete's routine (training and competitions).

With respect to Pillar 6, "Sports facilities", the following indicators were seen in your evaluation: the existence of a database of all sport facilities and facilities for high performance sport in the country; if the needs of athletes and coaches are known; if there is a network between national and regional sport centres; if there is a specific fund for construction and renovation for sport facilities.

In the Brazilian case, the evaluation of Pillar 6 was 26 per cent, below to the 56 per cent average of the other countries in this second edition of SPLISS. There are positive initiatives, such as the reuse of the Maria Lenk Aquatic Park, built for the Pan American Games in 2007. Now this facility are destined for tests and monitoring of the physical training of athletes (but which not configured as a permanent training center). Another good example is the Saquarema Training Center of the Brazilian Volleyball Federation (CBV), regarded as the most complete sport centre in the country (this facility are used for volleyball, beach volleyball and other sports which use this center in specific moments).

However, from the point of view of Brazilian athletes and coaches, the quality, availability and accessibility of the sport facilities for training in the country are between reasonable and very low. This perception occurs because a national plan or a network of training centres in Brazil does not exist. Regarding the sports facilities built for the hosting of major events like the 2014 World Cup and 2016 Olympic Games, it is important to emphasize that these are primarily designed for the entertainment. If they

not properly redesigned or appropriately managed, these facilities will enter into disuse, such as the most of facilities used in the Pan American Games in 2007.

In addition to the facilities and all supports for athlete's preparation, it is crucial the quality of coaches, trained and recognized for their role in the sports system. In Pillar 7, "Development and support for coaches", the following indicators should be observed: the number of qualified and experienced coaches; the possibilities of developing their careers; living conditions and status in the society. The overview of analysed aspects in relation to sport coaches in Brazil showed a rating of 24 per cent, below the 54 per cent average of the other countries.

There are determinations in Brazilian law for the academic qualification and to this professional practice. The main ones are the official guidelines of the National Council of Education and the standards set by the Federal Council of Physical Education. The education of these professionals are (or must be in Brazil) in undergraduate Physical Education and Sports courses and in updated courses often by BOC and sport federations. But regarding to the quality of coaches, it does not exist a consistent evaluative parameter in Brazil, hindering career development, the definition of wages, benefits, establishment of contracts and retirement processes. Coaches in different countries undergo in specific courses that provide the evolution of the level of activity (*e.g.* regional, national, international and Olympic). There is also an absence of a "professional" concept in sport coach activity in Brazil, or at least the lack of use of this concept in Brazilian sport organizations.

Thus, there is need of creating new programs or improving existing proposals regarding the specific development of coaches in Brazil. Actions such as effective training courses and evaluation criteria of professional competence are initial suggestions that would raise awareness for both professionals and organizations. Other strategies which can also be used such as benchmarking with foreign coaches; breaking paradigms (failure is always the coach responsibility and other processes are not considered, leading to discontinuity of work performed) and providing more theoretically

updated training opportunities to young professionals, although less experienced. The quality of coaches would cause a multiplier effect on Brazilian sport, because if improving this human resource and giving better working conditions, all sport structure in Brazil will develop.

The structure that a country provides for sport competitions is another important factor in order to achieve international success. In Pillar 8, “National and international competitions”, the indicators considered were: the existence of national planning to increase the number of international events host in the country; if athletes can participate in a sufficient number of international events; national competitions have a standards of quality (in sportive and competitive terms) that can be compared to international levels.

As in Pillar 1, Brazil had a good rating in Pillar 8, close to the average of the other countries, about 53 per cent. Not all indicators were observed, but it had an increase in the number of international sport events in Brazil from 2002, highlighted by the South American Games in 2002, the Pan American Games in 2007, the Military World Games in 2011, the Confederations Cup in 2013, the 2014 FIFA (Fédération Internationale de Football Association) World Cup. In addition, they will take place the Olympic and Paralympic Games.

It also identified an increase in financial investment for the organization of national events for young talent (National School Games), as well as for the participation of Brazilian athletes in international competitions abroad. This information was enough to create a positive trend in Brazilian performance (total medals) in the latest editions of the Olympics and Pan American Games.

