



Leveraging sporting events to create sport participation: a case study of the 2016 Youth Olympic Games

Svein Erik Nordhagen

To cite this article: Svein Erik Nordhagen (2021) Leveraging sporting events to create sport participation: a case study of the 2016 Youth Olympic Games, International Journal of Sport Policy and Politics, 13:3, 409-424, DOI: [10.1080/19406940.2021.1891946](https://doi.org/10.1080/19406940.2021.1891946)

To link to this article: <https://doi.org/10.1080/19406940.2021.1891946>



© 2021 The Author(s). Published by Informa UK Limited, trading as Taylor & Francis Group.



Published online: 05 Mar 2021.



[Submit your article to this journal](#)



Article views: 1829



[View related articles](#)



[View Crossmark data](#)



Citing articles: 1 [View citing articles](#)

Leveraging sporting events to create sport participation: a case study of the 2016 Youth Olympic Games

Svein Erik Nordhagen

Department of Organisation, Leadership and Management, Inland Norway University of Applied Sciences, Lillehammer, Norway

ABSTRACT

The leverage perspective takes a prospective approach to legacy and focuses on how different organisations use an event as a catalyst to implement their own organisational goals. This paper examines how the second winter Youth Olympic Games (YOG) in Lillehammer in 2016 were leveraged to increase participation in organised and non-organised sport among regional youth. The analytical framework is based on available sport participation leverage literature. This is a case study using interviews with representatives from involved organisations, archival materials and observations as its main sources. The findings show that event organisations, sport organisations and non-sport organisations formed alliances to leverage the 2016 YOG for sport participation with intervention programmes and new infrastructure as the two main strategies. The sport participation legacy outcomes of the 2016 YOG were constrained by a lack of long-term strategies and limited resources made available after the Games. To maximise the sport participation goals, strong alliances and long-term commitments need to be formed among local and regional organisations.

ARTICLE HISTORY

Received 21 June 2019
Accepted 11 February 2021

KEYWORDS

Sport participation; leverage; legacy; youth Olympic Games; local youth

Introduction

Major sporting events can cost more money than they make (Taks *et al.* 2011), especially for the host region (Preuss 2019). Therefore, creating positive social impacts, such as sport participation for the hosting communities and the hosting nation is a common justification for using a considerable amount of public funding to host major sporting events (Girginov and Hills 2008, Chalip *et al.* 2017). A commonly held belief is that the presence of successful athletes at major sporting events has the potential to foster sport participation (Grix and Carmichael 2012). However, a prerequisite for creating sport participation is the development and implementation of leveraging strategies (Girginov and Hills 2008, Weed *et al.* 2012, Taks *et al.* 2017).

The leverage perspective takes a prospective approach and focuses on how different organisations use a sporting event as a catalyst for the ‘intentional acquisition, coordination and deployment of resources for achieving organisational ends’ (Girginov 2018, p. 65). The purpose of studying the leverage of sporting events is to focus on the bidding, planning and implementation of legacy goals to increase the knowledge of how to maximise long-term positive future impacts of events (Chalip 2014, Chalip *et al.* 2017, Girginov and Hills 2008, Thomson *et al.* 2018).

Leverage studies have focused on major sporting events as a means to enhance economic outcomes (Chalip 2004), social development (Chalip 2006), image building (Grix 2012) and, more

recently, sport participation (Chalip *et al.* 2017, Taks *et al.* 2017). Studies have explored events leveraged to enhance participation in organised sport (Misener *et al.* 2015, Girginov *et al.* 2017, Taks *et al.* 2017) and, only to a limited extent, in non-organised sport and physical activity (Lane *et al.* 2015). Sport participation leverage has been studied in a youth context and in relation to the Youth Olympic Games (YOG), but only to a limited extent.

Taking the leverage perspective, this paper examines how the 2016 YOG were used by a variety of organisations to create sport participation. An international elite sporting event for young elite athletes between 15 and 18 years of age, the YOG has integrated programmes for culture and education and to align with the vision 'to inspire young people around the world to participate in sport and adopt and live by the Olympic values' (International Olympic Committee [IOC] 2015, p.13). The Norwegian Olympic and Paralympic Committee and Confederation of Sports' (NIF) main promise in the bid for the fourth YOG edition in 2016 in Lillehammer was to use the event as a catalyst to recruit youth to participate in organised sport (NIF 2010a). While a previous study has identified the limited strategies and efforts by the NIF to implement the youth sport development goals (Strittmatter and Skille 2016), this study examines how different organisations leveraged the 2016 YOG for sport participation.

The research question for this study is: How were the 2016 YOG leveraged to create sport participation among youth in the host region? This study examines how different organisations planned, implemented, and maintained sport participation legacies through the 2016 YOG. The findings are discussed in relation to sport-participation leverage literature (eg Chalip *et al.* 2017, Taks *et al.* 2017). In this study, the term 'sport participation' includes participation in the grassroots level of organised sports and non-organised sports. The purpose of this study is to increase the knowledge about how to maximise positive sport participation legacy.

Legacy and sport-participation leverage

Legacy is defined as 'any outcomes that affect people and/or space caused by structural changes that stem from the Olympic Games' (Preuss 2019, p. 106). Preuss (2007) argued that legacy can be planned or unplanned, positive or negative, and tangible or intangible. The majority of legacy research has focused on the impact or what is left behind after hosting major sporting events, while more recent research has started to focus on the delivery of legacy (Chalip *et al.* 2017, Girginov 2018, Thomson *et al.* 2018).

The leverage perspective brings new aspects to legacy research. First, this perspective represents a shift from merely measuring event impacts to a prospective approach, which implies an examination of the delivery of legacy by focusing on strategies aimed at increasing the desired legacy outcomes (Chalip 2004, 2006, 2014, O'Brien 2007). This shift is considered a welcomed step to better understand how legacy may be produced as opposed to simply debating the existing legacies remaining after an event (Chappelet 2012). Second, the leverage approach has also shifted the responsibility for the delivery of legacy outcomes from the event owners and event organisers to those who would like to use the event to implement their own organisational goals (Girginov 2018). This is based on the identified limitations of event organisers as legacy organisations because their primary task is to implement the event and their existence is temporary (Chalip 2014). Finally, the leverage perspective focuses on sporting events as a means of creating durable social benefits for the host communities, such as the creation of 'liminality' or 'communitas'. Liminality has been understood as the feeling of being a part of something that goes beyond sports and that increase the sense of fellowship within the local community (Chalip 2006). However, the period of intense enthusiasm for a major event is usually short-lived (Ritchie 2000).

Sport is the central focus in sporting events, and stimulating sport participation by hosting such events can, therefore, be considered both logical and desirable (Taks *et al.*, 2013). According to the legacy literature, the 'demonstration effect' (also called the trickle-down effect) may increase sport participation. The demonstration effect is understood as the process whereby people are inspired to

practice sports themselves by watching elite-level athletes taking part in events (Weed *et al.* 2015). It has been argued that major sporting events are less likely to attract new participants, but they do have the potential to inspire those who are already active to practice more or to try new sports (Weed *et al.*, 2012). However, no clear evidence has yet been found that major sporting events produce positive long-term impacts on participation in sport and physical activity (Weed *et al.* 2012, 2015). Studies also show that watching high-performance sports may, by contrast, have negative effects on participation because the outstanding performances of elite athletes may be perceived as unattainable by beginners or recreational athletes (Weed *et al.* 2009).

