



How Countries Compete for Success in Elite Sport: A Systematic Review

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Abstract: The ‘Global Sporting Arms Race’ is the term that describes the competition among different countries to succeed in international sports competitions. The development of that peaceful competition determines two outputs: an increase in soft power at the international level and a promotion of the national identity and social impact. It means increasing the level of influence that the countries obtain internationally as a cornerstone of the concept of a sporting nation with a proud and healthy population. In order to explain the factors involved in the success of a sports system at the elite level, a systematic review was carried out based on the PRISMA protocol in the databases Scopus, SPORTDiscus, and Web of Science. The findings of the study show that the factors that determine success at the international level have received increased attention, as shown by the number of publications since 2010. The results indicate the following research factors: (1) it was observed that most researchers tend to carry out comprehensive analyses with a holistic perspective, while the UK, Australia, Canada, and Spain carry out segmented analyses; (2) Olympic sports—especially athletics—were the most analysed; while in non-Olympic sports, those with social influence predominate in countries, such as netball; (3) the analysis of meso and micro factors is preferred over macro factors; (4) quantitative studies are preferred through the analysis of primary sources, such as official reports; and (5) the economic variable is the most common input, with medals reached at the elite level being the most used output to check the correlation or significance of the results.

Keywords: sports systems; soft power; sports success; organisational performance



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1. Introduction

The concept of ‘elite sport’ has been approached under an extensive, but not delimited, usage linked to the achievement of performance levels related to medals or finalist positions in international benchmark competitions (De Bosscher et al. 2008a; De Bosscher 2018; Flatau and Emrich 2013; Andersen et al. 2015; Seguí-Urbaneja et al. 2022).

In the field of sport psychology, the term has been conceptualised under different realities around age, gender, nationality, sport, or international competition (Swann et al. 2015; McAuley et al. 2022). Among the proposals, the one made by McKay et al. (2022), which is based on six levels of sport development, stands out, with ‘elite/international’ being the level comprising 0.0025% of the world’s population in a range up to the world’s top 300, depending on the event/modality/sport, and ‘world class’ relating to the 0.00006% identified as the world’s top 20.

Thus, the concept of elite sport based on its most widespread use in the field of sport management is linked to the term ‘world class’. On this basis, the concept of elite sport

is proposed as “the level of sporting performance located in a development zone close to winning medals in world championships or Olympics.”

It is important to note, due to its usage throughout this study, that the Olympic medal table is not recognised as official by the Olympic Charter ([International Olympic Committee 2021](#)), although both the IOC and Organising Committee of the Olympic Games (OCOG) use this reference in the Official Reports after each edition for information purposes only. This fact has resulted in the medal tally becoming the common reference and benchmark for national agencies and researchers ([UK Sport 2003](#); [Mari 2018](#)), even combined with social, demographic, and economic variables.

Based on this conceptualisation, elite sport has found in the ‘Global Sporting Arms Race’ the context in which the competition among different states to achieve the highest levels of success in sport has developed. While the origin linked to the Olympic Games of the Modern Era had social, educational, and hygienic-health objectives as an inherent part of human development, the international projection of competitive sport in a globalised world has reached a geopolitical prism of peaceful competition among states or the search for socio-political or economic benefits ([Oakley and Green 2001](#); [Digel 2005a](#); [Green and Houlihan 2005](#); [De Bosscher et al. 2008b](#); [International Olympic Committee 2021](#)).

Three processes have led to this peaceful competition among states: (i) increased investment as a means to enhance soft power; (ii) the use of strategic planning to maximise the return on investment; and (iii) the development of applied scientific studies of national sport models.

(i) Increased public investment as a means to enhance soft power.

Studies to analyse success factors in elite sport can be divided into two stages ([De Bosscher et al. 2008a, 2008b](#)). The first stage covers the period from the 1970s to the beginning of the 20th century. The first studies were based on the quantitative evolution of Olympic results ([Ball 1972](#); [Levine 1974](#); [Kiviahio and Mäkelä 1978](#)) and later evolved to macro factors ([Novikov and Maksimenko 1972](#); [Mitchell and Stewart 2007](#)) such as population ([Stamm and Lamprecht 2001](#); [De Bosscher et al. 2003](#)), political system ([Broom 1986](#); [Hesp et al. 2000](#)), socioeconomic factors ([Gratton 1990](#); [Bernard and Busse 2004](#)), or number of participants ([Kuper and Sterken 2001a, 2001b](#); [Johnson and Ali 2004](#)).