Even with this favorable environment, some improvements in sporting event policies are still need, such as better organization and coordination of the national sport calendar. It is no coincidence that in 2013 and 2014, football players claim a better organization of the sport calendar (Veja, 2013). Besides the question about calendar, it is essential that National Federations conduct a better plan and management of their competitions. For volleyball and judo athletes, national competitions already have high

levels, which makes international competitions just the next step in their goals. But for other sports, national competitions do not have a good level, which probably affects the preparation for international competitions.

Another relevant point is the difference in levels of athletes in many Brazilian competitions. It is so pronounced sport structure conditions between the different states of the country that the competitive performance is compromised. In this sense, some sports decided to have a strategy to send athletes to clubs abroad thereby to achieve higher levels of performance (Ministério do Esporte, 2013).

For long-term development, international goals should be realistic and prioritized according to the athletes level. There was a time when the Brazilian female volleyball team had the Pan American Games as their main goal, while the male volleyball team aimed the gold medal in the Olympics. Gradually the performance of the female volleyball team progressed and today the goals for male and female teams are similar in terms of performance. The same example can be seen in Brazilian judo.

Concerning the Pillar 9, where the role of science and research applied to sport are considered, the indicators to be observed are: if the research conducted is disseminated among the high performance coaches and if there is a support (institutional and financial) for innovation in sport performance. Regarding the scientific research dissemination and the advances in research support, it is clear that there is a weak scenario from communication between Brazilian agencies in this segment. Brazil scored 28 per cent in this Pillar below the average of 50 per cent achieved by the other countries in SPLISS 2.0.

Besides the issue of communication, the little existing scientific knowledge does not reach the reality of coaches and consequently, high performance athletes. In general, professionals who work directly with the talents and athletes are not getting their needs in the actual sport research that are conducted in Brazil. For coaches, scientific studies are not necessary, or in most cases, are not applicable in the practical field. This gap between science and practice in the Brazilian reality does not happen in countries that have success in international sport.

There is a funding for development of high performance sport research. However, the use of this resource are in isolated initiatives, occurring without integration, or even still are discontinued, which also demonstrates a lack of central coordination and long-term planning regarding Science and Sport in Brazil. One way would be gather resources into a single autonomous agency that would aim to promote the development of research and innovation in the sport. Besides coordinating financial resources, this agency would be responsible for setting policies, priorities, and linking the needs of coaches and athletes to the research.

A good solution for Brazil would be the implementation of a National Sport Centres, well-equipped, structured for athletes training and scientific research. One of the priorities of the research in these centres would be attend coaches and athletes demand and disseminate research results to other high performance sport organizations or research institutions.

FINAL CONSIDERATIONS

After the presentation of the Brazilian sport policies structure and the results of this country in the international research denominate SPLISS, it can consider that there are crucial points to be improved in Brazil. Although financial resources are available, strategic planning and integration in the Brazilian sport policies need to be better defined and organized. Brazilian sport organizations at the different levels of action (from national to local), both at the governmental and the non-governmental system, need a clear definition of their roles.

It is true that Brazil has been performing improvements in high performance sport, but it is essential that the sport policies in this country stop being “political group action” and become a real state responsibility. In this sense, one good example is the Decree nº 7.984 of April 8, 2013, which includes in the general Brazilian sport law rules for the use of resources and investments by the sport organizations.

Compared to the past, sport policies in Brazil have improved and have shown a more marked progress with the hosting of major international

events in the country. Some policies action, like the “Brazil Medal Plan” was launched (released after completion of the SPLISS 2.0 analysis), providing further investment in Brazilian high performance sport. Even the late start, Brazil Medal Plan offers more resources, indicates a potential sport development in the country and are directly linked to the 2016 Olympic Games goals.

The case is that is expected more strategic allocation of the financial resources, the development may not be specifically at one point or another, but integrated. Each country must find a particular synergy between all Pillars and thereby achieve continuous and consistent development in its high performance sport.

For example, an increase of available facilities with well-structured programs can increase the sport activities in the population. Consequently, other places can be structured to receive young talents and athletes, as well as research centres and educational institutions for coaches training. These places already exist in Brazil, are the nationals (federals) universities and nationals (federals) institutes. Unfortunately, the universities and institutes mentioned do not have adequate infrastructure for high performance sport and therefore cannot develop the proposal presented above in this paper.