Moreover, relying on the demonstration effect alone to create sport participation is not sufficient; to accomplish that goal, concrete strategies need to be developed at the grassroots level (Girginov and Hills 2008, Weed *et al.* 2012, Taks *et al.* 2017). McCartney *et al.* (2013) emphasised two main strategies that may encourage participation: building new infrastructure as part of staging the event and developing sports participation legacy programmes. However, the main constraint to the creation of sport participation legacy is the failure to implement predefined goals and strategies (Misener *et al.* 2015, Taks *et al.* 2017). Another constraint is that governments usually invest in the development of elite sport at the expense of mass sport participation (Green 2007, Brookes and Wiggan 2009).

Olympic legacy and the YOG

The idea that the Olympic Games should leave behind a positive local and global impact that endures after the event has ended can be traced back to the founder of the modern Olympic Movement, Pierre de Coubertin. However, it was not until 2000 that the IOC expected the Olympic-bid cities to articulate their own legacy goals (Pruess 2019). The Olympic legacy framework holds that the Games should be planned and administered in a manner that will engender positive outcomes that endure beyond the event. Five legacies of the Olympic Games have been outlined: economic, infrastructure, social, sport and culture (Preuss 2015). Considering the mission of the Olympic movement, 'to promote sport and the Olympic values in the society, with a focus on young people' (IOC 2013, p. 11), generating sport participation at the grassroots level can be understood as one of the movement's primary objectives.

The IOC has been criticised for focusing on the implementation of the Games rather than on creating the necessary alliances for strategic leverage (Macaloon 2008, Chalip 2014). It was not until the Olympic Games held in London in 2012 that local organisers put serious efforts into the development and implementation of a legacy plan, including the creation of sport participation legacy (Girginov 2011). The YOG was established by the IOC in 2007 and presented as an antidote to a worldwide decline in physical activity and increased obesity among youth (IOC 2007). While the sport competition programme and the educational programme targeting the athletes are the core elements of the YOG, creating sport participation among local youth as well as the world's youth is central elements of the vision (IOC 2015). The IOC has to depend on the Olympic organising committees and a network of partner organisations to implement the Games and their vision. The main strategy for creating legacies for youth in the hosting region is the implementation of intervention programmes, such as the Culture Programme, Hello World and Sport Initiation (named 'Try the Sport' in the 2016 YOG). Additionally, the IOC expects local organisers to 'develop strong relations with the school system and local youth communities [. . .] in order to encourage local initiatives' (IOC 2015, p. 63).

However, critics have argued that the YOG are, principally, an event for the athletes and those youth already involved in sport, and have questioned them as a relevant strategy for increasing participation in sport (Krieger 2012, Wong 2012). Aplin and Lyon (2014) indicated that the YOG in 2010 did not have an impact on youth sport participation. Schnitzer *et al.* (2018) found that school programmes during the 2012 YOG had some positive impact on local youth's participation in sport and interest in Olympic sports; however, the mandatory programmes had limited or no impact.

Regarding the 2016 YOG, Strittmatter and Skille (2016) found that the NIF's strategy to implement youth sport development goals during the 2016 YOG was limited to a rather unsuccessful young-leader programme, while the recruitment of young athletes was largely neglected. According to Nordhagen and Fauske (2018), the main school programme during the 2016 YOG (Dream Day) did inspire some of the pupils who were already active to increase their participation in sport.

The Lillehammer 2016 YOG context

For a better understanding of how the 2016 YOG was leveraged for sport participation, comprehending the context of Norwegian sports and the circumstances that led to the Lillehammer bid is relevant to consider. The traditions for winter sports in Norway, both elite and recreational sport, are strong. In fact, Norway is one of the world's leading winter sports nations, having won more medals than any other country in the history of the winter Olympic Games (Statista 2019). The hosting of the 1994 Olympic Games established the Lillehammer region as one of the main winter sports destinations in Northern Europe. The region regularly hosts World Cup competitions in alpine skiing, cross-country skiing and ski jumping, as well as large mass sporting events, such as the Birkebeiner race.

The NIF is the largest voluntary organisation in Norway, with about 1.9 million memberships, and is an umbrella organisation for all organised sport, including the Olympic Elite Sport Centre (Olympiatoppen), 55 national sport federations (NSF), 11 District Sport Associations (DSA), 328 local sports councils and 10,787 local sports clubs (NIF 2019). At the government level, the national sport policy is formulated and administered by the Ministry of Cultural Affairs, while the NIF is responsible for the implementation of the policy (Bergsgard 2007). Within each county, the three administrative levels – the County Governors (state representative in each county), the County Councils, and the local municipalities – have a central role in promoting sport and physical activity by supporting sports organisations.

The statistics show that while 93% of all children under 12 participate in organised sports (NIF 2017), participation decreases to 40% among 16–19-year-olds (Bakken 2016). However, dropouts from organised sports do not necessarily result in inactivity as non-organised sports activities and training have become increasingly popular since the mid-1980s (Seippel *et al.* 2011). As a strategy to retain more youth in organised sport, the NIF established the Youth Lift (*Ungdomsløftet*) in 2011, which is a 10-year plan to increase participation in organised sport among youth between the ages of 13 and 19.

In 2010, the NIF and the Lillehammer Municipality made a bid for the second edition of the winter YOG in 2016, and Lillehammer was one year later selected to host the Games as the only bid city. According to Strittmatter (2016), the Lillehammer bid for the 2016 YOG came after a proposal from the IOC and, considering the then-ongoing campaign by the NIF to host the 2022 Olympic Games in Oslo, should be understood as a strategic step towards achieving a closer bond with the IOC.

The main argument in the bid for 24.1 million euros in government grant was that the event would be used as a catalyst to implement Norwegian youth sport policy by recruiting and retaining more youth as athletes, coaches, leaders, judges and volunteers for organised sport (NIF 2010a). At the request from the IOC, the bid included a plan to establish the Olympic Legacy Sport Centre (OLSC) at Lillehammer after the Games to develop elite athletes, leaders and coaches from countries lacking the same traditions for winter sports (NIF 2010b). The OLSC received a total funding of 1.3 million euros from the Norwegian Government and 100,000 euros from the IOC (Ministry of Cultural Affairs 2017).

Analytical framework

To better understand how the 2016 YOG was leveraged to create sport participation, an event-leveraging framework (Taks *et al.* 2017) and a sport participation leverage model (hereafter SPL model) (Chalip *et al.* 2017) are adopted. Based on the event-leveraging framework of Taks *et al.*

(2017), the sport participation leverage process is divided into four phases, which form the structure for the presentation of the results: planning, implementation, maintenance and outcomes. The planning phase includes the development of sport participation goals and strategies; the implementation phase includes the effort and investments made to realise the goals; the maintenance phase includes the post-Games actions taken to sustain the legacy; and the outcomes include an evaluation of relevant outcomes. In this study, the maintenance phase is added to the model based on the argument that a successful legacy depends on post-event leverage.