At that time, the amateurism advocated at the origin of modern Olympism by Baron Pierre de Coubertin was represented by the high-level system governing elite sport of the International Olympic Committee (IOC) during the presidency of Avery Brundage (1952–1972) through Rule 26 of the Olympic Charter. This situation was taken advantage of by the states of the Eastern bloc, also known as the Communist bloc, which developed a state model of professionalism through public investment—reaching up to 1% of the annual GDP—that evaded the provisions of the aforementioned Rule 26 with the aim of enhancing the so-called soft power through sport ([Llewellyn and Gleaves 2016](#); [Andreff 2021](#)).

The concept of soft power is defined as the ability to bring about desired outcomes and, if necessary, to change the behaviour of others to make this happen ([Nye 2016](#)). This soft power sought to use elite sport through public investment as a means ([Dennis and Grix 2012](#)) to increase the international prestige of the state, often enhancing the image of that state for political reasons, legitimising regimes, and showcasing the potential of states, often with lower population and per capita income than their Cold War rivals ([Grix and Brannagan 2016](#)).

This was not the first attempt to use sport for political purposes, with precedents in Fascist Italy and Nazi Germany, but it was the first attempt at long-term planning—five-year sports plans—that allowed the Soviet Union, the German Democratic Republic, Hungary, Romania, Poland, Czechoslovakia, and Bulgaria to lead the Olympic medals table until Seoul 1988, the last Olympic Games before the fall of the Berlin Wall in 1989 ([Andreff 2021](#)).

Reverberations reached Eastern bloc partners such as Cuba—a bloc ally since 1959—which under this model maintained their place in the top 10 in the Olympic medal table until Sydney 2000. Also, China—an ally of the bloc until 1961 but which maintains its Communist model to this day—which, after the Cultural Revolution and based on the ‘Ping-Pong Diplomacy’ (1972), applied the Soviet model and began its climb to the top of the Olympic medal table reached in Beijing 2008 ([Haugen 2016](#); [Zheng et al. 2018](#)).

This positioning where investment is the basis for success in elite sport has been progressively assumed by the different states. A key pillar has even reached recent times with the example of Spain, with the request of its national sports federations to the state regarding a study that urged an increase in state investment in order to match the competitiveness of benchmark states (Marí 2018).

(ii) Use of strategic planning to maximise return on investment.

The second stage emerged at the end of the 20th century as a result of a new and more social paradigm (Digel 2005b) focused on strategic organisational performance at the state level blending external aims—soft power—and internal ones—national identity and social impact—(Grix and Carmichael 2012). This led to the creation of sports policies based on the conditions for success in the direct action of states (Clumpner 1994; Larose and Haggerty 1996; Digel 2005a, 2005b) with the first comparative studies appearing among them based on micro and meso factors, leaving the macro factors that justified success until now in the background (Flatau and Emrich 2013).

This second stage and its paradigm shift had its genesis in the process in Australia from a Western prism. The sum of the sporting threat posed by the results achieved by the Eastern bloc (Andreff 2021) and the change in the IOC's vision of amateurism under the presidency of Juan Antonio Samaranch (1980–2001), which progressively allowed the participation of professional athletes in the Olympic Games and definitively abolished Rule 26 of the Olympic Charter, created a need that was first exploited by Australia with direct state intervention.

Taking advantage of the final break with the United Kingdom (Government of Australia 1985), they developed a national strategy to create a sense of community through international sporting success. Australia was the first nation to publicly establish a national model based on holistic strategic planning in its Australian Sports Commission Act (Government of Australia 1989a), which remains in force today with subsequent updates. Since then, up to the time of this writing, seven strategic plans have governed Australian sport around the prescriptions set out in the 1989 legislation. The structuring into corporate plans and annual operational plans (Government of Australia 1989b; Shilbury and Rowe 2020) has been the benchmark and point of comparison for many states (Government of Australia 2018).

This initial impetus sparked the interest of individual states in generating a knowledge base that would enable them to improve or maintain their position in sporting competition with geopolitical objectives, such as those previously posited by Communist bloc states (Bernard and Busse 2004). The United Kingdom was the nation that applied the greatest transfer to its own national model, taking advantage of a moment of sporting depression following the results of the 1996 Olympic Games in Atlanta: 15 medals that took them to 35th place in the medals table, whereas their previous worst Olympic result had been 18th place in Helsinki in 1956.

