

Measuring the legacies of sports mega events: a systematic review

RÔMULO MEIRA REIS¹, SILVIO DE CASSIO COSTA TELLES², MÁRIO COELHO TEIXEIRA³

¹ State University of Rio de Janeiro (UERJ), Institute of Physical Education and Sports (IEFD), BRAZIL.

² Federal University of Rio de Janeiro (UFRJ), State University of Rio de Janeiro (UERJ), BRAZIL.

³ University of Évora, Center for Advanced Studies in Management and Economics (CEFAGE), PORTUGAL.

Published online: April 30, 2023

(Accepted for publication April 15, 2023)

DOI:10.7752/jpes.2023.04125

Abstract

Problem Statement: The legacies left by Sports Mega Events (SMEs) have been the object of research, studies, and analyses in different fields of science, generating conflicting views on whether they are beneficial or not for the host country or city. Considering this, science emphasizes its scope of research with the intention of understanding, investigating, analyzing, and/or developing proposals that can measure the legacies left behind by SMEs. **Purpose:** The purpose of this study was to conduct a systematic review with mixed literature of qualitative convergence regarding the measurement of legacies from SMEs. **Approach:** A mixed systematic review of qualitative convergence, which aims to transform results from qualitative and quantitative studies into qualitative findings, was conducted on three scientific databases in Portuguese, Spanish, and English languages, in accordance with the PRISMA protocol. **Results:** In total, 147 publications were found by the search. After applying the inclusion and exclusion criteria, 13 articles were included in the review. Content analysis using two analytical categories (theoretical implications and practical applications) was used to conduct the discussion. The theoretical implications category reveals articles that formulate concepts and express conceptual proposals for measuring legacies. The practical applications category contains articles with empirical studies that seek to somehow measure legacies. **Conclusions:** The data reveals that there are theoretical and practical studies about measuring the legacies of SMEs, especially in the fields of sports management and tourism. However, there is a lack of empirical studies that measure or demonstrate the positive and negative results stemming from SME legacies.

Keywords: Legacies, Sports Mega Events, Measurements, Systematic Review.

Introduction

Preuss (2018) reveals that one of the first uses of the term “legacy” appeared in 1956 during the Melbourne, Australia Olympic Games. Later on, sports events received a new connotation and definitions, generating the understanding that sports events can be considered “mega” due to their magnitude or grandeur in terms of public, mediatic and television repercussion, as well as their economic, financial, political, social, infrastructural or cultural impacts on the host community (Scheu et al., 2019). To provide an example of this perception, it is possible to cite the 1992 Olympic Games, held in Barcelona, Spain. The Spanish Sports Mega Event (SME) became a reference for management and positive results, especially in relation to the city’s image, the event’s organization and the business opportunities generated in the post-event stage and duly reflected in the tourism activities the city hosted in the following years (Preuss, 2018).

As time went by, other SMEs were held in accordance with the world sports calendar. Then, reflections about the management, impacts and legacies of SMEs began to appear in the scientific field based on different optics and viewpoints (Griffin, 2019; Gulak-Lipka & Jagielski, 2020; Oliveira et al., 2023; Preuss, 2015; 2018; Reis et al., 2019a; 2019b, 2021; Sesanando, Segui-Urbaneja & Teixeira, 2022; Teixeira, Rijo & Sesanando, 2022). The discussion gained shape and substance through the dynamics and distinctions between impacts and legacies. Preuss (2018) reveals that in the 1980s, studies about the impact of sports events appeared, providing short-term understandings linked to positive and negative results. Afterwards the concepts were transformed and connected to short, medium, and even long-term effects, creating a sort of temporary impulse bringing about positive and/or negative effects (Scheu et al., 2019). Preuss (2007) advances those understandings, developing a matrix for classifying the impacts in visible and invisible, providing examples tied to job creation due to the event, event arenas, habitation, transportation, security, tourism, the environment, the event’s atmosphere or climate, and the knowledge or image of the country in question.

Thanks to the understanding regarding the impacts, it was possible to note that these could not generate the predicted or desired short-term results. Consequently, there is a change in the view of researchers and organizational policies, which began to focus on the long term to obtain a more holistic view of the economic, environmental, and social results (Preuss, 2018; Reis et al., 2019a; 2019b; Teixeira et al., 2022).

Thus, the legacies appear, defined as the inheritance left by the SME that was held, normally connected to the long-term view (Preuss, 2015). Legacies can be understood as planned or unplanned, tangible or intangible, and can also present positive or negative results (Preuss, 2015; 2018; Scheu et al., 2019).

The legacies of SMEs are the object of research, studies and analyses from different perspectives, involving fields such as: administration, social sciences, accounting, economy, education, physical education, engineering, finances, sports management, journalism, history, business, and tourism (Chappelet, 2012). Within this investigative connotation, science has mainly sought to engage with the benefits and harmful events generated by hosting a sports event of that magnitude (Preuss, 2007). Thus, there are analyses, critiques, and discussions regarding the legacy stemming from SMEs.

When each SME is held, at some point before, during, or after the event, there are discussions regarding its legacies. In Brazil, for example, after the so-called “decade of sports mega events”, in which the country and cities hosted consecutive SMEs (Rio de Janeiro 2007 Pan-American Games, The 2011 World Military Games, The Confederations Cup in 2013, the Brazil 2014 FIFA World Cup™, the Rio 2016 Olympic and Paralympic Games, and the America Cup in 2019 and 2021), it is possible to note academic studies that demand “FIFA standard schools and hospitals”, report work that was not done, corruption, and financial resources that were diverted from infrastructure work. They also point out improvements in soccer infrastructure, social problems that were not overcome, such as housing and urban mobility, and employ harsh criticism against the high sums spent on the SMEs that could have been used in fields such as health, transportation, education, and security, as well as the government’s complete submission to the requirements made by the large sports organizations for hosting the events, the lack of transparency in financial reporting and the absence of results pertaining to the plans for using the legacy from the SMEs (Bondarik, 2018; Coakley & Souza, 2015; Cottle, 2015; Griffin, 2019; Gulak-Lipka & Jagielski, 2020; Paiva, 2018; Reis, 2017; Reis et al., 2019a, 2019b).

On the other hand, the categorization of the types of legacies into tangible and intangible demonstrates that these categories can be subdivided into: governance, country image, sports facilities, country infrastructure, knowledge, mediatic repercussion and future business opportunities, events, tourism and entertainment, planned and unplanned (Preuss, 2018), making positive expectations arise from the legacies as a sort of syndrome, or even making it look like hosting SMEs can only benefit the host community (Müller, 2015). There are also worries about the lack of control and responsibility with government resources in SME host countries (Preuss, 2018).

Thus, due to the controversial view of SME legacies being positive or negative, science emphasizes the study of its research scope with the intention of understanding, investigating, analyzing, and/or developing proposals that can measure the legacies left by SMEs (Preuss, 2015; 2018; Reis et al., 2021; Rekow, 2016).

However, this first question must be asked: Is it possible to measure SME legacies? Preuss (2015; 2018) believes it is. However, this researcher understands that such an attempt requires focus, attention, and mainly a limiting work system that guides the investigation. Thus, limits for the time period being analyzed, type of legacy, qualitative and quantitative data, viewpoints or perspectives, and well-focused interests and objectives can help conduct said study (Preuss, 2015; 2018).