In this study, the SPL model Chalip *et al.* (2017) is adopted to discuss the factors that determined the sport participation leverage outcomes from the 2016 YOG by identifying potential challenges, opportunities and prospects of the leverage process. The SPL model consists of three core elements: (1) the context (culture, opinions, and attitudes); (2) the systems and structures (event, sport, and non-sport organisations) and (3) the resources (human, physical, and knowledge).

First, *context* in the SPL model relates to how the cultural beliefs about sport and sporting events within a community represents both challenges and opportunities related to sport participation leverage. To influence attitudes and opinions about the event and the sport participation strategies, two main approaches are suggested: actively influencing the media narratives and conducting educational campaigns.

Second, *systems and structures* refer to the types of leverage organisations and the action that these organisations need to take to leverage an event for sport participation. The three types of leverage organisations are event organisations, sport organisations, and non-sport organisations. The event organisations, such as event owners and organising committees, may play a central role in creating sport participation. However, event owners soon shift their focus to the next scheduled event, and the organising committees are usually temporary organisations established primarily to implement the event. Sport organisations share the fundamental goal of recruiting new members. The event, however, may create disparities that make it more difficult for clubs to work together, increase prices of training and memberships, and create new demands for sport services that may exceed clubs' structural capacities to serve potential participants. The non-sport organisations are not directly linked to the event or with sport in general and include, for example, schools, governments and businesses. While especially the local non-sport organisations may make a significant contribution to sport participation leverage, their main challenge as leverage actors is that they are focused on their own enterprises outside the field of sport. Fundamental to a successful leverage process is the involvement of all the three types of organisations and collective action. The leverage process may be driven by one category of organisation and permanent organisations with local affiliations should take on the leadership role. The organisations' goals and strategies should be in alignment with one another and should contribute to the organisations' already existing plans.

Finally, the SPM model presents three types of *resources* critical to the creation of sport participation legacy. Physical resources, such as facilities and equipment, are necessary to meet the needs of the existing athletes and new demands when recruiting participants. However, the limited available physical resources before and during events may reduce the number of sporting opportunities. Human resources, such as coaches, officials and volunteers, are integral to serving existing and new members. The main challenge is to acquire sufficient personnel with the appropriate knowledge and skills to plan to meet the needs of new participants. Human and knowledge resources are in this study seen as interconnected. Additionally, financial resources are considered necessary for obtaining these three core resources.

Methods

A case study approach was selected to explore the phenomenon of investigation in this study: the leverage of events for sport participation. Considering their ability to provide a more balanced picture of a phenomenon by using a variety of sources, case studies are particularly useful for studies that attempt to understand how and why something happens (Guba 1981, Yin 2014). This study can

be defined as an embedded single-case study (Yin 2014) where several interrelated subunits (ie the different organisations) within the same context (the 2016 YOG) were examined to enhance insight into the 2016 YOG leveraged for sport participation. The timeline for this case study was from the bid for the 2016 YOG until 3 years after the event.

Data collection

The main sources for this study were archival materials, interviews, and observations, and the data collection was conducted in three main steps. The first step was to gather archival materials, including guidelines, bid documents, political agreements and websites, to collect information on the different organisations' goals and strategies for creating a sport participation legacy. The second step focused on the implementing actions taken by the organisations leveraging the 2016 YOG for sport participation, which included interviews and additional archival materials (eg planning documents, contracts and website information). Formal non-participant observations were conducted at six school-programme planning meetings, which included written field notes. During the Games, informal observations of the staging of three programmes (Try the Sport, Dream Day and School Olympics) were conducted with the purpose of becoming familiar with the activities and the participants' responses. The third step was aimed at collecting information relevant to the maintenance phase; this included follow-up interviews, new interviews and additional archival materials (eg reports).

The archival materials included more than 50 documents and formed an integral part of the data collection in all three leverage phases. Semi-structured interviews with 16 representatives from 13 organisations were conducted. All the interviewees had central positions within their organisation's engagement with the YOG 2016. The selection procedure was based on a combination of strategic sampling and snowball sampling (George and Bennett 2005). The interview guide included questions on the organisations' involvement in the 2016 YOG, with emphasis on the goal setting, strategy development, implementation, maintenance and outcomes relevant to sport participation legacy. The interviews lasted between 45 and 75 minutes and were all recorded with a voice recorder (Table 1).

Table 1. List of interviews.

Organisation	Position	Date
IOC	Head of Learn and Share	07.12.2015
LYOGOC 1	CEO	08.06.2016
LYOGOC 2	Manager of Dream Day	29.08.2016
Oppland District Sport Associations (Oppland DSA)	Project Manager for Try the Sport	05.12.2015/ 11.10.2017
Ministry of Cultural Affairs	Senior Advisor	05.03.2018
Oppland County Governor (Oppland CG)	Senior Advisor	17.11.2015/ 17.01.2018
Oppland County Council (Oppland CC)	Project Manager	25.02.2015/ 29.03.2017
Gausdal Pierre de Coubertin Upper-Secondary School (Gausdal PdC)	Teacher	02.03.2018
Norwegian Olympic Museum	Senior Advisor	16.06.2017
DNB Savings Bank Foundation (DNB)	Consultant	20.09.2017
Olympic Legacy Sport Centre (OLSC)	CEO	14.03.2018
Lillehammer Municipality 1	Mayor 1999–2011	02.11.2012
Lillehammer Municipality 2	Manager of Global Active City	15.11.2018
Lillehammer Municipality 3	Sport consultant	28.01.2019
Lillehammer Ice Hockey Club	Manager of youth department	08.01.2019
Lillehammer Curling Club	CEO	29.01.2019

Data analysis

A qualitative thematic analysis was used in the interpretation of the two main sources such as the archival materials and the interviews. Thematic analysis is a procedure for ‘identifying, analysing and reporting patterns (themes) within data’ (Braun and Clarke 2006, p. 79).

First, the data material was translated from Norwegian to English and read thoroughly to become familiar with the content. The analysing procedure consisted of examining the data related to every theme (ie phase) from all the informants and then comparing the data to gain a deeper understanding of each theme (Thagaard 2018). The applied analysis in this study can be characterised as a deductive approach where the statements from the organisation representatives were coded based on the pre-identified themes that derive from theoretical perspectives: planning, implementation, maintenance and outcomes (Taks *et al.* 2017). The author looked for similarities, differences and general patterns in the archival material and in the interviewees’ statements. Then, the data material was compared with each of the four themes. Finally, the findings were discussed in relation to the leverage perspectives from the literature, and particularly the SPL model (Chalip *et al.* 2017). The author conducted all data collection and data analysis.

Results

The results section presents the leverage process in three phases: planning, implementation, and maintenance; this is followed by an evaluation of the outcomes with relevance to youth sport participation.