This transfer promoted an update of the sports system (Government of United Kingdom 2000) through an intensive benchmarking process (Houlihan 1997; UK Sport 2003; Day and Stoklasa 2020) with the aim of reversing this situation and enhancing the host effect of the London 2012 Olympic Games. This governmental movement has been supported by a parallel academic creation in the UK sports ecosystem that has been concerned with the processes necessary to improve excellence in sports management (Oakley and Green 2001; Green and Oakley 2001; Green and Houlihan 2005; Houlihan and Green 2008).

In both cases, the strategic planning processes applied to their sporting models led to high levels of success in their target events as hosts: Australia finished 3rd in the Sydney 2000 medal tally with 58 medals, while the UK finished 3rd with 65 medals. In both cases, these were modern highs only surpassed or equalled by London 2008 and Melbourne 1956, respectively, in sporting contexts very different from today's competitive environment.

(iii) Development of scientific studies applied to national sport models.

The SPLISS (Sports Policy Factors Leading to International Sporting Success) consortium, which has carried out and continues to maintain an extensive methodological and analytical development that has guided studies on the subject in a preferred way through a broad base of scientific knowledge spread across the five continents (De Bosscher et al.

2008b, 2015), emerged in the second phase at the end of the 20th century. This situation has led to alternative approaches to the implemented methodology promoted by the consortium itself (Sotiriadou and De Bosscher 2018), studies focused on indexing results (Weber et al. 2019a; De Bosscher et al. 2021), new formats of competition within the ecosystem (Knuepling and Broekel 2020), and even criticism of its overly broad approaches (Henry et al. 2020).

SPLISS has encompassed the analytical efforts of a wide range of states through funding and support from government agencies: Canada (Government of Canada 2019), Spain (Martín-López et al. 2013), Finland (Kärmeniemi et al. 2012), Japan (Funahashi et al. 2014), Netherlands (Van Bottenburg et al. 2009, 2012), and Switzerland (Kempf et al. 2014, 2021), among the most relevant of more than 15 states from five continents.

In its extensive research development, SPLISS has included five dimensions of study: policy (De Bosscher 2018; Sotiriadou and De Bosscher 2018; Funahashi et al. 2020), organisation and strategy (Truyens and De Bosscher 2012; Weber et al. 2019b), financing (De Bosscher et al. 2018), competitiveness and outcomes (De Bosscher et al. 2003, 2008a, 2008b; Zheng et al. 2019), and methods and theory (De Bosscher et al. 2006, 2010; Grix et al. 2018).

In the evolutionary process that encompasses this second phase in which we find ourselves, the integration of the sport management concept is relevant to sport management from a business perspective. The structural contribution in the field of sport by Chelladurai (1995, 2014) and Chelladurai and Kim (2022) and the development of the concept applied by Bayle and Madella (2002), Shilbury and Moore (2006), Bayle and Robinson (2007), Böhlke and Robinson (2009), Cabello-Manrique et al. (2011), Winand et al. (2010, 2014), O'Boyle and Hassan (2014, 2015), Kasale et al. (2018) and Seguí-Urbaneja et al. (2022), among others, highlight the effectiveness–efficiency binomial associated with performance management in sport institutions.

This study, in the context of the Global Sporting Arms Race, aims to identify the factors that determine success in elite sport. The results will allow us to establish a reference framework for contemporary studies investigating the current reference factors and establishing a knowledge base for future studies, assessing the correlation/significance of the factors in achieving sporting success, and determining how sport management should contribute in terms of effectiveness and/or efficiency.

2. Materials and Methods

2.1. Study Design

The Preferred Reporting Items for Systematic Reviews and Meta-Analyses—the PRISMA protocol (Liberati et al. 2009)—updated to its 2021 statement (Page et al. 2021a), was followed to determine the search strategy and selection of articles based on a selection of inclusion and exclusion criteria.

2.2. Study Eligibility

The search strategy focused on three databases: SPORTDiscus, Scopus, and Web of Science (WoS). The inclusion criteria used were the words 'elite', 'Olympic' and 'sport' combined with 'policy', 'system', 'model', or 'success' under the different Boolean operators: AND and OR.

As a filter to determine the selection of articles, we implemented the requirement to identify the descriptors in the title, abstract, or keywords, as well as the criterion that the article be available in full text. The search languages were English and Spanish. On a temporal level, no specific period was defined to evaluate the conditioning factors of different historical periods, although it is true that the databases set the year 2000 as the starting date for available data. The date was set to 30 May 2022.

2.3. Study Strategy

The article selection strategy was carried out using the Rayyan online tool, which allows the organisation and management of systematic reviews in a collaborative way. Once all the files from the different databases had been uploaded, the different phases of the review defined in PRISMA were carried out (Page et al. 2021b).

