

What is the Ideal Paralympic Sport System? Future research directions

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Introduction

The Paralympic Games were first held in 1960 in Rome with just over twenty countries and 400 athletes competing. More than fifty years later London is preparing to host the 2012 Summer Paralympic Games with over 4000 athletes from 150 countries. The growth has been phenomenal and has been concomitant to an increase in competitiveness of athletes and nations. Many nations now invest a considerable amount of time and money in their respective Paralympic sport systems with the hopes of enhancing national pride and glory. This of course has also happened, and arguably to a much greater extent and for a significantly longer period, within the able bodied sport system. And in this realm some have gone so far as to refer to this as a global sporting arms race (Oakley & Green, 2001), of which the fundamental principle is that international sporting success can be produced by investing strategically in elite sport. Several nations have indeed shown that accelerated funding in elite sport can lead to an increase of medals won at the Olympic Games. Similar trends can be found in the Paralympic Games, as is evidenced by nations like the United Kingdom where investments between Sydney (2000) and Beijing (2008) raised by 300% with an increased market share of; funding for Paralympic sport will increase further upwards to London 2012 from £30 million to £47 million. Many nations invest in Paralympic sports, because they believe that success can be determined by human impact and policies (De Bosscher, De Knop & Van Bottenburg, 2007).

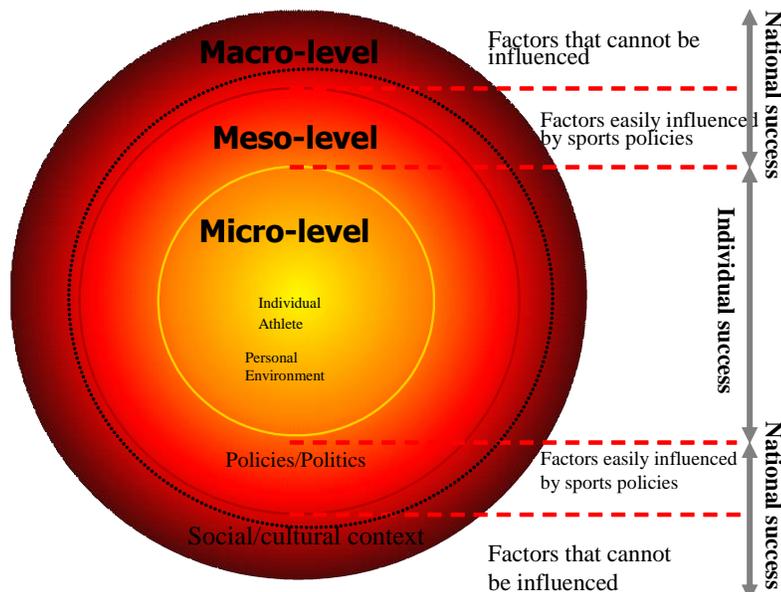
The challenge, for both able bodied and disability sport systems, is knowing where to make investments that garner the highest rate of return, particular as governments which in many cases is the primary funder are being asked to justify every dollar spent. The difficulty is that to date, there have been only a few internationally recognized models specific to the able-bodied sport system that allow sport managers and leaders to do this and thus more effectively increase the efficiency and effectiveness of their sport system. It was the recognition of this absence that in 2002 led to the creation of a consortium of researchers from Belgium, the Netherlands, and the United Kingdom. After consortium members developed a framework for further study, other researchers were invited to participate from Norway, Italy and Canada. This larger group worked together with the goal of better understanding how sport policies could lead to international sporting success and was thus referred to as the SPLISS study (De Bosscher, V., Bingham, J., Shibli, S., van Bottenburg, M., & De Knop P., 2008). SPLISS is an acronym for Sport Policy factors Leading to International Sporting Success.