Planning phase

The planning phase includes the goals and strategies established by those organisations with ambitions to leverage the 2016 YOG for sport participation. The NIF’s main argument in the bid to host the 2016 YOG was to implement national youth sport policy by recruiting and retaining young athletes in organised sport (NIF 2010a); however, no strategies were initially presented. Following the selection of Lillehammer to host the 2016 YOG in December 2011, the Lillehammer YOG Organising Committee (LYOGOC) was formed with the Norwegian Government, the NIF, and the Lillehammer Municipality as owners. The LYOGOC defined the forward-leaning vision ‘Go beyond. Create tomorrow’ and defined its own legacy commitments, which included contributing to the NIF’s youth-sport legacy goals and leaving behind physical infrastructure and equipment (LYOGOC 2016). The LYOGOC soon began to invite local, regional and national organisations to discuss potential initiatives and partnerships (personal communication, LYOGOC 1 2016).

In autumn 2013, the Oppland District Sports Association (Oppland DSA) was required by the NIF to implement the Young Leader Programme and Try the Sport to realise the sport participation goals included in the bid (personal communication, DSA 2017). Try the Sport was an IOC initiative that the NIF conveniently adapted as a sport participation legacy strategy. The Oppland DSA formed an alliance to implement the programme, which consisted of the LYOGOC, the seven International Olympic Winter Sport Federations (IF), the National Winter Sport Federations (NSF), and several local sport clubs. At the local level, the Lillehammer Ice Hockey Club and the Lillehammer Curling Club explored the possibilities of using the 2016 YOG to realise the building of new sport venues as the capacity of the existing venues was no longer adequate. The two main arguments for building a new skating hall in Lillehammer were to maintain existing members and to recruit new members to ice sports such as ice hockey and figure skating, and to organise the ice hockey competition during the 2016 YOG (Lillehammer Ice Hockey Club 2012).

A variety of local and regional non-sport organisations initiated discussions about ways to leverage the 2016 YOG for their own purposes. The DNB Savings Bank Foundation (DNB) started to assess the possibility of ‘funding a programme aimed at improving health and increasing physical

activity among youth in the region' (personal communication, DNB 2017). To that end, the foundation invited several organisations (among them the NIF and the LYOGOC) to apply for such a project. When no other organisations responded to this initiative, the Oppland County Governor representative stated, 'We couldn't sit there and watch this great opportunity be lost' and then developed the concept for what became the Active Mind–Active Body programme (personal communication, Oppland County Governor 2015). The Oppland County Governor's representative confirms that their engagement in the Games was more the result of personal initiatives within the organisation than the implementation of state policy (personal communication, 2015).

At the regional level, the Oppland County Council became involved in the leverage process after a political decision in 2013, when it was decided to use the 2016 YOG to create new arenas for learning and increased physical activity among the region's youth (Oppland County Council 2013). According to the Oppland County Council's representative, 'the County Council decided to take advantage of the opportunities that this event may bring, especially how the event can benefit the school pupils in the region. To succeed, we needed to take some action ourselves' (personal communication, 2015). At the local level, Lillehammer's mayor at the time argued that the main purpose for hosting the YOG 2016 was to contribute to 'better conditions for sport and physical activity in schools and in leisure time for children and youth in the city' (personal communication, 2012). In addition, the Gausdal Pierre de Coubertin Upper-Secondary School (Gausdal PdC), a member of the International Pierre de Coubertin Committee's school network, and the Norwegian Olympic Museum both had interests in developing school programmes targeting regional schools. These non-sport organisations shared the common goal of leveraging the 2016 YOG to increase the level of physical activity among youth in the region, and their strategy was to implement a variety of school programmes (Oppland County Governor 2014).

A clear pattern found in the analysis was the formation of alliances among the leverage organisations and four main sport participation leverage alliances could be identified: the Event Organiser Alliance, the Sport Programme Alliance, Sport Venue Alliance and the School Programme Alliance (Table 2).

Table 2. The sport participation leverage alliances with their goals, strategies and available resources.

Alliance	Organisations	Goal	Strategy	Resources
Event Organiser Alliance	LYOGOC and IOC	Implement the 2016 YOG according to the guidelines	Implement the IOC programmes and support local initiatives	Human/knowledge
Sport Programme Alliance	NIF, Oppland DSA, International Federations (IF), National Sport Federations (NSF), sports clubs and upper-secondary schools	Increase youth membership in organised sport	Sport programmes: Try the Sport and Young Leader Programme	Human/knowledge
School Programme Alliance	DNB Savings Bank Foundation, Oppland County Council, Oppland County Governor, Norwegian Olympic Museum, Gausdal PdC and regional schools.	Increase physical activity among youth	School programmes: Dream Day, Active Mind–Active Body, School Olympics and School Prize	Human/knowledge and some physical (equipment)
Sport Venue Alliance	Lillehammer Ice Hockey Club, Lillehammer Figure Skating Club, Lillehammer Curling Club and Norwegian School of Elite Sports.	Increase youth club memberships	New infrastructure: a curling hall and an ice-skating hall	Physical and human/knowledge to operate the venues

Implementation phase

The next phase focused on the leverage organisations' implementation of the sport participation strategies, more specifically, youth-intervention programmes and building new sport venues.

The LYOGOC developed campaigns to promote the 2016 YOG as more than an elite sport event. The LYOGOC staged 21 Torch Tour events in all of Norway's counties and made visits to schools throughout the region (LYOGOC 2016). A media campaign resulted in a significant number of followers on Facebook (46,300), Twitter (6,500) and Instagram (17,600). The LYOGOC was involved in several of the youth intervention programmes; however, as the time for the 2016 YOG approached, their focus became increasingly centred on staging the Games. According to the CEO of the LYOGOC, the work process was slowed by the IOC, which he described as 'our best friend and our worst headache' (personal communication, 2016) about the IOC's demands for control in every step of the planning and implementation process.

The programmes with the most relevance to the creation of youth sport participation were Try the Sport and the school programmes Dream Day, Active Mind–Active Body, School Olympics and School Prize (local initiatives). Table 3 presents an overview of the goals, concepts, target groups and outputs of each of these five programmes.

The Oppland DSA revised the Try the Sport concept when it defined local youth as the main target group as opposed to the athletes in previous YOG editions. The Try the Sport programme invited youth to try adapted versions of 10 Olympic sports at the sports arenas during the YOG sports competitions, where they would be supervised by qualified instructors at the beginner and intermediate level. The NSFs developed the concepts for each sport activity, while young athletes from local clubs were recruited as instructors. The CEO of the LYOGOC acknowledged that 'Try the Sport became more popular than expected and should have received more resources, which would have increased the quality of the programme' (personal communication, 2016). Despite high participation numbers, the programme was held only during the Games, and its potential to recruit new members was reduced by limited promotional efforts of the local sports clubs.

The collaboration of local and regional non-sport organisations in the School Programme Alliance resulted in the implementation of youth intervention programmes, such as Dream Day, Active Mind–

Table 3. The main programmes intended to raise participation in sport and physical activity.