The exclusion criteria were: (a) repeated articles; (b) a subject other than organisational performance, i.e., athletic performance; and (c) not being a scientific article, due to the high number of records identified (6053). The application of these criteria was carried out in the different phases identified in the PRISMA flow diagram in Figure 1 (Haddaway et al. 2022).

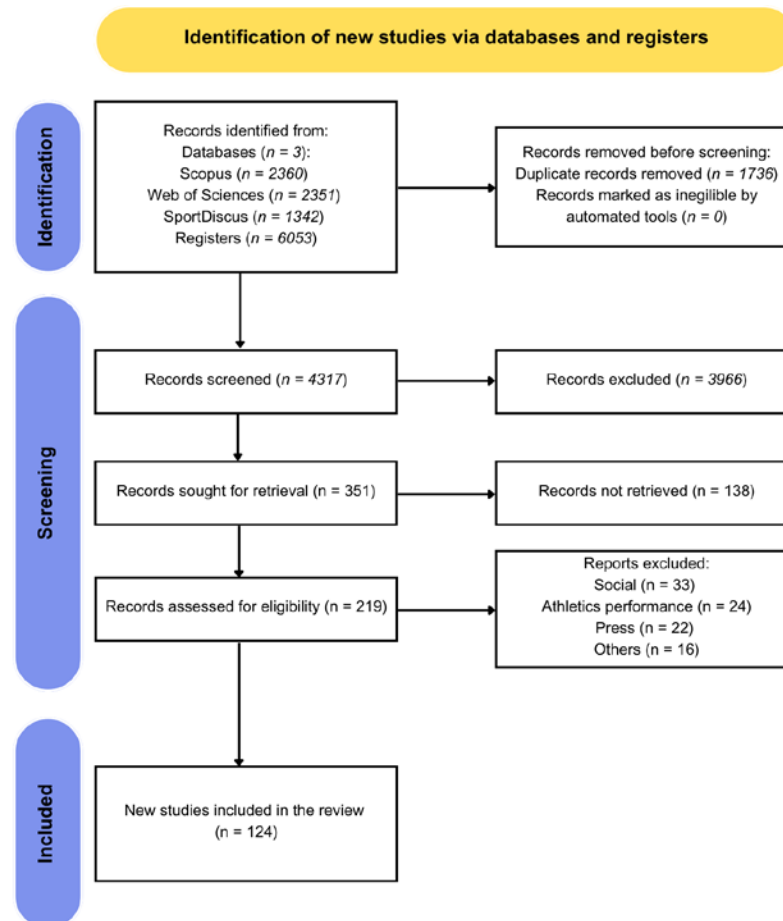


Figure 1. PRISMA flow diagram of the search strategy.

In order to extract information from the articles, a categorisation table was created according to the dimensions listed in Table 1.

Table 1. Categorisation of data collected.

Nature of the Article	
Year	Date of publication of the article
Number of countries	Quantitative data on number of territories analysed
Name of country	Description of the country under review
Sporting Context	
Number of sports	Quantitative data on the number of sports analysed
Name of sport	Description of the sport analysed
Reference of study	Competition or system under study
Period	Timeframe of the study
Range of time	Quantitative data on the temporality of the study
Methodology of Analysis	
Analysis	Type of study analysis
Source	Description of sources used
Dimension	Macro and/or meso and/or micro factors collected
Input	Variables determining the study
Output	Outcome variables of the study

3. Results

The results of the systematic review were structured according to three axes of analysis: the nature of the article, the sporting context, and the method of analysis.

3.1. Nature of the Article

Dates and countries of publication were analysed. There was evidence of an increase in volume and density as the 21st century progressed, and scientific production followed a predominantly European pattern.

The interest in the topic of this systematic review is reflected in Figure 2. It shows that in the summer Olympic years (2008, 2012, 2016, 2021) there were temporary peaks in scientific production related to the object of study. These peaks were followed by a stable growth that led to an explosion in the period 2012–2021.