Second question: what would be the finality or objective for developing research capable of measuring SME legacies? To Preuss (2018), the theoretical and practical implications of this type of measurement are directly related to a reduction in planning errors, thus improving the delivery of future legacies, which are normally projected during the candidacy stage. The author further explains that measuring SME legacies makes it possible to achieve more clarity in future results and can support and influence the interest of new SME host candidates. In this same line of thought, Müller (2015) adds that measuring legacies and their respective results generate indicators and subsidies that can facilitate the dialogue between the international sports entities that own the SMEs and the countries undergoing the candidacy process (Preuss, 2018). After all, if hosting SMEs results in losses of various natures (financial, economic, mediatic repercussion, country/city image, social, etc.), it would be more prudent to not become a candidate for such an undertaking.

Considering this, research has intensified the effort to measure SME legacies and some initiatives have appeared. Sorrentino et al. (2020) investigate and measure SME legacies through the behavioral consequences generated by experiencing the event. Reis et al. (2021) created a quantitative proposal, measuring the use of the Brazil 2014 FIFA World Cup™ arenas by developing a sportive use indexer, that is, the quantification of the matches held at the Brazilian world cup arenas after the event, measuring the legacy through the numbers generated by the sport. Thus, there is a gap for conducting new studies that allow researchers to comprehend and analyze the production of knowledge regarding the measurement of SME legacies, especially considering the broad and varied scientific network available online that discusses the subject. As such, the moment is opportune to conduct a study with the finality of creating an integrative summary, bringing data, information, or findings together to investigate trends, themes, techniques, and results to serve as a base for future investigations (Schreiber & Cramer, 2022).

In this context, this article aims to conduct a mixed literature review of qualitative convergence regarding the measurement of SME legacies (Galvão & Ricarte, 2019). The specific goals are: (i) to examine theoretical and practical trends; (ii) to identify the types of legacies that are investigated; (iii) to detect fields that conducted research on legacy measurement; and (iv) to investigate the main results that were obtained.

Materials & methods

This article has descriptive and exploratory characteristics, supported by a mixed approach; that is, it involves studies obtained in the search with qualitative and quantitative references (Vergara, 2015).

Due to the selected approach, the classification or type of method that was selected is the mixed systematic review of qualitative convergence, which aims to transform results from qualitative and quantitative studies into qualitative findings (Galvão & Ricarte, 2019). According to Galvão and Ricarte (2019), this type of review is recommended when one wishes to review or refine a conceptual framework.

With that said, a systematic literature review allows the researcher to understand documental collections on certain subjects, investigating functionalities, contexts, trends and arguments through specific and easily reproducible study designs (Galvão & Ricarte, 2019). It works with secondary data and explains the viewpoints of other researchers, presenting the respectively analyzed databases, search strategies, the choices of articles, book chapters, theses, or dissertations, exclusion and inclusion criteria, and the analytical process of the filtered/selected articles (Galvão & Ricarte, 2019).

Regarding the procedures that were followed, the systematic review was conducted according to the directives and requirements of the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) (Page et al., 2021). Furthermore, the review is registered in the International Prospective Register of Systematic Reviews (PROSPERO, n.d.) – under the number CRD42022363076.

Three databases were selected for the search: a) Capes Periodical Portal (Portal de Periódicos Capes); b) Scopus; and c) Web of Science (WoS). These databases were not randomly chosen. They were selected due to the following factors: search for articles published in English, Portuguese, and Spanish, and the search for a larger variety of articles related to the investigated topic.

The Capes Periodical portal is the largest worldwide database with articles in Portuguese, with mostly international articles, containing more than 49000 periodicals and 455 indexed databases. Thus, since Brazil hosted SMEs over the last few years, it is vital for us to conduct an analysis of the publications written about this topic in the local language (Portuguese) to broaden our scope, obtain data and understand the facts obtained directly at their source. Scopus includes more than 14000 titles from 4000 editors, and its interface permits the measurement of scientific production through Bibliometry. WoS is a database that allows access to the most important works available in journals around the world, offering easy and dynamic access that provides the researcher with search resources, filters and the possibility of bibliometric analysis. Thus, the databases possess search tools that establish connections between words and articles: together, they contain more than 60 thousand periodicals indexed with a broad temporal coverage, especially in the English language (Archambault et al., 2009; Costa et al., 2012; Mongeon & Paul-Hus, 2016).

The platforms were accessed with the goal of finding the desired published scientific articles through a search using the following descriptors: Measure Legacy Mega Event OR Measuring Legacies Mega Event OR Measurement Mega Sport Event. The inclusion criteria were: a) articles published until 2022; b) articles that include the descriptors in their abstracts, titles, or keywords; c) articles with a title, abstract or text in at least one of the three languages used in this study; and d) articles subjected to blinded peer review. On the other hand, the exclusion criteria were: a) documents not corresponding to the article format (books, notes, editorial letters, reviews, academic conference documents or other formats different from that of articles); b) articles published after the search date (October 9th, 2022); c) duplicate articles; and d) articles containing the descriptors but without the measurement of SME legacies as their main topic.

To guarantee the quality of this study and reduce the risk of bias, the present study was evaluated by two experienced blinded researchers who analyzed the risk in each study included in the review, fully reading the articles. In case of conflict between the researchers, a third researcher was consulted to resolve the conflicting classifications (Page et al, 2021).

The cataloguing and structuring of the database were conducted with the help of MS Excel, from Office 365, involving the construction of a spreadsheet containing the title, year of publication, author names, periodical of publication, original language and keywords of the articles that were found. After applying the inclusion and exclusion criteria, with the extraction of the final database (results), the analysis categories were created in accordance with the content analysis method proposed by Bardin (2011).

Results

The results of the search in the selected databases included a total of 147 publications. Of these, 72 were located in the Capes Periodical portal, 17 in Scopus, and 58 in WoS. Afterwards, we applied exclusion criteria “a” and “b”, arriving at a total of 138 articles, with 72 of them located in the Capes Periodical portal, 15 in Scopus, and 51 in WoS. Of the remaining 138 articles, 92 remained after excluding the duplicates. Subsequently, the titles and abstracts of these articles were read to apply the last criteria, in which articles without SME legacy measurement as their main topic were eliminated, leaving us with 16 articles. Finally, article quality and risk of bias were analyzed, leading to the final number of 13 articles included in the review. This process is shown in the study selection flowchart (Figure I).

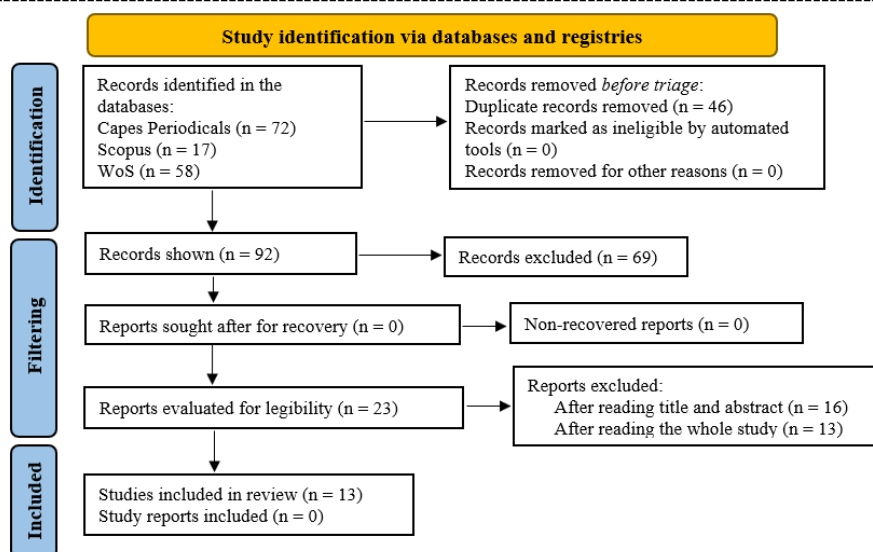


Figure I. Flowchart of included studies.