Programme	Goal	Concept	Target groups	Output*
Try the Sport (during 2016 YOG)	Promote Olympic winter sports	Invite youth at sports arenas to try 10 different winter Olympic sports during the Games (Voluntary)	All youth in Lillehammer during the Games	21,143 participants
Dream Day (during 2016 YOG)	Promote the Olympic values and inspire youth to participate in sport	Invite pupils to Lillehammer to (1) watch competitions, (2) try sports. and (3) attend a concert (Mandatory)	All lower-secondary and upper-secondary pupils in Oppland and Hedmark Counties	20,000 participants
Active Mind–Active Body (2014–2017)	Contribute to a lifelong joy of movement	Support schools in four main areas: (1) competence improvement, (2) events, (3) arenas/equipment and (4) nutrition (Voluntary)	Lower-secondary pupils in Oppland County	7,000 participants
School Olympics (2015–2017)	Activate pupils through informal competition	A competition in Olympic knowledge and in non-sport physical challenges (Voluntary)	Lower-secondary pupils in Oppland County	22 participating schools (2016)
School Prize (2015–2017)	Motivate pupils to engage in sports and physical activities	A contest for participation in sports, outdoor activities, cultural activities and voluntary work (Voluntary)	Lower-secondary pupils in Oppland County.	733 participants (2015)

* Most participants took part in more than one programme.

Active Body, School Olympics and School Prize. Personnel from these organisations were engaged on a part- or full-time basis to implement the programmes. Dream Day was the largest youth-intervention programme and was mandatory for all 20,000 lower-secondary and upper-secondary school pupils in Oppland County and Hedmark County. The pupils were invited to watch the YOG sports competitions, try different Olympic sports and attend a concert. Despite high participation numbers, the Oppland County Council representative acknowledged that ‘it was almost impossible to make a programme to satisfy all youth between 12 and 19 with the limited resources we had available’ (personal communication, 2017). The Active Mind–Active Body programme was managed by a board and implemented by the Oppland County Governor, whose office was responsible for distributing a 15-million-NOK fund provided by the DNB to support physical activity initiatives at 38 secondary schools in Oppland County over a three-year period between 2014 and 2017 (Oppland County Governor 2016). The concept for the School Olympics programme was developed by the Norwegian Olympic Museum and the Gausdal PdC and consisted of non-sport physical challenges and a quiz that tested pupils’ knowledge about health, nutrition and the Olympics. Local competitions at the schools qualified four pupils from each school to participate in the finals in Lillehammer. The School Prize programme was established to motivate school pupils to take part in sport and other physical and cultural activities. It was designed as a participation contest between school classes in sports, outdoor activities, cultural activities and volunteer work. According to the representatives from Oppland County Council and Oppland County Governor, linking school programmes with the 2016 YOG was generally received in a positive way among school leaders, teachers and pupils (personal communication, 2017 and 2018).

To realise the building of new sport venues, the Lillehammer Ice Hockey Club, the Lillehammer Figure Skating Club and the Lillehammer Curling Club applied and received funding from both the Norwegian government and Lillehammer Municipality. The decision to build the skating arena – the ‘Youth Hall’ – was made by the Lillehammer Municipality Council in fall 2012, and the venue was completed a year later (Lillehammer Municipality 2012) and is a modern ice venue for training and competitions. The building of a curling hall was approved by the Lillehammer Municipality Council in 2010 and was completed in 2012 with four rinks, changing-room facilities and a spectator capacity of 500 people. It could be argued that these venues were likely to be built regardless of the 2016 YOG. However, according to the Lillehammer Municipality representative, the selection of Lillehammer to host the 2016 YOG hastened the building process, and the venues were better-developed ‘because they had to meet the standards for the YOG sports competitions during the Games’ (personal communication, 2019).

Maintenance phase

This phase focuses on the post-Games leverage process, and more specifically, the maintenance of planned sport participation legacy and the emergence of an unplanned legacy initiative. Despite the ambitions to make Active Mind–Active Body, School Olympics and School Prize permanent fixtures, these programmes were terminated within two years after the Games. The Active Mind–Active Body programme was discontinued due to a lack of extended funding, and School Olympics and School Prize were dissolved as the result of reduced engagements among the leverage actors and the involved schools (Gausdal PdC, personal communication 2018, and Norwegian Olympic Museum, 2018). As the owner of both the new sport venues, the Lillehammer Municipality was responsible for operating and staffing them as well as scheduling hall-time use for both organised and non-organised activities. To coordinate the extra hall capacity and meet the needs of increased participation, the Lillehammer Ice Hockey Club hired a full-time manager and recruited additional coaches and parent volunteers (personal communication, Lillehammer Ice Hockey Club 2019).

A few months after the conclusion of the Games, the Lillehammer Municipality was invited by the IOC to take part in the Global Active City, which is an international public health programme aimed to ‘improve the lives of citizens through the promotion of physical activity, sport and well-being for

all' (Active Well-being Initiative 2017). The rationale for becoming part of the Global Active City programme was to create a 'more active, healthier and happier population' (Lillehammer Municipality 2016). The Lillehammer Municipality engaged a manager for the Global Active City programme who established a network of local partner organisations to create opportunities for physical activity and to improve health among the Lillehammer population. The Global Active City programme has resulted in seminars and events, such as the annual 'Sports Week', which invites the local population to take part in a variety of physical activities around the city. Among these initiatives, the Generation Games became an annual practice event for students at the Inland Norway University of Applied Sciences, aimed to activate the local population across all ages.

Sport-participation legacy outcomes

The leverage process resulted in a variety of both intangible and tangible outputs with potential to result in positive sport participation legacy outcomes. Notwithstanding, sport participation legacy outcomes from the event could not be identified at the regional level, as the statistics show that the total number of sports club memberships among youth between 13 and 19 years in Oppland County remained the same between 2015 and 2017 (Oppland DSA 2018). However, some local sport participation outcomes were identified.

In total, more than 20,000 school pupils between the ages of 13 and 19 from the region participated in at least one of the presented youth-intervention programmes. However, none of these programmes became permanent, and the only programme that continued to create sport participation opportunities for the Lillehammer population was the Global Active City programme. Thus, the programmes' long-term outcomes for participation in sports and physical activity among regional youth remain uncertain.

The main sport participation legacy outcomes from the YOG 2016 came as the result of the new curling hall and the new ice hockey hall. The existence of these venues increased participation in organised and non-organised ice sports at a local level in Lillehammer. Both venues were built more than 3 years before the Games took place and, thus, began to benefit sport participation among children, youth and adults even before the event. Because of the Youth Hall, the Lillehammer Ice Hockey Club, Lillehammer Figure Skating Club and Mjøsa Pikes (the local toboggan hockey club) can offer more ice time and a more consistent training schedule for children and youth as well as adults. According to the Lillehammer Ice Hockey Club's representative, the increased venue capacity resulted in greater participation among existing and new young club members (personal communication, 2019). In addition, the Lillehammer Municipality reserves a total of 12 hours of 'open ice time' each week, which is a free activity that has been widely attended by residents of all ages (personal communication, Lillehammer Municipality 3 2019). Moreover, the new curling hall resulted in the recruitment of 40 youth players to the Lillehammer Curling Club from beginner to elite levels (personal communication, Lillehammer Curling Club 2019).

Discussion

Considering the strong aspirations to leverage the 2016 YOG for sport participation among the IOC, the LYOGOC, the NIF and a number of local and regional organisations, the findings in this study indicate rather limited sport participation outcomes. Here, perspectives from the leverage literature are adopted to better understand the factors that influenced the leverage process. With a base in the SPL model (Chalip *et al.* 2017), the discussion focuses on how the context, the organisations, and the resources both enabled and constrained the sport participation leverage outcomes.