Theoretical model

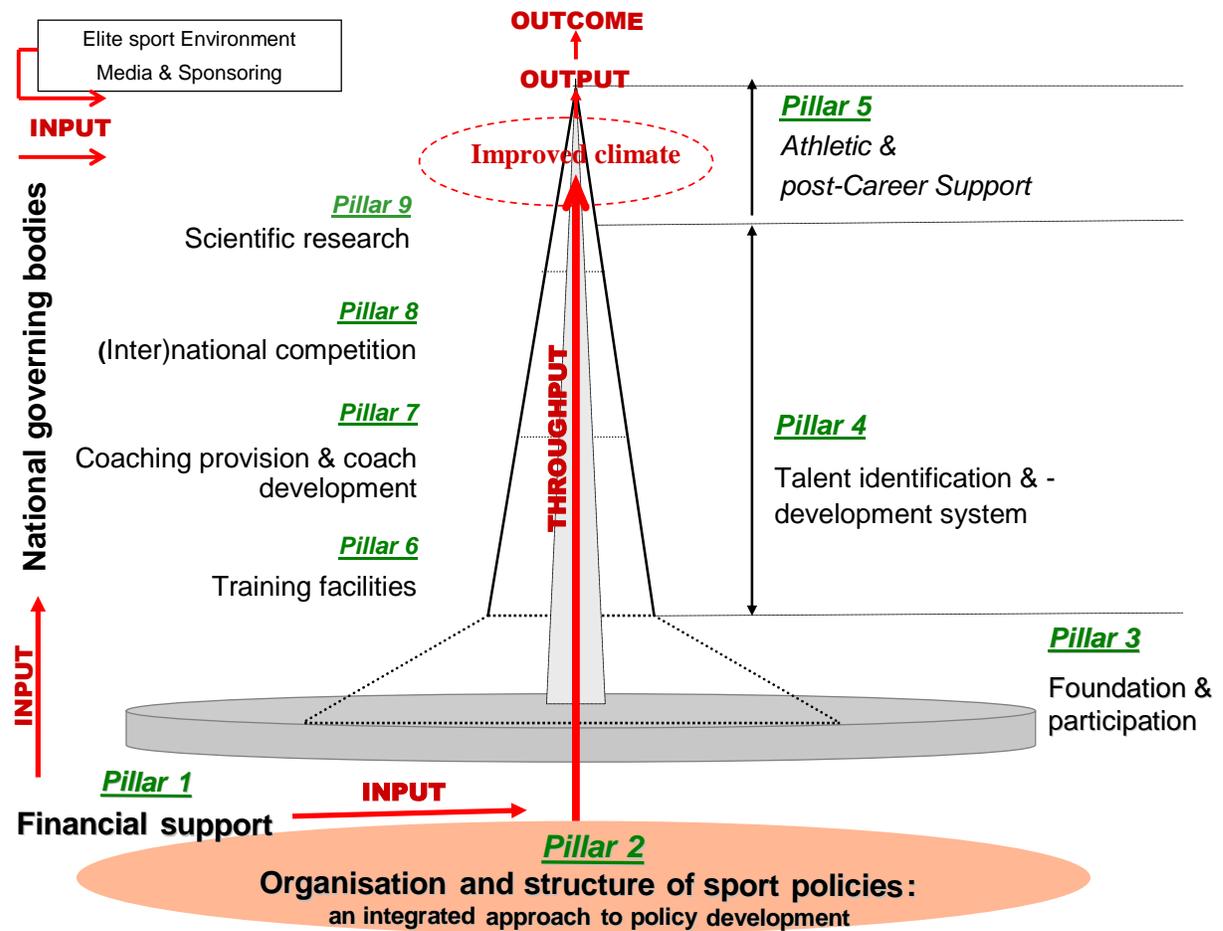
The SPLISS group, lead by Prof. Dr. Veerle de Bosscher from Vrije Universiteit Brussels in Belgium, conducted the pilot study where they developed a classification of factors leading to international sporting success. Three levels included those at the micro level (the athlete), the meso level (sports policies and politics) and macro level (cultural context). What became clear was that the administrators, or sport leaders, were primarily able to influence those items at the meso level. Certainly, an impact could be made at the micro level such as altering training techniques and providing mental training but other factors such as genetics and social influences were not. At the macro level potentially influential factors such as the economy, climate and population growth were outside the realm of the administrator's influence.

Figure 1: Model showing the relationship between factors determining individual and national success (De Bosscher et al., 2006).



Taking into account all the various factors that determine elite sports success, meso-level factors are the only ones that can be influenced and changed. Surprisingly, however, only a few studies have focused on organisational factors at this level. The lack of an empirically-grounded, coherent theory on the factors determining international sporting success therefore lied at the root of the SPLISS-project. Based on the review of literature and the two data collections noted, a model was developed to better understand what factors lead to international sporting success. In this model nine pillars were identified as key to this process. The nine pillars included financial support, an integrated approach to policy planning, participation in sport, talent identification and development, athletic and post career support, training facilities, coaching, international competitions and scientific research.