Chart I. Articles selected for the review.

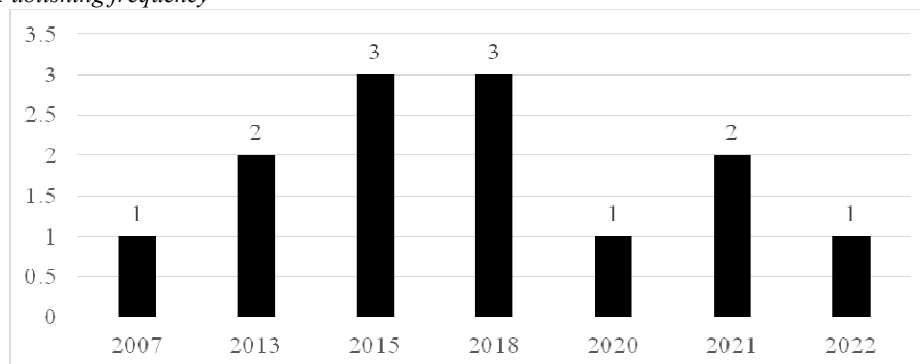
Nº	Authors	Title	Journal	Q / JCR / JCI	Year	Category
1	Preuss, H.	The conceptualisation and measurement of mega sport event legacies	Journal of Sport & Tourism	not classified	2007	Theoretical implications
2	Li, S.; McCabe, S.	Measuring the Socio-Economic Legacies of Mega-events: Concepts, Propositions and Indicators	International Journal of Tourism Research	Q2 / 4.737 / 1.03	2013	Theoretical implications
3	Preuss, H.	The Contribution of the FIFA World Cup and the Olympic Games to Green Economy	Sustainability	Q2 / 3.889 / 0.65	2013	Theoretical implications
4	Dickson, T.J.; Darcy, S.; Edwards, D.; Terwiel, F.A.	Sport mega-event volunteers' motivations and postevent intention to volunteer: The Sydney World Masters Games, 2009	Event Management	Q3 / - / 0.37	2015	Practical applications
5	Tichaawa, T.M.; Swart, K.; Bama, H.K.N.	Community perceptions of the socio-economic legacies of the 2010 FIFA World Cup in Nelson Mandela Bay, Port Elizabeth, South Africa : a four-year post-event analysis	African Journal for Physical, Health Education, Recreation and Dance (AJPHERD)	not classified	2015	Practical applications
6	Tichaawa, T.M.; Moshoeshe, M.C.; Swart, k.; Mhlanga, O.	Nelson Mandela Bay residents' perceptions of the socioeconomic legacy of the 2010 FIFA World Cup: pre and post-event comparisons	African Journal of Hospitality, Tourism and Leisure	not classified	2015	Practical applications
7	Orr, M.; Jarvis, N.	Blinded by gold: Toronto sports community ignores negative legacies of 2015 PAN AM Games	Event Management	Q3 / - / 0.37	2018	Practical applications
8	Preuss, H.	Event legacy framework and measurement	International Journal of Sport Policy and Politics	Q2 / - / 0.61	2018	Theoretical implications
9	Moss, S.E.; Gruben, K.H.; Moss, J.	An empirical test of the Olympic tourism legacy	Journal of Policy Research In Tourism Leisure and Events	Q2 / - / 0.61	2018	Practical applications
10	Scheu, A.; Preuss, H.; Konecke, T.	The Legacy of the Olympic Games: A Review	Journal of Global Sport Management	Q3 / - / 0.37	2019	Theoretical implications
11	Sorrentino, A.; Fu, X.; Romano, R.; Quintano, M.; Risitano, M.	Measuring event experience and its behavioral consequences in the context of a sports mega-event	Journal of Hospitality and Tourism Insights	Q2 / - / 0.65	2020	Practical applications
11	Scheu, A.; Preuss, H.; Konecke, T.	The Legacy of the Olympic Games: A Review	Journal of Global Sport Management	Q3 / - / 0.37	2021	Theoretical implications
12	Reis, R.M.; DaCosta, L.P.; Telles, S. C. C.	Measuring the legacy of mega-events: sportive usage index of the Brazil 2014 FIFA World Cup™	Motriz: Revista de Educação Física	Q4 / 0.086 (2012)	2021	Practical applications
13	Girginov, V.; Preuss, H.	Towards a conceptual definition of intangible Olympic legacy	International Journal of Event and Festival Management	Q3 / - / 0.47	2022	Theoretical implications

Q – Quartile; JCR – Journal Citation Report; JCI – Journal Citation Indicator

Source: Constructed by the author.

There were 13 articles left for conducting the systematic review, as shown in chart I. However, there is important quantitative information to be analyzed in the results that is linked to Bibliometry. This data is shown in the graph below (Graph I).

Graph I. Publishing frequency



Source: Constructed by the author

In graph I, it is possible to observe the number of publications detected throughout the time period with the search filters. Thus, the average publishing frequency during this time period reaches 1.85 publications per year. Although this is a low average, it is important to note that this level is specifically connected to the topic of measuring SME legacies.

On the other hand, there is a notable absence of post-2007 publications, with new publications on the topic appearing in 2013 and 2015 which, alongside 2018, represent a “historical peak” with three publications. Nonetheless, after 2018 the publishing frequency is reduced but constant, with at least one article being published per year.

Table I. Number of publications and regions

Journal	Amount	Region
African Journal for Physical, Health Education, Recreation and Dance (AJPHERD)	1	Africa
African Journal of Hospitality, Tourism and Leisure	1	Africa
Event Management	2	United States
International Journal of Event and Festival Management	1	England
International Journal of Sport Policy and Politics	1	England
International Journal of Tourism Research	1	England
Journal of Global Sport Management	1	England
Journal of Hospitality and Tourism Insights	1	England
Journal of Policy Research in Tourism Leisure and Events	1	England
Journal of Sport & Tourism	1	England
Motriz: Revista da Educação Física	1	Brazil
Sustainability	1	Switzerland
Total	13	

Source: Constructed by the author

Table I highlights the journals and the number of publications. It is possible to note that the studies are not concentrated in a specific journal or in a certain field, whether Physical Education, Sports Management, Business, Leisure, or Tourism. Thus, these findings reveal the heterogeneity of the publications and investigations conducted about the legacy stemming from SMEs (Chappelet, 2012).

Nevertheless, most of the regions or nationalities of the journals containing publications on the topic are from Europe, with England leading the scope with seven journals. Africa and the United States have two published articles each, while Brazil has only one article.