Related to the context, the high cultural value of sport and especially winter sports in Norway and particularly in the Lillehammer region, was a constructive environment to leverage an event for sport participation. While the Lillehammer region is known for its elite sporting events, there is also a positive attitude towards recruiting children and youth to sports within the region. While being

a youth sporting event and significantly smaller than the Olympic Games, the Olympic name and symbols helped raising public attention and enthusiasm for the 2016 YOG within the region. The YOG's vision, to promote youth sport participation (IOC 2015), fitted perfectly for organisations with sport participation leverage ambitions. Thus, the context for leveraging the 2016 YOG for sport participation in the Lillehammer region was promising.

The three types of leverage organisations in the SPL model were identified; event organisations, sport organisations and non-sport organisations. To leverage the 2016 YOG to increase participation in sports and physical activity among youth was a shared goal among the IOC, the LYOGOC, the NIF, and the Norwegian Government as well as among a variety of local and regional organisations. However, there was a distinction between the goal to increase participation in organised sports defined by the sport organisations, and the goal to increase participation in non-organised sports and physical activity established by the non-sport organisations. The findings show how the organisations with similar goals and strategies formed alliances early in the leverage process. The sport organisations formed the Sport Programme Alliance and the Sport Venue Alliance, while the non-sport organisations formed the School Programme Alliance.

The event organisations, the IOC and the LYOGOC, had mainly supportive and coordinating roles in the implementation of the various programmes. The staging of the promotional programmes, Torch Tour and School Tour, and the media strategy aimed to promote the educational and cultural aspects of the 2016 YOG, seemed to position the 2016 YOG as more than merely an elite sport event. However, the findings show that the LYOGOC's capacity as a leverage organisation was constrained by the IOC's involvement, its own obligations to implement the Games, and its short lifespan. Although the IOC had an interest in leaving a lasting legacy through the Global Active City initiative, the committee soon refocused its attention to the next Olympic events. Thus, this study confirms the limitations of the event organisations as leverage actors and their dependency on local organisations to realise sport participation legacy.

At the national level of organised sports, the NIF's strategy to implement the defined youth sport participation legacy goals in the bid were limited to the Try the Sport programme and the Young Leader Programme. According to Strittmatter (2016), these goals can be understood mainly as an attempt to legitimise the hosting of the YOG 2016, which is common for major sporting events (Girginov and Hills 2008, Chalip *et al.* 2017). Considering that the costly OLSC turned out to be aimed exclusively at the development of elite sports with little relevance for grassroots sports, this study confirms that elite sport is usually prioritised at the expense of mass sport participation (Brookes and Wiggan 2009).

At the local level, sports clubs formed the Sport Venue Alliance, with the purpose of building two new ice sports venues. Thus, the physical capacity to serve new participants in ice sports was strengthened, and personnel and volunteers were recruited to operate the new sport venues after the event enhanced the human resources for serving new members. The potential challenge of exceeded capacity at the sports venues seemed to put limitations on mass participation only just before, during and shortly after the 2016 YOG. The Lillehammer Ice Hockey Club and the Lillehammer Curling Club increased their youth memberships; however, the latent disparities between the winter sports and the summer sports clubs in Lillehammer could be identified when yet another two new winter-sport venues were built instead of, for example, a long-needed indoor-football venue.

Local and regional non-sport organisations formed the School Programme Alliance with the main goal of increasing participation in non-organised sport and physical activity among local youth through a variety of school programmes. The initiative by the Oppland County Governor and the financial resources from the DNB was critical for the realisation of the Active Mind–Active Body programme as well as the other school programmes. This study confirms the SPL model when emphasising the high potential of school authorities and schools as sport participation leverage organisations. However, while the schools in Oppland County included the 2016 YOG programmes in their schedule before and during the Games, their engagements soon dropped after the event. In

line with the SPL model, this study identifies the challenges of the non-sport organisations to make long-term commitments after the Games when returning the focus to their core activities. However, the importance of organisations with local affiliation was revealed as Lillehammer municipality emerged as the main post Games leverage organisations in the maintenance phase as the owner of the new sport venues and the coordinator of the Global Active City programme.

Although there was some national scepticism about the potential of an international elite sporting event to create sport participation (Strøm 2015), the engagements by local and regional organisations can be understood as an acceptance of the YOG concept, including its cultural, educational and sport legacy goals. Considering the enthusiasm before and during the Games among local and regional organisations as well as among a number of the youth participants, it can be argued that the 2016 YOG created a certain liminoid effect (Chalip 2006). However, the decreased enthusiasm after the Games supports the findings of Ritchie (2000), who argued that the period of high enthusiasm related to major sporting events is only temporary.

In line with the SPM model, the findings in this study acknowledge physical, human and knowledge resources as critical to sport participation leverage. In the time before and during the 2016 YOG, several leverage organisations made significant human resources available to implement their sport participation goals. While the staging of youth intervention programmes as part of an elite sporting event was new, the knowledge level on sport, physical activity, and events was generally high within the leverage organisations. However, the limited personnel made available by the leverage organisations in the region after the Games was a main reason for the termination of the intervention programmes. Physical resources (ie new venues and equipment) were the most essential resource in the creation of sport participation legacy. The building of the two new sport venues complemented the already nearly complete winter sports venue park in the Lillehammer region and resulted in some long-term outcomes for both organised and non-organised sport participation in Lillehammer. Thus, the Lillehammer region possesses the sufficient physical resources to meet the needs of both existing and new participants in literally all winter sports. Also, the new staff and volunteers recruited by the local sports clubs ensured the human and knowledge resources available to operate the new venues. While only defined as relevant to obtain the other resources in the SPL model, this study shows that financial resources are a prerequisite to the implementation of any leverage strategy and should be defined as a core resource.

In line with the proposals from the literature (Girginov and Hills 2008, Weed *et al.* 2012, Taks *et al.* 2017), this study shows that organisations with sport participation leverage ambitions cannot depend solely on the demonstration effect. The two main strategies to leverage the 2016 YOG for sport participation were intervention programmes and new infrastructure. The intervention programmes resulted in significant outputs in terms of participants, however, limited long-term sport participation outcomes. While the implementation of the programmes was successful in terms of high participation numbers, the sport participation outcomes were constrained by the inability to maintain or follow up the programmes in the post-Games phase. New infrastructure was the most effective sport participation strategy and the new sport venues resulted in increased memberships to local sports clubs and increased non-organised sport participation. To create successful outcomes, the new infrastructure must meet local sport participation needs and be assisted by sufficient financial resources and personnel with appropriate training and knowledge to maintain the venues after the event.

Conclusion

This study examines how the 2016 YOG was leveraged for youth participation in both organised and non-organised sports. The findings show that a variety of sport organisations and non-sport organisations formed alliances to implement their own sport participation legacy goals with intervention programmes and the building of new infrastructure as the two main strategies. While the leverage process resulted in several outputs, the main legacy outcome was increased participation in organised

and non-organised ice sports in Lillehammer as the result of two new indoor venues. The sport participation outcomes were constrained by the lack of long-term strategies and commitments among the leverage organisations as well as insufficient financial and human resources after the event.