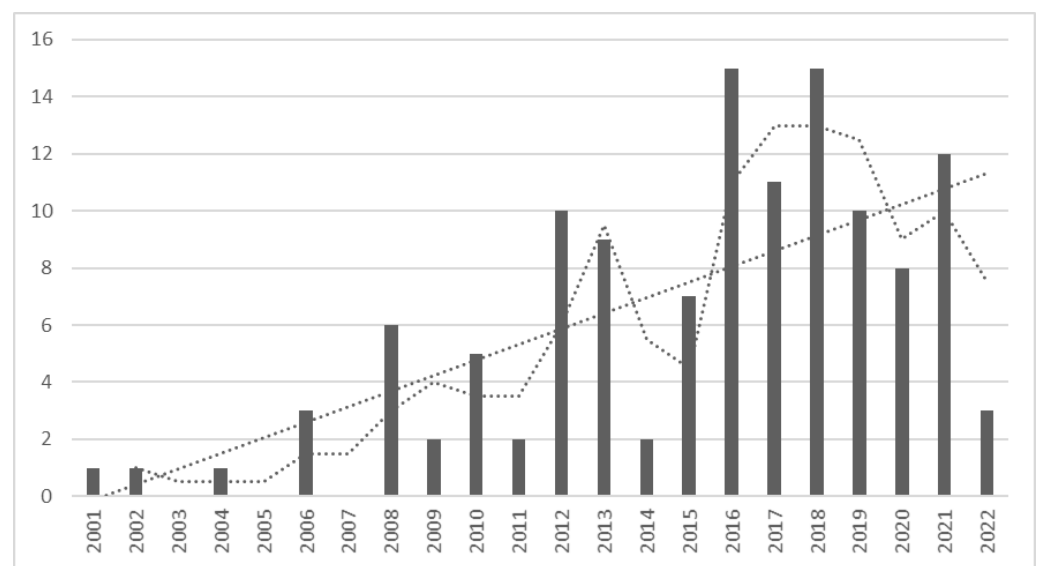


Figure 2. Time evolution of the articles published; x-axis: year; y-axis: no. of articles; lines: trend line and moving average.

Analysing the percentage of articles by decade, we found 2001–2010 (15.4%), 2011–2020 (72.4%), and 2021–2022 (12.2%), showing that the scientific boom of the second decade of the century led to an increase of 368% over the beginning of the century—with peaks of 15 publications in 2016 and 2018—and a still positive trend that was maintained at the beginning of the third decade, with a 12% increase over the previous one in the period analysed.

The selection of countries for the different studies is reflected in Table 2, which shows a clear dominance of single country analysis (65%) over combined or comparative analysis, with the total number of countries selected representing 20% of the total number of articles and 57% of the combination or comparison of more than one country, depending on the referent (Europe, Asia, world, etc.).

In terms of the total number of countries analysed, Europe dominated with almost half of the articles (48.5%), with the United Kingdom in the lead with a presence of almost 10% of the articles analysed. It was followed by Spain (5.5%), Belgium (5.0%), The Netherlands, and Norway (4.7%), with only Australia (6.2%) and Canada (4.8%) breaking the European dominance.

Table 2. Presence of continents and countries.

Countries	Articles	%
1	80	65.0
2	8	6.5
3–5	3	2.4
+6	8	6.5
All	25	20.3
Continent/Country	Presence	%
All countries	24	20.2
Selection of countries	100	79.8
Europe	124	48.5
Great Britain	19	9.7
Spain	11	5.5
Belgium	10	5.0
Netherlands	9	4.7
Norway	9	4.7
Finland	8	4.2
Others [17]	58	14.7
Asia	39	15.3
China	9	3.4
South Korea	5	1.9
Japan	4	1.5
Hong Kong	3	1.0
Others [8]	11	7.5
America	22	8.6
Canada	11	4.8
Brasil	6	2.8
United States	4	1.5
Antigua and Barbuda	1	0.4
Oceania	18	7.0
Australia	15	6.2
New Zealand	3	0.8
Africa	2	0.8
Cameroon	1	0.4
Tunisia	1	0.4

3.2. Sporting Context

The aim of the sporting context was to identify the elements inherent in sporting practice that are relevant to the scientific community in the search for benchmarks for achieving success in elite sport. These references in the presence of sport and in the competition/system were taken as a reference for analysis.

Table 3 reflects the importance of the system, the choice of a global analysis of sports (70.2%) overcoming the reductionism of combined or comparative studies of sports (29.8%), the choice of the latter option for Olympic sports (27.1%) with respect to non-Olympic sports (2.7%), which have a symbolic weight in the studies. The most frequently analysed sports in the segmented studies were athletics (3.1%), football (1.9%), golf and canoeing (1.5%) among the Olympic sports, and netball (1.2%) among the non-Olympic sports.

Table 3. Presence of sports in articles out of the total number of sports analysed.