Table II. Main authors

Author(s)	Periodical/Journal	Publications	Year
Preuss, H.	Journal of Sport & Tourism	1	2007
Preuss, H.	Sustainability	1	2013
Preuss, H.	International Journal of Sport Policy and Politics	1	2018
Scheu, A.; Preuss, H.; Konecke, T.	Journal of Global Sport Management	1	2021
Girginov, V.; Preuss, H.	International Journal of Event and Festival Management	1	2022

Total		5	
Tichaawa, T.M.; Swart, K.; Bama, H.K.N.	African Journal for Physical, Health Education, Recreation and Dance (AJPHERD)	1	2015
Tichaawa, T.M.; Moshoeshoe, M.C.; Swart, k.; Mhlanga, O.	African Journal of Hospitality, Tourism and Leisure	1	2015
Total		2	
Dickson, T.J.; Darcy, S.; Edwards, D.; Terwiel, F.A.	Event Management	1	2015
Li, S.; McCabe, S.	International Journal of Tourism Research	1	2013
Moss, S.E.; Gruben, K.H.; Moss, J.	Journal of Policy Research in Tourism Leisure and Events	1	2018
Orr, M.; Jarvis, N.	Event Management	1	2018
Reis, R.M.; DaCosta, L.P.; Telles, S. C. C.	Motriz: Revista da Educação Física	1	2021
Sorrentino, A.; Fu, X.; Romano, R.; Quintano, M.; Risitano, M.	Journal of Hospitality and Tourism Insights	1	2020
Total		6	

Source: Constructed by the author

Table II identifies the authors with the highest numbers of publications about measuring SME legacies, considering the positions of author and co-author in this calculation. Thus, the main author that was found, with five published articles, was German researcher Holger Preuss, who works in the Department of Sports Economy and Sociology at Johannes Gutenberg University, Sports Sciences Institute, Mainz. Preuss is a reference in studies about SME, especially regarding management, impacts and legacies of the Olympic Games.

The second place comes from Johannesburg University – South Africa. The researcher and Tourism department head Maloney Tichaawa has two relevant publications about the legacies obtained from the South Africa 2010 FIFA World Cup and is also a major specialist in SME in Africa. The other authors and researchers found in the database have only one publication each.

Discussion

In possession of the results, the data was treated as per the recommendations from Bardin (2011) regarding content analysis, with a pre-analysis, an exploration of the material and the treatment of the results and interpretations.

The categories were created by selecting the units of context (subcategories) and the registration units (identified words and sentences), conducted based on the pertinence, intensity, coherence, homogeneity, absence, presence or frequency of the researched terms. Thus, the categories were composed, and a record of the process is shown in Chart II.

Chart II. Creation of the categories with units of context and registration

Categories	Unit of context	Unit of registration
Theoretical Implications (6 articles)	Conceptualization about the topic	Concept/definition
		Legacies
		Tangible/Intangible
		Planned/Not Planned
	Forms of measurement	Social
		Economic
		Suggestion/Proposal
		Indicators
Practical Applications (7 articles)	Qualitative evaluations and analyses	Perceptions
		Tourism
		Volunteers
		Post-event
	Proprietary tests and methodologies	Index
		Negative/Positive
		Sport
		Socioeconomic

Source: Constructed by the author

Theoretical Implications

The theoretical implications category corresponds to a group of six articles, shown in Chart III. These articles discuss, review, or theorize about the topic of SME legacies, legacy measurement, and some of them present proposals with practical applicability from the perspective studied by the authors.

Chart III. Articles in the Theoretical Implications category

Authors	Title	Journal	Year
Preuss, H.	The conceptualisation and measurement of mega sport event legacies	Journal of Sport & Tourism	2007
Preuss, H.	The Contribution of the FIFA World Cup and the Olympic Games to Green Economy	Sustainability	2013
Li, S.; McCabe, S.	Measuring the Socio-Economic Legacies of Mega-events: Concepts, Propositions and Indicators	International Journal of Tourism Research	2013
Preuss, H.	Event legacy framework and measurement	International Journal of Sport Policy and Politics	2018
Scheu, A.; Preuss, H.; Konecke, T.	The Legacy of the Olympic Games: A Review	Journal of Global Sport Management	2021
Girginov, V.; Preuss, H.	Towards a conceptual definition of intangible Olympic legacy	International Journal of Event and Festival Management	2022

Source: Constructed by the author

The articles in this category have a qualitative approach, supported by some sort of theoretical review or base, mainly focusing on the Olympic Games and, secondarily, on the FIFA World Cup. Thus, in the first four articles, the authors are able, through narrative or convenience reviews (bibliographical) to describe, state, and justify their theorizations, providing practical examples which they experienced (Galvão & Ricarte, 2019).

On the other hand, of the last two articles, one chose to conduct a bibliographical review and the other, a systematic review to express new concepts and give suggestions for measuring legacies with the developed concepts (Sheu et al., 2021; Girvinov & Preuss, 2022).

Despite the resemblance in terms of organization, the articles exhibit the authors' own views, revealing different characteristics, bringing about a sort of separate analysis or theorization, as summarized in Chart IV.

Chart IV. Article characteristics

Authors	Title	Type of legacy being investigated/defined	Field
Preuss, H. (2007)	The conceptualisation and measurement of mega sport event legacies	Planned and unplanned / tangible and intangible / positive and negative	Sports Management
Preuss, H. (2013)	The Contribution of the FIFA World Cup and the Olympic Games to Green Economy	Environment (green legacy)	Environment
Li, S.; McCabe, S. (2013)	Measuring the Socio-Economic Legacies of Mega-events: Concepts, Propositions and Indicators	Induced tourism / stadiums and sports facilities / economic activities / levels of knowledge / level of host image / benefits/costs to society.	Tourism
Preuss, H. (2018)	Event legacy framework and measurement	Urban development / environmental improvement / policy and governance / human development / intellectual property / social development	Sports Management
Scheu, A.; Preuss, H.; Konecke, T. (2021)	The Legacy of the Olympic Games: A Review	Urban development / environmental improvement / policy and governance / abilities, knowledge and networks / intellectual property / behaviors and beliefs	Sports Management
Girginov, V.; Preuss, H. (2022)	Towards a conceptual definition of intangible Olympic legacy	Intangible	Sports Management

Source: Constructed by the author

Upon analyzing chart IV, it is possible to note the prevalence of Sports Management as the “leading field” among the studies. Thus, the concepts of sports management and SME legacy measurement appear more frequently throughout the sample. Furthermore, the types of legacies are defined or categorized in different ways, generating what Chappellet (2012) describes as multifaceted visions of legacy. In terms of defining SME legacy, Preuss (2007) proposes the following:

Regardless of when and where it is produced, legacy corresponds to all planned and unplanned, positive and negative, tangible and intangible structures created for and by a sports event which last longer than the event itself (PREUSS, 2007, p.6).

Considering this, there is an important understanding to be had about legacies, which Preuss (2007) named ‘legacy cube’, that is present in the excerpt above. Planned and unplanned structures (regarding delivery

and planning), positive or negative (results), and tangible and intangible (classification). Thus, with these characteristics, it is possible to subsequently adopt some sort of metric to measure the legacy.