Figure 2: *SPLISS model: a conceptual model of 9 pillars of Sports Policy factors Leading to International Sporting Success (De Bosscher et al., 2006)*



Criteria or critical success factors (CSF) have been developed to operationalise the nine pillars into logically derived and measurable sub-components. 103 CSF have been included in this study to compare elite sport policies in six nations.

Methodology

Data were gathered in two ways. First an overall policy questionnaire was circulated to the researchers in all participating nations, which contained 84 open-ended and closed questions on nine pillars. These questionnaires typically produced more than 30 pages of information per nation. Given that some features of successful nations as defined by Oakley and Green (2001) and Clumpner (1994) cannot easily be quantified, they were subjectively assessed by their primary users. A series of questionnaires was then used as the second data source. 1090 Athletes, 253 coaches and 63 sport administrators filled in written questionnaires on their overall sport system and the items that would impact an athlete's ability to attain world class performances.

Results

This model was tested during a pilot study with the six sample nations mentioned earlier. Each nation was then assessed in each of the pillars and critical success factors and noted against how they performed in international sports. The table below shows how each of the seven participating nations compared to each other. For more information about the methods used in this study, we refer to earlier publications (De Bosscher et al., 2009 and 2010).

Figure 3: SPLISS EVALUATION OF POLICY FACTORS (De Bosscher et al., 2008)
Nations ordered by assessed ranking in summer Olympic sports)

	ITA	UK	NED	CAN	NOR	FLA	WAL
1(a) Financial support: National expenditure on sport							NA
1(b) Financial support : National governing bodies							NA
2. Integrated approach to policy development							
3. Participation in sport				NA			
4. Talent identification & development system							
5. Athletic and post career support							
6. Training facilities							NA
7. Coaching provision and coach development				NA	NA		
8. International competition (organization events)							
9. Scientific research							

policy area very well developed
 good level of development
 na: data not available
 limited development
 little or no development
 moderate level of development

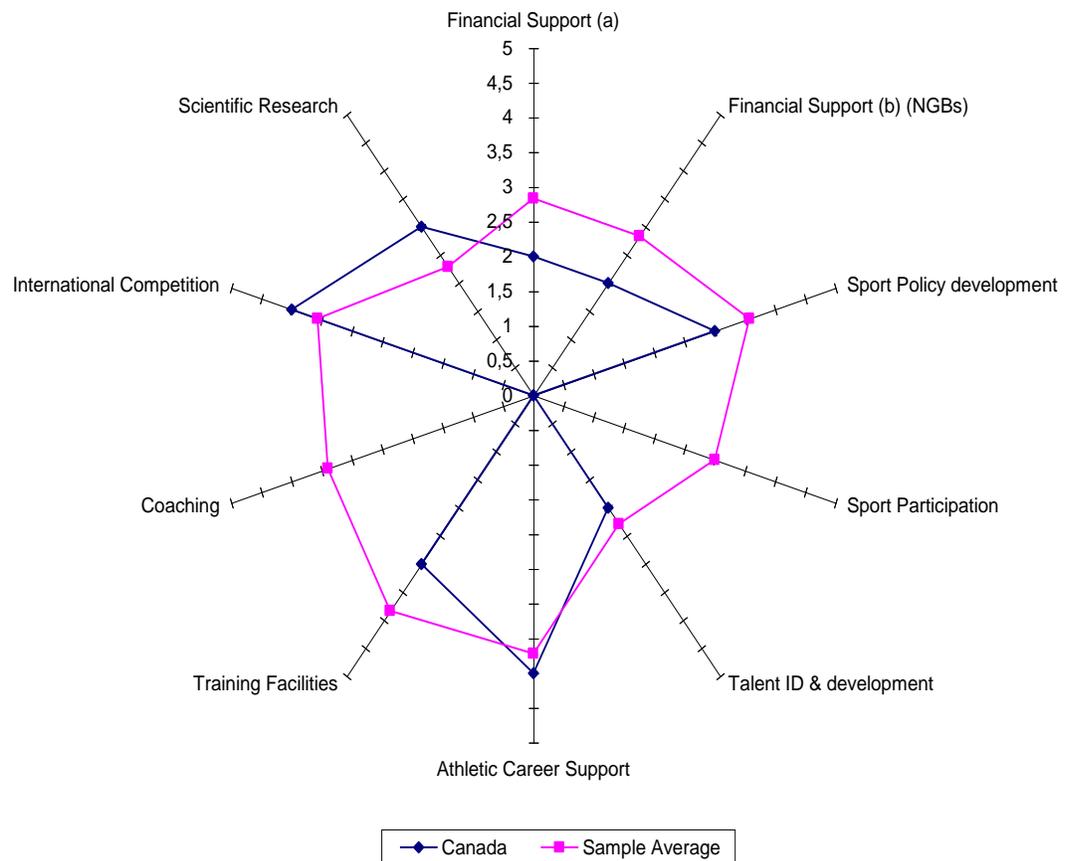
Overall in Figure 3, there are relatively few areas in which there are significant variations between the sample nations. The absence of such discrimination lends weight to the argument about the largely homogenous approach that different nations appear to be taking to the development of their elite sport systems (Bergsgard, et al., 2007; Houlihan & Green, 2008). The study revealed that the countries with the highest absolute expenditures on elite sport and providing the highest elite sport funding for national sport organizations (pillar 1) (Italy, UK, the Netherlands) were also the most successful ones in Olympic Summer Games. On the other hand, the study contends that successful countries in international elite sport incorporate more of the key success factors than the