The main purpose of this study is to increase the knowledge of how to maximise positive sport participation legacies and some implications for researchers and practitioners are here presented. This study complements existing literature when examining how the 2016 YOG was leveraged to create participation for the youth age group in both organised and non-organised sports. Moreover, the SPL model (Chalip *et al.* 2017) was tested on an empirical material. The SPL model helps to better understand the context, the organisation types and the resources relevant to the leverage process, while this study adds perspectives on leverage alliances, leverage strategies and leverage process phases. The study shows the relevance of exploring the leverage process over time by examining the planning, implementation and maintenance phase. Especially, the additional maintenance phase can be seen as a contribution to the event-leveraging framework of Taks *et al.* (2017).

The implications for event organisers are that, to attain more successful sport participation outcomes, the leverage organisations need to ensure that the event is part of a long-term strategy, establish durable alliances between local and regional organisations and make sufficient financial, human and physical resources available. Organisations with ambitions to create sport participation should be aware of the limitation of events as catalysts for creating sport participation and scrutinise alternative strategies or a combination of strategies.

Future research should further examine how different sporting events are leveraged for participation in both organised and non-organised sport with an emphasis on the role of the organisations in the hosting region and identifying the most effective leverage strategies. Finally, some limitations of the study need to be mentioned. Interviews with representatives of additional stakeholders could have provided deeper insights into the case, and more comprehensive data on the long-term sport participation outcomes could have strengthened the study.

Disclosure statement

No potential conflict of interest was reported by the author.

References

- Active Well-being Initiative, 2017. Active. Healthy. Happy [online]. Available from: <http://actiwellbeing.org/> [Accessed 4 May 2018]
- Aplin, N. and Lyon, L.M.W., 2014. The youth olympic games in singapore 2010: origins, impact and legacy. In: D. V. Hanstad, M.M. Parent, and B. Houlihan, eds.. *The youth olympic games*. Abingdon: Routledge
- Bakken, A., 2016. *Ungdata: nasjonale resultater, 2016* [Youth data: national results 2016]. Oslo: NOVA
- Bergsgard, N.A., 2007. *Sport policy – a comparative analysis of stability and change*. Oxford: Butterworth-Heinemann.
- Braun, V. and Clarke, V., 2006. Using thematic analysis in psychology. *Qualitative research in psychology*, 3 (2), 77–101. doi:10.1191/1478088706qp0630a
- Brookes, S. and Wiggan, J., 2009. Reflecting the public value of sport: a game of two halves? *Public management review*, 11 (4), 401–420. doi:10.1080/14719030902989490
- Chalip, L., 2004. Beyond impact: a general model for sport event leverage. In: B.W. Ritchie and D. Adair, eds.. *Sport tourism: interrelationships, impacts and issues*. Clevedon, UK: Channel View Publications, 226–252.
- Chalip, L., 2006. Towards social leverage of sport events. *Journal of sport & tourism*, 11 (2), 109–127. doi:10.1080/14775080601155126
- Chalip, L., 2014. *Leveraging legacies from sports mega-events: concepts and cases*. London: Palgrave Pivot.
- Chalip, L., *et al.* 2017. Creating sport participation from sport events: making it happen. *International journal of sport policy and politics*, 9 (2), 257–276. doi:10.1080/19406940.2016.1257496
- Chappelet, J.-L., 2012. Mega sporting event legacies: a multifaceted concept. *Papeles de Europa*, 25, 76–86.
- George, A.L. and Bennett, A., 2005. *Case studies and theory development in the social sciences*. London: MIT Press.
- Girginov, V., 2011. Governance of the London 2012 olympic games legacy. *International review for the sociology of sport*, 47 (5), 543–558. doi:10.1177/1012690211413966
- Girginov, V., 2018. *Rethinking olympic legacy*. Abingdon: Routledge.

- Girginov, V. and Hills, L., 2008. The political process of constructing a sustainable London olympics sports development legacy. *International journal of sport policy and politics*, 1 (2), 161–181. doi:10.1080/19406940902950713
- Girginov, V., Peshin, N., and Belousov, L., 2017. Leveraging mega events for capacity building in voluntary sport organisations. *Voluntas: International journal of voluntary and nonprofit organizations*, 28 (5), 2081–2102. doi:10.1007/s11266-016-9825-x
- Green, M., 2007. Olympic glory or grassroots development? Sport policy priorities in australia, canada and the united kingdom, 1960–2006. *International journal of the history of sport*, 24 (7), 921–953. doi:10.1080/09523360701311810
- Grix, J., 2012. 'Image'leveraging and sports mega-events: germany and the 2006 FIFA World Cup. *Journal of sport & tourism*, 17 (4), 289–312. doi:10.1080/14775085.2012.760934
- Grix, J. and Carmichael, F., 2012. Why do governments invest in elite sport? A polemic. *International journal of sport policy and politics*, 4 (1), 73–90. doi:10.1080/19406940.2011.627358
- Guba, E.G., 1981. Criteria for assessing the trustworthiness of naturalistic inquiries. *Educational communication & technology*, 29 (2), 75–91.
- IOC, 2007. *Minutes from the 119th IOC session in guatemala [Unpublished material]*. Lausanne: Received from the Olympic Study Centre.
- IOC, 2013. *Olympism and Olympic movement* [online]. Available from: http://www.olympic.org/documents/reports/en/en_report_670.pdf [Accessed 6 November 2015]
- IOC, 2015. *The youth olympic games event manual (vol. 7)*. Lausanne: IOC.
- Krieger, J., 2012. The youth olympic games from the athletes perspective. In: J. Forsyth and M.K. Heine, eds.. *Problems, possibilities, promising practices: Critical dialogues on the Olympic and Paralympic Games: 11th international symposium for Olympic research*, 19–20 October 2012. London, Ontario: International centre for Olympic studies Western University Canada, 40–44.
- Lane, A., Murphy, N., and Bauman, A., 2015. An effort to 'leverage' the effect of participation in a mass event on physical activity. *Health promotion international*, 30 (3), 542–551. doi:10.1093/heapro/dat077
- Lillehamme Municipality, 2016. *Global active city: ISO sertifisering av folkehelsearbeidet fylkesrådet* [global active city: ISO certification of public health work] [online]. Available from: <http://www.lillehammer.kommune.no/cpclass/run/cpesa62/file.php/def/16019314d16019314oddd4e9/global-avtive-city.pdf> [Accessed 15 April 2018]
- Lillehammer Ice Hockey Club, 2012. *Skisseprosjekt – ungdomshall på stampesletta* [project sketch – youth hall at stampesletta] [online]. Available from <https://www.google.com/url?sa=t&rc=tj&q=&esrc=s&source=web&cd=11&ved=2ahUKEWiGuYbx7YvgAhUGEIwKHWZ0Cd0QFjAKegQIABAC&url=https%3A%2F%2Fwww.mercell.com%2Fflv-lv%2Fm%2Ffile%2Fgetfile.ashx%3Fid%3D32575267&usq=AOvVaw1Pz5wP2VBAi9qSeRB-Epj> [Accessed 6 February 2019]
- Lillehammer Municipality, 2012. *Ny ishall på stampesletta* [new ice hall at stampesletta] [online]. Available from: <http://www.kulturhusetbanken.no/cpclass/run/cpesa62/file.php/def/12028949d12028949ode4e0f/ny-ishall-pa-stampesletta-bevilgning.pdf> [Accessed 6 February 2019]
- LYOGOC, 2016. *Executive knowledge report from the 2016 YOG*. Received from the LYOGOC.
- Macaloon, J.J., 2008. 'Legacy' as managerial/magical discourse in contemporary olympic affairs. *The international journal of the history of sport*, 25 (14), 2060–2071. doi:10.1080/09523360802439221
- McCartney, G., Hanlon, P., and Bond, L., 2013. How will the 2014 commonwealth games impact on Glasgow's health, and how will we know? *Evaluation*, 19 (1), 24–39. doi:10.1177/1356389012471885
- Ministry of Cultural Affairs, 2017. *Tilskudd til olympic legacy sport centre* [grants for the OLSC]. Received from the OLSC.
- Misener, L., et al., 2015. The elusive "trickle-down effect" of sport events: assumptions and missed opportunities. *Managing sport and leisure*, 20 (2), 135–156.
- NIF, 2010a. *Ungdoms-OL 2016 Lillehammer — søknad om statsgaranti*. In: [YOG 2016 Lillehammer – application for government grant]. Oslo: NIF.
- NIF, 2010b. *Candidate city for the winter youth olympic games Lillehammer 2016*. Oslo: NIF.
- NIF, 2017. *Nøkkeltall – rapport 2016* [Key numbers - report 2016]. Available from: <https://www.idrettsforbundet.no/contentassets/e7edfa47f77e457abf83827d39c3e1d8/nokkeltallsrapport-2016.pdf> .[Accessed 15 December 2019].
- NIF, 2019. *Nøkkeltall - rapport* [Key figures – report] [online]. Available from: <https://www.idrettsforbundet.no/contentassets/9f94ba79767846d9a67d1a56f4054dc2/20201001-nokkeltallsrapport-2019.pdf> [Accessed 8 October 2020]
- Nordhagen, S.E. and Fauske, H., 2018. The youth olympic games as an arena for olympic education: an evaluation of the school program, 'dream day'. *Acta universitatis carolinae: kinanthropologica*, 54 (2), 79–95.
- O'Brien, D., 2007. Points of leverage: maximizing host community benefit from a regional surfing festival. *European sport management quarterly*, 7 (2), 141–165. doi:10.1080/16184740701353315
- Oppland County Council, 2013. *Prosjektmandat: oppland fylkeskommunes engasjement i ungdoms-OL 2016* [project mandate: oppland county council's engagement in the YOG 2016]. Received from the Oppland County Council.
- Oppland County Governor, 2014. *Samarbeidsavtale* [Cooperation agreement]. Received from the Oppland County Governor.