This concept is developed in all of this author's articles; however, regardless of legacy type or classification, in his production, Preuss expresses a direct preoccupation with the people, who must benefit from the SME legacies generated by urban development, policy and governance, environmental improvement (green legacy), knowledge, social development, behaviors and beliefs (Preuss, 2007; 2013; 2018). That is, the author comments about the responsibility that is required regarding the finances and planning made by the politicians who are managing the SME, but the focus of legacies lies in improving people's lives.

From the tourism perspective, Li and McCabe (2013) study the socioeconomic and social legacies, understanding that the variable of time affects the so-called "legacy strength". That is, the more time goes by, the weaker the economic legacy, but the stronger the non-economic legacy. Thus, the authors investigate and recognize the legacies stemming from induced tourism, stadiums and sports facilities, economic activities, knowledge levels, host image levels and costs/benefits for society as being possible to measure through tourism and marketing strategies. With stadiums and sports facilities, Li and McCabe (2013) suggest using stadium costs and installation as a form of measurement, which normally leads to negative results, because depending on the time period used to conduct the measurements, the stadium might not have been fully paid for. Furthermore, the authors refer to the benefits of facilities with new revenue, events, created jobs or uses as legacy, but they stress that many stadiums are not self-sustainable. As for extra economic activities, Li and McCabe (2013) propose the identification and measurement of activities that began after the event, such as new fairs or exhibits, whether the city was able to attract new events or not, in an analysis similar to that of induced tourism. However, this proposition brings about the question of which events actually appeared due to the SME that was held.

As a proposal for measuring intangible social legacies related to knowledge levels, host image levels and costs/benefits for society, the authors consider exiting what people perceive as common sense and go on to the marketing approach analyses that are used in tourism (Li & McCabe, 2013). In this manner, they propose to measure the level of knowledge or conscience of the host country or city as a touristic destination; that is, they seek to investigate how the local citizens see their country/city as an important touristic destination after the SME, which requires a major marketing effort to transmit this sort of message and provide feedback on it over a longer period of time. As for the country's image, Li and McCabe (2013) see it as the image of a touristic destination, and also link measurements of this type of legacy to marketing strategies. With this, they seek to reconcile the image of the destination with hosting the SME and they intend to measure the return of the investment made on the marketing campaign conducted to this end.

The social costs/benefits are indirectly related to the social legacies and can have positive and negative results. However, the costs/benefits can be measured based on the "strength" of the local population's feelings in relation to tourism – Did it improve or worsen after the SME? Another measurement point is the community's cohesion, understanding the relationship residents have with people of different origins and the participation of "outsiders" in local activities (Li & McCabe, 2013). Thus, it is also possible to understand this concept as hospitality and relations with new people. As such, maintaining the focus on activities and actions related to tourism, Li and McCabe (2013) propose and present metrics for measuring legacies stemming from SMEs, focusing on the attractions, image, perceptions and the economy and correlating them with the host city/country being a touristic destination of reference.

Having defined the conceptual spectrum, the authors from this category make proposals or suggestions for measuring SME legacies. Chart V shows a summary of the main results.

Chart V. Summary of the main results in the theoretical implications category

Authors	Summary of the results
Preuss, H. (2007)	The discussions in this article suggested that the most viable method could be a bottom-up approach; however, the measurement of event legacies still faces three obstacles. The first is the difficulty in measuring the 'net' legacy, instead of the 'gross' legacy. The second obstacle is the difficulty in deciding whether a legacy has a positive or a negative value. The third problem is measuring the legacy through time. Although the bottom-up approach can detect an event's legacy, it is difficult to evaluate the legacy's effects through time.
Preuss, H. (2013)	The concept of sustainability being disseminated by mega events is an idea worth exploring. Since these events are high-end, extremely visible, and attract global attention, the organizers cannot ignore highly shared worries about sustainability. The attractiveness of a mega event obviously presents opportunities for strengthening the green economy, but there are barriers to overcome.
Li, S.; McCabe, S. (2013)	The article contains a set of proposals and measures for evaluating the legacy from mega events, with an emphasis on tourism-related issues. We identified and built the conceptual aspects around the key measures for evaluating a set of six central indicators. Some of the indicators, such as the costs and benefits of event stadiums and economic growth, are tangible; while others, such as raising awareness and the level of host country images, are intangible and, thus, relatively more difficult to quantify.

Preuss, H. (2018)	As mentioned before, previous academic works describe the results of legacies in specific cities for a group interested in a specific moment, many times without conducting a causality test to find out if the Olympic Games truly originated that legacy. The six structural changes proposed in this article have a new composition (research question 1).
Scheu, A.; Preuss, H.; Konecke, T. (2021)	The results show that the study about legacy sparked considerable interest among researchers over the last few years. Although many studies attempt to measure the legacy of the Olympic Games, there is frequently a lack of empirical evidence and there is space for improvement. These results, along with current developments, such as a new public bidding process for the 2025 Winter Olympics, highlight the need for more encompassing evaluations of legacy in all of its aspects during the event's entire cycle.
Girginov, V.; Preuss, H. (2022)	This can be reached by adopting a constructivist approach regarding the legacy, which recognizes that it is an emerging combination of attributes, processes, technology, and interactions with the goal of creating public value. Public value is interpreted both as a noun (that is, sets of standards to which something is compared) and as a process (what the public values). It appears at the level of perceptions and experience and requires interactions between a subject that values and an object that is valued.

Source: Constructed by the author

Upon examining the results, it is possible to understand some variables that can help in future studies: a) The bottom-up approach (micro to macro), considering the concept of net legacy mentioned by Preuss (2007), which considers the difference between the development of a certain area of the host location and the numbers obtained due to hosting the SME, thus detecting whether the legacy is positive or negative; b) It is a major challenge to quantify the intangible, especially when it has to do with host country image levels and conscientization, with a marketing and communication strategy being the constant connection with the SME that is held in a touristic location (Li & McCabe, 2013); c) The six conceptual changes proposed by Preuss (2018), (1) urban development, (2) environmental improvement, (3) policy and governance, (4) human development, (5) intellectual property and (6) social development, can serve as parameters for future studies that have the goal of measuring SME legacies; d) There is a lack of studies demonstrating empirical evidence for measuring the legacies stemming from the Olympic Games (Sheu et al., 2021); and e) The new concept of intangible Olympic legacy can create developments and partnerships in future studies that follow this set of references, with the understanding that intangible Olympic legacy has public value (Girvinov & Preuss, 2022).

Practical applications

The practical applications category is composed of seven articles that attempt to develop metrics for obtaining results about SME legacies, making decentralized scientific attempts, as shown in Chart VI.