unsuccessful countries, which indicates the probability that elite sport success is increasingly the result of investing in a blend of pillars. Moreover, Flanders and Wallonia were perceived to have the least developed elite sport policies and, interestingly also perform below expectations in international competitions. Mainly four pillars (pillars 1 - 5 - 6 - partly 7) were identified as key areas in which the three most successful nations from the sample in summer sports (Italy, UK and the Netherlands) have invested most. These areas can be identified as keys of effectiveness. Three under developed areas in most nations were also identified: talent identification and development systems, scientific research and coaches' provisions. Although the results are inconclusive on the input-throughput-output relation, it has offered an alternative way of approaching elite sport policies that may be further explored in future research.

A second way of assessing how each country fared was comparing the averages of the other participating nations using a radar graphs. The example below shows Canada compared to the seven nations average¹. It is important to note that Canada was not assessed for the categories of coaching and sport participation. Coaching was not reported due to the low response rate of coach's surveys and participation due to the difficulties in ascertaining accurate measures of grassroots sport participation.

¹ Because of the specific political situation, Flanders (the Dutch speaking part) and Wallonia (the southern French speaking part) were seen as two distinct nations in this study, as there does not exist a 'national' sport policy

Figure 3: Radar Graph for Canada



While important and valuable unfortunately even a thorough policy analysis such as the SPLISS study does not necessarily provide any obvious answers. Certainly more work is needed to understand how to better prepare Canada's athletes for international competition and hopefully this benchmark study will provide the critical first step.

Today the second iteration of this study has begun this time with 15 nations participating and with a proposed end date of data collection being November 15th 2011 . If you are interested in participating or knowing more about this study you are encouraged to contact the lead researchers Dr. Veerle De Bosscher at vdebossc@vub.ac.be.

Towards a theoretical model of Sports Policy factors Leading to International Paralympics Success

How then does this study link to the topic of this special issue of the ICSPE Journal? As President of the Canadian Paralympic Committee, David Legg one of the co-authors of this paper, and Canadian researcher for both the first and second SPLISS studies a

better understanding of what factors lead to success for sport and more specifically Paralympic sport is of great interest. Like the able bodied sport system, there are few if any models that would articulate what leads to international sporting success. A recent press clipping from the Australian Paralympic Committee titled “Will Australia Remain a Paralympic Power?” noted that several nations posed a threat to the Aussie’s long term medal standing at Summer Paralympic Games (Mannion, 2011). Of the countries listed Canada was not one. What then does Canada need to do in order to reach the top five or as the Canadian Paralympic Committee has recently published become the world’s leading Paralympic nation?

As noted the Canadian Paralympic Committee has also recently gone through a strategic planning process identifying the goal of becoming the World’s leading Paralympic nation. Four targets have been identified as being imperative in reaching this goal and they include the following:

- Enhance Podium Performances at Paralympic Games
- Build a World-class Paralympic Sport System and encourage people with a disability to engage in sport and recreation
- Create a Sustainable Business Model
- Expand the Awareness of Paralympic Sport and Build the Paralympic Brand

Where we now find ourselves is trying to assess where we are at for each and attempting to decipher how and where we need to focus our energies to achieve our ultimate goal. The premise of this paper is then to suggest that perhaps a similar study needs to take place among Paralympic nations to best understand what pillars are necessary for international success. It is certainly one of the plans for future research of the SPLISS group.