- Oppland County Governor, 2016. *Et aktivt sinn i en aktiv kropp* [Active mind in an active body] [online]. Available from: <https://www.fylkesmannen.no/Oppland/Barnehage-og-opplaring/Et-aktivt-sinn-i-en-aktiv-kropp/> [Accessed 16 February 2017]
- Oppland District Sport Association, 2018. *Medlemsstatistikk* [Memberships statistics]. Received from the Oppland DSA administration.
- Preuss, H., 2007. The conceptualisation and measurement of mega sport event legacies. *Journal of sport & tourism*, 12 (3–4), 207–228. doi:10.1080/14775080701736957
- Preuss, H., 2015. A framework for identifying the legacies of a mega sport event. *Leisure studies*, 34 (6), 643–664. doi:10.1080/02614367.2014.994552
- Preuss, H., 2019. Event legacy framework and measurement. *International journal of sport policy and politics*, 11 (1), 103–118. doi:10.1080/19406940.2018.1490336
- Ritchie, J., 2000. Turning 16 days into 16 years through olympic legacies. *Event Management*, 6 (3), 155–165. doi:10.3727/096020197390239
- Schnitzer, M., et al. 2018. Do the youth olympic games promote olympism? Analysing a mission (im)possible from a local youth perspective. *European journal of sport science*, 18 (5), 722–730. doi:10.1080/17461391.2018.1458906
- Seippel, Ø., Sletten, M.A., and Strandbu, Å., 2011. *Ungdom og trening: endring over tid og sosiale skillelinjer* [Youth and training: changes over time and social divides]. Oslo: Norsk institutt for forskning om oppvekst, velferd og aldring.
- Statista, 2019. *Winter olympic games all-time medal table countries from 1924 to 2018* [online]. Available from: <https://www.statista.com/statistics/266371/winter-olympic-games-medal-tally-of-the-most-successful-nations/> [Accessed 16 April 2019]
- Strittmatter, A.-M., 2016. Defining a problem to fit the solution: a neo-institutional explanation for legitimising the bid for the 2016 lillehammer winter youth olympic games. *International journal of sport policy and politics*, 8 (3), 421–437. doi:10.1080/19406940.2016.1138990
- Strittmatter, A.-M. and Skille, E.Å., 2016. Boosting youth sport? Implementation of Norwegian youth sport policy through the 2016 lillehammer winter youth olympic games. *Sport in society*, 20 (1), 144–160. doi:10.1080/17430437.2015.1124568
- Strøm, O.K., 2015. Dobbeltmoral å ha ungdoms-OL i Norge [Double standards to have the YOG in Norway]. *Verdens Gang*. Available from: <https://www.vg.no/sport/langrenn/i/lGgny/eldar-roenning-dobbeltmoral-aa-ha-ungdoms-ol-i-norge> [Accessed 15 March 2019]
- [Systematics and empathy: an introduction to qualitative method]. Bergen: Fagbokforlaget.
- Taks, M., et al. 2011. Economic impact study versus cost-benefit analysis: an empirical example of a medium sized international sporting event. *International journal of sport finances*, 6, 187–203.
- Taks, M., et al. 2017. Sport participation from sport events: why it doesn't happen? *Marketing intelligence & planning*, 36 (2), 185–198. doi:10.1108/MIP-05-2017-0091
- Thagaard, T., 2018. *Systematikk og innlevelse: en innføring i kvalitativ metode*. Bergen: Fagbokforlaget
- Thomson, A., et al. 2018. Sport event legacy: a systematic quantitative review of literature. *Sport Management Review*, 22 (3), 295–321.
- Weed, M., et al., 2009. *A systematic review of the evidence base for developing a physical activity and health legacy from the London 2012 olympic and paralympic games*. Canterbury: Department of health.
- Weed, M., et al. 2012. Developing a physical activity legacy from the London 2012 olympic and paralympic games: a policy-led systematic review. *Perspectives in public health*, 132 (2), 75–80. doi:10.1177/1757913911435758
- Weed, M., et al. 2015. The olympic games and raising sport participation: a systematic review of evidence and an interrogation of policy for a demonstration effect. *European sport management quarterly*, 15 (2), 195–226. doi:10.1080/16184742.2014.998695
- Wong, D., 2012. Expect the unexpected? An evaluation of the Singapore 2010 youth olympic games. *Journal of policy research in tourism, leisure and events*, 4 (2), 138–154. doi:10.1080/19407963.2012.662620
- Yin, R.K., 2014. *Case study research: design and methods*. 5th. London: Sage.