Chart VI. Articles in the Practical Applications category

Authors	Title	Journal	Year
Dickson, T.J.; Darcy, S.; Edwards, D.; Terwiel, F.A.	Sport mega-event volunteers' motivations and post-event intention to volunteer: The Sydney World Masters Games, 2009	Event Management	2015
Tichaawa, T.M.; Swart, K.; Bama, H.K.N.	Community perceptions of the socio-economic legacies of the 2010 FIFA World Cup in Nelson Mandela Bay, Port Elizabeth, South Africa: a four-year post-event analysis	African Journal for Physical, Health Education, Recreation and Dance (AJPHERD)	2015
Tichaawa, T.M.; Moshoeshoe, M.C.; Swart, K.; Mhlanga, O.	Nelson Mandela Bay residents' perceptions of the socioeconomic legacy of the 2010 FIFA World Cup: pre and post-event comparisons	African Journal of Hospitality, Tourism and Leisure	2015
Orr, M.; Jarvis, N.	Blinded by gold: Toronto sports community ignores negative legacies of 2015 PAN AM Games	Event Management	2018
Moss, S.E.; Gruben, K.H.; Moss, J.	An empirical test of the Olympic tourism legacy	Journal of Policy Research in Tourism Leisure and Events	2018
Sorrentino, A.; Fu, X.; Romano, R.; Quintano, M.; Risitano, M.	Measuring event experience and its behavioral consequences in the context of a sports mega-event	Journal of Hospitality and Tourism Insights	2020
Reis, R.M.; DaCosta, L.P.; Telles, S. C. C.	Measuring the legacy of mega-events: sportive usage index of the Brazil 2014 FIFA World Cup™	Motriz: Revista da Educação Física	2021

Source: Constructed by the author

The articles employ a structure that is generally composed of an introduction, literature review or theoretical base, methodology, results, data analysis and discussion, followed by the final considerations and theoretical and practical implications. As such, the authors aim to sustain and explain the existence of the phenomena connected with SME legacies and their methodological options for measurements through scientific literature, including articles that are a part of the theoretical implications category. For instance, Moss et al. (2018) cite the theoretical implications suggested by Preuss (2007) and Li and McCabe (2013). Orr and Jarves (2018) cite Li and McCabe, and Reis et al. (2021) cite Preuss (2018). Considering this, it is possible to note that despite there being few empirical studies (Sheu et al., 2021), there are connections between theory and practice.

Deepening the analysis, reading the articles made it possible to understand what the articles investigated, how the investigation occurred, the tools and techniques used for data collection, the types of legacies that were analyzed, the articles' goals, the studies' dominant fields and the time period that was analyzed to conduct measurements of the legacies in question. This content is organized in Chart VII.

Chart VII. Analysis of the articles in the practical applications category

Authors	Field of study	SME	Objective(s)	Type of legacy	Approach	Data collection	Time period
Dickson, T.J.; Darcy, S.; Edwards, D.; Terwiel, F.A.	Sports Management	Sydney 2009 World Masters Games	Investigate the true legacy of volunteering.	Intangible (motivation)	Qualitative and quantitative	Questionnaire	Pre and post-event (3 months)
Tichaawa, T.M.; Swart, K.; Bama, H.K.N.	Sports Management	South Africa 2010 FIFA World Cup	Measure the residents' perception four years after the event.	Intangible (perception of socioeconomic legacies)	Qualitative and quantitative	Interviews	Post-event (4 years)
Tichaawa, T.M.; Moshoeshoe, M.C.; Swart, K.; Mhlanga, O.	Tourism	South Africa 2010 FIFA World Cup	Compare pre and post-event perceptions about the event legacy's impacts.	Intangible (perception of socioeconomic legacies)	Qualitative and quantitative	Questionnaire	Pre and post-event (4 years before the event and 4 years after the event)
Orr, M.; Jarvis, N.	Sports Management	Toronto 2015 Pan American Games	Investigate the Toronto Pan American Games: evaluating the perspectives of local authorities, Games organizers, and members of the sports community regarding the Games' expected sports legacies.	Tangible and intangible	Qualitative	Interviews	Post-event
Moss, S.E.; Gruben, K.H.; Moss, J.	Tourism	Summer and Winter Olympic Games	Empirically analyze the legacy effect and whether boosting the Olympics, exposing potential tourists to more media content increases the legacy effect.	Tangible (international tourism by number of passengers)	Quantitative	Government data	Pre-event and event
Sorrentino, A.; Fu, X.; Romano, R.; Quintano, M.; Risitano, M.	Tourism	America's Cup World Series Italy 2013	Analyzing the impact of experiencing the event on event satisfaction and on the intentions to return and recommend travel to the host destination.	Intangible (event experience / intentions to return to the event location or recommend the destination)	Quantitative	Questionnaire	Event
Reis, R.M.; DaCosta, L.P.; Telles, S. C. C.	Sports Management	Brazil 2014 FIFA World Cup	Analyzing the sportive usage of the 12 Brazil 2014 FIFA World Cup™ arenas.	Tangible (arenas)	Quantitative	Documental research	Post-event (6 years)

Source: Constructed by the author

Upon analyzing chart VII, it is possible to note that the fields of science that possess studies on this topic are mostly classified as Sports Management and Tourism. An explanation for this is the fact that both fields have their own theoretical implications that discuss the topic, thus favoring the development of new studies (Li & McCabe, 2013; Preuss, 2007). Regarding the sports mega events that were selected for the studies, the FIFA World Cup holds the highest number of studies. Nevertheless, from outside the circle of well-known events, there is a study about the 2013 America's Cup World Series, a sailing competition that was held in Italy.

In this context, the types of legacies that were investigated were mostly of the intangible type; that is, legacies such as perception, motivation and experience appeared more frequently in the studies.

The approaches for measuring SME legacies vary between qualitative and quantitative; however, uniting the approaches is more significant to the category sample, revealing that the data is collected from respondents (people) and treated with some sort of calculation, scale, technique or statistical treatment to reflect the measurement numbers or results. Thus, the perceptions came from residents, event volunteers, organizers, and participants. Among the studies of this nature, the one conducted by Tichaawa et al. (2015b) was able to conduct a pre and post-event comparison regarding the perception of local residents of socioeconomic legacies, thus obtaining compatible data for the measurements. The studies conducted by Moss et al. (2018) and Reis et al. (2021) used government data or official documents as a source for conducting new quantitative analyses. Moss et al. (2018), for example, employed data from the United States and other international governments about international and domestic arrivals in the cities that hosted the Olympic Games, to discover whether there is a relationship between hosting a SME and a short-term increase in international tourism. Reis et al. (2021) concentrated on the data generated by the sport itself to measure (the number of matches held per year) and create a sportive use index for the Brazil 2014 FIFA World Cup arenas based on the official Brazilian competition tables. On the other hand, Preuss (2007 and 2018) defends the position that SME legacies can be produced before, during, and after the event, thus allowing researchers to select the time periods they wish to analyze and discuss in their studies. Thus, the post-event period was the most analyzed period within the sample, showing that empirical studies consider the long haul when measuring legacies, even using previous periods for comparison and conducting deeper analyses. With this said, all of the articles mention, in one way or another, that receiving legacies is used as an argument or justification for a country or city to host SMEs. However, the studies have unique characteristics, which cannot be generalized in terms of their investigation objectives, legacies, SMEs, measurement techniques or the time period they cover.

Logically, these empirical studies have varied results and conclusions, which are summarized in Chart VIII.