Sports	Articles	%
All sports	87	70.2
Selected sports	39	29.8
1	25	20.8
2	5	4.2
3–5	3	2.4
+6	8	5.8
Olympics	70	27.1
Athletics	8	3.1
Football	5	1.9
Golf	4	1.5
Canoeing	4	1.5
Basketball	3	1.2
Others [28]	46	17.9
Non-olympics	10	2.7
Netball	3	1.2
Others [4]	4	1.6

The reference for analysis, as shown in Table 4, was divided between the sport system (53.0%) and the competition (47%), with the Olympic Games (31.8%) dominating. World championships (6.5%) or other events (8.7%), which tend to be multisport games of a continental nature or regional championships, remained as secondary references.

Table 4. Relationship between system/competition and period of analysis.

Sports	Articles	%
National Systems	73	53.0
Annual	2	1.4
Cycle	1	0.7
Period	37	26.8
Atemporal	33	23.9
Olympic Games	44	31.8
Annual	4	2.9
Cycle	32	23.2
Period	6	4.3
Atemporal	2	1.4
World Championships	9	6.5
Annual	1	0.7
Cycle	4	2.9
Period	4	2.9
Atemporal	0	0
Others	12	8.7

In terms of the temporality of the study, the trend varied depending on whether we took the system or the competition as the reference, but in both cases, there was a distinct character that united the majority of the studies. Thus, for the analysis of systems, the period or timelessness was the standard approach, with a total of more than 50%. For events, on the other hand, the cycle—the four-year period between Olympic Games—was the time frame of reference, accounting for more than 25%. These medium- and long-term periods accounted for more than 75% of the studies, leaving the remainder (6% plus those included in other events) to short-term studies with annuality as the reference.

3.3. Methodology of Analysis

The methodological procedures showed the wide range of possibilities available for conducting studies on elite sport and the search for success on the part of states. Thus, the types of analysis, the dimensions analysed, the instruments used, and the factors taken into account open up a wide and extensive repertoire of ways of analysing the subject.

Table 5 shows that quantitative analysis was the most widespread, being present in more than half of the studies (51.6%). Although it is true that the alternatives, qualitative analysis (37.9%) and mixed analysis (44.4%), were at similar levels, the choice of analysis typology was close and with a high transfer rate.

Table 5. Type of analysis and dimension analysed.

Type/Dimension	Articles	%
Quantitative		
Macro	19	15.3
Meso	20	16.1
Micro	25	20.2
Qualitative		
Macro	6	4.9
Meso	36	29.0
Micro	5	4.0
Mixed		
Macro	7	5.6
Meso	35	28.2
Micro	13	10.5

In combination with the dimensions, macro factors—socioeconomic, cultural, and legislation context at the national level—were secondary and only relevant in quantitative analysis (15.3%), with priority given to population, gross domestic product, political regime, or host effect. Meso factors—infrastructure, personnel, and services related to sports programmes—dominated in qualitative (29.0%) and mixed (28.2%) analysis and were relevant in quantitative (16.1%) analysis, with priority given to financial support, policies and strategies, training facilities, and coach provisions. And micro factors—methodologies for the development of the direct environment of the athletes—had a global predominance in quantitative analysis (20.2%), with priority given to direct athlete funding, post-career and medical support.

In terms of type and dimension, the instruments used in the studies were, in order of preference, government reports (61.3%), interviews (34.7%), findings (19.4%), and questionnaires (16.9%), with others such as regulations, observation, press, or surveys remaining. This indicates that the preference for studies depends on the information directly generated by the countries.

The selection or not of inputs and outputs in Table 6 showed a preference for the isolated use of inputs (57.7%) in the scientific articles on the subject, demonstrating its dominance over the isolated use of outputs (8.1%), which indicated the relevance of the determinants of success over the simple analysis of the results obtained. However, the combination of both input and output determinants (34.1%) in what would be comprehensive analyses did produce relevant results.

Table 6. Relation between inputs and outputs.

Analysis Factors	Articles	%
Inputs vs. Outputs	42	34.1
Inputs	71	57.7
Outputs	10	8.1

Among the specific factors of analysis, the most important inputs, in order of use, were budgets, strategies, policies, planning, facilities, athlete conditions, governance structure, and coaches. Outputs included medals, results, diplomas, percentage of medals/diplomas won, and records/rankings.

4. Discussion

The different approaches of the studies analysed in the 21st century, which are represented by the axes: type of article, sporting environment, and method of analysis, demonstrate the impossibility of establishing a common framework of knowledge related to the achievement of high levels of success in the so-called Global Sporting Arms Race.

On the other hand, the same variability of approaches allows states to have a wide range of options in the application of studies aimed at achieving success in elite sport.