Brazil has huge sport potential. There are resources and the policy improvements are progressing, even if slowly. It is hope that the progress achieved so far it is not momentary result, stimulated by the hosting of major events in the country and it is expected actions for the continuous improvement of high performance sport in Brazil. ☒☒

REFERENCES

- Almeida, Bárbara Schausteck and Wanderley Marchi Júnior (2011), “Comitê Olímpico Brasileiro e o Financiamento das Confederações Brasileiras”, *Revista Brasileira de Ciências do Esporte*, 33(1), pp. 163-179.
- Bergsgard, Nils Asle, Barrie Houlihan, Per Mangset, Svein Ingve Nodland

- and Hilmar Rommetvedt (2007), *Sport Policy: A Comparative Analysis of Stability and Change*, Oxford, Butterworth-Heinemann.
- Bernard, Andrew B. and Meghan R. Busse (2004), "Who Wins the Olympic Games: Economic Resources and Medal Totals", *The Review of Economics and Statistics*, 86(1), pp. 413-417.
- Böhme, Maria Tereza Silveira (2011), *Esporte Infantojuvenil: Treinamento a Longo Prazo-teoria e Prática*, São Paulo, Phorte.
- Brazil-Ministério do Esporte (2012), "Plano Brasil Medalhas", available at: <http://www.esporte.gov.br/index.php/institucional/alto-rendimento/plano-brasil-medalhas> [accessed on August 23, 2014].
- Brazil-Tribunal de Contas da União (2011), *Relatório de Auditoria Operacional: Esporte de Alto Rendimento*, Brasília, Tribunal de Contas da União, Secretaria de Fiscalização e Avaliação de Programas de Governo.
- Creswell, John W. and Vicki L. Plano Clark (2011), *Designing and Conducting Mixed Methods Research*, 2nd ed., Los Angeles, Sage Publications.
- De Bosscher, Veerle, Jerry Bingham, Simon Shibli, Maarten Van Bottenburg and Paul De Knop (2008), *The Global Sporting Arms Race: An International Comparative Study on Sports Policy Factors Leading to International Sporting Success*, Aachen, Meyer & Meyer.
- De Bosscher, Veerle, Paul De Knop, Maarten Van Bottenburg and Simon Shibli (2006), "A Conceptual Framework for Analysing Sports Policy Factors Leading to International Sporting Success", *European Sport Management Quarterly*, 6(2), pp. 185-215.
- De Bosscher, Veerle, Paul De Knop, Maarten Van Bottenburg, Simon Shibli and Jerry Bingham (2009), "Explaining International Sporting Success: An International Comparison of Elite Sport Systems and Policies in Six Countries", *Sport Management Review*, 12(3), pp. 113-136.
- De Bosscher, Veerle, Simon Shibli, Maarten Van Bottenburg, Paul De Knop and Jasper Truyens (2010), "Developing a Method for Comparing the Elite Sport Systems and Policies of Nations: A Mixed Research Methods Approach", *Journal of Sport Management*, 24, pp. 567-600.
- Digel, Helmut (2005), "Comparison of Successful Sport Systems", *New Studies in Athletics*, 20(2), pp. 7-18.