Chart VIII. Summary of the main results in the practical applications category

Authors	Results summary
Dickson, T.J.; Darcy, S.; Edwards, D.; Terwiel, F.A.	The data indicates that the 2009 SWMG volunteers were mostly female, older, retired or working, and many of them were already involved in volunteering before the event. Since many of the volunteers obtained regular jobs after the event, this can affect any volunteering after the event, as they may not have time to volunteer again. What was demonstrated through this study is that the moment motivation is measured (pre or post-event) can have a significant effect on the motivation reported by the volunteers. Furthermore, for the SWMG 2009, the pre-event measurement of the intention to volunteer after the event does not reflect the behaviors exhibited 3 months after the event.
Tichaawa, T.M.; Swart, K.; Bama, H.K.N.	The community's perceptions were mostly positive regarding the socioeconomic legacies related to the destination's improved infrastructure and image. However, the community expressed the fact that the event mainly benefited rich people and large businesses, while increasing social inequality.
Tichaawa, T.M.; Moshoeshoe, M.C.; Swart, k.; Mhlanga, O.	Generally speaking, the results indicate that the residents had slightly more positive perceptions of the event after it happened than in the pre-event period. The mostly positive perceptions the residents exhibited can be attributed for the most part to the success in hosting the event.
Orr, M.; Jarvis, N.	The discoveries of this analysis of the Toronto Pan American Games are consistent with the literature and brought up two major topics. Firstly, there is no universal understanding of legacies as a term or a concept. Secondly, the results of the efforts that were planned towards the legacy have been inconsistent in terms of being positive or negative for the host city.
Moss, S.E.; Gruben, K.H.; Moss, J.	No evidence was found to support the hypothesis that hosting the Olympics creates a short-term legacy of international tourism. There is also less evidence of a link between international tourism and media coverage. There can be valid explanations for a host city to spend the necessary capital to host an edition of the Olympics, especially in the long term. However, this study shows that the promise of short-term economic benefits from large increases in international tourism should not be used as an excuse to host the Olympics.
Sorrentino, A.; Fu, X.; Romano, R.; Quintano, M.; Risitano, M.	The results revealed that the event experience and satisfaction had positive impacts on the intention to recommend and return to the host destination. Furthermore, nationality, gender and trip motivation appeared as important moderating factors in the relationships between the latent constructs.
Reis, R.M.; DaCosta, L.P.; Telles, S. C. C.	The sportive use index of $\cong 23$ Matches/year and 2 Matches/month creates an image of sample homogeneity. However, there is a different reality at the Mané Garrincha, Amazônia, and Dunas arenas.

Source: Constructed by the author

Upon analyzing the data from chart VIII, the studies from Dickson et al. (2015), Tichaawa et al. (2015a), Tichaawa et al. (2015b) and Sorrentino et al. (2020) investigated intangible legacy in different manners, making it possible to notice the following trends: a) The motivation for volunteers to participate in a SME does not remain as a legacy after the experience; b) The host community sees the socioeconomic legacy in infrastructure and country image as positive, but the main beneficiaries of SME were the rich; and c) Causing a positive experience in SME participants leaves a good image of the host location as a legacy, to the point of generating future recommendations or return trips to the host destination. Thus, the positive reactions measured before or after the event demonstrate that the legacy for a host's image permits the creation of new tourism business, while volunteer motivation declines after participation in SMEs.

Going on to the studies that focus on tangible legacy, we have the findings from Moss et al. (2018), whose results reveal that being the host of a SME does not necessarily bring about legacy returns in the form of international tourism; that is, strengthening the host country or city's image does not increase the volume of international tourists. On the other hand, Reis et al. (2021) found the level of 2 matches/month held at the Brazil World Cup arenas between 2014 and 2019, demonstrating that the sportive use of the legacy must be considered in the planning stage, especially in countries where soccer is not a major sport, to avoid having the new arenas become high-cost white elephants. It is important to mention that the study was conducted with official data from Brazil, which is known as "the country of Soccer" and, even so, the authors proved that three arenas were underused.

The approach of tangible and intangible legacies conducted by Orr and Jarvis (2018) reveals that measuring planned legacy is inconclusive, making it difficult to discover whether these legacies are positive or negative. Thus, this evidence is in agreement with Preuss (2018), who states that there is a major difficulty, academically speaking, in explicitly defining the results.

Conclusions

This article conducted a systematic review with mixed literature of qualitative convergence. The data revealed the existence of theoretical and practical studies about measuring the legacies from SMEs, with most of the works belonging to the fields of sports management and tourism.

The theoretical implications category reveals studies that focus on the Olympic Games and the FIFA World Cup, consider measuring the so-called net legacy, comprehend the difficulty that lies in creating an efficacious metric to express the value of intangible legacies, point to marketing strategies that sustain and can disseminate a country's image upon hosting SMEs and understand that legacies should somehow improve people's lives.

The practical applications category shows that there is a lack of empirical studies that measure or demonstrate positive and negative results of legacies and SMEs. In this line, some of the studies explore the intangible legacy through motivation, experiences, and perceptions, demonstrating that positive perceptions can generate positive legacies. Others explored tangible legacies and managed to determine that there is no link between an increase in international tourism and the legacy of a host city/country's image. They also demonstrate that it is possible to measure sportive usage, resulting in stadiums with a high number of soccer matches, which can be an item to consider when planning the future legacy left to the host.

Conflicts of interest: The authors declare that there are no conflicts of interest regarding the contents of this article.

References

- Archambault, É., Campbell, D., Gingras, Y., & Larivière, V. (2009). Comparing Bibliometric Statistics Obtained from the Web of Science and Scopus. *Journal of the American Society for Information Science and Technology*, 60(7), 1320-326. <http://onlinelibrary.wiley.com/doi/10.1002/asi.22883/abstract>
- Bardin, L. (2011). *Content Analysis*. [język portugalski] 1st reprint of 1st edition. São Paulo: Edições 70.
- Bondarik, R. (2018). *The 2014 FIFA World Cup in Brazil: a sneaky, unbalanced and disconcerting dribble around the legacy promises of a sports mega event*. [język portugalski] [Doctoral Dissertation, Universidade Tecnológica Federal do Paraná]. Repositório Institucional da UTFPR.**
- Chappelet, J. L. (2012). Mega Sporting Event Legacies: a multifaceted concept. *Papeles De Europa*, 25, 76-86. http://dx.doi.org/10.5209/rev_PADE.2012.n25.41096
- Coakley, J. & Souza, D. L. (2015). Legacies of sports mega events: considerations based on a critical perspective. [język portugalski] *RBEFE*, 29(4), 675-686.
- Costa, T., Lopes, S. & **Fernández-Llimós, F.** (2012). Bibliometry and the Evaluation of Scientific Production: indicators and tools. [język portugalski] In: *Anais do Congresso Nacional de Bibliotecários, Arquivistas e Documentalistas*.
- Cottle, E. (org.). (2015). *South Africa World Cup – a legacy for whom?* [język portugalski] Trad. Lara Feitas. Florianópolis: Insular.