4.1. Nature of the Article

Studies on this topic experienced a scientific boom in the search for models that identify the success factors of elite sport. If the first decade of the 21st century represented an upturn compared to the literature of the 20th century, the period 2011–2020 saw a growth of 368%, a positive trend that has been maintained at the beginning of the third decade of the century. This fact should serve as an example of the interest and potential impact that the increase in research has had on the results of elite sport in the different countries.

One of the main factors in this growth has been the SPLISS consortium as one of the main driving forces. While SPLISS has extended its analysis model transcontinentally, it has maintained its focus on Europe, with the target countries becoming promoters of scientific creation on the subject. The integration of countries such as The Netherlands and Belgium has been favoured in order to show that the implementation of performance analysis measures in elite sport at the national level has improved their performance in the medium-to-long term in the target event of the Olympic Games.

In the same way, the United Kingdom, by positioning itself as a benchmark in scientific creation, has implemented a model based on competitiveness, efficiency, and organisational performance, with the impetus of the London 2012 Olympic Games and the traditional host effect (Scelles et al. 2020). This model, which, although initially included in SPLISS 1.0, has followed a differentiated autonomous development, allowing what has been called the “British miracle”, which exceeded UK Sport’s expectations of 49 medals and 4th place in the rankings of the countries in London 2012, reaching 65 medals and 3rd place. This ‘miracle’ was repeated at Rio 2016 with 67 medals and 2nd place, and at Tokyo 2020 with 63 medals and 4th place, confirming the approach of the national company that runs British sport.

This dynamic of the Anglo-Saxon world extends to the leaders in scientific production, such as Australia and Canada, which are showing different developments, but both with remarkable results in the Tokyo 2020 event. Australia, accustomed to recovering exhausted national models on the basis of strategic planning, suffered a period of progressive minimums after the Sydney 2000 host effect (lower figures in Rio 2016 with 29 medals and 10th place in the ranking), which it reversed in the last Olympic Games, recovering reference levels with 46 medals and 6th place in the ranking. Canada, for its part, has shown stable and sustained growth, reaching its best Olympic results at the last Games (24 medals and 11th place), with the exception of the distant 1984 Los Angeles Games, which were affected by the Communist bloc boycott.

This trend of improvement in countries with a high research rate was not observed in Spain. Despite being the country with the fourth highest volume of research in this field, it maintains a dynamic, if not negative, improvement, at least within a stable range, despite the growth in the number of total events and, therefore, medals, and the possibilities of increasing the gross performance in the target event. The range of stability during the 21st century is 17–20 medals and fluctuating ranking positions based on the value of those between 14th and 22nd place.

Other benchmarks of scientific production, such as China, Norway, and Brazil, are in very different situations, detached from the common patterns that affect the rest of the countries. For example, China had a high rate of articles, but its high-level sports model is firmly regulated by the government as a tool for international promotion and does not follow the standards of Western society. In the last decade, Norway has seen a transformation of its model, which has allowed it to regain primacy in winter sports at Pyeongchang 2018 and Beijing 2022 and to develop summer sports, albeit in a less relevant way and mainly through the relevance of world star athletes. The case of Brazil was a shock to the concept of host country growth, as the Rio 2016 event did not represent a significant improvement in its performance, and the 19 medals did not differ significantly from the 17 in Beijing 2008 and London 2021, with an increase to 21 in Tokyo 2020.

4.2. Sporting Context

The relevance that researchers give to the comparison among countries is a decisive factor in the global selection of sports from the same sporting ecosystem, rather than isolated sports. This fact demonstrates that international analyses tend to consider global situations that affect the performance of states rather than differentiated actions, with greater specificity and complexity in their analysis of specific sports.

In this context, the vast majority of studies focused on a global analysis of sports. A total of 70.2% of the studies analysed confirmed this premise in their application, with the uniform and isolated analysis of a sport being valued as a secondary option (29.8%), with Olympic sports (27.1%) being preferred to non-Olympic sports (2.7%). In this case, athletics (3.1%), football (1.9%), golf and canoeing (1.5%) predominated among the Olympic sports, with netball (1.2%) being the only non-Olympic sport relevant to the analysis, demonstrating the dominance and importance of the Olympic movement.

The overall selection of sports in the studies is justified by the need to understand the integral factors of the development of a sport model in the cross-national comparison (Winand et al. 2010, 2014; Cabello-Manrique et al. 2011; O'Boyle and Hassan 2014, 2015). This aspect is directly related to the fact that systems (53%) were the most analysed contexts compared to events (47%). Furthermore, in terms of events, the Olympic Games (31.8%) once again showed their predominance over the rest of the events (15.2%), reinforcing a multiplying effect in terms of effort and attention to what happens in a fortnight every four years, compared to what happens in the four years that an Olympic preparation cycle lasts.