- Green, Mick and Ben Oakley (2001), “Elite Sport Development Systems and Playing to Win: Uniformity and Diversity in International Approaches”, *Leisure Studies*, 20(4), pp. 247-267.
- Grix, Jonathan and Fiona Carmichael (2012), “Why do Governments Invest in Elite Sport? A Polemic”, *International Journal of Sport Policy and Politics*, 4(1), pp. 73-90.
- Houlihan, Barrie and Mick Green (2008), *Comparative Elite Sport Development, Systems, Structures and Public Policy*, London, Elsevier.
- Massa, Marcelo, Rudney Uezu and Maria Tereza Silveira Böhme (2010), “Judocas Olímpicos Brasileiros: Fatores de Apoio Psicossocial para o Desenvolvimento do Talento Esportivo”, *Revista Brasileira de Educação Física e Esporte*, 24, pp. 471-481.
- Masteralexis, Lisa, Carol Barr and Mary Hums (2011), *Principles and Practice of Sport Management*, 4th ed., Sudbury, Jones & Bartlett Learning.
- Matsudo, Victor Keihan Rodrigues (1999), “Detecção de Talentos”, in Nabil Ghorayeb and Turibio Leite de Barros Neto (eds.), *O Exercício: Preparação Fisiológica, Avaliação Médica, Aspectos Especiais e Preventivos*, São Paulo, Editora Atheneu.
- Meira, Tatiana de Barros and Flávia da Cunha Bastos (2011), “Estruturas de Organização e Promoção Esportiva”, in Maria Tereza Silveira Böhme (ed.), *Esporte Infantojuvenil: Treinamento a Longo Prazo e Talento Esportivo*, São Paulo, Phorte.
- Meira, Tatiana de Barros, Flávia da Cunha Bastos and Maria Tereza Silveira Böhme (2012), “Análise da Estrutura Organizacional do Esporte de Rendimento no Brasil: Um Estudo Preliminar”, *Revista Brasileira de Educação Física e Esporte*, 26(2), pp. 251-262.
- Ministério do Esporte (2013), “Melhor Jogadora de Handebol do Mundo, Alexandra Trabalha para Jogar no Rio 2016”, available at: <http://www.esporte.gov.br/ascom/noticiaDetalhe.jsp?idnoticia=10610> [accessed on October 29, 2013].
- Revista Veja (2013), “Movimento Dos Atletas Ganha Força, Mas Cartolas Resistem”, *Futebol*, available at: <http://veja.abril.com.br/noticia/esporte/>

- movimento-de-atletas-ganha-forca-mas-cartolas-resistem [accessed on October 28, 2013].
- Röger, Ulrike, Alfred Rütten, Heiko Ziemainz and Randy Hill (2010), “Quality of Talent Development Systems: Results from an International Study”, *European Journal for Sport and Society*, 7(1), pp. 7-19.
- Shibli, Simon, Veerle De Bosscher, Maarten Van Bottenburg and Hans Westerbeek (2013), “Measuring Performance and Success in Elite Sports”, in Popi Sotiriadou and Veerle De Bosscher (eds.), *Managing High Performance Sport*, London and New York, Routledge, pp. 30-44.
- Sport Northern Ireland (2012), *Sport Policy Factors Leading to International Sporting Success: An Audit of the Elite Sport Development System in Northern Ireland*, Belfast, Sport Northern Ireland/House of Sport.
- Truyens, Jasper, Veerle De Bosscher, Bruno Heyndels and Hans Westerbeek (2013), “A Resource-Based Perspective on Countries’ Competitive Advantage in Elite Athletics”, *International Journal of Sport Policy and Politics*, 6(3), pp. 1-31.
- Tubino, Manoel (2002), *500 Anos de Legislação Esportiva Brasileira: Do Brasil Colônia ao Início do Século XXI*, Rio de Janeiro, Shape.
- UK Sports (2007), *Sports Policy Factors Leading to International Sporting Success*, London, UK Sports.
- Vagenas, George and Eleni Vlachokyriakou (2012), “Olympic Medals and Demo-Economic Factors: Novel Predictors, the Ex-Host Effect, the Exact Role of Team Size, and the ‘population-GDP’ Model Revisited”, *Sport Management Review*, 15(2), pp. 211-217.

Leandro Carlos Mazzei is Master in Sport Management at the University of Porto (Portugal) and is a PhD student in Physical Education at the University of São Paulo (Brazil) and Vrije Universiteit Brussel (Belgium). Professor at the Nove de Julho University of São Paulo (Brazil). Researcher in high performance sport and sports marketing.

Tatiana de Barros Meira is Master in Physical Education at the School of Physical Education and Sport of the University of São Paulo (Brazil). Works on the following subjects: sports programs, sport organizational structure, futsal, women sport.

Flávia da Cunha Bastos is Professor at the School of Physical Education and Sport of the University of São Paulo (Brazil). Associated founder, former president of the Brazilian Sport Management Association. Board member of the Latin America Sport Management Association.

Maria Tereza Silveira Böhme is Professor at the School of Physical Education and Sport of the University of São Paulo (Brazil). Has experience in sport for children and young people, long-term training and sports talent. Currently working on high performance sport policy and quality of detection, selection and promotion programs for sports talents.

Veerle De Bosscher is Professor at the Department of Sports Policy and Management in the Vrije Universiteit Brussel (Belgium). Veerle is a leading of an international comparative research on high performance sport, called SPLISS (Sports Policy factors Leading to International Sporting Success) involving 15 countries.