- Dickson, T. J., Darcy, S., Edwards, D., & Terwiel, F. A. (2015). Sport Mega-Event Volunteers' Motivations and Postevent Intention to Volunteer: The Sydney World Masters Games, 2009. *Event Management*, 19(2), 227-245. <https://doi.org/10.3727/152599515X14297053839692>
- Galvão, M. C. B. & Ricarte, I. L. M. (2019). Systematic literature review: conceptualization, production and publication. [język portugalski] *Logeion: Filosofia Da Informação*, 6(1), 57-73. <https://doi.org/10.21728/logeion.2019v6n1.p57-73>
- Girginov, V. & Preuss, H. (2022). Towards a conceptual definition of intangible Olympic legacy. *International Journal of Event and Festival Management*, 13(1), 1-17. <https://doi.org/10.1108/IJEFM-03-2021-0025>
- Griffin, T. R. (2019). National identity, social legacy and Qatar 2022: the cultural ramifications of FIFA's first Arab World Cup. *Soccer & Society*, 20(7-8), 1000-1013. <https://doi.org/10.1080/14660970.2019.1680499>
- Gulak-Lipka, P. & Jagielski, M. (2020). Incorporating sustainability into mega-event management as means of providing economic, social and environmental legacy: a comparative analysis. *Journal of Physical Education and Sport (JPES)*, 20(5), Art. 388, 2859-2866. <https://doi.org/10.7752/jpes.2020.s5388>
- Li, S. & McCabe, S. (2013). Measuring the Socio-Economic Legacies of Mega-events: Concepts, Propositions and Indicators. *International Journal of Tourism Research*, 15, 388-402. <https://doi.org/10.1002/jtr.1885>
- Mongeon, P. & Paul-Huss, A. (2016). The journal coverage of Web of Science and Scopus: a comparative analysis. *Scientometrics*, 106 (1), p. 213-228.
- Moss, S. E., Moss, Gruben, K. H. & Moss, J. (2018). An empirical test of the Olympic tourism legacy. *Journal of Policy Research in Tourism, Leisure and Events*, 11(1), 16-34. <https://doi.org/10.1080/19407963.2017.1418750>
- Müller, M. (2015). The Mega-Event Syndrome: Why So Much Goes Wrong in Mega-Event Planning and What to Do About It. *Journal of the American Planning Association*, 81, 1-12. <https://doi.org/10.1080/01944363.2015.1038292>
- Oliveira, F., Telles, S., Nery, L., & Teixeira, M. (2023). Beach Volleyball Management in Brazil. In Cepeda Carrión, G., García-Fernández, J., & Zhang, J.J. (Eds.). *Sport Management in the Ibero-American World: Product and Service Innovations* (1st ed., pp. 274-294). Routledge. <https://doi.org/10.4324/9781003388050-21>
- Orr, M. & Jarvis, N. (2018). Blinded by gold: Toronto sports community ignores negative legacies of 2015 Pan Am Games. *Event Management*, 22(3), 367-378. <https://doi.org/10.3727/152599518X15252008713173>
- Paiva, R. S. (2018). *Fallacies in the planning of the FIFA World Cup's legacy in the twelve host-cities in Brazil*. [język portugalski] [Doctoral Dissertation, Pontifícia Universidade Católica de São Paulo – PUC-SP]. Ludopédio.
- Page, M. J., Moher, D., Bossuyt, P. M., Boutron, I., Hoffmann, T. C., Mulrow, C. D., Shamseer, L., Tetzlaff, J. M., Akl, E. A., Brennan, S. E., Chou, R., Glanville, J., Grimshaw, J. M., Hróbjartsson, A., Lalu, M. M., Li, T., Loder, E. W., Mayo-Wilson, E., McDonald, S., ..., & McKenzie, J. E. (2021). PRISMA 2020 explanation and elaboration: updated guidance and exemplars for reporting systematic reviews. *BMJ*, 372. <https://doi.org/10.1136/BMJ.N160>
- Preuss, H. (2007). The conceptualization and measurement of mega sport event legacies. *Journal of Sport & Tourism*, 12(3-4), 207-227. <http://dx.doi.org/10.1080/14775080701736957>
- Preuss, H. (2013). The Contribution of the FIFA World Cup and the Olympic Games to Green Economy. *Sustainability*, 5, 3581-3600. <https://doi.org/10.3390/su5083581>
- Preuss, H. (2015). A framework for identifying the legacies of a mega sport event. *Leisure Studies*, 34(6), 643-664. <https://doi.org/10.1080/02614367.2014.994552>
- Preuss, H. (2018). Event legacy framework and measurement. *International Journal of Sport Policy and Politics*, 11(1), 103-118. <https://doi.org/10.1080/19406940.2018.1490336>
- Prospero. (n.d.). International prospective register of systematic reviews. Retrieved November 13, 2017, from <https://www.crd.york.ac.uk/PROSPERO/>
- Reis, R. M. (2017). *Brazil 2014 FIFA World Cup™: management and legacies from candidacy to the post-event stage*. [język portugalski] [Doctoral Dissertation, Universidade do Estado do Rio de Janeiro]. Biblioteca Digital de Teses e Dissertações – UERJ.
- Reis, R. M., Malina, A., DaCosta, L. P., & Telles, S. C. C. (2019a). Management and legacy of the Brazil 2014 Fifa World Cup during its candidacy bid. *Motriz: Revista de Educação Física*, 25(2). <https://doi.org/10.1590/S1980-6574201900020016>
- Reis, R. M., Triani, F., DaCosta, L. P., & Telles S. (2019b). Management of the Brazil 2014 FIFA World Cup™: responsibilities and roles of the organizers. [język portugalski] *Revista Valore*, 4(1), 841-855. <https://doi.org/10.22408/revva412019277841-855>
- Reis, R. M., DaCosta, L. P., & Telles, S. C. C. (2021). Measuring the legacy of mega-events: sportive usage index of the Brazil 2014 FIFA World Cup™. [język angielski] *Motriz: Revista de Educação Física*, 27. <https://doi.org/10.1590/S1980-657420210002421>

- Rekow, L. (2016). Rio De Janeiro's Olympic legacy: Public security for whom? *Journal of Human Security*, 12(1), 74-90.
- Scheu, A., Preuss, H., & Könecke, T. (2021). The Legacy of the Olympic Games: A Review. *Journal of Global Sport Management*, 6(3), 212-233. <https://doi.org/10.1080/24704067.2019.1566757>
- Schreiber, F. & Cramer, C. (2022) Towards a conceptual systematic review: proposing a methodological framework. [język angielski] *Educational Review*. <https://doi.org/10/1080/00131911.2022.2116561>
- Sesinando, A., Segui-Urbaneja, J., & Teixeira, M. (2022). Professional development, skills, and competences in sports: a survey in the field of sport management among public managers. *Journal of Physical Education and Sport*, 22(11), 2800-2809. <https://doi.org/10.7752/jpes.2022.11355>
- Sorrentino, A., Fu, X., Romano, R., Quintano, M. & Risitano, M. (2020). Measuring event experience and its behavioral consequences in the context of a sports mega-event. *Journal of Hospitality and Tourism Insights*, 3(5), 589-605. <https://doi.org/10.1108/JHTI-03-2020-0026>
- Teixeira, M., Rijo, V., & Sesinando, A. (2022). Sports management research: analysis of scientific development in Portugal (2008-2017). *Journal of Physical Education*, 33(1), e-3353. <https://doi.org/10.4025/jphyseduc.v33.il.3353>
- Tichaawa, T., Swart, K., & Bama, H. (2015a). Community perceptions of the socio-economic legacies of the 2010 FIFA World Cup in Nelson Mandela Bay, Port Elizabeth, South Africa: A four-year post-event analysis. *African Journal for Physical Health Education, Recreation, and Dance*, 21(4.2), 1376-1388.
- Tichaawa, T.M., Moshoeshoe, M.C., Swart, K., & Mhlanga, O. (2015b). Nelson Mandela Bay residents' perceptions of the socioeconomic legacy of the 2010 FIFA World Cup: Pre- and post-event comparisons. *African Journal of Hospitality, Tourism and Leisure*, 4(2).
- Vergara, S. C. (2015). *Research Methods in Administration*. [język portugalski] 6th Ed. Editora Atlas.