All these preferential choices regarding the global selection of sports, systems, and Olympic events led to a derivative such as the use of wide time ranges in the analysis. Thus, the choice of periods or even timelessness was the predominant action (59.3%) over other options such as the cycle, which is only relevant to the Olympic Games (23.2%), or a residual annual analysis, which accounted for a total of 5%. This led to studies that focused on medium- to long-term analysis (=> 4 years), thus directing the practical application of studies to the establishment of long-term strategic management procedures.

4.3. Methodology of Analysis

The method of analysis of the studies was the point of greatest balance among the different options implemented in the studies. Thus, there was no single method of analysis that dominated in the variability of applications for analysing success in elite sport.

The analysis methodology used maintained a balance between quantitative and qualitative procedures. Thus, although quantitative methods accounted for 40%, there was no clear difference between them and qualitative methods (31%) or mixed methods combining the two (29%). It is true that positions have emerged (De Bosscher 2018; Henry et al. 2020) on the correct use of mixed procedures, due to the complexity of transferring qualitative inputs to quantitative ones in an efficient way.

Related to these quantitative vs. qualitative determinants are the dimensions of analysis in terms of macro, meso, and micro factors. The meso and micro factors are

favoured in contemporary sport, seeking realities closer to the sport system and the athlete that justify the achievement of success and moving away from macro factors that reduce success to demographic, political, and economic conditioning factors. Thus, micro factors related to the athlete were the most used option in quantitative analyses (20.2%), while meso factors related to the sport system were the most used option in qualitative analyses (29%).

In making this distinction between quantitative and qualitative, the sources are of paramount importance in the initial design of elite sport studies. On the basis of this review, the use of government reports as a secondary source was the basis of the studies, reinforcing the aforementioned preference for a comprehensive analysis of the countries' sports models, reaching 61.3% of the articles. The ease with which they can be accessed, thanks to the increasing public transparency of the states, makes it possible to use large amounts of data on the various dimensions and factors analysed.

Interviews were the second most used type of source (34.7%) and were preferred to questionnaires (19.4%) among primary sources. The search for individual actors who provide more specific and less public information was the main objective, with public managers from national or official bodies and technicians from sports federations being the most recurrent figures. The participation of athletes is a variable that is gradually gaining in importance, but which does not represent the majority in the use of interviews/questionnaires.

When it comes to the relationship between cause and effect in the verification or not of sporting success, it was noticeable that the preference was the option of analysing the input factors (57.7%) that determine the results in isolation, without exercising a relationship with the output variables (8.1%) that verify the effectiveness/efficiency of the actions carried out. The isolated use of inputs or outputs prevented more than half of the studies from directly linking action procedures to the results of their application, resulting in a lack of either procedures or results with which to verify the effectiveness/efficiency of sport models.

The establishment of this "input–output" relationship was only carried out in 34.1% of the studies, preferably according to the formula "the higher the budget, the better the results", with "budget" being the most used input and "medals" the most used output in all the analyses. Other common inputs in the studies were strategic factors such as policy, planning, or the athlete's conditions, while among the outputs that accompany medals were parallel measures such as diplomas or percentage of medals/diplomas, which reinforced the basic premise of the studies: success as a goal in elite sport.

5. Conclusions

The Global Sporting Arms Race has become the context in which the new paradigm of seeking soft power and social impact is being developed. States are developing personalised models through strategic planning and organisational performance, with the Olympic Games as the end of the process.

This is evidenced by the results of the present study, which responded to the objective of identifying the factors that determine success in elite sport. The framework for action presents studies on the globality of the states that make up the sports system, taking into account all the sports that are part of it and with a medium- to long-term perspective. The meso financial support—national policies and strategies, training facilities, and coach provisions—and micro factors—direct athlete funding, post-career and medical support—are the specific points of reference for analysis in direct relation to the medals won in the various editions of the Olympic Games.

This fact highlights the need to understand a global model of a holistic nature, focusing on aspects where the meso factors provide the greatest amount of information about the procedures carried out to obtain the results. Policies, planning, and strategies are identified as the main axes of the process that will form the backbone of an analysis model to be developed, with meso factors, such as structure and budgets, and micro factors, such as the environment of the athlete, as the relevant itinerary provided by the scientific community.

The concrete adaptation of these dimensions and factors according to the specific nature of each nation will determine its position in the worldwide sports contest, thus its international—soft power—and national—social impact—outcomes.

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