Because of a lack of existing theories on the sport policy factors leading to Paralympic success, the next part suggests how and in what direction the SPLISS model may be applied to the disability sport, and what pillars may be important and relevant

The first pillar is financial support and here it was recognized that for those nations succeeding in international sport they required a basic level of support, which typically came from government coffers. If one was to look at the leading Paralympic nations it’s difficult to ascertain as specific dollar figures are not presently available but it would appear that those nations that are financially strong also produce Paralympic medal winners. Countries such as Canada, the United States, Australia, United Kingdom, Russia, China, Brazil, Germany and France would certainly fall into this categorization.

The second pillar, the organization and structure of sport is also an interesting policy to consider as a potential cause of international sporting success. What might make for an interesting comparison among nations is looking at the difference between nations that have instituted inclusion with the able bodied system and those that have not. Other permutations of this could be how the inclusion took place and when. One challenge in Canada has been that inclusion has taken place at the national / federal level in the 1990s but has not been mirrored at the Provincial / State or local / civic levels.

The third pillar is foundation and participation and here the underlying assumption is that in order to have successful athletes at the top of the pyramid there must be many at the foundation. The difficulty applying this to a Paralympic context is that there are typically few athletes in each category of disability and it's hard to fathom a time when this might dramatically change. Obviously there are exceptions to this generalization but the reality is there will only be so many persons who are quadriplegics that want to play wheelchair rugby. The reality is though that increasing the participation core even subtly may be enough to ensure greater excellence among a few outliers.

The fourth pillar which is talent identification and the development system is also one that would be interesting to assess within a Paralympic context. One of the criticisms of the Paralympics system is that there are so few athletes and competitive opportunities that athletes can at times progress (some might suggest prematurely or rushed) from the grassroots system to the elite level without the relevant progression. The identification of athletes and whether this happens in a systematic way would also be a worthwhile assessment. Many countries likely rely on the method of serendipity or coaches running after people with disabilities in shopping malls that are athletic looking. I recognize that many nations are now hosting days where persons with disabilities can try various sports but are we methodically helping channel them into those sports that might best suit their abilities?

The fifth pillar is athletic and post career support. Admittedly this is an area where the Canadian Paralympic Committee has been negligent. Only now are we attempting to start an alumni program and the concept of supporting athletes through the post athletic transition is one we only pay survive to. The challenge of course is offering services with limited resources. Where we have excelled within this realm is in providing Paralympic athletes with financial supports during their competitive careers. Athletes are "carded" by Sport Canada (the Federal Government's official sport Agency) the same as able bodied athletes with monthly stipends. Whether this leads to medal success, however, is a different story.

The sixth pillar is training facilities and while many if not most national level areas are accessible, it's not clear if this is true at the local level. Whether athletes with disabilities can even access facilities then is likely a predetermining factor to sporting success.

The seventh pillar is coaching provision and coach development and here again Canada has made attempts to provide leadership by encouraging sports and the national coaching certification program to include elements and specific programs for athletes with a disability. The reality is however that finding athletes with a disability is a challenge and there are only a very few opportunities for a person to make a living in this realm.

The eighth pillar is international competition. Certainly the Paralympic movement has grown considerably and offers a broad array of competitive opportunities but it would be interesting to see if those nations that focus in this area then perform better on the largest stage.

The nine and final pillar is scientific research. This is a nascent area and hopefully because of journals such as this the development and encouragement of scholars to address Paralympic sport will continue. That being said it would be worthwhile to understand if those nations that focus on scientific research within the area of Paralympic sport have a concomitant level of success at Paralympic Games.

The goal of this article was to provide a better understanding for the research that has taken place with regards to better understanding how policy makers can impact sporting success, and more specifically from an able bodied perspective. The SPLISS study was highlighted but the goal was not to review this study as much as it was to present a call to arms for countries to join in future studies assessing Paralympic Sport systems. Hopefully this will lead to greater understanding of what pillars will lead to sporting success and a better system for athletes, coaches and sport leaders. And perhaps the concept of a rising tide raising all ships will temper or nullify a desire to not share any secrets we discover in the meantime. If you are interested in participating in this proposed study please contact David Legg at dlegg@mtroyal.ca.

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